Attachment B

Mechanical Analysis of Samples

PROJECT: MATILIJA DAM

83 <-- Number of samples

Lab No.	Hole No.	Depth Top	Depth Bot	GRAVEL (in) 3.0	1.5	3/4	3/8	SAND (sieve no.) 4	8	16	30	50	100	FINES 200	Atterberg Limits LL	PI	Field Data M.C.	Density	CLASSIFICATION	
295	MDH 01-01	13.3	18.3	100	100	100	100	100	100	100	100	100	99	94	34	5	47.31		ML	SILT
296	MDH 01-01	28.3	33.3	100	100	100	100	100	100	100	100	99	99	97	73	36	64.6		MH	ELASTIC SILT
297	MDH 01-01	38.3	43.3	100	100	100	100	100	100	100	100	100	99	85	36	6	47.5		ML	SILT
298	MDH 01-01	48.3	53.3	100	100	100	100	100	100	100	100	100	100	99	29	3	47.1		ML	SILT
299	MDH 01-01	58.3	63.3	100	100	100	100	100	100	100	100	100	100	96	30	3	42.6		ML	SILT
300	MDH 01-01	68.3	73.3	100	100	100	100	100	100	100	100	100	100	99	47	17	42.0		ML	SILT
301	MDH 01-01	73.3	78.3	100	100	100	100	100	100	100	100	100	99	98	44	10	49.7		ML	SILT
302	MDH 02-01	13.0	18.0	100	100	100	100	100	100	100	99	99	98	80		N/P	38.3		ML	SILT WITH SAND
303	MDH 02-01	23.0	28.0	100	100	100	100	100	100	100	100	100	99	92	42	13	57.5		ML	SILT
304	MDH 02-01	39.5	43.0	100	100	100	100	100	100	100	100	100	99	91	30	8	39.0		CL	LEAN CLAY
305	MDH 02-01	48.0	53.0	100	100	100	100	100	100	100	100	100	100	97	37	13	48.7		CL	LEAN CLAY
306	MDH 02-01	63.0	68.0	100	100	100	100	100	100	100	100	100	100	96	44	16	48.2		ML	SILT
307	MDH 02-01	73.3	75.5	100	100	99	95	94	93	92	92	90	89	84	37	10	53.2		ML	SILT WITH SAND
429	MDH03-01	23.3	28.3	100	100	100	100	100	100	100	100	99	99	95	41	10			ML	SILT
433	MDH03-01	33.3	38.3	100	100	100	100	100	100	100	100	100	100	95		n/p			ML	SILT
430	MDH03-01	38.3	48.3	100	100	100	100	100	99	99	97	90	69	49		n/p			SM	SILTY SAND
431	MDH03-01	53.3	58.3	100	100	100	100	100	100	100	99	98	98	80		n/p			ML	SILT WITH SAND
432	MDH04-01	28.0	33.0	100	100	100	100	100	100	100	100	99	98	90	33	6			ML	SILT
434	MDH04-01	13.0	18.0	100	100	100	100	100	100	99	94	94	94	69		n/p			ML	SANDY SILT
435	MDH05-01	18.0	23.0	100	100	100	100	100	100	100	100	99	97	90	38	6			ML	SILT
436	MDH05-01	28.0	33.0	100	100	100	100	100	100	100	100	100	100	97		n/p			ML	SILT
437	MDH05-01	48.0	53.0	100	100	100	100	100	100	100	100	100	91	60		n/p			ML	SANDY SILT
438	MDH05-01	58.0	63.0	100	100	100	100	100	100	100	100	99	99	93	40	13			ML	SILT
439	MDH05-01	68.0	73.0	100	100	100	100	100	100	100	100	100	100	98	40	16			CL	LEAN CLAY
440	MDH06-01	18.0	23.0	100	100	100	100	100	100	100	100	100	99	97	35	5			ML	SILT
441	MDH07-01	8.3	13.0	100	100	100	100	100	100	100	99	98	86	55		n/p			ML	SANDY SILT
442	MDH07-01	13.0	18.0	100	100	100	100	100	100	100	99	99	99	82		n/p			ML	SILT WITH SAND
443	MDH07-01	18.0	23.0	100	100	100	100	100	100	100	99	99	97	87	43	13			ML	SILT
444	MDH07-01	28.0	33.0	100	100	100	99	99	99	99	98	90	57	27		n/p			SM	SILTY SAND
445	MDH08-01	8.8	10.8	100	100	100	99	99	99	98	93	61	37	14		n/p			SM	SILTY SAND
446	MDH08-01	20.0	22.5	100	90	88	83	80	78	73	64	50	32	17		n/p			SM	SILTY SAND WITH GRAVEL
447	MDH08-01	27.5	32.5	100	100	100	100	100	100	100	99	99	92	68		n/p			ML	SANDY SILT
448	MDH08-01	32.5	37.5	100	100	99	99	97	96	93	89	77	65	38		n/p			SM	SILTY SAND
449	MDH08-01	42.5	47.5	100	100	100	100	100	100	100	99	98	84	52		n/p			ML	SANDY SILT
450	MDH08-01	47.5	52.5	100	100	100	100	100	100	99	95	88	69	43		n/p			SM	SILTY SAND
451	MDH08-01	57.5	59.7	100	100	97	95	92	91	89	88	84	77	46	34	8			SM	SILTY SAND
452	MDH09-01	7.7	12.7	100	100	94	93	91	88	84	78	60	34	20		n/p			SM	SILTY SAND
453	MDH09-01	12.7	17.7	100	100	82	70	61	55	50	41	29	20	14		n/p			SM	SILTY SAND WITH GRAVEL
454	MDH09-01	22.7	27.7	100	100	100	100	100	100	100	99	98	96	59		n/p			ML	SANDY SILT
455	MDH09-01	32.7	37.7	100	100	100	100	100	99	98	95	90	75	45		n/p			SM	SILTY SAND
456	MDH09-01	37.7	42.7	100	100	100	99	98	97	96	93	85	62	36		n/p			SM	SILTY SAND
457	MDH09-01	42.7	47.0	100	100	99	95	94	93	93	92	91	86	53		n/p			ML	SANDY SILT
458	MDH09-01	52.7	55.0	100	100	100	100	100	100	100	98	92	64	21		n/p			SM	SILTY SAND
459	MDH09-01	57.7	62.7	100	100	100	100	100	100	100	100	99	99	97	43	12			ML	SILT
460	MDH09-01	62.7	64.5	100	100	100	99	95	84	70	57	49	40	24		n/p			SM	SILTY SAND
461	MDH10-01	4.5	7.8	100	100	100	98	98	97	96	94	90	79	61		n/p			ML	SANDY SILT
462	MDH10-01	7.8	12.8	100	100	98	97	95	93	91	90	78	59	32		n/p			SM	SILTY SAND
463	MDH10-01	12.8	17.8	100	100	100	100	99	98	96	89	79	69	56		n/p			ML	SANDY SILT
464	MDH10-01	22.8	27.8	100	100	100	99	98	97	96	94	83	56	22		n/p			SM	SILTY SAND
465	MDH10-01	32.8	37.8	100	100	81	74	70	66	61	54	33	14	9		n/p			SP-SM	POORLY GRADED SAND WITH SILT AND GRAVEL
466	MDH10-01	37.8	40.8	100	100	97	95	94	91	87	76	43	17	10		n/p			SW-SM	WELL GRADED SAND WITH SILT
467	MDH10-01	47.8	52.8	100	100	100	100	100	100	98	91	71	32	11		n/p			SP-SM	POORLY GRADED SAND WITH SILT

PROJECT: MATILIJA DAM

83 <-- Number of samples

Lab No.	Hole No.	Depth		GRAVEL (in)				SAND (sieve no.)						FINES	Atterberg Limits		Field Data		CLASSIFICATION	
		Top	Bot	3.0	1.5	3/4	3/8	4	8	16	30	50	100	200	LL	PI	M.C.	Density		
468	MDH10-01	52.8	54.3	100	89	73	61	50	38	31	25	20	14	10		n/p			GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND
469	MDH11-01	4.7	8.0	100	100	88	79	72	66	62	57	51	49	32		n/p			SM	SILTY SAND WITH GRAVEL
470	MDH11-01	8.0	13.0	100	100	92	86	76	70	59	45	26	17	12		n/p			SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL
471	MDH11-01	13.0	16.2	100	100	89	82	68	55	42	28	17	11	8		n/p			SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL
472	MDH11-01	23.0	24.5	100	100	100	99	98	97	97	95	80	54	25		n/p			SM	SILTY SAND
473	MDH11-01	28.0	30.3	100	100	100	100	100	100	100	100	99	98	92	42	16			ML	SILT
474	MDH11-01	30.3	31.2	100	100	100	99	99	99	97	95	82	41	13		n/p			SM	SILTY SAND
475	MDH11-01	31.5	33.0	100	76	55	44	35	29	23	16	10	8	6		n/p			GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND
476	MDH11-01	33.0	35.5	100	100	97	91	78	62	45	31	21	21	12		n/p			SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL
477	MDH12-01	4.7	8.0	100	75	59	33	26	22	18	15	12	9	7		n/p			GP-GM	POORLY GRADED GRAVEL WITH SILT AND SAND
478	MDH12-01	13.0	18.0	100	95	73	51	33	24	16	10	7	7	4		n/p			GW	WELL GRADED GRAVEL WITH SAND
479	MDH12-01	21.2	22.9	100	100	100	100	100	100	100	100	98	85	64		n/p			ML	SANDY SILT
480	MDH12-01	23.0	24.0	100	100	91	79	73	67	62	55	35	17	12		n/p			SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL
481	MDH12-01	33.8	34.6	100	100	100	100	100	100	100	100	100	100	98	38	13			ML	SILT
482	MDH13-01	10.0	12.0	100	100	86	77	69	58	44	32	24	17	10		n/p			SW-SM	WELL GRADED SAND WITH SILT AND GRAVEL
483	MDH13-01	13.5	15.0	100	79	79	78	77	77	76	75	68	61	30		n/p			SM	SILTY SAND WITH GRAVEL
484	MDH13-01	18.0	23.0	100	100	78	58	44	34	25	18	13	10	7		n/p			GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND
485	MDH13-01	23.0	26.5	100	100	100	100	100	100	100	99	98	95	48		n/p			SM	SILTY SAND
486	MDH13-01	26.5	27.7	100	100	100	99	98	96	95	93	89	76	47		n/p			SM	SILTY SAND
487	MDH14-01	10.0	11.9	100	70	56	49	39	32	23	17	13	12	7		n/p			GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND
488	MDH14-01	11.9	13.5	100	66	52	44	35	29	26	22	17	13	9		n/p			GW-GM	WELL GRADED GRAVEL WITH SILT AND SAND
489	MDH14-01	13.5	18.0	100	52	34	27	22	18	14	10	7	5	4		n/p			GP	POORLY GRADED GRAVEL WITH SAND
490	MDH14-01	18.0	21.5	100	100	100	97	94	90	81	67	43	29	17		n/p			SM	SILTY SAND
491	MDH15-01	0.0	5.0	100	100	100	100	100	100	99	99	98	97	83		n/p			ML	SILT WITH SAND
492	MDH15-01	18.0	28.0	100	100	100	100	100	100	100	100	100	100	97	38	10			ML	SILT
493	MDH15-01	28.0	38.0	100	100	100	100	100	100	100	100	99	99	96	58	28			CH	FAT CLAY
494	MDH15-01	38.0	43.0	100	100	100	100	100	100	100	100	95	85	60	41	14			ML	SANDY SILT
495	MDH15-01	48.0	58.0	100	100	100	100	100	100	100	100	100	98	93	39	7			ML	SILT
496	MDH15-01	58.0	68.0	100	100	100	100	100	100	100	100	100	99	96	34	6			ML	SILT
497	MDH15-01	68.0	78.0	100	100	100	100	100	100	100	100	100	100	99	38	9			ML	SILT
498	MDH15-01	78.0	85.0	100	100	100	100	100	100	100	100	100	100	99	47	7			ML	SILT

SUMMARY OF PHYSICAL PROPERTIES TEST RESULTS

USBR

Hole Number MDH-1-1 to 15-1 PROJECT Ventura River FEATURE Matilija Dam DATE December 28, 2001 SHEET 1 OF 1

IDENTIFICATION			PARTICLE - SIZE FRACTION IN PERCENT						CONSISTANCY LIMITS			SPECIFIC GRAVITY				IN-PLACE UNIT WT.		COMPACTION TEST	
			FINES										PLUS NO. 4						
SAMPLE NUMBER	DEPTH (feet)	LAB CLASSIFI-CATION	< .005	< .075	Sand #200 to #4	Gravel #4 to 3 inch	Cob-bles 3 inch to 5 inch	Over-size > 5 inch	Liquid Limit %	Plasti-city Index %	Field Mois-ture %	Minus No. 4	Bulk	Appar-ent	Absorp-tion %	Dry Unit Weight lbs/ft³	Water Con-tent %	Max. Dry Unit Wt lbs/ft³	Opti-mum Moist-ure %
MDH-1-1	38.3-43.3	ML	29.0	61.6	9.4	0.0	0.0	0.0	NP	NP	18.4								
MDH-2-1	23-28	ML	44.2	51.1	4.7	0.0	0.0	0.0	42.8	12.5	9.2								
MDH-3-1	33.3-34	ML	30.9	62.5	6.6	0.0	0.0	0.0	36.8	10.0	9.9								
MDH-3-2	34-38	SM	3.0	11.1	85.9	0.0	0.0	0.0	NP	NP	2.7								
MDH-3-3	39-47	ML	29.7	60.3	10.0	0.0	0.0	0.0	NP	NP	15.2								
MDH-8-1	30.8-31.7	ML	22.8	74.0	3.2	0.0	0.0	0.0	NP	NP	18.8								
MDH-8-2	29.5-30.8	s(ML)	10.0	59.0	31.0	0.0	0.0	0.0	NP	NP	21.9								
MDH-8-3	33.9-34.3	ML	24.0	64.8	11.2	0.0	0.0	0.0	NP	NP	30.4								
MDH-8-4	34.4-35.4	SM	5.0	15.8	76.6	2.6	0.0	0.0	NP	NP	12.5								
MDH-8-5	44-44.5	ML	18.0	75.3	6.7	0.0	0.0	0.0	NP	NP	28.1								
MDH-8-6	46-47	SM	3.8	18.4	77.8	0.0	0.0	0.0	NP	NP	12.7								
MDH-8-7	50.2-51.2	SM	6.3	31.2	62.5	0.0	0.0	0.0	NP	NP	14.9								
MDH-9-1	24-25	s(ML)	6.4	51.5	42.1	0.0	0.0	0.0	NP	NP	24.9								
MDH-9-2	26.2-26.8	ML	17.8	67.8	14.4	0.0	0.0	0.0	NP	NP	31.9								
MDH-9-3	31.2-31.7	(ML)s	16.8	64.6	18.6	0.0	0.0	0.0	NP	NP	26.9								
MDH-9-4	37.7-38.7	SM	4.8	30.2	65.0	0.0	0.0	0.0	NP	NP	15.0								
MDH-9-5	40.5-41.5	SM	3.4	11.9	82.0	2.7	0.0	0.0	NP	NP	5.0								
MDH-15-1	78-85	ML	49.8	49.0	1.2	0.0	0.0	0.0	49.3	20.2	22.0								

NOTES

1) Materials tests performed by Reclamation's Mid Pacific Construction Office Materials Laboratory in Willows, California.

2) Additional lab tests were performed to:

A. Evaluate samples of discrete silt (ML) and silty sand (SM) layers from intervals where composite samples of an entire 5-foot core run had originally been submitted for testing (MDH-08-01 and MDH-09-01).

B. Resolve differences between field visual and lab classifications (MDH-01-01, MDH-02-01 and MDH-03-01).

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-1-1		GRADATION ANALYSIS				38.3-43.3	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		0	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#8	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	102.10	Moisture - #4	0.0%	Dry Weight	102.10
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	NO.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		102.10	102.10	102.10	102.10	102.10	Dry Weight
% OF TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	102.10

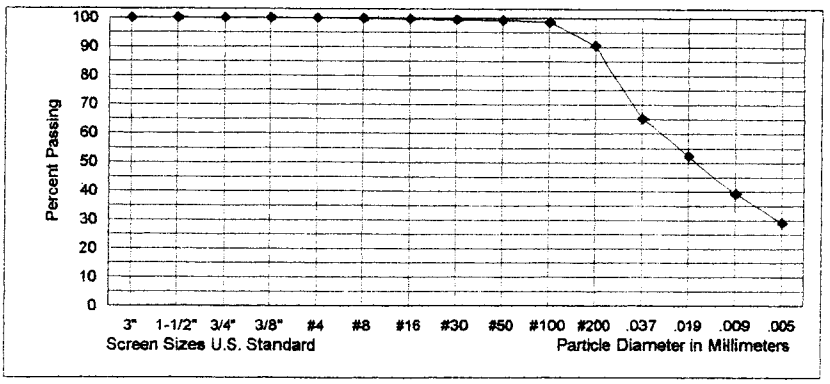
GRADATION OF SAND SIZE

DRY WT MATL GRAMS		FACTOR=%TOT PASS NO#4 / TOTAL WT	
BEFORE WASHING =	68.90	=	1.4514
DISH NO.		DRY MASS OF SAMPLE (SIEVED)	
60		8.0	
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.2	68.7	= % OF	99.7%	2.36 MM		
16	0.3	68.6	TOTAL	99.6%	1.18 MM	GRAVEL	0.0%
30	0.4	68.5	PASSING	99.4%	.600 MM	SAND	9.4%
50	0.5	68.4		99.3%	.300 MM	-200	90.6%
100	1.0	67.9		98.5%	.150 MM	.075 TO	
200	6.5	62.4		90.6%	.075 MM	.005 =	61.5%
PAN	8.0	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	68.9					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	51.0	6.0	45.0	65.3%	.037 MM	Sample
4 MIN	19.5	42.0	6.0	36.0	52.2%	.019 MM	18.4
19 MIN	19.5	33.0	6.0	27.0	39.2%	.009 MM	Liquid Limit
60 MIN	20.0	26.0	6.0	20.0	29.0%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-2-1		GRADATION ANALYSIS				23.0-28.0	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		0	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#16	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	12.5	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	109.20	Moisture - #4	0.0%	Dry Weight	109.20
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	NO.4	Passing
WET MATL & PAN ACC		0.00	0.00	0.00	0.00	0.00	4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		109.20	109.20	109.20	109.20	109.20	Dry Weight
% OF TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	109.20

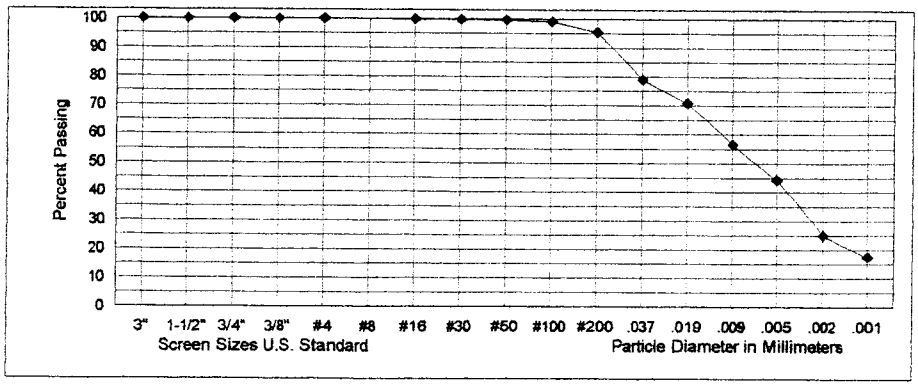
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	60.00	FACTOR=%TOT PASS NO#4 / TOTAL WT =	1.6667
DISH NO.	55	DRY MASS OF SAMPLE (SIEVED)	3.1
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	60.0		100.0%	2.36 MM		
16	0.1	59.9		99.8%	1.18 MM	GRAVEL	0.0%
30	0.1	59.9		99.8%	.600 MM	SAND	4.7%
50	0.2	59.8		99.7%	.300 MM	-200	95.3%
100	0.6	59.4		99.0%	.150 MM	.075 TO	
200	2.8	57.2		95.3%	.075 MM	.005 =	51.2%
PAN	3.1	TESTED BY	Townley	DATE	12-21-01	CU =	0.00
TOTAL	60.0					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT	SODIUM HEX		
START		DATE	12-19-01		AMOUNT	125 ML	
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	53.5	6.0	47.5	79.2%	.037 MM	Sample
4 MIN	19.5	48.5	6.0	42.5	70.8%	.019 MM	9.2
19 MIN	19.5	40.0	6.0	34.0	56.7%	.009 MM	Liquid Limit
60 MIN	20.0	32.5	6.0	26.5	44.2%	.005 MM	42.8
7HR 15MIN	20.5	21.0	6.0	15.0	25.0%	.002 MM	Plastic Limit
25H 45MIN	20.0	16.5	6.0	10.5	17.5%	.001 MM	30.3



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-3-1		GRADATION ANALYSIS				33.3-34.0	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-3	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#50	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	10.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	122.20	Moisture - #4	0.0%	Dry Weight	122.20
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	NO.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		122.20	122.20	122.20	122.20	122.20	Dry Weight
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	122.20

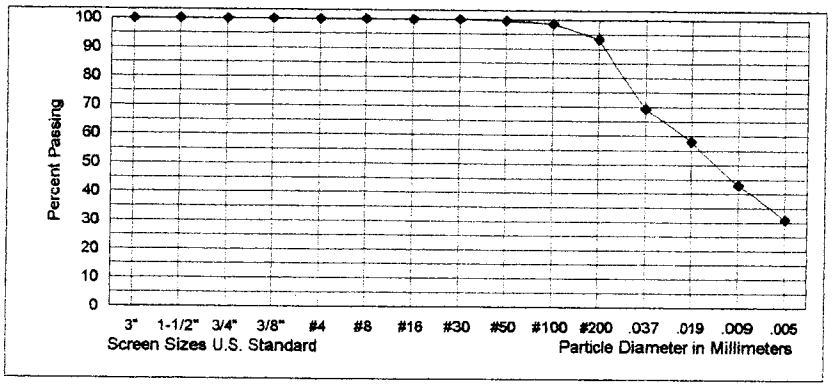
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	66.40	FACTOR=%TOT PASS NO#4 / TOTAL WT	=	1.5060
DISH NO.	65	DRY MASS OF SAMPLE (SIEVED)	5.0	
SIEVING TIME	10 Minutes			

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	66.4		100.0%	2.36 MM		
16	0.0	66.4		100.0%	1.18 MM	GRAVEL	0.0%
30	0.0	66.4		100.0%	.600 MM	SAND	6.6%
50	0.2	66.2		99.7%	.300 MM	-200	93.4%
100	1.0	65.4		98.5%	.150 MM	.075 TO	
200	4.4	62.0		93.4%	.075 MM	.005 =	62.5%
PAN	5.0	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	66.4					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	52.0	6.0	46.0	69.3%	.037 MM	Sample
4 MIN	19.5	44.5	6.0	38.5	58.0%	.019 MM	9.9
19 MIN	19.5	34.5	6.0	28.5	42.9%	.009 MM	Liquid Limit
60 MIN	20.0	26.5	6.0	20.5	30.9%	.005 MM	36.8
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	26.8



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-3-2		GRADATION ANALYSIS				34.0-38.0	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-3	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#8	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	81.50	Moisture - #4	0.0%	Dry Weight	81.50
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	N0.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		81.50	81.50	81.50	81.50	81.50	Dry Weight
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	81.50

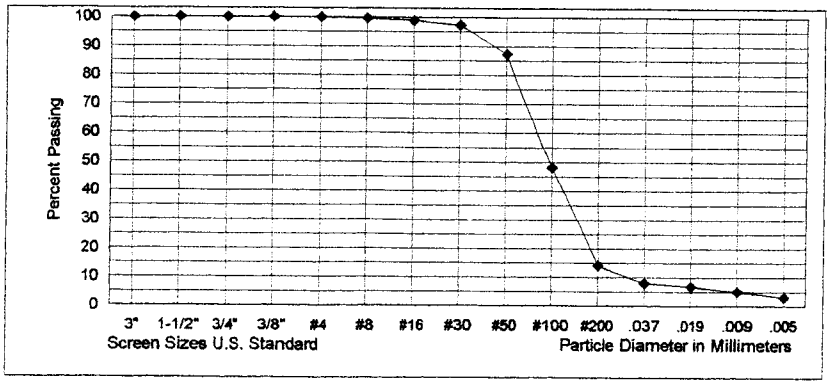
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	50.30	FACTOR=%TOT PASS NO#4 / TOTAL WT	=	1.9881
DISH NO.	62	DRY MASS OF SAMPLE (SIEVED)	44.3	
SIEVING TIME	10 Minutes			

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.2	50.1	= % OF	99.6%	2.36 MM		
16	0.6	49.7	TOTAL	98.8%	1.18 MM	GRAVEL	0.0%
30	1.4	48.9	PASSING	97.2%	.600 MM	SAND	85.9%
50	6.3	44.0		87.5%	.300 MM	-200	14.1%
100	26.1	24.2		48.1%	.150 MM	.075 TO	
200	43.2	7.1		14.1%	.075 MM	.005 =	11.1%
PAN	44.3	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	50.3					CC =	0.00

HYDROMETER ANALYSIS

HYDRO N0.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	20.0	10.0	6.0	4.0	8.0%	.037 MM	Sample
4 MIN	20.0	9.5	6.0	3.5	7.0%	.019 MM	2.7
19 MIN	20.0	8.5	6.0	2.5	5.0%	.009 MM	Liquid Limit
60 MIN	20.0	7.5	6.0	1.5	3.0%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

SM SILTY SAND

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-3-3		GRADATION ANALYSIS				39.0-47.0	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. N0.	
		Ventura River		Matilija Dam		MDH-3	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#16	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	183.30	Moisture - #4	0.0%	Dry Weight	183.30
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	N0.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		183.30	183.30	183.30	183.30	183.30	Dry Weight
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	183.30

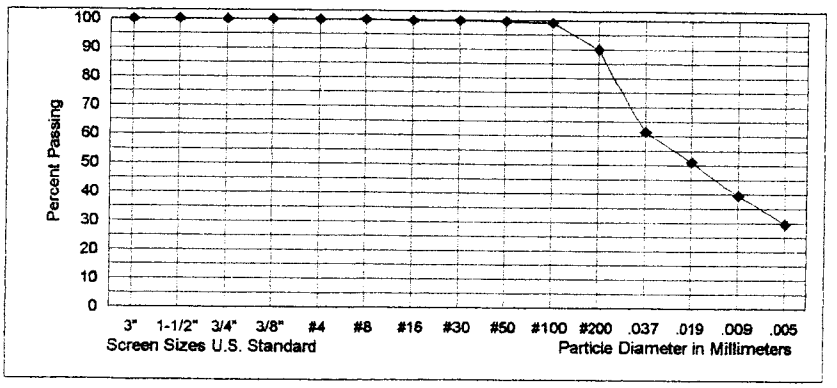
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	77.50	FACTOR=%TOT PASS NO#4 / TOTAL WT =	1.2903
DISH NO.	63	DRY MASS OF SAMPLE (SIEVED)	9.6
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	77.5		100.0%	2.36 MM		
16	0.1	77.4		99.9%	1.18 MM	GRAVEL	0.0%
30	0.2	77.3		99.7%	.600 MM	SAND	10.1%
50	0.3	77.2		99.6%	.300 MM	-200	89.9%
100	0.8	76.7		99.0%	.150 MM	.075 TO	
200	7.8	69.7		89.9%	.075 MM	.005 =	60.3%
PAN	9.6	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	77.5					CC =	0.00

HYDROMETER ANALYSIS

HYDRO N0.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	53.5	6.0	47.5	61.3%	.037 MM	Sample
4 MIN	19.5	45.5	6.0	39.5	51.0%	.019 MM	15.2
19 MIN	19.5	36.5	6.0	30.5	39.4%	.009 MM	Liquid Limit
60 MIN	20.0	29.0	6.0	23.0	29.7%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-1		GRADATION ANALYSIS				30.8-31.7	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#50	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	117.30	Moisture - #4	0.0%	Dry Weight	117.30
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	NO.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		117.30	117.30	117.30	117.30	117.30	Dry Weight
% OF TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	117.30

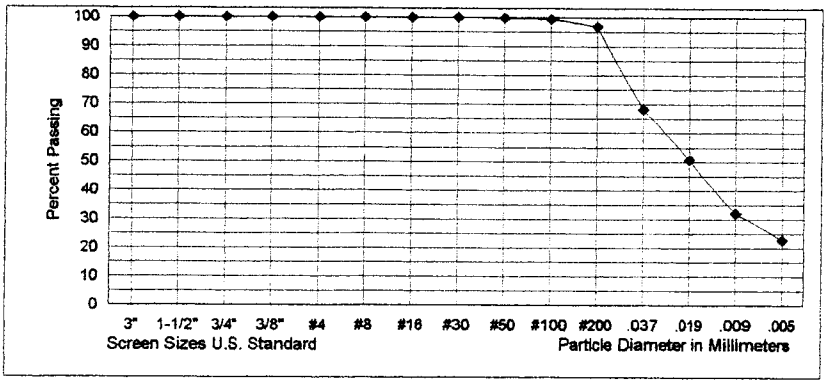
GRADATION OF SAND SIZE

DRY WT MATL GRAMS		FACTOR=%TOT PASS NO#4 / TOTAL WT	
BEFORE WASHING =	59.30	=	1.6863
DISH NO.		DRY MASS OF SAMPLE (SIEVED)	
64		2.5	
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	59.3	= % OF	100.0%	2.36 MM		
16	0.0	59.3	TOTAL	100.0%	1.18 MM	GRAVEL	0.0%
30	0.0	59.3	PASSING	100.0%	.600 MM	SAND	3.2%
50	0.1	59.2		99.8%	.300 MM	-200	96.8%
100	0.3	59.0		99.5%	.150 MM	.075 TO	
200	1.9	57.4		96.8%	.075 MM	.005 =	74.0%
PAN	2.5	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	59.3					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	46.5	6.0	40.5	68.3%	.037 MM	Sample
4 MIN	19.5	36.0	6.0	30.0	50.6%	.019 MM	18.8
19 MIN	19.5	25.0	6.0	19.0	32.0%	.009 MM	Liquid Limit
60 MIN	20.0	19.5	6.0	13.5	22.8%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-2		GRADATION ANALYSIS				29.5-30.8	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. N0.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#30	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	119.20	Moisture - #4	0.0%	Dry Weight	119.20
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	N0.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		119.20	119.20	119.20	119.20	119.20	Dry Weight
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	119.20

GRADATION OF SAND SIZE

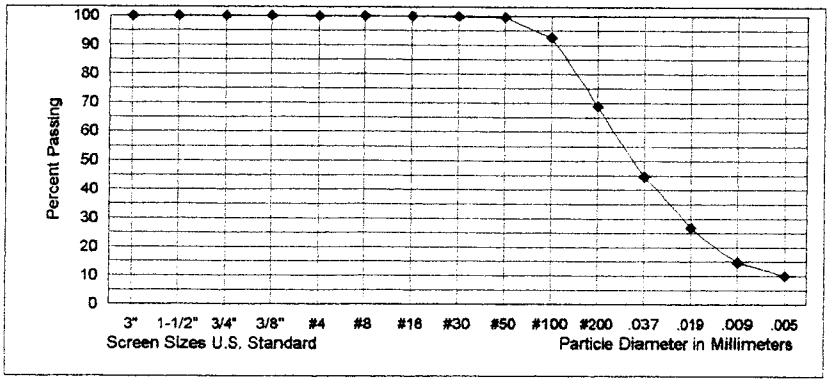
DRY WT MATL GRAMS		FACTOR=%TOT PASS NO#4 / TOTAL WT	
BEFORE WASHING =	65.10	=	1.5361

DISH NO.		DRY MASS OF SAMPLE (SIEVED)	
54		23.8	
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	65.1	= % OF	100.0%	2.36 MM		
16	0.0	65.1	TOTAL	100.0%	1.18 MM	GRAVEL	0.0%
30	0.1	65.0	PASSING	99.8%	.600 MM	SAND	31.0%
50	0.3	64.8		99.5%	.300 MM	-200	69.0%
100	4.8	60.3		92.6%	.150 MM	.075 TO	
200	20.2	44.9		89.0%	.075 MM	.005 =	59.0%
PAN	23.8	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	65.1					CC =	0.00

HYDROMETER ANALYSIS

HYDRO N0.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	35.0	6.0	29.0	44.5%	.037 MM	Sample
4 MIN	19.5	23.5	6.0	17.5	26.9%	.019 MM	21.9
19 MIN	19.5	15.5	6.0	9.5	14.6%	.009 MM	Liquid Limit
60 MIN	20.0	12.5	6.0	6.5	10.0%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

s(ML) SANDY SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-3		GRADATION ANALYSIS				32.5-33	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#16	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	96.90	Moisture - #4	0.0%	Dry Weight	96.90
		(75 MM)	(37.5 MM)	(19.0 MM)	(9.5 MM)	(4.75 MM)	Total Mass
SIEVE SIZE		3"	1 1/2"	3/4"	3/8"	NO.4	Passing
WET MATL & PAN ACC							4.75 mm Sieve
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	(No. 4)
WET MASS RET		0.00	0.00	0.00	0.00	0.00	Sample Weight
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	in Grams
DRY MASS PASSING		96.90	96.90	96.90	96.90	96.90	Dry Weight
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	96.90

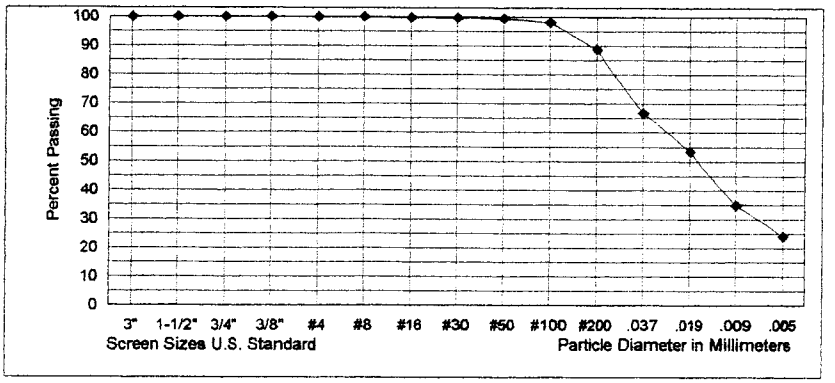
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	56.20	FACTOR=%TOT PASS NO#4 / TOTAL WT	=	1.7794
DISH NO.	82	DRY MASS OF SAMPLE (SIEVED)	7.5	
SIEVING TIME	10 Minutes			

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	56.2	= % OF	100.0%	2.36 MM		
16	0.1	56.1	TOTAL	99.8%	1.18 MM	GRAVEL	0.0%
30	0.2	56.0	PASSING	99.6%	.600 MM	SAND	11.2%
50	0.3	55.9		99.5%	.300 MM	-200	88.8%
100	1.2	55.0		97.9%	.150 MM	.075 TO	
200	8.3	49.9		88.8%	.075 MM	.005 =	64.8%
PAN	7.5	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	56.2					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	43.5	6.0	37.5	66.7%	.037 MM	Sample
4 MIN	19.5	36.0	6.0	30.0	53.4%	.019 MM	30.4
19 MIN	19.5	25.5	6.0	19.5	34.7%	.009 MM	Liquid Limit
60 MIN	20.0	19.5	6.0	13.5	24.0%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-4		GRADATION ANALYSIS				34.4-35.4	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#4	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	110.20	Moisture - #4	0.0%	Dry Weight	110.20
SIEVE SIZE		(75 MM) 3"	(37.5 MM) 1 1/2"	(19.0 MM) 3/4"	(9.5 MM) 3/8"	(4.75 MM) NO.4	Total Mass Passing 4.75 mm Sieve (No. 4) Sample Weight in Grams Dry Weight
WET MATL & PAN ACC						2.90	
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	
WET MASS RET		0.00	0.00	0.00	0.00	2.90	
DRY MASS RET		0.00	0.00	0.00	0.00	2.90	
DRY MASS PASSING		110.20	110.20	110.20	110.20	107.30	107.30
% OF TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	97.4%	

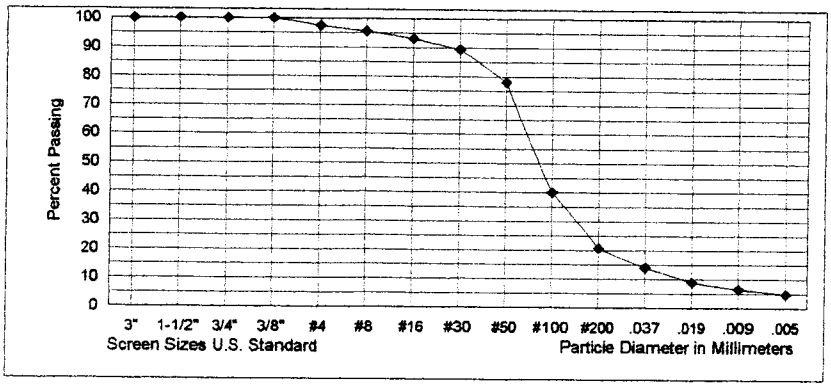
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	59.60	FACTOR=%TOT PASS NO#4 / TOTAL WT	= 1.6337
DISH NO.	83	DRY MASS OF SAMPLE (SIEVED)	47.9
SIEVING TIME	10 Minutes		

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	1.1	58.5		95.6%	2.36 MM		
16	2.6	57.0		93.1%	1.18 MM	GRAVEL	2.6%
30	4.9	54.7		89.4%	.600 MM	SAND	76.6%
50	11.7	47.9		78.3%	.300 MM	-200	20.7%
100	35.1	24.5		40.0%	.150 MM	.075 TO	
200	46.9	12.7		20.7%	.075 MM	.005 =	15.8%
PAN	47.9	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	59.6					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	20.0	14.5	6.0	8.5	13.9%	.037 MM	Sample
4 MIN	20.0	11.5	6.0	5.5	9.0%	.019 MM	12.5
19 MIN	20.0	10.0	6.0	4.0	6.5%	.009 MM	Liquid Limit
60 MIN	20.0	9.0	6.0	3.0	4.9%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

SM SILTY SAND

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-5		GRADATION ANALYSIS				44.0-44.5	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. N0.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#50	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	113.70	Moisture - #4	0.0%	Dry Weight	113.70
SIEVE SIZE		(75 MM) 3"	(37.5 MM) 1 1/2"	(19.0 MM) 3/4"	(9.5 MM) 3/8"	(4.75 MM) N0.4	Total Mass Passing 4.75 mm Sieve (No. 4) Sample Weight in Grams Dry Weight 113.70
WET MATL & PAN ACC							
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	
WET MASS RET		0.00	0.00	0.00	0.00	0.00	
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	
DRY MASS PASSING		113.70	113.70	113.70	113.70	113.70	
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	

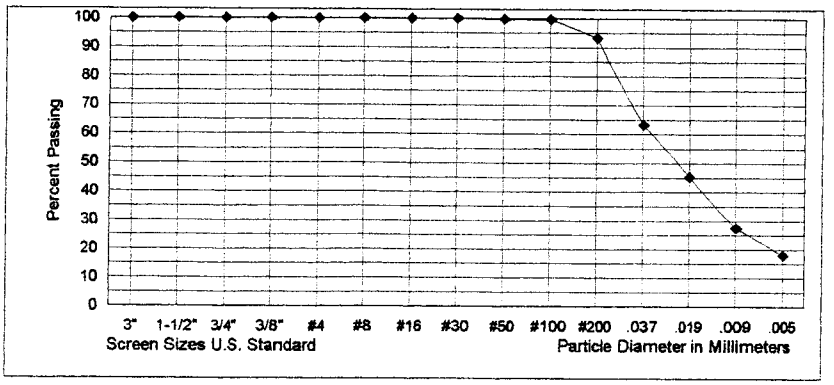
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	64.00	FACTOR=%TOT PASS NO#4 / TOTAL WT	=	1.5625
DISH NO.	78	DRY MASS OF SAMPLE (SIEVED)	5.8	
SIEVING TIME	10 Minutes			

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	64.0		100.0%	2.36 MM		
16	0.0	64.0		100.0%	1.18 MM	GRAVEL	0.0%
30	0.0	64.0		100.0%	.600 MM	SAND	6.7%
50	0.1	63.9		99.8%	.300 MM	-200	93.3%
100	0.3	63.7		99.5%	.150 MM	.075 TO	
200	4.3	59.7		93.3%	.075 MM	.005 =	75.3%
PAN	5.8	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	64.0					CC =	0.00

HYDROMETER ANALYSIS

HYDRO N0.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
							Moisture Total
1 MIN	19.5	46.5	6.0	40.5	63.3%	.037 MM	Sample
4 MIN	19.5	35.0	6.0	29.0	45.3%	.019 MM	28.1
19 MIN	20.0	23.5	6.0	17.5	27.3%	.009 MM	Liquid Limit
60 MIN	20.0	17.5	6.0	11.5	18.0%	.005 MM	NA
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	NA



SOILS CLASSIFICATION AND COMMON NAME

ML SILT

SAMPLE NO.		SAMPLE PREPARATION				DEPTH (ft)	
MDH-8-6		GRADATION ANALYSIS				46.0-47.0	
TEST BY	Townley					Date Prepared	12-14-01
AREA		PROJECT		FEATURE		EXC. NO.	
		Ventura River		Matilija Dam		MDH-8	

PERCENT OF TEST PIT OR AUGER HOLE OVERSIZE BY VOLUME

MAX SIZE	#50	PLUS 12"	0.0%	5" TO 12"	0.0%	3" TO 5"	0.0%
P. INDEX	0.0	CLASS OF FINES =		ML	+ OR - A LINE		0.00

GRADATION OF GRAVEL SIZE

Moisture + #4	0.0%	Sample Weight	152.70	Moisture - #4	0.0%	Dry Weight	152.70
SIEVE SIZE		(75 MM) 3"	(37.5 MM) 1 1/2"	(19.0 MM) 3/4"	(9.5 MM) 3/8"	(4.75 MM) NO.4	Total Mass Passing 4.75 mm Sieve (No. 4) Sample Weight in Grams Dry Weight 152.70
WET MATL & PAN ACC							
MASS OF PAN		0.00	0.00	0.00	0.00	0.00	
WET MASS RET		0.00	0.00	0.00	0.00	0.00	
DRY MASS RET		0.00	0.00	0.00	0.00	0.00	
DRY MASS PASSING		152.70	152.70	152.70	152.70	152.70	
% 0F TOTAL PASSING		100.0%	100.0%	100.0%	100.0%	100.0%	

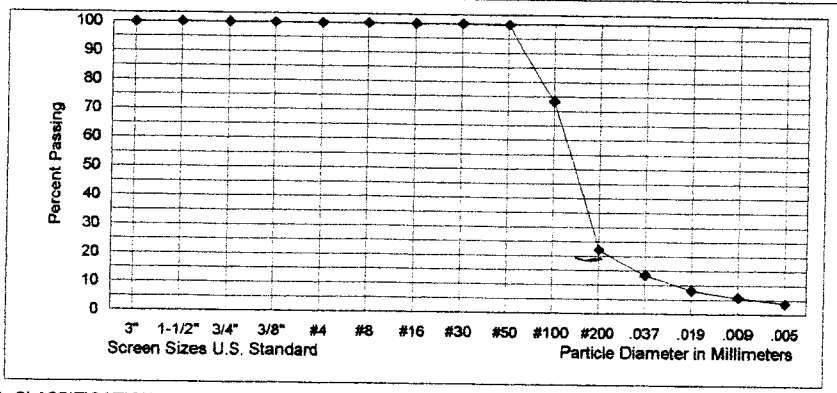
GRADATION OF SAND SIZE

DRY WT MATL GRAMS BEFORE WASHING =	78.70	FACTOR=%TOT PASS NO#4 / TOTAL WT	=	1.2706
DISH NO.	58	DRY MASS OF SAMPLE (SIEVED)	63.8	
SIEVING TIME	10 Minutes			

SIEVE NO.	MASS RET (GR)	MASS PASS (GR)	FACTOR X MASS PASS = % OF TOTAL PASSING	% TOTAL PASSING	PARTICLE DIAMETER	REMARKS	
8	0.0	78.7		100.0%	2.36 MM		
16	0.0	78.7		100.0%	1.18 MM	GRAVEL	0.0%
30	0.0	78.7		100.0%	.600 MM	SAND	77.8%
50	0.2	78.5		99.7%	.300 MM	-200	22.2%
100	21.0	57.7		73.3%	.150 MM	.075 TO	
200	61.2	17.5		22.2%	.075 MM	.005 =	18.4%
PAN	63.8	TESTED BY	Townley	DATE	12-20-01	CU =	0.00
TOTAL	78.7					CC =	0.00

HYDROMETER ANALYSIS

HYDRO NO.	2212			DISPERSING AGENT		SODIUM HEX	
START		DATE	12-19-01			AMOUNT	125 ML
TIME	TEMP C	HYD READ	HYD CORR	COR READ	% TOT PAS	PART DIA.	REMARKS
1 MIN	20.0	16.5	6.0	10.5	13.3%	.037 MM	Moisture Total Sample 12.7
4 MIN	20.0	12.5	6.0	6.5	8.3%	.019 MM	
19 MIN	20.0	10.5	6.0	4.5	5.7%	.009 MM	Liquid Limit NA
60 MIN	20.0	9.0	6.0	3.0	3.8%	.005 MM	
7HR 15MIN	0.0	0.0	0.0	0.0	0.0%	.002 MM	Plastic Limit NA
25H 45MIN	0.0	0.0	0.0	0.0	0.0%	.001 MM	



SOILS CLASSIFICATION AND COMMON NAME

SM SILTY SAND