APPENDIX E

SUMMARY OF VALIDATED ANALYTICAL DATA

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-DEP01			HR-90Q-DEP02			HR-90Q-DEP03			HR-90Q-DEP04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN1001			YN1002			YN1003			YN1004		
	Sample Date:	10-JAN-01			10-JAN-01			10-JAN-01			10-JAN-01		
User Test Group	*Sample Depth:*	0 - .5			0 - .5			0 - .5			0 - .5		
Lab Method *Parameter*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
METALS													
SW6010B													
Aluminum	mg/kg	11800			3780			5180			16200		
Antimony	mg/kg	12.5	U	U	11.7	U	U	11.3	U	U	14.2	U	U
Arsenic	mg/kg	3.19			2.22			2.81			4.48		
Barium	mg/kg	97.6			218			96.4			163		
Beryllium	mg/kg	1.2	J	J	.336	J	J	.518	J	J	1.55		
Cadmium	mg/kg	.627	U	U	.585	U	U	.566	U	U	.71	U	U
Calcium	mg/kg	197			225			4030			410		
Chromium	mg/kg	10.4			9.18			9.14			16		
Cobalt	mg/kg	9.71			10.3			7.72			8.7		
Copper	mg/kg	8.46			8.17			9.7			9.39		
Iron	mg/kg	21600			16100			17900			25300		
Lead	mg/kg	18.6			20.3			10.8			24.5		
Magnesium	mg/kg	596			154			2510			788		
Manganese	mg/kg	617			948			905			221		
Nickel	mg/kg	5.92			4.19			6.04			5.87		
Potassium	mg/kg	2670			977			1290			3490		
Selenium	mg/kg	.674	J	J	1.17	U	U	1.13	U	U	1.03	J	J
Silver	mg/kg	1.25	U	U	1.17	U	U	1.13	U	U	1.42	U	U
Sodium	mg/kg	37.5	J	J	28.3	J	J	33.9	J	J	50.7	J	J
Thallium	mg/kg	2.51	U	U	1	J	J	.974	J	J	2.84	U	U
Vanadium	mg/kg	15.3			10.2			11.7			25.4		
Zinc	mg/kg	33.8			92			52.7			24.8		
SW7471A													
Mercury	mg/kg	.125	U	U	.117	U	U	.113	U	U	.142	U	U
NITROAROMATICS													
SW8330													
1,3,5-Trinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
1,3-Dinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4,6-Trinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN0001			YN0003			YN0005			YN0007		
	Sample Date:	02-OCT-00			02-OCT-00			02-OCT-00			02-OCT-00		
User Test Group / Lab Method	Sample Depth:	0 - 1			0 - 1			0 - 1			0 - 1		
Parameter	Units	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual
METALS													
SW6010B													
Aluminum	mg/kg	8240			12700			8110			6020		
Antimony	mg/kg	10.8	U	UJ	11.2	U	UJ	11.1	U	UJ	10.8	U	UJ
Arsenic	mg/kg	3.51			3.94			3.39			2.97		
Barium	mg/kg	60.6			125			144			118		
Beryllium	mg/kg	.462	J	J	.825	J	J	.472	J	J	.485	J	J
Cadmium	mg/kg	.539	U	U	.559	U	U	.557	U	U	.538	U	U
Calcium	mg/kg	1980			365			243			5060		
Chromium	mg/kg	16.6			13.9			14			10.7		
Cobalt	mg/kg	3.48			7.28			4.05			4.21		
Copper	mg/kg	11.2			15.9			11.3			8.54		
Iron	mg/kg	15400			16800			19600			13400		
Lead	mg/kg	9.07			13.2			19.5			11.5		
Magnesium	mg/kg	828			643			250			3180		
Manganese	mg/kg	195			896			601			457		
Nickel	mg/kg	11			11.9			9.18			8.81		
Potassium	mg/kg	608			1120			2500			2810		
Selenium	mg/kg	.995	J	J	.667	J	J	1.11	U	U	1.08	U	U
Silver	mg/kg	.457	J	B	1.12	U	U	.514	J	B	1.08	U	U
Sodium	mg/kg	30.2	J	J	41.2	J	J	42.4	J	J	35.6	J	J
Thallium	mg/kg	2.16	U	U	2.23	U	U	2.23	U	U	2.15	U	U
Vanadium	mg/kg	16.9			18.2			16.5			13		
Zinc	mg/kg	41.6		J	20.3		J	83.5		J	15.4		J
SW7471A													
Mercury	mg/kg	.032	J	J	.112	U	U	.111	U	U	.108	U	U
NITROAROMATICS													
SW8330													
1,3,5-Trinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
1,3-Dinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4,6-Trinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW04			HR-90Q-MW05		
	Associated Site:	HR-90Q			HR-90Q		
	Sample No:	YN0008			YN0011		
	Sample Date:	02-OCT-00			02-OCT-00		
User Test Group	*Sample Depth:*	0 - 1			0 - 1		
Lab Method *Parameter*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
METALS							
SW6010B							
Aluminum	mg/kg	5710			6130		
Antimony	mg/kg	11	U	UJ	11.1	U	UJ
Arsenic	mg/kg	3.35			3		
Barium	mg/kg	121			37.5		
Beryllium	mg/kg	.533	J	J	.344	J	J
Cadmium	mg/kg	.552	U	U	.554	U	U
Calcium	mg/kg	4140			363		
Chromium	mg/kg	10.2			10.4		
Cobalt	mg/kg	4.63			2.5		
Copper	mg/kg	9.91			9.98		
Iron	mg/kg	16800			14400		
Lead	mg/kg	13.8			14		
Magnesium	mg/kg	2620			333		
Manganese	mg/kg	511			186		
Nickel	mg/kg	9.03			10.5		
Potassium	mg/kg	2000			1670		
Selenium	mg/kg	1.1	U	U	1.11	U	U
Silver	mg/kg	1.1	U	U	1.11	U	U
Sodium	mg/kg	53.3	J	J	25.3	J	J
Thallium	mg/kg	.676	J	J	2.21	U	U
Vanadium	mg/kg	14.2			10.5		
Zinc	mg/kg	17.4		J	220		J
SW7471A							
Mercury	mg/kg	.11	U	U	.111	U	U
NITROAROMATICS							
SW8330							
1,3,5-Trinitrobenzene	mg/kg	.4	U	U	.4	U	U
1,3-Dinitrobenzene	mg/kg	.4	U	U	.4	U	U
2,4,6-Trinitrotoluene	mg/kg	.4	U	U	.4	U	U
2,4-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-DEP01			HR-90Q-DEP02			HR-90Q-DEP03			HR-90Q-DEP04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN1001			YN1002			YN1003			YN1004		
	Sample Date:	10-JAN-01			10-JAN-01			10-JAN-01			10-JAN-01		
User Test Group / Lab Method	Sample Depth:	0 - .5			0 - .5			0 - .5			0 - .5		
Parameter	Units	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual
NITROAROMATICS													
SW8330													
2,6-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Amino-4,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
3-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
4-Amino-2,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
HMX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Nitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
RDX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Tetryl	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
p-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
TOC													
SW9060													
Total Organic Carbon	mg/kg	201			30.1			71.3			196		

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN0001			YN0003			YN0005			YN0007		
	Sample Date:	02-OCT-00			02-OCT-00			02-OCT-00			02-OCT-00		
User Test Group / Lab Method	Sample Depth:	0 - 1			0 - 1			0 - 1			0 - 1		
Parameter	Units	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual
NITROAROMATICS													
SW8330													
2,6-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Amino-4,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
3-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
4-Amino-2,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
HMX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Nitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
RDX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Tetryl	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
p-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
TOC													
SW9060													
Total Organic Carbon	mg/kg												

Summary of Validated Surface and Depositional Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW04			HR-90Q-MW05		
	Associated Site:	HR-90Q			HR-90Q		
	Sample No:	YN0008			YN0011		
	Sample Date:	02-OCT-00			02-OCT-00		
User Test Group	*Sample Depth:*	0 - 1			0 - 1		
Lab Method							
Parameter	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
NITROAROMATICS							
SW8330							
2,6-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U
2-Amino-4,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U
2-Nitrotoluene	mg/kg	.4	U	U	.4	U	U
3-Nitrotoluene	mg/kg	.4	U	U	.4	U	U
4-Amino-2,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U
HMX	mg/kg	.4	U	U	.4	U	U
Nitrobenzene	mg/kg	.4	U	U	.4	U	U
RDX	mg/kg	.4	U	U	.4	U	U
Tetryl	mg/kg	.4	U	U	.4	U	U
p-Nitrotoluene	mg/kg	.4	U	U	.4	U	U
TOC							
SW9060							
Total Organic Carbon	mg/kg						

Summary of Validated Subsurface Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN0002			YN0004			YN0006			YN0010		
	Sample Date:	02-OCT-00			02-OCT-00			02-OCT-00			02-OCT-00		
User Test Group / Lab Method	Sample Depth:	6. - 6.5			6. - 6.5			11 - 12			2 - 4		
Parameter	Units	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual	Result	Qual	VQual
METALS													
SW6010B													
Aluminum	mg/kg	10800			10200			17000			7830		
Antimony	mg/kg	10.4	U	UJ	10.6	U	UJ	11.6	U	UJ	11.5	U	UJ
Arsenic	mg/kg	6.98			5.34			5			4.41		
Barium	mg/kg	42			97.6			135			82.7		
Beryllium	mg/kg	.396	J	J	.911	J	J	.53	J	J	.365	J	J
Cadmium	mg/kg	.521	U	U	.531	U	U	.579	U	U	.573	U	U
Calcium	mg/kg	139			230			66.2	J	J	661		
Chromium	mg/kg	16.7			16.3			14.3			6.05		
Cobalt	mg/kg	2.36			8.89			11.4			1.14	J	B
Copper	mg/kg	34.3			16.9			10.9			6.12		
Iron	mg/kg	29800			29400			24000			5610		
Lead	mg/kg	12.1			10.8			14.9			5.29		
Magnesium	mg/kg	397			889			605			618		
Manganese	mg/kg	63.5			471			435			12.8		
Nickel	mg/kg	9.69			15.2			9.23			7.07		
Potassium	mg/kg	821			2570			1900			5150		
Selenium	mg/kg	1.61			.518	J	J	.56	J	J	1.15	U	U
Silver	mg/kg	.498	J	B	1.06	U	U	.61	J	B	1.15	U	U
Sodium	mg/kg	42.4	J	J	44.6	J	J	30.9	J	J	55.3	J	J
Thallium	mg/kg	.634	J	J	2.13	U	U	2.32	U	U	2.29	U	U
Vanadium	mg/kg	29.5			16.6			21.1			6.76		
Zinc	mg/kg	39.7		J	26.7		J	20.9		J	7.09		J
SW7471A													
Mercury	mg/kg	.104	U	U	.106	U	U	.116	U	U	.115	U	U
NITROAROMATICS													
SW8330													
1,3,5-Trinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
1,3-Dinitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4,6-Trinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2,4-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U

Summary of Validated Subsurface Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

Location Code:	HR-90Q-MW05			
Associated Site:	HR-90Q			
Sample No:	YN0012			
Sample Date:	02-OCT-00			
Sample Depth:	6. - 6.5			
User Test Group / Lab Method / Parameter	*Units*	*Result*	*Qual*	*VQual*
METALS				
SW6010B				
Aluminum	mg/kg	8360		
Antimony	mg/kg	11.5	U	UJ
Arsenic	mg/kg	7.57		
Barium	mg/kg	95.1		
Beryllium	mg/kg	1.17		
Cadmium	mg/kg	.576	U	U
Calcium	mg/kg	53.5	J	J
Chromium	mg/kg	9.03		
Cobalt	mg/kg	7.63		
Copper	mg/kg	24.4		
Iron	mg/kg	34100		
Lead	mg/kg	14.4		
Magnesium	mg/kg	490		
Manganese	mg/kg	158		
Nickel	mg/kg	14.4		
Potassium	mg/kg	6250		
Selenium	mg/kg	1.15	U	U
Silver	mg/kg	1.15	U	U
Sodium	mg/kg	55.6	J	J
Thallium	mg/kg	.968	J	J
Vanadium	mg/kg	13.9		
Zinc	mg/kg	23.5		J
SW7471A				
Mercury	mg/kg	.115	U	U
NITROAROMATICS				
SW8330				
1,3,5-Trinitrobenzene	mg/kg	.4	U	U
1,3-Dinitrobenzene	mg/kg	.4	U	U
2,4,6-Trinitrotoluene	mg/kg	.4	U	U
2,4-Dinitrotoluene	mg/kg	.4	U	U

Summary of Validated Subsurface Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:	HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:	HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:	YN0002			YN0004			YN0006			YN0010		
	Sample Date:	02-OCT-00			02-OCT-00			02-OCT-00			02-OCT-00		
User Test Group	*Sample Depth:*	6. - 6.5			6. - 6.5			11 - 12			2 - 4		
Lab Method / *Parameter*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
NITROAROMATICS													
SW8330													
2,6-Dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Amino-4,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
2-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
3-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
4-Amino-2,6-dinitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
HMX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Nitrobenzene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
RDX	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
Tetryl	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U
p-Nitrotoluene	mg/kg	.4	U	U	.4	U	U	.4	U	U	.4	U	U

Summary of Validated Subsurface Soil Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

Location Code:	HR-90Q-MW05			
Associated Site:	HR-90Q			
Sample No:	YN0012			
Sample Date:	02-OCT-00			
Sample Depth:	6. - 6.5			
User Test Group / Lab Method / Parameter	*Units*	*Result*	*Qual*	*VQual*
NITROAROMATICS				
SW8330				
2,6-Dinitrotoluene	mg/kg	.4	U	U
2-Amino-4,6-dinitrotoluene	mg/kg	.4	U	U
2-Nitrotoluene	mg/kg	.4	U	U
3-Nitrotoluene	mg/kg	.4	U	U
4-Amino-2,6-dinitrotoluene	mg/kg	.4	U	U
HMX	mg/kg	.4	U	U
Nitrobenzene	mg/kg	.4	U	U
RDX	mg/kg	.4	U	U
Tetryl	mg/kg	.4	U	U
p-Nitrotoluene	mg/kg	.4	U	U

Summary of Validated Groundwater Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:		HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:		HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:		YN3001			YN3002			YN3003			YN3004		
	Sample Date:		27-OCT-00			26-OCT-00			16-NOV-00			24-OCT-00		
User Test Group / *Lab Method* / *Parameter*	*Flt*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
METALS														
SW6010B														
Aluminum		mg/L	1.75			.163	J	J	2.13			12.5		
Antimony		mg/L	.1	U	U	.1	U	U	.1	U	U	.1	U	U
Arsenic		mg/L	.01	U	U	.01	U	U	.01	U	U	.00279	J	J
Barium		mg/L	.0706			.02			.0414			.183		
Beryllium		mg/L	.001	U	U	.001	U	U	.001	U	U	.001	U	U
Cadmium		mg/L	.01	U	U	.01	U	U	.01	U	U	.01	U	U
Calcium		mg/L	30.2			.777	J	J	.645	J	J	26.2		
Chromium		mg/L	.01	U	U	.01	U	U	.00711	J	J	.01	U	U
Cobalt		mg/L	.02	U	U	.02	U	U	.02	U	U	.02	U	U
Copper		mg/L	.0106	J	J	.00552	J	J	.02	U	U	.0404		
Iron		mg/L	2.08			.094	J	J	1.44			4.02		
Lead		mg/L	.00317	J	B	.00185	J	B	.01	U	U	.00524	J	B
Magnesium		mg/L	18.3			1.57			.441	J	J	3.22		
Manganese		mg/L	1.22			.0205			.0951			.0603		
Nickel		mg/L	.0136	J	J	.016	J	J	.02	U	U	.0113	J	J
Potassium		mg/L	6.3			5	U	U	5	U	U	17.3		
Selenium		mg/L	.01	U	U	.00267	J	J	.01	U	U	.01	U	U
Silver		mg/L	.01	U	U	.01	U	U	.01	U	U	.01	U	U
Sodium		mg/L	3.25			1.23			1.47			2.62		
Thallium		mg/L	.01	U	U	.01	U	U	.01	U	U	.01	U	U
Vanadium		mg/L	.00575	J	J	.01	U	U	.01	U	U	.00788	J	J
Zinc		mg/L	.0102	J	J	.0147	J	J	.486			.0235		
SW7470A														
Mercury		mg/L	.0005	U	U	.0005	U	U	.0005	U	U	.0005	U	U
NITROAROMATICS														
SW8330														
1,3,5-Trinitrobenzene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
1,3-Dinitrobenzene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
2,4,6-Trinitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
2,4-Dinitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U

Summary of Validated Groundwater Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

		Location Code:	HR-90Q-MW05			HR-90Q-MW05		
		Associated Site:	HR-90Q			HR-90Q		
		Sample No:	YN3005			YN3006		
		Sample Date:	25-OCT-00			25-OCT-00		
User Test Group / *Lab Method* / *Parameter*	*Flt*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
METALS								
SW6010B								
Aluminum		mg/L	.101	J	B	1.79		J
Antimony		mg/L	.1	U	U	.1	U	U
Arsenic		mg/L	.00261	J	J	.01	U	U
Barium		mg/L	.0247		J	.0383		J
Beryllium		mg/L	.001	U	U	.001	U	U
Cadmium		mg/L	.01	U	U	.01	U	U
Calcium		mg/L	.383	J	J	.528	J	J
Chromium		mg/L	.00528	J	J	.00627	J	J
Cobalt		mg/L	.02	U	U	.02	U	U
Copper		mg/L	.02	U	U	.02	U	U
Iron		mg/L	.0962	J	B	.812		
Lead		mg/L	.01	U	U	.01	U	U
Magnesium		mg/L	.198	J	J	.259	J	J
Manganese		mg/L	.0208			.0198		
Nickel		mg/L	.02	U	U	.0127	J	J
Potassium		mg/L	5.55			5.41		
Selenium		mg/L	.00163	J	B	.01	U	U
Silver		mg/L	.01	U	U	.01	U	U
Sodium		mg/L	3.77			3.29		
Thallium		mg/L	.01	U	U	.01	U	U
Vanadium		mg/L	.01	U	U	.01	U	U
Zinc		mg/L	.02	U	U	.00771	J	J
SW7470A								
Mercury		mg/L	.0005	U	U	.0005	U	U
NITROAROMATICS								
SW8330								
1,3,5-Trinitrobenzene		mg/L	.0004	U	U	.0004	U	U
1,3-Dinitrobenzene		mg/L	.0004	U	U	.0004	U	U
2,4,6-Trinitrotoluene		mg/L	.0004	U	U	.0004	U	U
2,4-Dinitrotoluene		mg/L	.0004	U	U	.0004	U	U

Summary of Validated Groundwater Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

	Location Code:		HR-90Q-MW01			HR-90Q-MW02			HR-90Q-MW03			HR-90Q-MW04		
	Associated Site:		HR-90Q			HR-90Q			HR-90Q			HR-90Q		
	Sample No:		YN3001			YN3002			YN3003			YN3004		
	Sample Date:		27-OCT-00			26-OCT-00			16-NOV-00			24-OCT-00		
User Test Group / *Lab Method* / *Parameter*	*Flt*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
NITROAROMATICS														
SW8330														
2,6-Dinitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
2-Amino-4,6-dinitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
2-Nitrotoluene		mg/L	.0004	U	U	.0031			.0004	U	U	.0004	U	U
3-Nitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
4-Amino-2,6-dinitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.00021	J	J
HMX		mg/L	.001	U	U	.001	U	U	.001	U	U	.001	U	U
Nitrobenzene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
RDX		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
Tetryl		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U
p-Nitrotoluene		mg/L	.0004	U	U	.0004	U	U	.0004	U	U	.0004	U	U

Summary of Validated Groundwater Data
Hand Gernade Range, Range 32 (Parcel 90Q)
Fort McClellan, Alabama

Report Date: 06/22/01

		Location Code:	HR-90Q-MW05			HR-90Q-MW05		
		Associated Site:	HR-90Q			HR-90Q		
		Sample No:	YN3005			YN3006		
		Sample Date:	25-OCT-00			25-OCT-00		
User Test Group / *Lab Method* / *Parameter*	*Flt*	*Units*	*Result*	*Qual*	*VQual*	*Result*	*Qual*	*VQual*
NITROAROMATICS								
SW8330								
2,6-Dinitrotoluene		mg/L	.0004	U	U	.0004	U	U
2-Amino-4,6-dinitrotoluene		mg/L	.0004	U	U	.0004	U	U
2-Nitrotoluene		mg/L	.0004	U	U	.0004	U	U
3-Nitrotoluene		mg/L	.0004	U	U	.0004	U	U
4-Amino-2,6-dinitrotoluene		mg/L	.0004	U	U	.0004	U	U
HMX		mg/L	.001	U	U	.001	U	U
Nitrobenzene		mg/L	.0004	U	U	.0004	U	U
RDX		mg/L	.0004	U	U	.0004	U	U
Tetryl		mg/L	.0004	U	U	.0004	U	U
p-Nitrotoluene		mg/L	.0004	U	U	.0004	U	U

GRAIN SIZE ANALYSIS

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

PARTICLE-SIZE ANALYSIS
ASTM D 422

HR-90Q-DEP01

Project Name	Fort McClellan	Client Sample No.	YN1001
Project No.	796887.09020300	IT Lab Sample No.	ETDC-9363

Specific Gravity = 2.65
assumed for calculations

Moisture Content = 25.7%
based on dry sample weight

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	91.7%
	#4	4.750	84.5%
	#10	2.000	78.8%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	72.7%
	#40	0.425	63.2%
	#60	0.250	56.3%
	#100	0.149	47.9%
	#140	0.106	41.9%
	#200	0.075	36.2%

HYDROMETER ANALYSIS

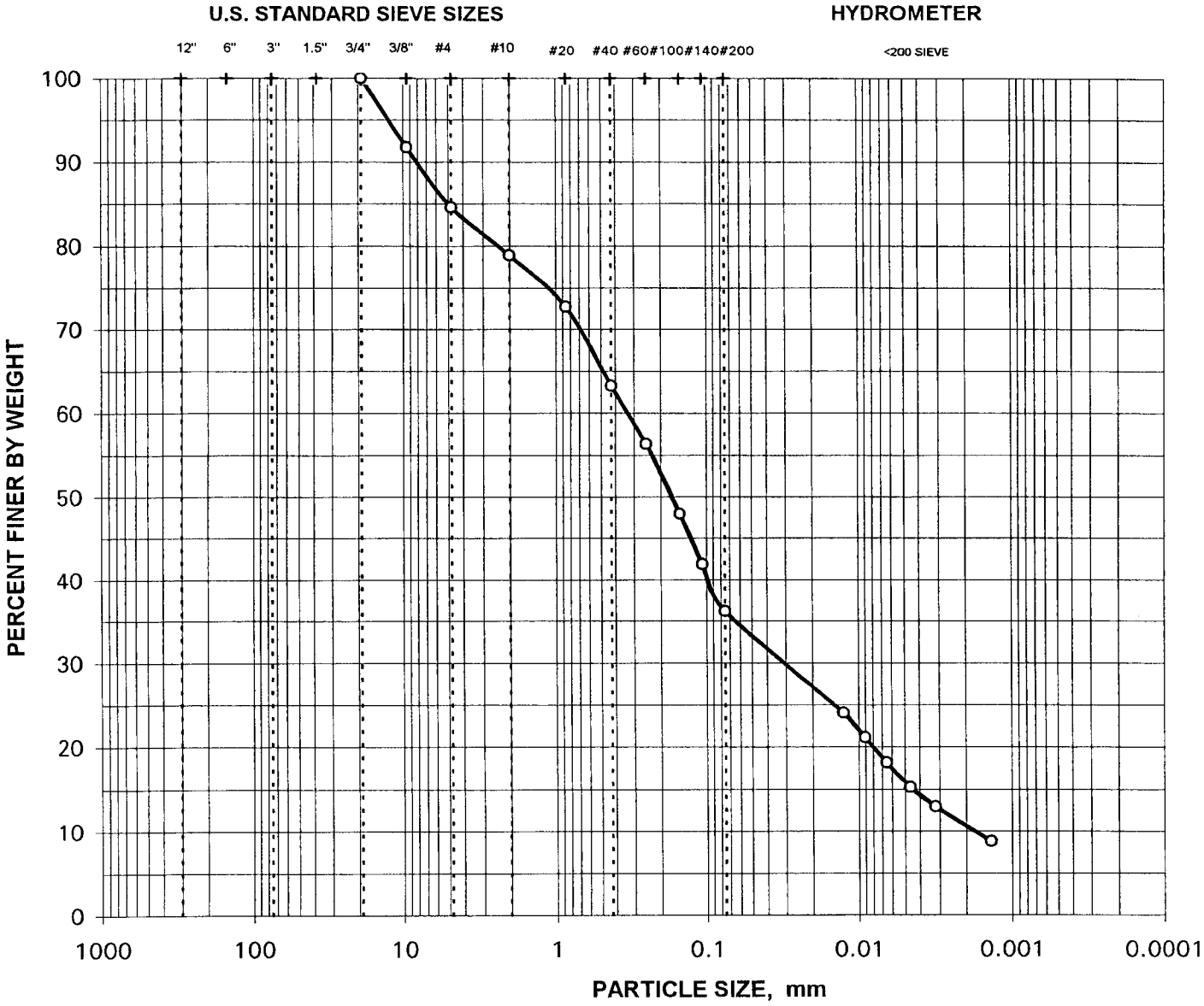
	Diameter mm	Percent Finer
HYDROMETER		
	0.01249	24.0%
	0.00899	21.1%
	0.00646	18.2%
	0.00458	15.2%
	0.00317	12.9%
	0.00137	8.8%

GRAVEL 15.5% SAND 48.4% SILT/CLAY 36.2%

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

Fort McClellan



CLIENT SAMPLE NO.: YN1001

IT LAB SAMPLE NO.: ETDC-9363

BOULDERS	COBBLES	GRAVEL		SAND			
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT 2 - 75 microns CLAY <2 microns

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

PARTICLE-SIZE ANALYSIS
ASTM D 422

HR-90Q-DEP02

Project Name: Fort McClellan
Client Sample No.: YN1002
Project No.: 796887.09020300
IT Lab Sample No.: ETDC-9364

Specific Gravity = 2.65
assumed for calculations

Moisture Content = 16.5%
based on dry sample weight

SIEVE ANALYSIS

COARSE	Sieve No.	Diameter mm	Percent Finer
	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	98.3%
	#4	4.750	90.6%
	#10	2.000	79.7%

FINE	Sieve No.	Diameter mm	Percent Finer
	#20	0.850	72.9%
	#40	0.425	54.3%
	#60	0.250	34.8%
	#100	0.149	22.4%
	#140	0.106	19.4%
	#200	0.075	17.3%

HYDROMETER ANALYSIS

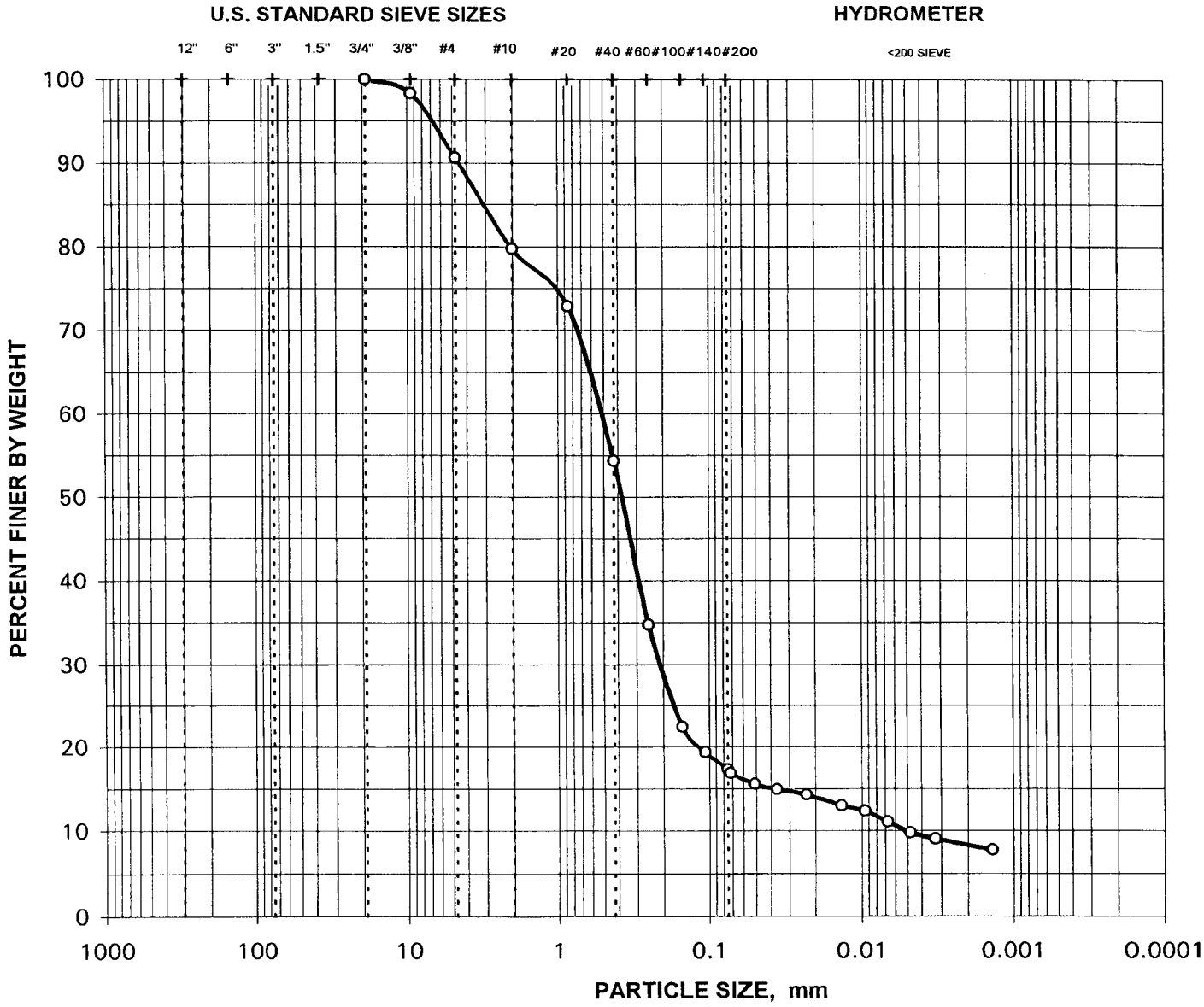
HYDROMETER	Diameter mm	Percent Finer
	0.07188	16.9%
	0.05102	15.6%
	0.03621	14.9%
	0.02299	14.3%
	0.01337	13.0%
	0.00947	12.3%
	0.00673	11.0%
	0.00474	9.7%
	0.00325	9.1%
	0.00138	7.8%

GRAVEL 9.4% SAND 73.3% SILT/CLAY 17.3%

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

Fort McClellan



CLIENT SAMPLE NO.: YN1002

IT LAB SAMPLE NO.: ETDC-9364

BOULDERS	COBBLES	GRAVEL		SAND			
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT 2 - 75 microns CLAY <2 microns

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

PARTICLE-SIZE ANALYSIS
ASTM D 422

HR-90Q-DEP03

Project Name: Fort McClellan
Client Sample No.: YN1003

Project No.: 796887.09020300
IT Lab Sample No.: ETDC-9365

Specific Gravity = 2.65
assumed for calculations

Moisture Content = 13.8%
based on dry sample weight

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	95.3%
	0.375"	9.500	90.4%
	#4	4.750	78.2%
	#10	2.000	64.3%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	51.1%
	#40	0.425	37.2%
	#60	0.250	28.8%
	#100	0.149	23.0%
	#140	0.106	20.3%
	#200	0.075	17.8%

HYDROMETER ANALYSIS

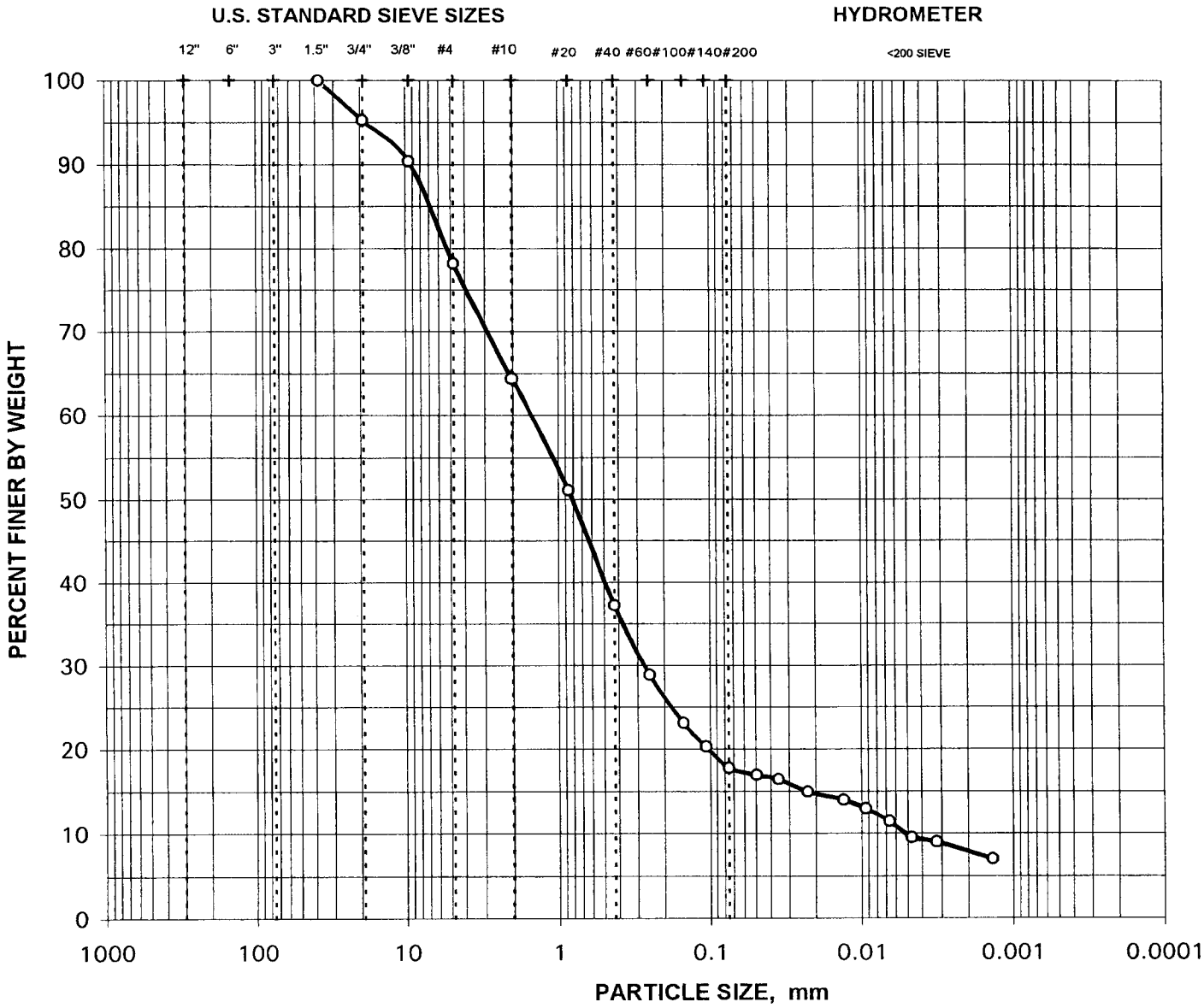
	Diameter mm	Percent Finer
HYDROMETER		
	0.04946	16.9%
	0.03511	16.4%
	0.02247	14.9%
	0.01302	13.9%
	0.00928	13.0%
	0.00661	11.5%
	0.00468	9.5%
	0.00321	9.0%
	0.00137	7.0%

GRAVEL 21.8% SAND 60.4% SILT/CLAY 17.8%

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

Fort McClellan



CLIENT SAMPLE NO.: YN1003

IT LAB SAMPLE NO.: ETDC-9365

BOULDERS	COBBLES	GRAVEL		SAND			
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT 2 - 75 microns CLAY <2 microns

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

PARTICLE-SIZE ANALYSIS
ASTM D 422

HR-90Q-DEP04

Project Name Fort McClellan

Client Sample No. YN1004

Project No. 796887.09020300

IT Lab Sample No. ETDC-9366

Specific Gravity = 2.65
assumed for calculations

Moisture Content = 36.4%
based on dry sample weight

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	89.8%
	#4	4.750	80.0%
	#10	2.000	68.4%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	61.6%
	#40	0.425	52.9%
	#60	0.250	47.8%
	#100	0.149	42.9%
	#140	0.106	39.4%
	#200	0.075	35.7%

HYDROMETER ANALYSIS

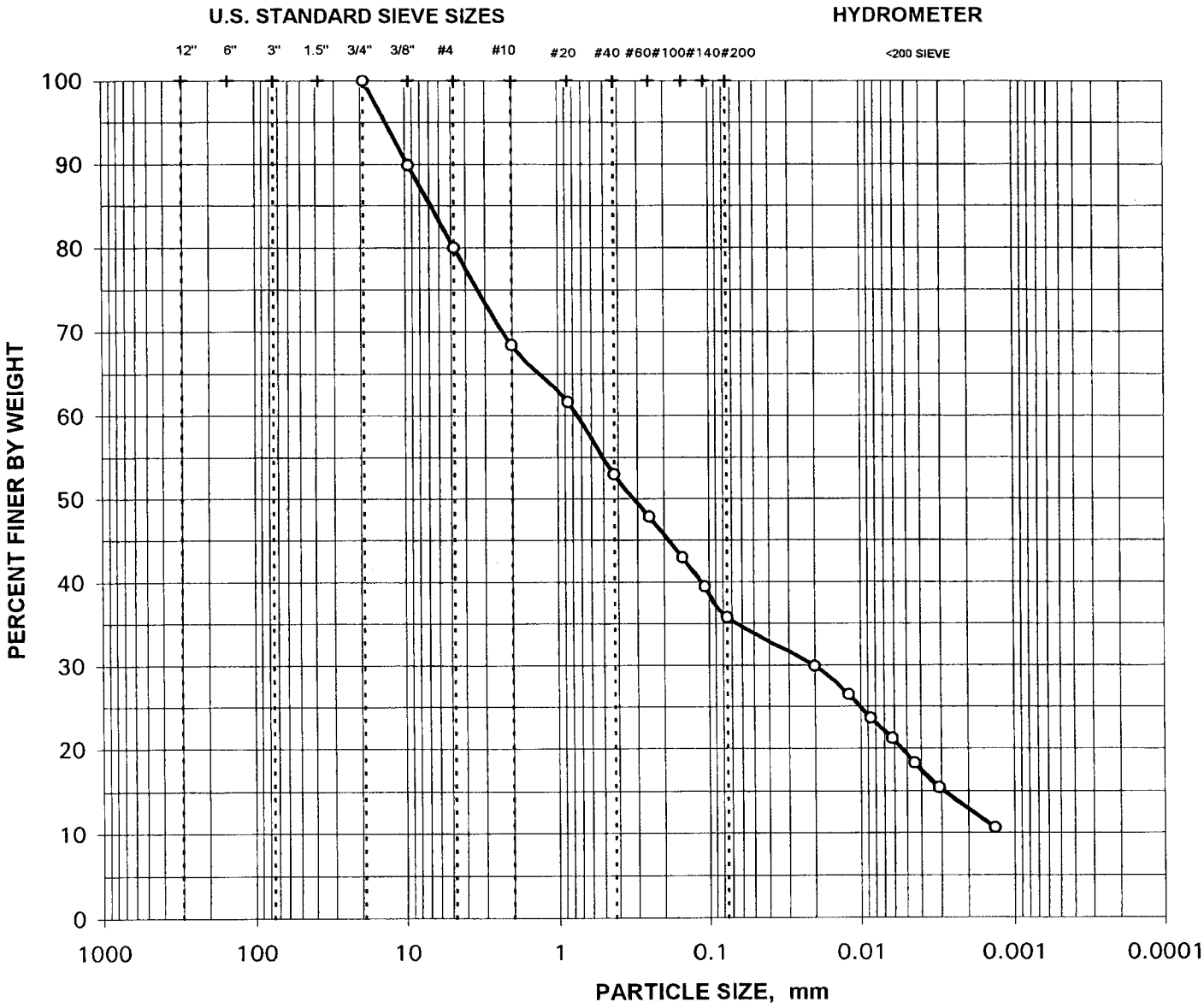
	Diameter mm	Percent Finer
HYDROMETER		
	0.01998	29.8%
	0.01187	26.5%
	0.00859	23.6%
	0.00618	21.2%
	0.00441	18.3%
	0.00308	15.4%
	0.00134	10.6%

GRAVEL 20.0% SAND 44.3% SILT/CLAY 35.7%

Duane Nielsen
IT Corporation
April 3, 2001
IT Project ID: Fort McClellan
IT Project No.: 796887.11020300

IT GEOTECHNICAL LABORATORY
OAK RIDGE, TN
(865) 482-6497

Fort McClellan



CLIENT SAMPLE NO.: YN1004

IT LAB SAMPLE NO.: ETDC-9366

BOULDERS	COBBLES	GRAVEL		SAND			
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT 2 - 75 microns CLAY <2 microns