SUMMARY LETTER

October 13, 2005

Ms. Maria L. Race
Midwest Generation EME, LLC
One Financial Place
440 South LaSalle Street, Suite 3500
Chicago, Illinois 60605

VIA FEDERAL EXPRESS

KPRG Project No. 15805

Re: Geotechnical Analysis of Soil Surrounding Settling Basins/Ponds

Dear Ms. Race:

KPRG and Associates, Inc. (KPRG) has recently received the geotechnical testing results from the soil boring program implemented in the vicinity of various ponds located at six of the Midwest Generation stations. Specifically, these stations and the number of borings advanced at each were:

- Waukegan Station (5 borings)
-
- Will County Station (5 borings)
- Joliet #29 Station (6 borings)
-
- Powerton Station (9 borings)

This letter report provides a project objective, documents the field procedures, identifies the geotechnical laboratory specifications and summarizes the geotechnical testing results. Each item is discussed separately below.

PROJECT OBJECTIVE

Based on discussions with Midwest Generation, the objective of the project was to obtain stratigraphic and geotechnical data from the vicinity of specific ponds at the various station locations. The results of the investigation would provide a physical characteristic data base for subsequent engineering evaluations, planning and decision analysis. The soil sample collection for geotechnical analysis was targeted for the approximate equivalent base elevation of each pond as specified by Midwest Generation.

FIELD PROCEDURES

Prior to mobilizing for drilling activities, Midwest Generation contracted Lucky Locators, Inc. to provide utility clearance at each pre-established drilling location. Once the utility clearance was provided, KPRG mobilized a geoprobe rig which utilizes a direct hydraulic push technology for collecting soil cores. Continuous 5-foot core samples were collected during drilling at each location. The core samples were screened in the filed for total organic vapors with a photoionization detector (PID) and where appropriate, compressive strength readings were taken using a hand penetrometer. At the approximate base elevation of the adjoining pond, an attempt was made to push a Shelby Tube for collection of an undisturbed sample for subsequent geotechnical analysis. If the subsurface conditions did not allow for sample collection by pushing a Shelby Tube, an acetate core sample was collected for submittal for geotechnical analysis. If the targeted interval consisted of sufficiently coarse material that would not allow for either proper Shelby Tube or acetate core sampling, a representative volume of retrieved sample was placed into a plastic baggie for submittal for geotechnical analysis. Table 1 summarizes the overall results of the geotechnical sampling effort relative to station, sample identification number, sample collection type and depth.

Upon completion of sampling at each location, the boring was abandoned by placing unsampled core material back into the hole and filling the remainder of the boring with granular bentonite. A surface patch was then placed to match the surrounding surficial material.

GEOTECHNICAL LABORATORY SPECIFICATIONS

KPRG subcontracted Terracon Consulting Engineers (Terracon) to perform the geotechnical laboratory analyses. The following geotechnical testing methods were run by Terracon:

- Grain Size with Hydrometer (ASTM Method D 422)
- Atterberg Limits (ASTM Method D 4318)
- Bulk Density (ASTM Method D 2937)
- Specific Gravity (ASTM Method D 854)
- Moisture Content (ASTM Method D 2216)
- Permeability (ASTM Method D 5084)
- USCS Soil Classification

In accordance with KPRG's proposal, Terracon was instructed to first run the Grain Size Distribution and Atterberg Limits testing. Based on these results, permeability testing was only performed if the Plasticity Index (PI) was less than 11 or if there was less than a 30% fraction passing the 200 mesh sieve. If both of these criteria were met (i.e., a PI of greater than 11 and greater than 30% fraction passing the 200 mesh sieve), the material should have a permeability in the order of 10^{-7} cm/sec which should provide sufficient

information for most desk-top engineering evaluations. As noted further below, only a few of the samples actually met these criteria.

It is noted that geoprobe acetate tube and/or baggie samples are not considered "undisturbed" samples and that some remolding/recompaction was required for completing permeability tests.

RESULTS

Table 1 summarizes the various samples collected for geotechnical analysis by station location and depth interval. The table notes whether the sample sent to the laboratory was a Shelby Tube, acetate tube or baggie sample.

The results of the geotechnical investigation program are organized separately for specific stations and provided in Attachments 1 through 6 along with sample location maps. A brief summary for each station is provided below. The complete geotechnical laboratory report is provided in Attachment 7.

Waukegan Station

A total of five borings were drilled and sampled at the Waukegan Station (WS-GT-1 through WS-GT-5). The approximate sample locations are provided on Figure 1-1 in Attachment 1 along with the results of the geotechnical testing in Table 1-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface materials were generally sandy with some gravel and/or silts and clays. Some areas were noted to containing fill material generally consisting of ash/slag.

The geotechnical data in Table 1-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) also document these materials to be classified as sands with some gravel, silt and/or clay. Permeabilities were found to range from 1.0×10^{-3} cm/sec to 2.3×10^{-2} cm/sec. These permeabilities are consistent with sandy/gravelly materials.

Redacted

Will County Station

A total of five borings were drilled and sampled at the Will County Station (WC-GT-1 through WC-GT-5). The approximate sample locations are provided on Figure 3-1 in Attachment 3 along with the results of the geotechnical testing in Table 3-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface stratigraphy varied across the site. The northern most boring (WC-GT-1) has a sandy/gravelly unit overlying a clay unit with weathered bedrock being encountered between 4.5 and 5 feet below ground surface (bgs). Borings WC-GT-2 through WC-GT-4 located on the west central portion of the property generally had a 1.5 to 2.5 foot thick fill layer with ash/slag and underlying sandy and gravelly units. Bedrock was generally encountered at around 10 feet bgs. The southern most boring (WC-GT-5) had a silty/sandy/gravelly layer overlaying weathered bedrock which was encountered at about 2.5 feet bgs.

The geotechnical data in Table 3-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) also document these materials to be classified as sands with some gravel or silts/clays. Permeabilities for the clayey and silty materials at borings WC-GT-4 and WC-GT-3 were estimated to range from 3.65×10^{-7} cm/sec to 1.86×10^{-6} cm/sec, respectively. It is noted, however, that the remolding for these samples could not meet the analytical method standard requirements due to the coarse fractions and that the values provided a verbal estimates. The true values could not be quantified due to the noted remolding issue and, therefore, are not included in the formal quantified results table provided by the geotechnical laboratory in Attachment 7. The coarser sandy and/or gravelly materials at locations WC-GT-2 and WC-GT-1 showed permeabilities at 4.02×10^{-3} and 1.35×10^{-1} cm/sec, respectively. The permeability for sample WC-GT-5 could not be run due to the relative amount of gravel which precluded being able to properly

remold a sample for the permeability analysis. This of itself suggests a relatively high permeability layer.

Joliet Station #29

A total of six borings were drilled and sampled at Joliet Station #29 (JS29-GT-1, through JS29-GT-6). The approximate sample locations are provided on Figure 4-1 in Attachment 4 along with the results of the geotechnical testing in Table 4-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface stratigraphy varied across the site from primarily sand/gravel at location JS29-GT-1 to primarily clay at locations JS29-GT-3, JS29-GT-5 and JS29-GT-6. The boring logs for the remaining locations indicate an interlayering of the coarse and fine materials. Some minor amounts of ash/slag were noted at some locations within the upper foot of material. Bedrock was definitively encountered only at location JS29-GT-6 at a depth of approximately 15 feet bgs.

The geotechnical data in Table 4-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) indicates that the sample from location JS29-GT-6 met the previously defined criteria of a high PI (greater than 11) and greater than a 30% fraction passing the 200 mesh sieve. Therefore, it can be generally assumed that the materials are of low permeability as previously discussed and no further permeability testing was performed on this sample. The results of the permeability tests for locations JS29-GT-1, JS29-GT-3 and JS29-GT-5 ranged from 4.7×10^{-4} to 2.96×10^{-2} cm/sec. The permeabilities for samples JS29-GT-2 and JS29-GT-4 could not be run due to the relative amount of gravel which precluded being able to properly remold a sample for the permeability analysis. This of itself suggests relatively high permeability layers at those locations.

Redacted

Redacted

Powerton Station

A total of nine borings were drilled and sampled at Powerton Station (PS-GT-1, through PS-GT-9). The approximate sample locations are provided on Figure 6-1 in Attachment 6 along with the results of the geotechnical testing in Table 6-1 and the associated soil boring logs.

A review of the boring logs indicates a varied stratigraphy from primarily clayey at locations PS-GT-1 and PS-GT-5 to an interlayering of sandy and clayey units at the other locations. It is noted that at locations PS-GT-7 through PS-GT-9, a slag/ash unit was logged starting at between 2 and 3 feet bgs and extending to approximately 15 feet bgs. A two foot ash layer was also logged between 2 and 4 feet bgs at location PS-GT-5.

The geotechnical data from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) indicates that the sample from location PS-GT-5 met the previously defined criteria of a high PI (greater than 11) and greater than a 30% fraction passing the 200 mesh sieve. Therefore, it can be generally assumed that the materials are of low permeability as previously discussed and no further permeability testing was performed on this sample. The remaining permeabilities ranged from 1.6×10^{-7} cm/sec to 2.31×10^{-2} cm/sec; the lower permeabilities associated with clayey and silty soils and the higher values associated with sandier soils.

KPRG appreciates the opportunity for providing our technical services to Midwest Generation on this project. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat

Richard R. Gnat, P.G.
Principal

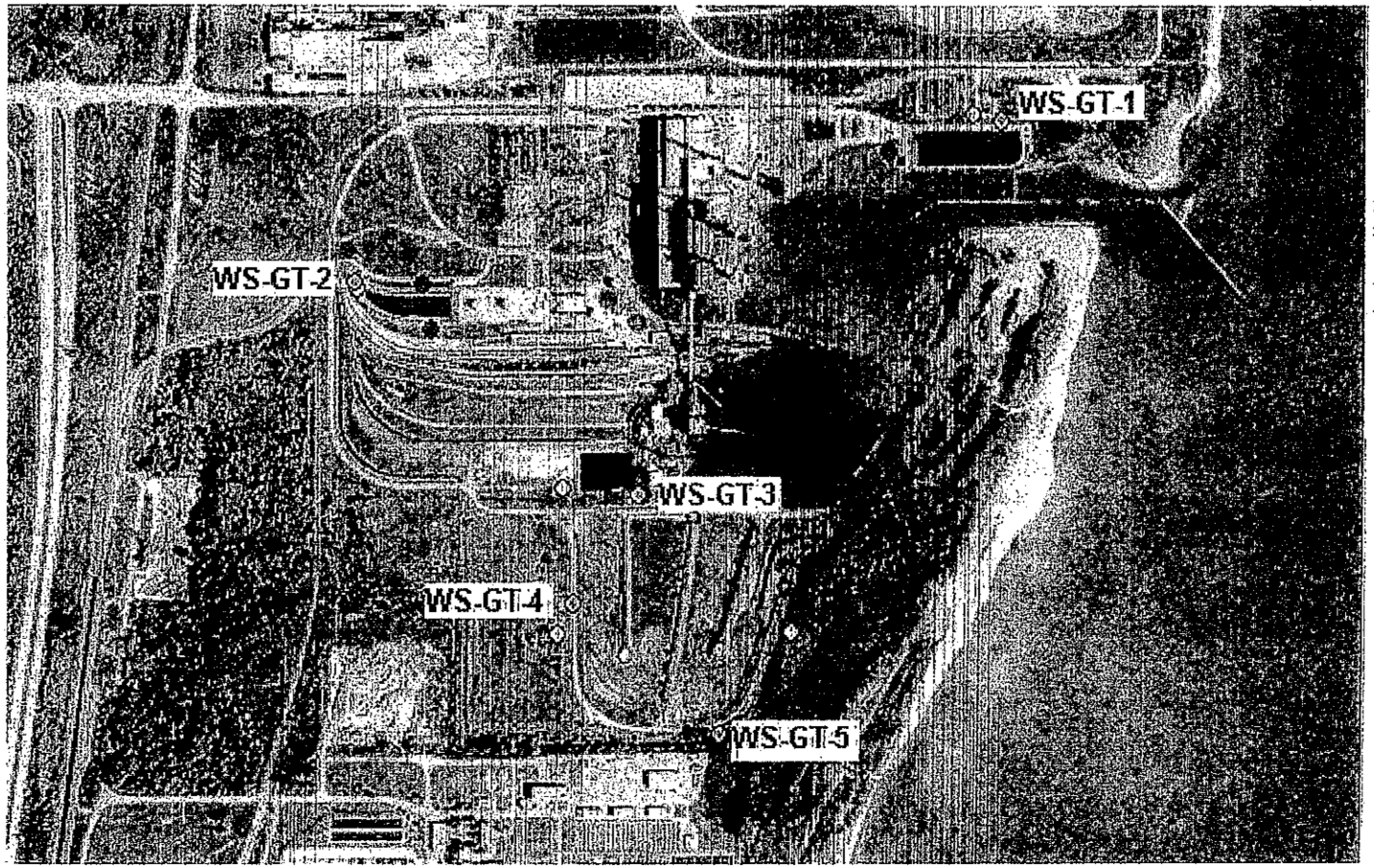
TABLE

Table 1. Summary of Samples Collected for Geotechnical Analysis

STATION	BORING ID	SHELBY TUBE (Depth Ft)	GEOPROBE TUBE (Depth Ft)	BAGGIE SAMPLE
Waukegan	WS-GT-1		5-10	
	WS-GT-2	7.5-10	5-10	
	WS-GT-3		5-10	
	WS-GT-4		22-27	
	WS-GT-5		22-27	
Redacted				
Will County	WC-GT-1		5-10	
	WC-GT-2		5-10	
	WC-GT-3		3-8	3-8
	WC-GT-4		5-10	
	WC-GT-5		5-9	5-9
Joliet #29	JS29-GT-1		19-24	15-19
	JS29-GT-2		19-24	
	JS29-GT-3		19-24	17-19
	JS29-GT-4		17-22	
	JS29-GT-5		9-14	
	JS29-GT-6		11-14	11-14
			Redacted	
Powerton	PS-GT-4	10-11.5		
	PS-GT-5	17-19		
	PS-GT-6		15-20	
	PS-GT-7		10-15	
	PS-GT-8		10-13	
	PS-GT-9		13-18	

ATTACHMENT 1

Waukegan Station Geotechnical Study Results



Suggested

Possible Alternate

Soil Sample Sites cleared by Lucky Locators Inc.

Figure 1-1

MWG13-15_24273

Table 1-1. Soil Sample Geotechnical Data - Midwest Generation, Waukegan Station, Waukegan, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
WS-GT-1	5 to 10'	Sand with trace gravel	5.6	114	NP	NP	94	1	2.63	1.05x10-2
WS-GT-2	7.5'-10'	Silty Sand, trace gravel, dark brown	15.2	107	NP	NP	79	7	2.44	1.52x10-2
			18.1							
WS-GT-3	5 to 10'	Sand with trace gravel	11.2	99	NP	NP	86	0	2.65	2.3x10-2
WS-GT-4	22-27'	Sand with trace gravel	5.4	114	NP	NP	53	2	2.64	2.16x10-2
WS-GT-5	22-27'	Sand, trace gravel, black	4.4	96	NP	NP	15	0	2.73	1.0x10-3
		(Bottom Ash?)								

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING WS-GT-1

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		SAND and GRAVEL, gray and orange brown. Dry.	1	0.0		
1							
2	SP		SLAG, black, medium to coarse sand and gravel, some bottom ash. Dry.				
3				2	0.0	80	
4	SP		SAND, fine to medium, light brown, trace silt. Slightly Moist.				
5							
6			Push Geoprobe Tube 5 to 10.				
7							
8							
9							
10							
11			End of boring at 10 feet.				
12							
13							
14							
15							
16							
17							
18							
19							
20							

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LOG OF BORING WS-GT-2

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		SAND and GRAVEL, brown and black. Dry.	1	0.0		
1	SP		SAND, fine to medium, brown, trace silt and gravel. Slightly Moist.				
2							
3			- wet	2	0.0	80	
4	SP		SAND, fine to medium, little silt. Very Moist.				
5			Push Geoprobe Tube 5 to 10.				
6			Pushed Shelby tube in new boring 5 to 10 feet. 18" recovery.				
7							
8							
9							
10			End of boring at 10 feet.				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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LOG OF BORING WS-GT-3

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	GW		SAND and GRAVEL, dark brown. Dry.	1	0.0		
1-3	SP		Bottom Ash, black and gray, fine, some sand and gravel. Dry.				
3-4	CO		COAL, black, some gray clayey bottom ash. Moist.	2	0.0	80	
4-5	SP		SAND, fine to medium, black and brown, little silt. Moist.				
5-10			Push Geoprobe Tube 5 to 10. Full recovery.				
10			End of boring at 10 feet.				

MWG13-15_24277

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LOG OF BORING WS-GT-4

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	GW		SAND and GRAVEL, brown. Dry.	1	0.0		
1-2	GW		Bottom Ash and SAND and GRAVEL Mixture. Very Moist.	2	0.0	100	
2-4	GW		Bottom Ash, black, medium to coarse sand and gravel, some fines. Slightly Moist.	3	0.0		
4-10	GW		- wet, some organics	4	0.0	80	
10-12	SP		SAND, fine to medium, some silt and clay, brown, organics. Slightly Moist.	5	0.0		
12-15	SP		Bottom Ash, black, granular, medium to coarse sand and gravel. Slightly Moist.	6	0.0	70	
15-17	SP			7	0.0		
17-20	SP		SAND, gray, fine to medium, trace silt.	8	0.0		
20-22			Push Geoprobe Tube 22 to 27 feet. Full Recovery				
22-27							
27-30			End of boring at 27 feet.				

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LOG OF BORING WS-GT-5

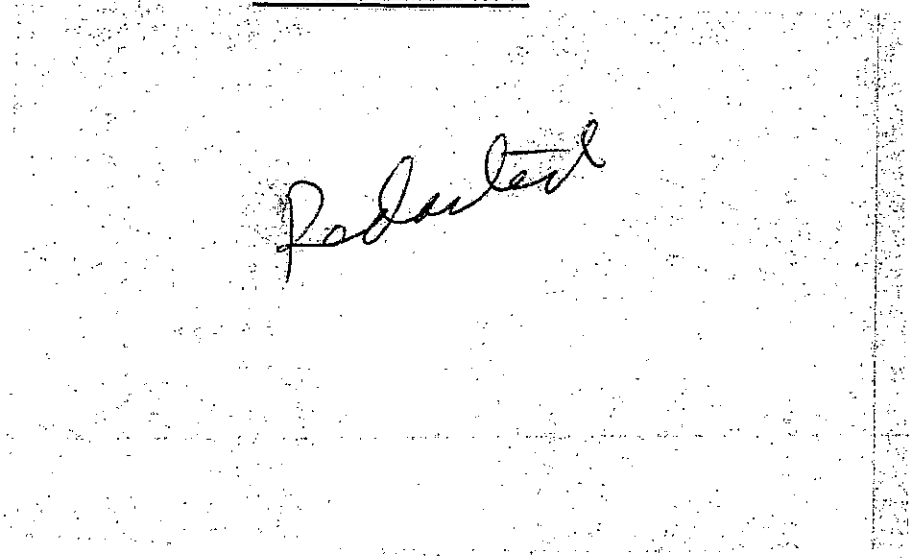
Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	GW		SAND and GRAVEL, brown, grass. Dry.	1	0.0		
1-4	SM		Bottom Ash, light gray, fine sand and silt powder. Dry.	2	0.0	80	
			- 3" light brown SAND, fine to medium. Dry.	3	0.0		
4-9	SM		Bottom Ash, fine to medium sand and silt, brown some gray, some slag. Slightly Moist.	4	0.0	100	
9-22	SP		Bottom Ash, black, granular, medium to coarse sand and gravel. Slightly Moist.	5	0.0		
				6	0.0	60	
				7	0.0	80	
				8	0.0	100	
22-27			Push Geoprobe Tube 22 to 27 feet. 24" Recovery.				
27			End of boring at 27 feet.				

ATTACHMENT 2



ATTACHMENT 3
Will County Station Geotechnical Study Results

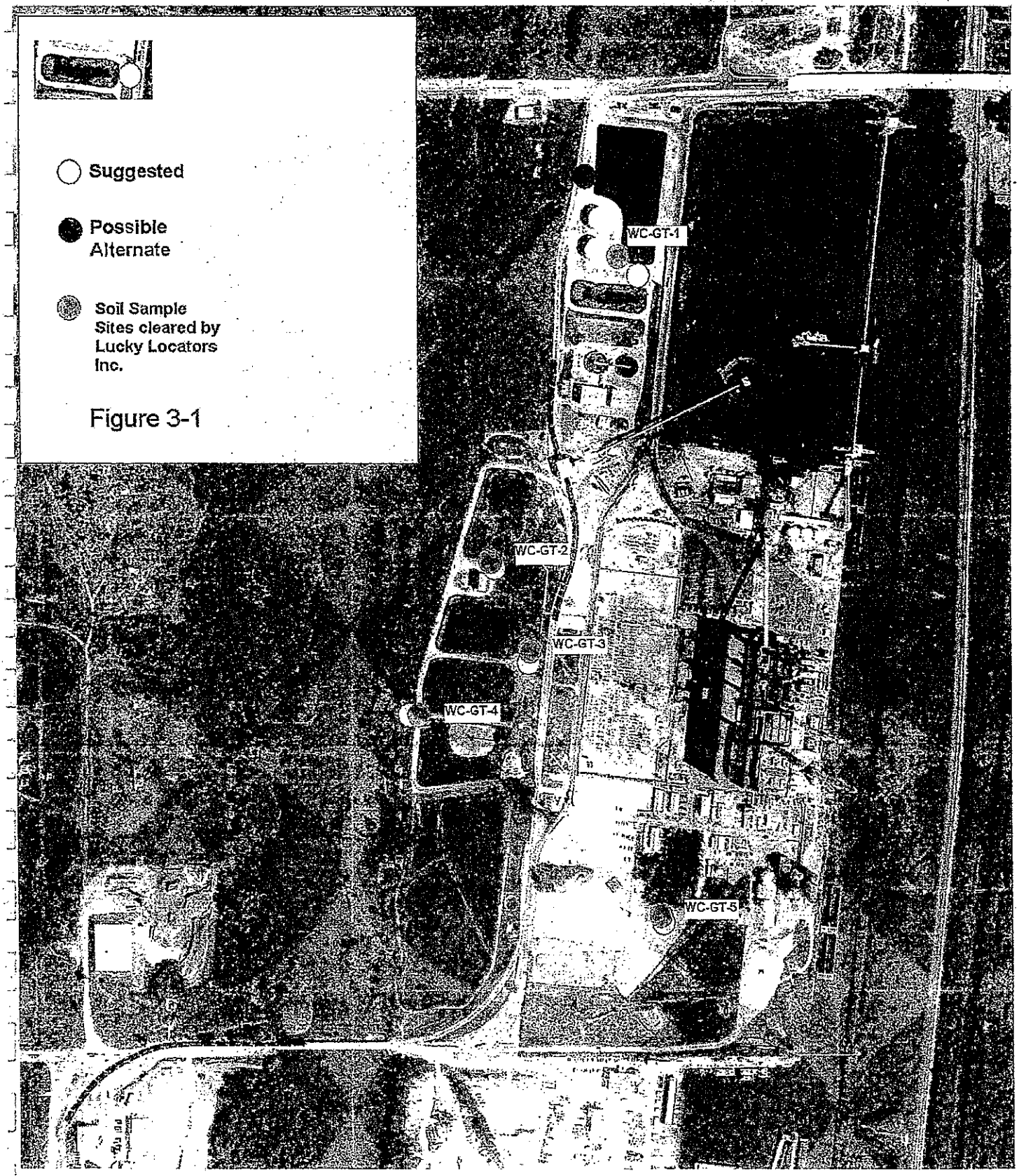

Suggested
Possible Alternate
Soil Sample Sites cleared by Lucky Locators Inc.
WC-GT-1
WC-GT-2
WC-GT-3
WC-GT-4
WC-GT-5

Figure 3-1

Table 3-1. Soil Sample Geotechnical Data - Midwest Generation, Will County Station, Romeoville, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
WC-GT-1	5 to 10'	Clayey Sand, dark brown to tan	3.4	118	31	15	25.1	11.4	2.66	1.35x10-1
WC-GT-2	5 to 10'	Sand with gravel, dark brown	18.1	92	NP	NP	35.1	11.9	2.65	4.02x10-3
WC-GT-3	3 to 8'	Lean Clay, dark brown	10.0	103	35	12	25.6	19.7	2.71	1.86x10-6***
WC-GT-4	5 to10'	Silty Clay, dark brown	9.5	128	25	7	35.4	23.3	2.7	3.65x10-7***
WC-GT-5	5-9'	Sandy Clay with Gravel	4.2	119	NP	NP	39	35	2.65	*

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
***Verbal estimate provided by geotechnical lab. The data package in Attachment 7 indicates that due to the coarse fraction the samples could not be ideally remolded. The above verbal estimate is not a quantitaive number due to the remolding issue and is therefore not reported as such in Attachment 7.
NA - Not Analyzed
NP - Not Plastic

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KPRG and Associates, Inc.

LOG OF BORING WC-GT-1

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	GW		GRAVEL and SAND, light brown / gray, trace silt and clay. Dry.	1	0.0		
2-4	CL		CLAY, dark brown, some sand and gravel. Dry.	2	3.0	80	>4.5
4-5	GW		SLAG and Bottom Ash, black and dark gray, medium to coarse sand, little silt. Dry to Slightly Moist.	3	25		
			- clayey weathered bedrock, gray, moist				
6			End of Boring at 5 feet.				
7			Push geoprobe tube 0 to 5 feet in new boring.				

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LOG OF BORING WC-GT-2

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	ML		Bottom Ash, brown and black, fine, little gravel. Dry. - increase gravel	1	0.0		
3–4	SP		SAND, fine to medium, dark brown to brown, little silt. Slightly Moist to Moist:	2	0.0	80	
5–6	SP			3	0.0		
7–9	SP		- very moist	4	0.0	80	
10			End of Boring at 10 feet. Push geoprobe tube 5 to 10 feet in new boring.				

MWG13-15_24285

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LOG OF BORING WC-GT-3

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SP		Bottom Ash and Coal, black, fine to medium, little gravel. Slightly Moist.	1	0.0		
2	GW		SAND-SILT-GRAVEL mixture, with crushed limestone, Slightly Moist.				
3–4	CL/GW		CLAY and GRAVEL, dark brown. Slightly Moist.	2	0.0	70	
5–7			- layer orange brown sand and gravel	3	0.0		
8–9	GW		SLAG, black, fine to medium sand with fine gravel. Moist.	4	0.0	40	
			- clayey weathered bedrock, gray				

End of Boring at 9.5 feet.

Attempt push Shelby Tube, colapsed.

Push geoprobe tube 3 to 8 feet in new boring. 28 " recovery.

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LOG OF BORING WC-GT-4

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	SP		Bottom Ash, sand and gravel. Dry. - black silt and fine sand, trace gravel. Dry. - gray	1	0.0		
2-3	CL/GW		CLAY and GRAVEL, some sand, dark brown. Dry.				
3-4	GW		SAND and GRAVEL, light brown. Dry.	2	0.0	100	
5-6			Pushed Geoprobe Tube 5 to 10. 41" recovery.	3	0.0		
7-8							
8-9				4	0.0	70	
10			End of Boring at 10 feet.				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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KPRG and Associates, Inc.

LOG OF BORING WC-GT-5

Midwest Generation
Will County Station
Romeoville, IL

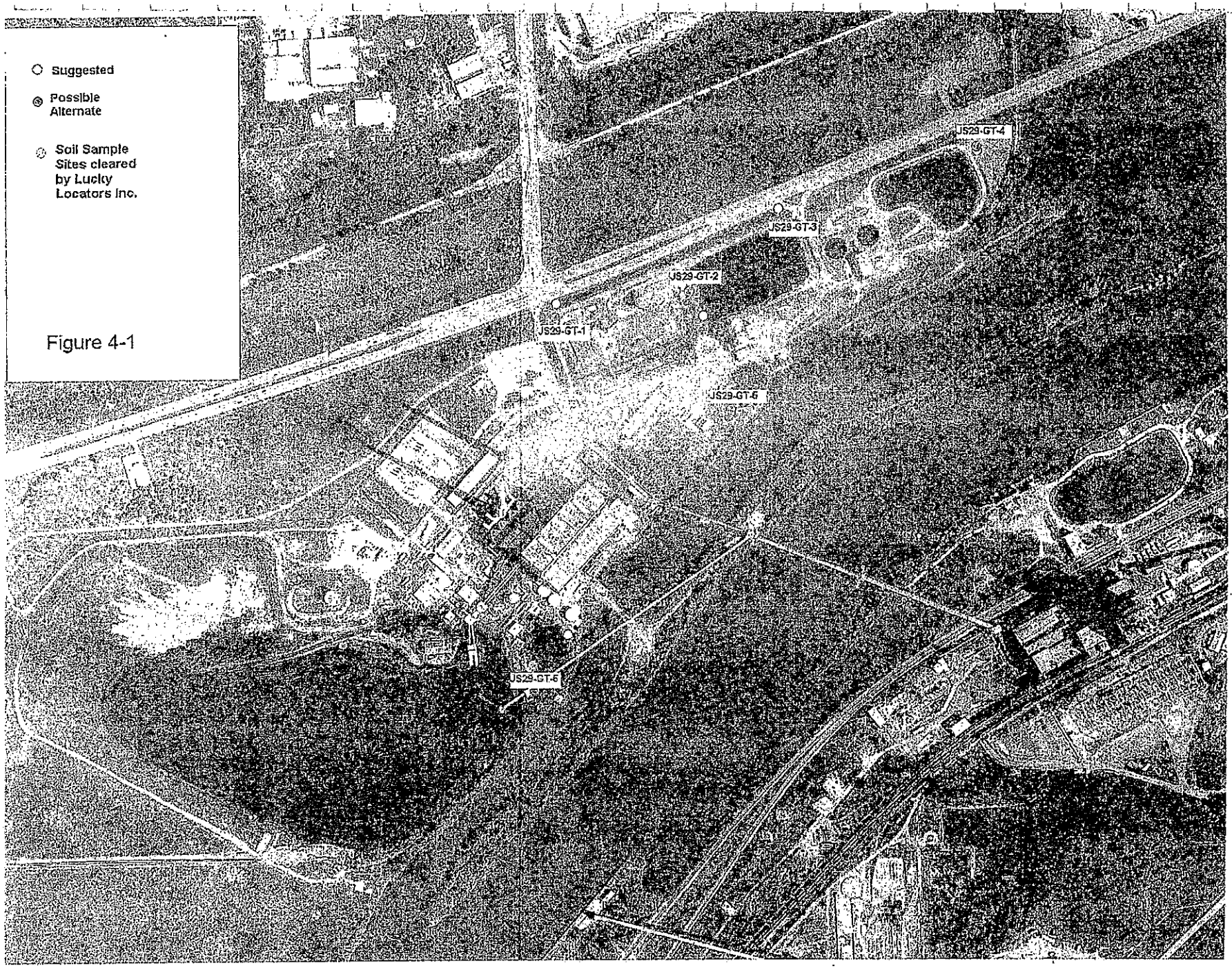
Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		SAND-SILT-GRAVEL Mixture, brown, black, white, orange/brown. Dry to Slightly Moist.	1	0.0		
2	WBR		Weathered Bedrock, limestone. Moist.	2	0.0	100	
3			End of Boring at 2.5 feet.				
4			Repeated boring for sample volume. Bagged.				
5–20							

MWG13-15_24288

ATTACHMENT 4
Joliet Station #29 Geotechnical Study Results



MWG13-15_24290

Table 4-1. Soil Sample Geotechnical Data - Midwest Generation, Joliet Station #29, Joliet, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
JS-29-GT-1	19-24'	Sand, fine grained, trace clay and gravel, dark yellow	5.3	120	NP	NP	13.9	8.7	2.62	2.96x10-2
JS-29-GT-2	19-24	Gravelly sand, brown	10.0	87.0	NP	NP	21	14	2.66	*
		Gravelly sand, trace clay, dark brown	6.0							
JS-29-GT-3	19-24	Sand, with gravel, trace clay, brown	8.6	121**	NP	NP	13	9	2.64	2.51x10-2
		Lean clay, gray	7.3							
JS-29-GT-4	17-22	Limestone with fine to coarse sand	4.1	124.0	NP	NP	11	7	2.7	*
JS29-GT-5	5-14'	Clayey gravel with sand, dark gray	26.0	94.0	34	11	32	18.7	2.56	4.7x10-4
JS-29-GT-6	11-14'	Organic clay, dark gray, black	74.6	53.0	78	17	88.9	65.4	2.41	NA

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING JS29-GT-1

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		Bottom Ash and GRAVEL, dark gray. Dry.	1	0.0		
1	GW		Crushed Limestone, gravel and sand, clayey at 1.5 to 2 feet. Slightly Moist.	2	0.0	80	
2			SAND and GRAVEL, orange brown, little silt, very stiff. Dry to Slightly Moist.	3	0.0		
3							
4				4	0.0	70	
5							
6				5	0.0		
7							
8				6	0.0	60	
9							
10	GW		- 10 "clayey	7	0.0		
11							
12				8	0.0	50	
13							
14				9	0.0		
15							
16							
17							
18							
19							
20	GW		Push Geoprobe Tube 19 to 24. 33" recovery.				
21							
22							
23							
24							
25			End of Boring at 24 feet.				
26							
27							
28							
29							
30							

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LOG OF BORING JS29-GT-2

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SM		SAND and SILT, fine to medium, dark brown, some slag. Dry.	1	0.0		
1–2	GW		Crushed Limestone, sand and gravel. Dry.				
2–5	GW/CL		CLAY and GRAVEL, dark brown, black, some sand and silt. Slightly Moist.	2	0.0	60	
5–6	GW/CL		- 6" clayey, black, soft				
6–7	GW/CL			3	0.0	40	
7–10	GW/CL		- 6" coarse gravel and cobbles	4	0.0		
10–15	CL		SILT and CLAY, black, some sand and gravel, soft, organic odor. Moist.	5	0.0	40	1.0
11–14	CL		- some limestone gravel	6	0.0		1.0
15–22			Push Geoprobe Tube 15 to 19. 19" recovery. Push Geoprobe Tube 19 to 22. 22" recovery.				
22			End of Boring at 22 feet.				

MWG13-15_24293

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LOG OF BORING JS29-GT-3

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	CL		Bottom Ash, dark brown, clay, little gravel. Dry.				
1	GW		Crushed Limestone, sand and gravel. Dry.	1	0.0		
2							
3	CL		CLAY, dark brown, brown, some sand and silt, trace gravel. Slightly Moist.	2	0.0	100	4.0 - >4.5
4							
5			- mostly brown, slightly moist	3	0.0	100	4.0 - >4.5
6							
7							
8			- 1" black layer	4	0.0		4.0 - >4.5
9							
10							
11			- trace gray silt	5	0.0	100	4.0 - >4.5
12			- softer				
13							
14				6	0.0		1.0 - 1.5
15	CL		CLAY, brown, little to trace sand and silt, trace gravel. Slightly Moist.				
16	CL		CLAY, brown, with gray silt, some dark. Moist.				
17				7	0.0	100	1.0 - 4.0
18	CL		CLAY, dark brown, some silt, sand and gravel. Moist.				
19			- vug of dark gray fine sand, wet.				
20			Push Geoprobe Tube 19 to 24. 30" recovery.				
21							
22							
23							
24							
25			End of Boring at 24 feet.				
26							
27							
28							
29							
30							

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LOG OF BORING JS29-GT-4

(Page 1 of 1)

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed	: 08/10/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0			GRAVEL				
1	CL/GP		CLAY and GRAVEL, coarse, dark brown, some sand and silt, stiff. Dry.	1	0.0		
2			- some brown and orange brown				
3				2	0.0	60	
4							
5	CL		SILT and CLAY, dark brown and black, close to peat. Moist.	3	0.0		1.5
6							
7			SAND and GRAVEL, orange brown, some coarse gravel, trace silt. Dry.	4	0.0	60	
8				5	0.0		
9							
10							
11	GW			6	0.0	50	
12							
13							
14				7	0.0		
15							
16				8	0.0	50	
17							
18			Push Geoprobe Tube 17 to 22. 33" recovery.				
19							
20							
21							
22							
23			End of Boring at 22 feet.				
24							
25							
26							
27							
28							
29							
30							

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LOG OF BORING JS29-GT-5

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-2	TS		Top Soil, black, clayey, some gravel. Slightly Moist. GRAVEL, brown, some sand and silt. Dry.	1	0.0		
2-4	CL		CLAY, dark brown and black, some silt, little sand and gravel, moderately soft. Slightly Moist. - cobble	2	0.0	80	1.5 - 2.0
4-6				3	0.0	75	
6-8							
8-10			- cobble	4	0.0		
10-12				5	0.0	50	
12-14			- wet gravel	6	0.0		

End of Boring at 14 feet.

Attempted Shelby Tube, colapsed then refusal.

Retained Geoprobe Tube 5 to 9. 34" recovery.
Retained Geoprobe Tube 9 to 14. 22" recovery.

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LOG OF BORING JS29-GT-6

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

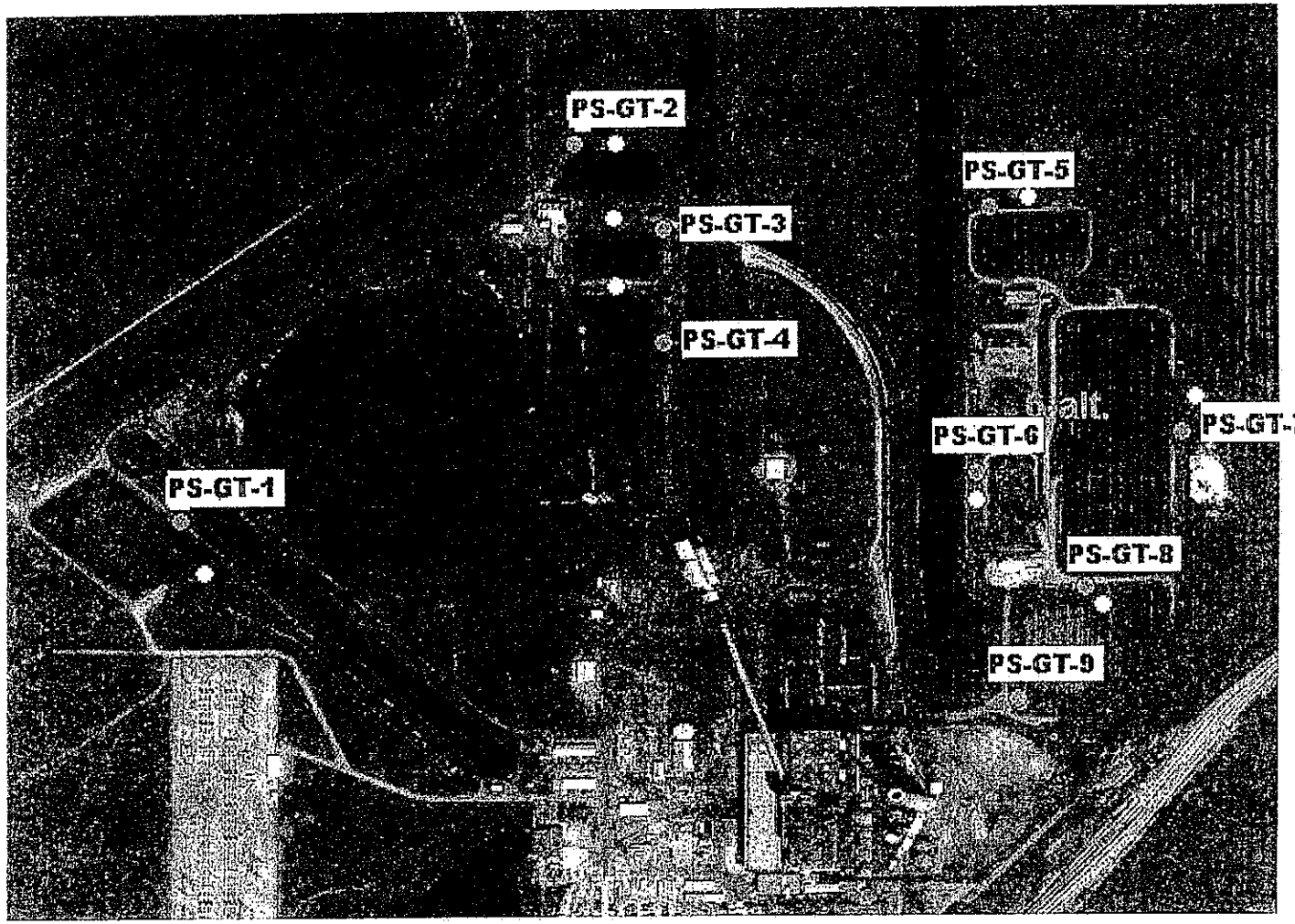
Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	ML		Bottom Ash, silt, black, some gravel. Dry.				
1–2	GW		Crushed Limestone, sand and gravel. Dry.	1	0.0		
2–3	CL		CLAY, black, some sand and gravel and bottom ash. Dry.				
3–4	GW		SAND and GRAVEL, orange brown, some silt and clay. Dry.	2	0.0	70	
4–5							
5–6				3	0.0		
6–7	CL		CLAY, black, with sand and gravel. Slightly Moist.	4	0.0	70	
7–8			- orange brown, dry				
8–9							
9–10	CG		GRAVEL, black, some silt and clay. Wet.	5	0.0		
10–11	PT		PEAT, blatck, soft. Slightly Moist to Moist.				
11–12							
12–13				6	0.0	100	1.0 - 1.5
13–14			- wet				
14–15			- weathered bedrock				
15–16			End of Boring at 15 feet.				
16–17			Bagged 11 to 14 feet. Also from new hole 11 to 14 feet.				
17–18							
18–19							
19–20							
20–21							
21–22							
22–23							
23–24							
24–25							
25–26							
26–27							
27–28							
28–29							
29–30							

ATTACHMENT 5

Redacted

ATTACHMENT 6
Powerton Station Geotechnical Study Results



○ Suggested

◉ Possible Alternate

◎ Soil sample sites, cleared by Lucky Locators Inc.

Figure 6-1

MWG13-15_24300

Table 6-1. Soil Sample Geotechnical Data - Midwest Generation, Powerton Station, Pekin, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
PS-GT-1	10'-12'	Clayey Sand/Sandy Clay, with gravel, dark brown	7.8	115	NP	NP	83	17	2.7	6.2x10-5
			9.7		22	NP	79	48	2.56	
PS-GT-2	7-8.5	Sand, trace clay and gravel, medium to coarse grained, brown	9.5	126.7	22	NP	79	48	2.7	1.1x10-4
PS-GT-3	7'-9'	Topsoil, with gravel, dark brown (possible cave-in)	12.9	112					2.7	
		Sandy Lean Clay, trace gravel and organics, dark brown	28.0	110	31	15	58	17	2.68	2x10-4
PS-GT-4	10'-11.5'	Sand, with clay and gravel, trace organics fine to coarse grained, dark brown	7.9	116	NP	NP	33	16	2.77	1.6x10-7
PS-GT-5	17-19	Clayey Sand, with gravel, dark brown	16.0							
		Lean Clay, trace sand	38.5	93	53	27	63	44	2.44	NA
PS-GT-6	1'	Fill: Sand, fine to medium coarse, trace gravel, dark brown	4.9	113.5	NP	NP	33	5	2.52	8.37x10-3
PS-GT-7	10-13'	Sand, with silt and gravel, dark brown, black	7.6	118.0	21	3	44	17	2.63	2.2x10-3
PS-GT-8	10-15'	Fill: cinders, metal shavings, glass, black	9.0	86**	NP	NP	14	4		
		Silty sand, trace clay, dark gray	12.0	115.0	NP	NP	34	14	2.61	2.31x10-2
PS-GT-9	15-20'	Fill: Sand, trace clay and gravel, dark brown	7.9	113.0	NP	NP	30	21	2.64	1.7x10-3
		Clayey sand, with gravel, brown and gray	9.8							

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING PS-GT-1

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	SC		CLAY top soil, brown, with sand-silt-gravel mixture, organics. Slightly Moist to Dry. - less clay	1	0.0		
3–4	CL		CLAY, brown, some silt, little sand, trace gravel. Slightly Moist.	2	0.0	90	4.0 to >4.5
5–6				3	0.0		2.0 to 2.5
6–9			- darker (dark brown)				
7–8				4	0.0	60	
9–10			- increase gravel				
10–12			Push Shelby Tube 10-12. 19 " recovery.				
12			End of Boring at 18 feet.				
13–20							

MWG13-15_24302

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LOG OF BORING PS-GT-2

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SC		CLAY top soil, brown and light brown, organics. Dry.				
1–5	CL		CLAY, brown, some silt and fine sand, trace gravel. Dry.	1 2	0.0 0.0	70	>4.5
5–11	SP		SAND, fine, brown and orange brown, some silt. Slightly Moist to Dry. - dark brown - some clayey layers	3 4	0.0 0.0	100 100	
11–12	CL		CLAY, gray, little medium sand and fine gravel, soft. Moist. (Native)	5	0.0		1.0

End of Boring at 12 feet.

Push Shelby Tube in new boring 7 to 8.5 feet. 27" recovery.

MWG13-15_24303

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LOG OF BORING PS-GT-3

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		Bottom Ash; black, fine, and GRAVEL, fine to medium, limestone. Dry.	1	0.0		
1	CL		CLAY, dark brown, some silt and fine sand, trace gravel. Dry.	2	0.0	100	>4.5
2	GW		SAND and GRAVEL, brown and orange brown, some clay in layers. Slightly Moist.	3	0.0		
5	CL		CLAY, brown and dark brown, some fine sand and silt, trace gravel, Moist. - fine sand and silt seam, brwon	4	0.0		1.0
6				5	0.0	100	4.0
7			Push Shelby Tube 7 to 9 feet. 21.5" recovery.				
9			End of Boring at 9 feet.				

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(DRAFT) LOG OF BORING PS-GT-4

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		GRAVEL and SILT, gray and black. Dry.	1	0.0		
1–3	GW		CLAY-SAND-GRAVEL Mixture, brown some dark brown and black. Slightly Moist.	2	0.0	100	
4–7	SM		SAND and SILT, brown, fine, little gravel. Slightly Moist. - gray and light brown	3	0.0		
8–9	CL		CLAY, dark gray to black, little medium sand, trace gravel. Slightly Moist to Moist.	4	0.0	90	1.0
9–10	CL		CLAY, dark gray to black, little medium sand, trace gravel. Slightly Moist to Moist.	5	0.0		4.0
10–11			Push Shelby Tube 10-11.5. Refusal. 21.5" recovery.				
12			End of Boring at 11.5 feet.				

MWG13-15_24305

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LOG OF BORING PS-GT-5

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-2	GW		Top Soil, clayey, brown, some sand and gravel. Dry.	1	0.0		
2-4	SM		Bottom Ash, brown, sand and silt. Dry.	2	0.0	80	
			- grade to dark brown and black				
4-11	CL		CLAY and SILT, brown and gray, some slag, medium to coarse sand and fine gravel. Moist.	3 4 5	0.0 0.0 0.0	80	
12-15			12-14 - granular, little fines	6	0.0	80	
16-17	CL		PEAT, brown, moderately soft. Moist.	7	0.0	50	
17-19			Push Shelby Tube 17-19. 22" recovery.				
19-20			End of Boring at 19 feet.				

MWG13-15_24306

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LOG OF BORING PS-GT-6

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed	: 08/11/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	SC		CLAY, brown, and Bottom Ash, brown, and Slag, sand, stiff. Dry.				
1	GW		SLAG and Bottom Ash, black, fine to medium sand and silt. Dry.	1	0.0		
2			- mixed with orange/brown clay and gravel.				
3				2	0.0	100	
4							
5				3	0.0		
6	CL		CLAY, dark brown and black, some silt, trace gravel. Moist.	4	0.0	90	4.0
7							
8	CL		CLAY-SAND-GRAVEL Mixture, brown. Slightly Moist.	5	0.0		1.0
9							
10							
11			- 3" light brown silt and fine sand seam - darker	6	0.0		
12							
13			Attempt to Push Shelby Tube 13-15. Refusal.				
14			Push geoprobe tube 13-18. 40 " recovery.				
15							
16							
17							
18			End of Boring at 18 feet.				
19							
20							

MWG13-15_24307

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LOG OF BORING PS-GT-7

(Page 1 of 1)

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	CL		CLAY and SILT, organics, light brown, some sand and gravel . Dry. - transistion (mixed layer)	1	0.0		
2–12	SM		SLAG and Bottom Ash, black and dark brown, some medium to coarse sand and silt. Dry.	2	0.0	100	
6–7				3	0.0		
8–9			- clayey, brown, very stiff	4	0.0	100	
11–12				5	0.0	100	
13			End of Boring at 13 feet. Refusal. Push geoprobe tube in seperate boring 8 to 13.				

MWG13-15_24308

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LOG OF BORING PS-GT-8

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	SP		SAND, fine to medium, brown and dark brown, little silt, trace gravel, very stiff. Dry.	1	0.0		
3–4	SM		SLAG and Bottom Ash, black and dark gray, fine to medium sand, some silt and clay, very stiff. Dry.	2	0.0	100	
4–5			- clayey, brown				
6–7			- granular, medium to coarse sand	3	0.0		
8–9				4	0.0	100	
10–11			- a few clayey layers, slightly moist				
12–13				5	0.0	100	
14–15							
15–16			Push geoprobe tube 15 to 20 feet. 44" recovery.				
16–17							
17–18							
18–19							
19–20							

MWG13-15_24309

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LOG OF BORING PS-GT-9

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		Crushed Limestone, silt, sand and gravel. Dry.				
1	GW		CLAY and GRAVEL, brown, stiff. Dry.	1	0.0		
2							
3	SM		SLAG and Bottom Ash, black and dark gray, medium to coarse sand, little silt. Dry to Slightly Moist.	2	0.0	100	
4							
5							
6			- 6" gray clay with medium to coarse sand	3	0.0		>4.5
7							
8							
9				4	0.0	100	>4.5
10							
11							
12				5	0.0	100	
13							
14	CL		CLAY, gray, trace silt, black ribbon. Moist.	6	0.0		1.5
15			Could not anchor to attempt Shelby Tube.				
16			Push geoprobe tube 15 to 20 feet. 44" recovery.				
17							
18							
19							
20							

ATTACHMENT 7
Geotechnical Laboratory Report

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
					LL (%)	PI (%)				
CS-GT-1	5-10'	Sand, fine to coarse, trace gravel and silt, brown, dark brown, black	10.4	117**	NP	NP	24	12	2.71	2.2x10-3
CS-GT-2	10'-12'	Sand, fine to coarse grained, gray (crushed limestone) (top)	1.7		NP	NP	24	14	2.68	*
CS-GT-2	10'-12'	Lean Clay, trace sand, gray (bottom)	15.9	117	36	18	94	88		N/A
		(2nd test)	16.2		36	19				
CS-GT-4	5'-7'	Sand, with gravel, fine to medium, gray (crushed concrete)	2.2		NP	NP			2.65	*
CS-GT-4	5'-7'	Lean Clay, trace sand and gravel, gray	22.2	110	38	19	72	65	2.69	N/A
CS-GT-5	5'-7.5'	Sand, with gravel and clay, dark brown (possible cave-in)	7.3		NP	NP			2.5	
		Lean Clay, with sand, brown and gray	22.0	112	27	19	37	33	2.7	2.3x10-8
CS-GT-6	10-12.5'	Sandy Lean Clay, with gravel, brown and dark brown	6.3	118**	31	13	77	62	2.58	N/A
WS-GT-1	5 to 10'	Sand with trace gravel	5.6	114	NP	NP	94	1	2.63	1.05x10-2
WS-GT-2	7.5'-10'	Silty Sand, trace gravel, dark brown	15.2	107	NP	NP	79	18	2.44	1.52x10-2
			18.1							
WS-GT-3	5 to 10'	Sand with trace gravel	11.2	99	NP	NP	86	0	2.65	2.3x10-2
WS-GT-4	22-27'	Sand with trace gravel	5.4	114	NP	NP	53	2	2.64	2.16x10-2
WS-GT-5	22-27'	Sand, trace gravel, black (Bottom Ash?)	4.4	96	NP	NP	15	0	2.73	1.21x10-2
WC-GT-1	5 to 10'	Clayey Sand, dark brown to tan	3.4	118	NP	NP	26	17	2.66	1.35x10-1
WC-GT-2	5 to 10'	Sand with gravel, dark brown	18.1	92	NP	NP	35	12	2.65	4.02x10-3
WC-GT-3	3 to 8'	Lean Clay, dark brown	10.0	103	35	12	26	20	2.71	***
WC-GT-4	5 to10' (btm)	Silty Clay, dark brown	9.5	128	25	7			2.7	***
WC-GT-4	5 to 10'	Sandy Gravel, with clay					35	23		
WC-GT-5	5-9'	Sandy Clay with Gravel	4.2	119	NP	NP	39	35	2.65	*

MWG13-15_24312

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg		Grain Size	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
					LL (%)	PI (%)	#40			
PS-GT-1	10'-12'	Clayey Sand, with gravel, dark brown	7.8	115	NP	NP	83	34	2.7	6.2x10-5
PS-GT-1	10'-12'	Sandy Clay, with gravel, dark brown	9.7		22	NP	79	48	2.56	
PS-GT-2	7-8.5	Clayey Sand, trace gravel, medium to coarse grained, brown	9.5	126.7	22	NP	79	48	2.7	1.1x10-4
PS-GT-3	7'-9'	Topsoil, with gravel, dark brown (possible cave-in)	12.9	112					2.7	
PS-GT-3	7'-9'	Sand, trace clay, gravel and organics, dark brown	28.0	110	31	15	58	17	2.68	2x10-4
PS-GT-4	10'-11.5'	Sand, with clay and gravel, trace organics fine to coarse grained, dark brown	7.9	116	NP	NP	33	16	2.77	1.6x10-7
PS-GT-5	17-19	Clayey Sand, with gravel, dark brown	16.0							
PS-GT-5	17-19	Sandy Lean Clay, trace gravel, brown	38.5	93	53	27	63	44	2.44	N/A
PS-GT-6	15-20'	Fill: Sand, fine to medium coarse, trace gravel, dark brown	4.9	113.5	NP	NP	33	5	2.52	8.37x10-3
PS-GT-7	10-13'	Sand, with silt and gravel, dark brown, black	7.6	118.0	21	3	44	17	2.63	2.2x10-3
PS-GT-8	10-15'	Fill: cinders, metal shavings, glass, black	9.0	86**	NP	NP	14	4		
PS-GT-8	10-15'	Silty sand, trace clay, dark gray	12.0	115.0	NP	NP	34	14	2.61	2.31x10-2
PS-GT-9	15-20' (top)	Silty Sand, dark gray	9.8		22	3	30	14		
PS-GT-9	15-20' (mid)	Gravel, with silt and sand, dark brown					12	7		
PS-GT-9	15-20' (btm)	Sand, trace clay and gravel, dark brown	7.9	113.0	24	3	30	21	2.64	1.7x10-3

MWG13-15_24313

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg LL (%)	Atterberg PI (%)	Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
JS-9-GT-1	7-12'	Sand, with gravel, gray	4	110	16	NP	32	23	2.63	*
JS-9-GT-1	7-12'	Organic Clay, with gravel	20.0							
JS-9-GT-2	7-11.5'	Clayey Sand, with organics, trace gravel, dark brown	23.7	91.0	NP	NP	51	21		2.73x10-2
JS-9-GT-2	7-11.5'	Organic Clay, occasional shells and peat, trace gravel, black, dark brown	56.3							
JS-9-GT-3	8-13'	Sand, with gravel, gray	5.5	86	NP	NP	11	7	2.66	*
JS-29-GT-1	19-24'	Sandy Gravel, trace clay, dark yellow	5.3	120	16	NP	14	9	2.62	2.96x10-2
JS-29-GT-2	19-24	Gravelly Sand, brown	10.0	87.0	NP	NP	21	14	2.66	*
JS-29-GT-2	19-24	Gravelly Sand, trace clay, dark brown	6.0		NP	NP				
JS-29-GT-3	19-24	Poorly graded gravel with clay and sand, brown	8.6	121**	NP	NP	13	9	2.64	2.51x10-2
JS-29-GT-3	19-24	Lean clay, gray	7.3							
JS-29-GT-4	17-22	Limestone with fine to coarse sand	4.1	124.0	NP	NP	11	7	2.7	*
JS29-GT-5	5-9'	Clayey Gravel with sand, dark gray	26.0	94.0	34	11	32	19	2.56	4.7x10-4
	9-14' (top)	Gravel, with silt and sand, dark gray			NP	NP	16	10		
	9-14' (btm)	Silty Gravel			21	NP	23	16		
JS-29-GT-6	11-14'	Organic Silt, dark gray, black	74.6	53.0	78	17	89	65	2.41	N/A

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
***Unable to properly remold sample, too much large aggregate
NP=Non Plastic Soil

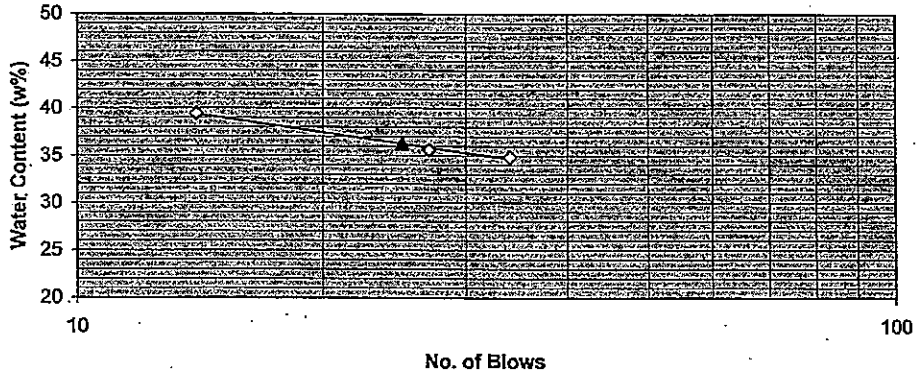
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-2 (top)	Sample Depth:	10'-12'
Description of Soil:	Sand, fine to coarse grained, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	49	115	119	
Mass of wet soil + can, gm	46.68	45.43	55.20	
Mass of dry soil + can, gm	42.72	41.78	48.39	
Mass of Can, gm	31.36	31.53	31.12	
Mass of dry soil, gm	11.36	10.25	17.27	
Mass of moisture, gm	3.96	3.65	6.81	
Water Content, w%	34.86	35.61	39.43	
No. of Blows	34	27	14	
Notes				



Plastic Limit Determination:

Can no.	400	109		
Mass of wet soil + can, gm	46.90	49.62		
Mass of dry soil + can, gm	44.49	46.83		
Mass of Can, gm	31.25	31.21		
Mass of dry soil, gm	13.24	15.62		
Mass of moisture, gm	2.41	2.79		
Water Content, w%	18.20	17.86		

Liquid Limit	36
Plastic Limit	18
Plasticity Index	18

By: TK
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MWG13-15_24315

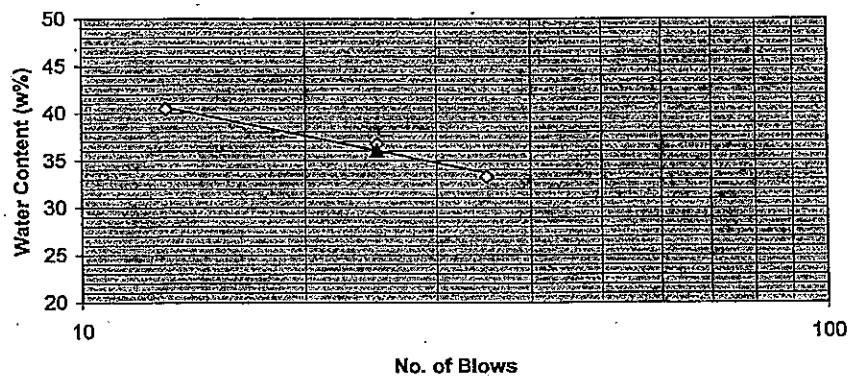
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-2 (Bottom)	Sample Depth:	10'-12'
Description of Soil:	Lean Clay, trace sand, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	456	400D	52A	
Mass of wet soil + can, gm	50.10	54.66	57.12	
Mass of dry soil + can, gm	45.51	48.37	49.64	
Mass of Can, gm	31.71	31.24	31.14	
Mass of dry soil, gm	13.80	17.13	18.50	
Mass of moisture, gm	4.59	6.29	7.48	
Water Content, w%	33.26	36.72	40.43	
No. of Blows.	35	25	13	
Notes				



Plastic Limit Determination:

Can no.	109	115		
Mass of wet soil + can, gm	40.97	39.71		
Mass of dry soil + can, gm	39.51	38.49		
Mass of Can, gm	31.21	31.53		
Mass of dry soil, gm	8.30	6.96		
Mass of moisture, gm	1.46	1.22		
Water Content, w%	17.59	17.53		

Liquid Limit	36
Plastic Limit	18
Plasticity Index	19

By: TK
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MWG13-15_24316

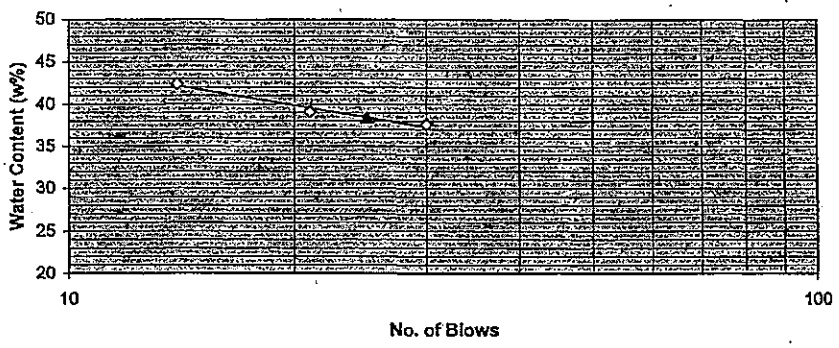
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-4	Sample Depth:	5'-7'
Description of Soil:	Lean Clay, trace sand and gravel, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	BJ	DE	CC	
Mass of wet soil + can, gm	41.32	44.93	43.45	
Mass of dry soil + can, gm	35.78	38.32	36.70	
Mass of Can, gm	21.03	21.40	20.79	
Mass of dry soil, gm	14.75	16.92	15.91	
Mass of moisture, gm	5.54	6.61	6.75	
Water Content, w%	37.56	39.07	42.43	
No. of Blows	30	21	14	
Notes				



Plastic Limit Determination:

Can no.	DW	456		
Mass of wet soil + can, gm	29.94	42.32		
Mass of dry soil + can, gm	28.48	40.56		
Mass of Can, gm	21.15	31.74		
Mass of dry soil, gm	7.33	8.82		
Mass of moisture, gm	1.46	1.76		
Water Content, w%	19.92	19.95		

Liquid Limit	38
Plastic Limit	20
Plasticity Index	19

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MWG13-15_24317

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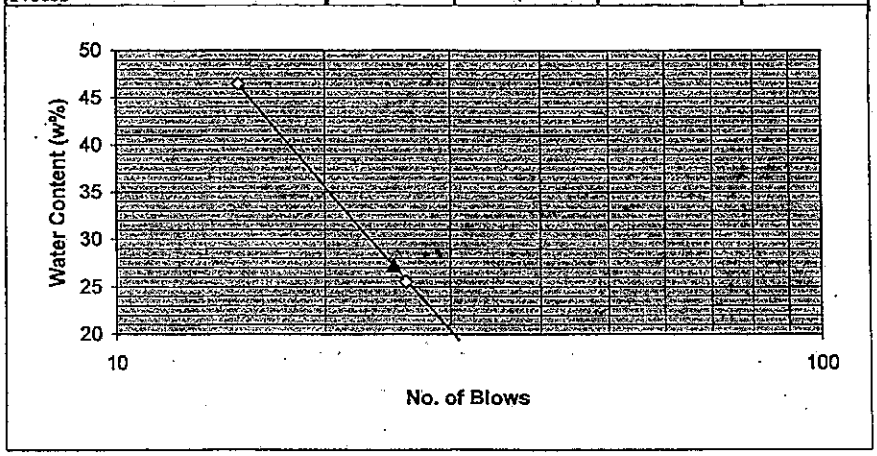
Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-5	Sample Depth:	5'-7.5'
Description of Soil:	Lean Clay, with sand, brown and gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	33	DR	BC	
Mass of wet soil + can, gm	47.30	45.06	43.52	
Mass of dry soil + can, gm	45.27	40.13	36.29	
Mass of Can, gm	32.45	20.82	20.73	
Mass of dry soil, gm	12.82	19.31	15.56	
Mass of moisture, gm	2.03	4.93	7.23	
Water Content, w%	15.83	25.53	46.47	
No. of Blows	34	26	15	
Notes				



Plastic Limit Determination:

Can no.	400-A	52-A		
Mass of wet soil + can, gm	41.20	39.92		
Mass of dry soil + can, gm	39.83	39.90		
Mass of Can, gm	31.87	28.06		
Mass of dry soil, gm	7.96	11.84		
Mass of moisture, gm	1.37	0.02		
Water Content, w%	17.21	0.17		

Liquid Limit	27
Plastic Limit	9
Plasticity Index	19

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MWG13-15_24318

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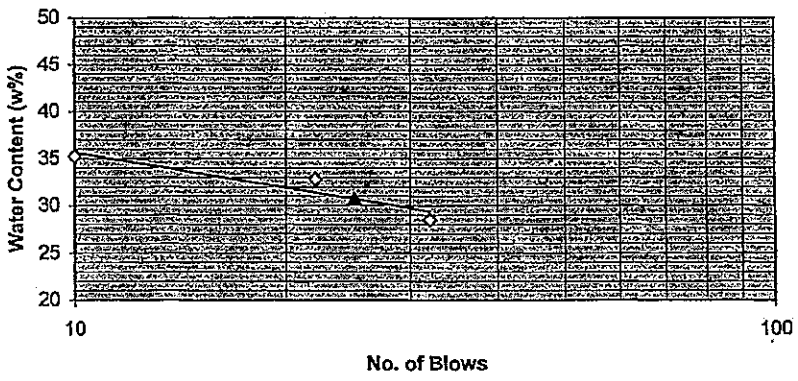
Laboratory Test Results of
Atterberg Limits
ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-6	Sample Depth:	10'-12.5'
Description of Soil:	Sandy Lean Clay, with gravel, brown and dark	Tested By:	KF		

Liquid Limit Determination:

Can no.	AC	49	119	
Mass of wet soil + can, gm	48.64	57.98	54.65	
Mass of dry soil + can, gm	42.52	51.40	48.55	
Mass of Can, gm	21.03	31.34	31.22	
Mass of dry soil, gm	21.49	20.06	17.33	
Mass of moisture, gm	6.12	6.58	6.10	
Water Content, w%	28.48	32.80	35.20	
No. of Blows	32	22	10	
Notes				



Plastic Limit Determination:

Can no.	59	131		
Mass of wet soil + can, gm	39.33	37.76		
Mass of dry soil + can, gm	38.07	36.78		
Mass of Can, gm	31.24	31.13		
Mass of dry soil, gm	6.83	5.65		
Mass of moisture, gm	1.26	0.98		
Water Content, w%	18.45	17.35		

Liquid Limit	31
Plastic Limit	18
Plasticity Index	13

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MWG13-15_24319

3 pt. ATTERBERG

LIQUID LIMIT DETERMINATION

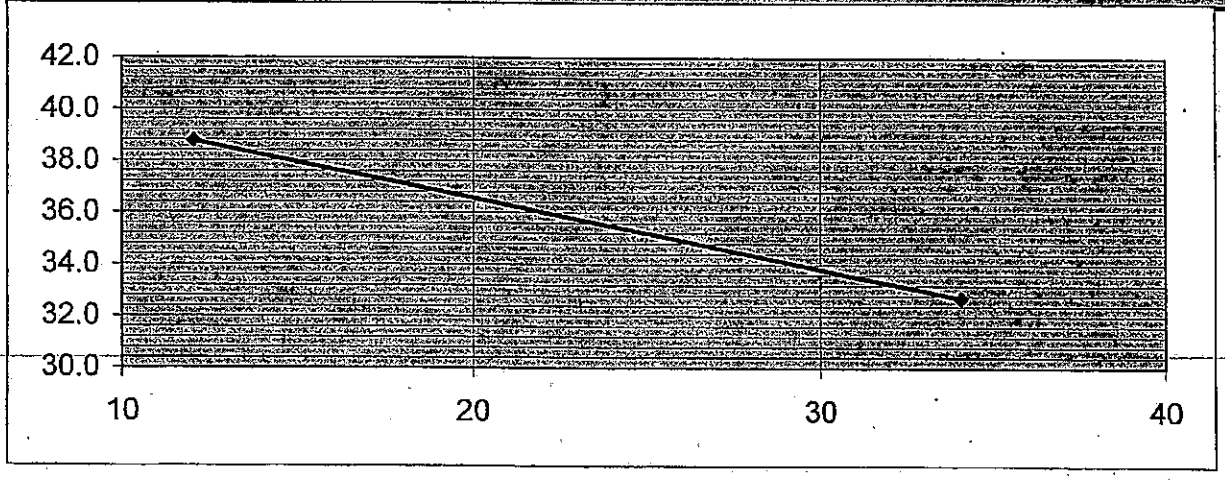
POINT No.	POINT 1	POINT 2	POINT 3	POINT 4
WET SOIL + TARE	9.92	13.87	13.87	
DRY SOIL + TARE	7.79	10.35	10.35	
TARE	1.28	1.27	1.27	
No. OF BLOWS	34	12	12	
MOISTURE %	32.7	38.8	38.8	#DIV/0!
CORECTION FACT.	1.000	1.000	1.000	1.000
MOISTURE @ 25	32.7	38.8	38.8	#DIV/0!

PLASTIC LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	11.32	10.51
DRY SOIL + TARE	9.42	8.81
TARE	1.26	1.29
MOISTURE %	23.3	22.6

LIQUID LIMIT	PLASTIC LIMIT	PI
34.5	22.9	11.6

LIQUID LIMIT	PLASTIC LIMIT	PI
#VALUE!	23	#VALUE!



Project : KPRG Laboratory Testing
Project No. : 58055075
Location : WCGT-3, 3 to 8' Top of Sample
Description : Lean Clay, dark brown

3 pt. ATTERBERG

LIQUID LIMIT DETERMINATION

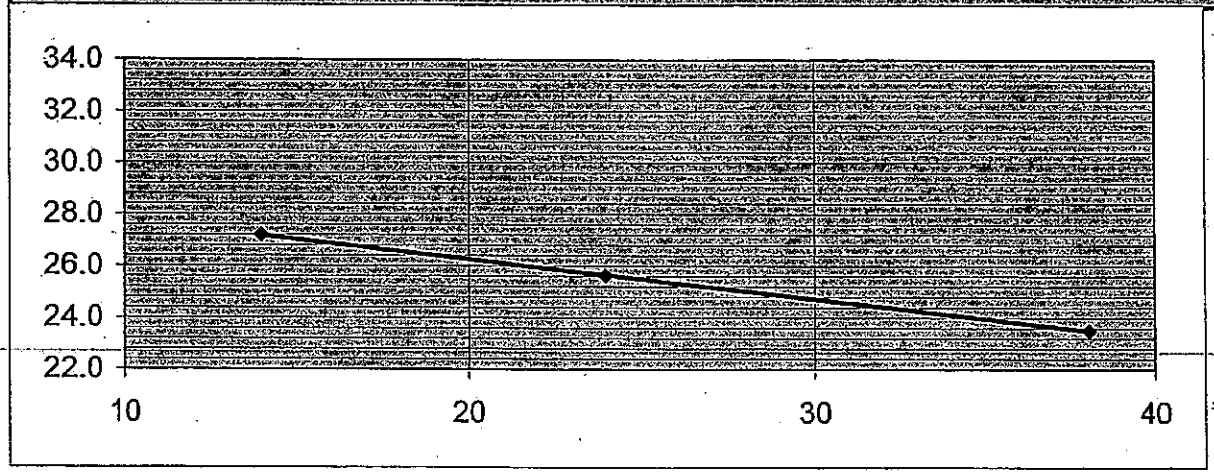
POINT No.	POINT 1	POINT 2	POINT 3	POINT 4
WET SOIL + TARE	19.50	21.32	24.54	
DRY SOIL + TARE	17.67	18.86	21.29	
TARE	8.31	9.26	9.34	
No. OF BLOWS	38	24	14	
MOISTURE %	23.5	25.6	27.2	#DIV/0!
CORECTION FACT.	1.000	1.000	1.000	1.000
MOISTURE @ 25	23.5	25.6	27.2	#DIV/0!

PLASTIC LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	25.62	28.26
DRY SOIL + TARE	23.04	25.27
TARE	9.07	9.35
MOISTURE %	18.5	18.6

25.2	18.6	6.6

#VALUE!	19	#VALUE!



Project : KPRG Laboratory Testing
Project No. : 58055075
Location : WCGT-4, Btm of Sample From 5 to 10'
Description : Silty Clay, dark brown

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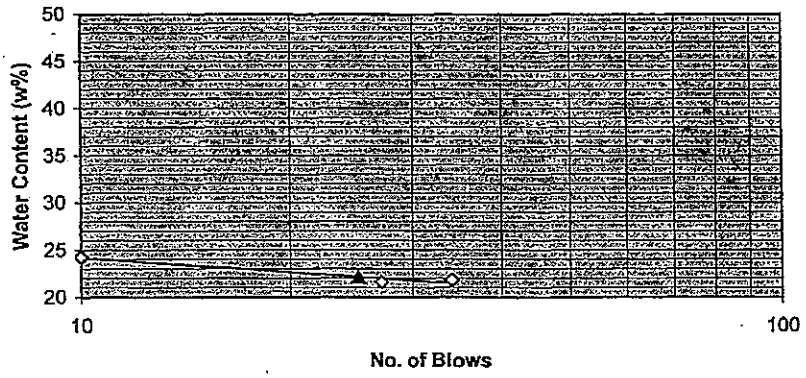
Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-2	Sample Depth:	7'-8.5'
Description of Soil:	Clayey Sand, trace gravel, medium to coarse grained, brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	59	BQ	1Q	
Mass of wet soil + can, gm	55.18	52.21	59.59	
Mass of dry soil + can, gm	50.89	46.74	54.11	
Mass of Can, gm	31.22	21.40	31.50	
Mass of dry soil, gm	19.67	25.34	22.61	
Mass of moisture, gm	4.29	5.47	5.48	
Water Content, w%	21.81	21.59	24.24	
No. of Blows	34	27	10	
Notes				



Plastic Limit Determination: **Unable to perform, too sandy**

Can no.				
Mass of wet soil + can, gm				
Mass of dry soil + can, gm				
Mass of Can, gm				
Mass of dry soil, gm				
Mass of moisture, gm				
Water Content, w%				

Liquid Limit	22
Plastic Limit	N/A
Plasticity Index	N/A

By: TK
Terracon Consultants

MWG13-15_24322

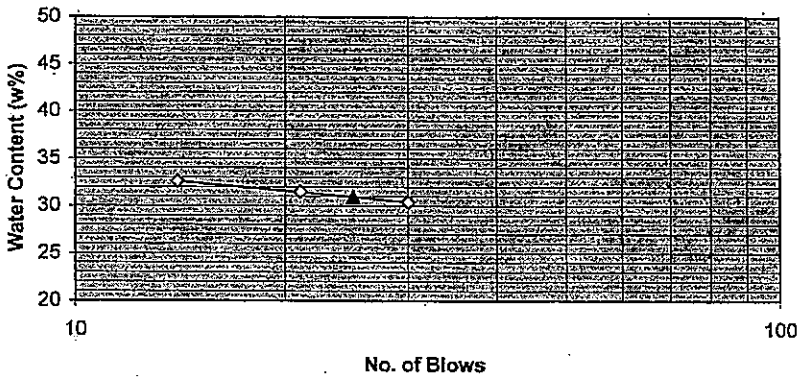
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-3	Sample Depth:	7'-9'
Description of Soil:	Sand, trace clay, organics, and gravel, dark brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	FP	EK	BA	
Mass of wet soil + can, gm	42.58	43.90	46.56	
Mass of dry soil + can, gm	37.67	38.51	40.43	
Mass of Can, gm	21.52	21.39	21.61	
Mass of dry soil, gm	16.15	17.12	18.82	
Mass of moisture, gm	4.91	5.39	6.13	
Water Content, w%	30.40	31.48	32.57	
No. of Blows	30	21	14	
Notes				



Plastic Limit Determination:

Can no.	BN	46		
Mass of wet soil + can, gm	30.73	39.43		
Mass of dry soil + can, gm	29.37	38.28		
Mass of Can, gm	21.36	31.01		
Mass of dry soil, gm	8.01	7.27		
Mass of moisture, gm	1.36	1.15		
Water Content, w%	16.98	15.82		

Liquid Limit	31
Plastic Limit	16
Plasticity Index	15

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MWG13-15_24323

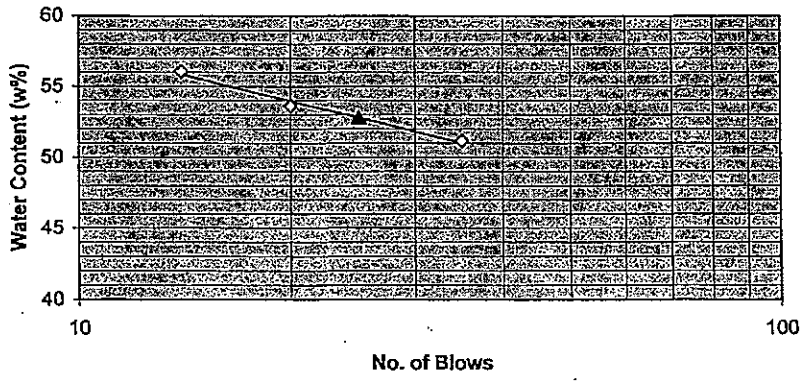
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-5	Sample Depth:	17'-19'
Description of Soil:	Sandy Lean Clay, trace gravel, dark brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	AU	AC	EB	
Mass of wet soil + can, gm	38.74	47.26	41.01	
Mass of dry soil + can, gm	32.78	38.09	34.09	
Mass of Can, gm	21.13	20.99	21.75	
Mass of dry soil, gm	11.65	17.10	12.34	
Mass of moisture, gm	5.96	9.17	6.92	
Water Content, w%	51.16	53.63	56.08	
No. of Blows	35	20	14	
Notes				



Plastic Limit Determination:

Can no.	BM	AN		
Mass of wet soil + can, gm	31.90	29.18		
Mass of dry soil + can, gm	29.70	27.60		
Mass of Can, gm	21.12	21.52		
Mass of dry soil, gm	8.58	6.08		
Mass of moisture, gm	2.20	1.58		
Water Content, w%	25.64	25.99		

Liquid Limit	53
Plastic Limit	26
Plasticity Index	27

By: TK
Terracon Consultants

MWG13-15_24324

1pt. ATTERBERG

LIQUID LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	18.67	15.48
DRY SOIL + TARE	16.27	13.52
TARE	1.28	1.30
No. OF BLOWS	19	16
MOISTURE %	16.0	16.0
CORECTION FACT.	0.967	0.947
MOISTURE @ 25	15.5	15.2

PLASTIC LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	15.45	12.46
DRY SOIL + TARE	13.58	10.99
TARE	1.35	1.30
MOISTURE %	15.3	15.2

L.L.	16	16
L.L. @ 25 BLOWS	15	15
PLASTIC LIMITS	15	15
PLASTIC INDEX	0	0

Project : KPRG Laboratory Testing
Project No. : 58055075
Location : JS29GT-1
Description : Sandy Gravel, trace clay, dark yellow

TK

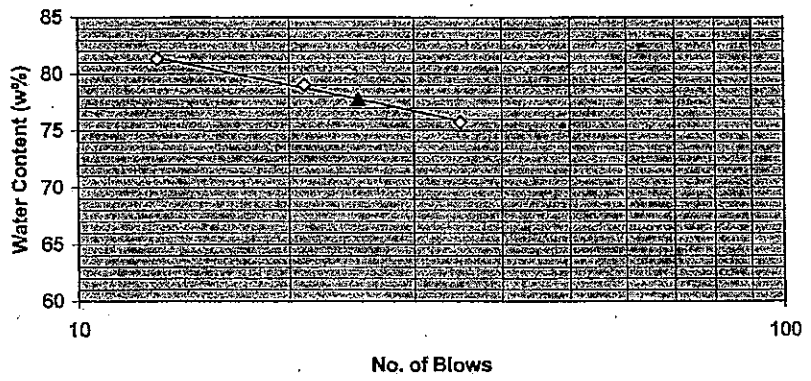
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075
Location of project:		Boring No:	JS-29-GT-6 Sample Depth:	11-14'
Description of Soil:	Organic Silt, dark gray and black	Tested By:	MZ	

Liquid Limit Determination:

Can no:	131	CE	400C	
Mass of wet soil + can, gm	35.84	25.29	35.20	
Mass of dry soil + can, gm	33.81	23.48	33.37	
Mass of Can, gm	31.13	21.19	31.12	
Mass of dry soil, gm	2.68	2.29	2.25	
Mass of moisture, gm	2.03	1.81	1.83	
Water Content, w%	75.75	79.04	81.33	
No. of Blows	35	21	13	
Notes				



Plastic Limit Determination:

Can no.	119	DU		
Mass of wet soil + can, gm	37.16	29.96		
Mass of dry soil + can, gm	35.31	26.24		
Mass of Can, gm	31.26	21.33		
Mass of dry soil, gm	4.05	4.91		
Mass of moisture, gm	1.85	3.72		
Water Content, w%	45.68	75.76		

Liquid Limit	78
Plastic Limit	61
Plasticity Index	17

By: TK
Terracon Consultants

MWG13-15_24326

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE ID: CS-GT-1 5-7' #4 MATERIAL
DESCR.: Sand, fine to coarse grained, trace gravel and silt, brown, dark brown and black

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	88.50	WET WT, g	195.8		
D & T, g	82.00	DIA, in	1.94	4.93	cm
T, g	19.37	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	128.9	PCF WET	
URE, %	10.4	DENSITY:	116.8	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	30.7	PROCTOR:	NA
SATURATION, %:	63.3	OPTIMUM:	NA
VOID RATIO:	0.44	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

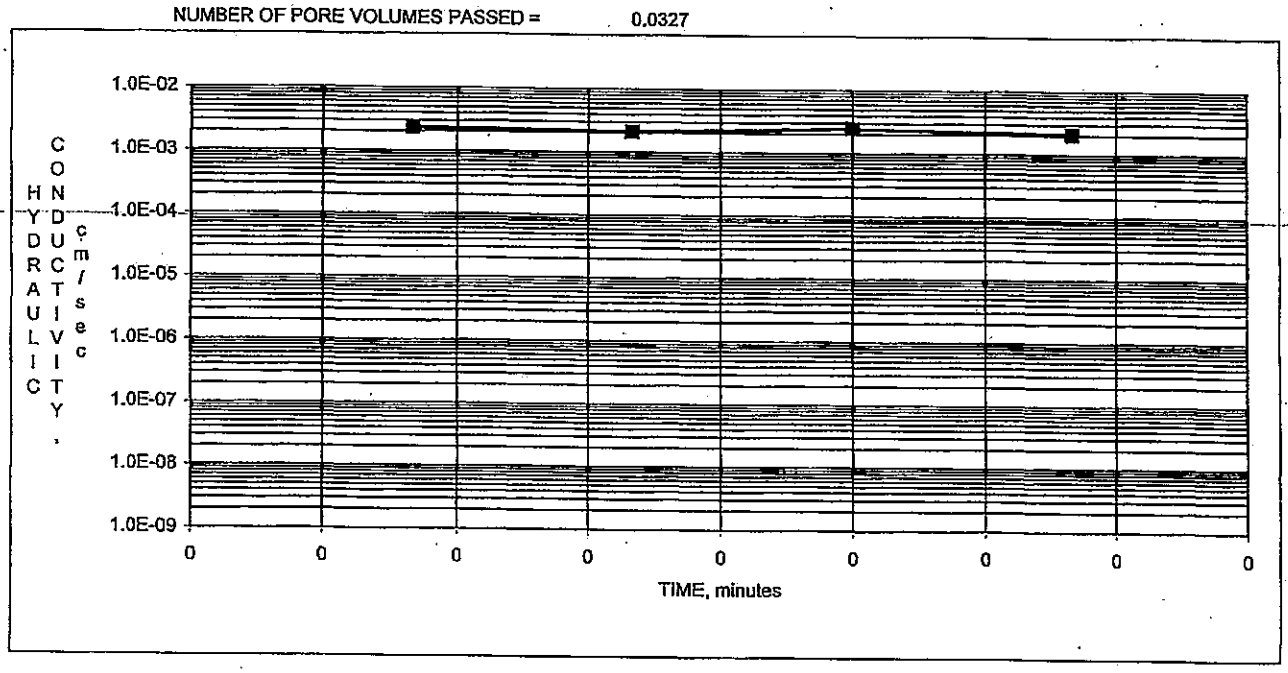
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	30.1	0	9.3									
21.8	28.8	0	7.0	0.284104	2.31E-03	1.0	1.3	0.77	1.4	3	21	0.980
22.6	28.0	0	5.4	0.259511	2.11E-03	0.8	0.8	1.00	1.1	6	21	0.980
23.2	27.2	0	4.0	0.300105	2.44E-03	0.6	0.8	0.75	0.8	9	21	0.980
23.8	26.9	0	3.1	0.254892	2.07E-03	0.6	0.3	2.00	0.6	7	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.2E-03 cm/sec

MAXIMUM HYDRAULIC GRADIENT			
1.0E-03 TO 1.0E-04	2	0.75< RATIO <1.25	% < 25 AT > 1.0E-8 OR % < 50 AT < 1.0E-8
1.0E-04 TO 1.0E-05	5		
1.0E-05 TO 1.0E-06	10		
1.0E-06 TO 1.0E-07	20		
1.0E-07 TO 1.0E-10	30		

NUMBER OF PORE VOLUMES PASSED = 0.0327



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MWG13-15_24327

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: CS-GT-5 5.0' - 7.5'
DESCR.: SILTY CLAY, WITH SAND, BROWN & GRAY

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	79.26	WET WT, g	229.7		
D & T, g	68.61	DIA, in	2.00	5.09	cm
T, g	20.38	HT, in	2.19	5.56	cm
		AREA		20.36	cm^2
MOIST-URE, %	22.1	DENSITY:	126.6	PCF WET	
		DENSITY:	103.7	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	38.5	PROCTOR:	112.4
SATURATION, %:	95.3	OPTIMUM:	22.0
VOID RATIO:	0.63	COMPACTION, %:	92.3
		OVER OPTIMUM, %:	0.1

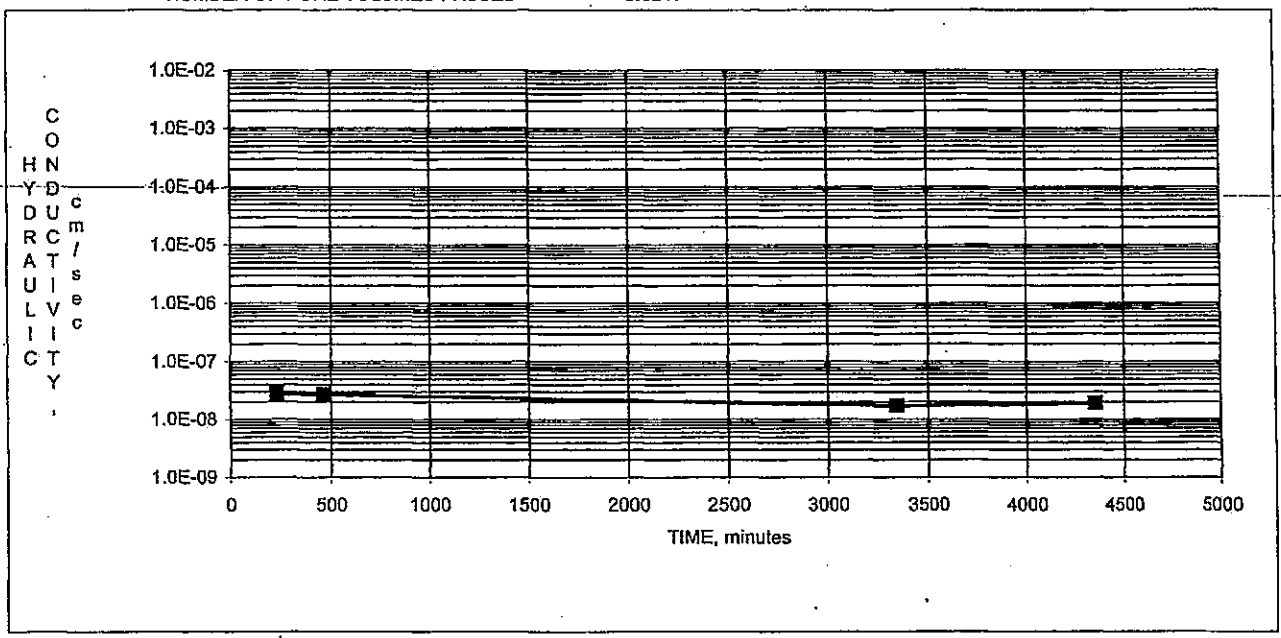
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0	psi	
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER:	100.0	psi
				BIAS PRESSURE (=LOWER-UPPER)		0.0	psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
4.1	70.2	0	66.1									
4.4	69.9	229	65.5	0.009119	2.75E-08	0.3	0.3	1.00	11.8	21	22	0.956
4.7	69.6	461	64.9	0.009203	2.74E-08	0.3	0.3	1.00	11.7	20	22	0.956
6.7	67.2	3345	60.5	0.070204	1.72E-08	2.0	2.4	0.83	10.9	24	21	0.980
7.5	66.4	4351	58.9	0.026802	1.88E-08	0.8	0.8	1.00	10.6	17	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.3E-08 cm/sec

MAXIMUM HYDRAULIC GRADIENT	1.0E-03 TO 1.0E-04	2	0.75< RATIO <1.25	% < 25 AT > 1.0E-8 OR % < 50 AT < 1.0E-8
	1.0E-04 TO 1.0E-05	5		
	1.0E-05 TO 1.0E-06	10		
	1.0E-06 TO 1.0E-07	20		
	1.0E-07 TO 1.0E-10	30		

NUMBER OF PORE VOLUMES PASSED = 0.0247



Terracon

MWG13-15_24328

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/14/2005

Location of Sample WSGT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Sand, fine, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.170

Area, A, cm^2 45.60 Moisture Content _____

Length, L, cm 6.350000 Volume (ft^3) 0.01023

Dry Density 114.4

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	7	20	38.5	127	12290.2	0.01139	1.10236	20	1.000	1.03E-02
2	17.2	20	15.5	127	12157.9	0.02829	2.70866	20	1.000	1.04E-02
3	24.3	20	11	127	12189.9	0.03987	3.82677	20	1.000	1.04E-02
4	29.8	20	9	127	12230.9	0.04873	4.69291	20	1.000	1.04E-02
5	33.2	20	8.2	127	12415.1	0.05348	5.22835	20	1.000	1.02E-02
6	37.5	20	6.8	127	11628.9	0.06449	5.90551	20	1.000	1.09E-02
7	40.9	20	6.5	127	12123.7	0.06747	6.44094	20	1.000	1.05E-02
8									Avg	1.05E-02
9										
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 7.5-10

Description of Soil Silty Sand, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.23 Wt. Soil (lb.) 0.798

Area, A, cm^2 30.48 Moisture Content 8.9

Length, L, cm 6.350000 Volume (ft^3) 0.00685

Dry Density 107.0

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	13.2	20	19.08	127	7677.47	0.03439	2.07874	20	1.000	1.65E-02
2	19.5	20	12.8	127	7608.7	0.05126	3.07087	20	1.000	1.67E-02
3	27.8	20	10.2	127	8643.92	0.06432	4.37795	20	1.000	1.47E-02
4	32.2	20	8.87	127	8706.53	0.07397	5.07087	20	1.000	1.46E-02
5	35	20	8.17	127	8716.77	0.0803	5.51181	20	1.000	1.46E-02
6	36.7	20	7.52	127	8412.97	0.08725	5.77953	20	1.000	1.51E-02
7	39.6	20	7.24	127	8739.76	0.09062	6.23622	20	1.000	1.45E-02
8	41	20	6.95	127	8686.29	0.0944	6.45669	20	1.000	1.46E-02
9									AVG	1.52E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24330

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-3 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 5 to 10'

Description of Soil Sand, fine, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.120

Area, A, cm^2 45.60 Moisture Content 11.2

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 98.6

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3.3	20	31.5	127	4740.5	0.01392	0.51969	20	1.000	2.68E-02
2	8.7	20	14	127	5554.52	0.03133	1.37008	20	1.000	2.29E-02
3	13.5	20	9.5	127	5848.67	0.04616	2.12598	20	1.000	2.17E-02
4	17.2	20	7	127	5490.68	0.06265	2.70866	20	1.000	2.31E-02
5	21.5	20	5.5	127	5392.63	0.07974	3.38583	20	1.000	2.36E-02
6	24.3	20	5	127	5540.84	0.08771	3.82677	20	1.000	2.29E-02
7	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
8	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
9									AVG	2.30E-02
10										
11										
12										

Note:

Tested by: _____ Rowdy Miller

Checked by: TK Trevor Kauffeld

MWG13-15_24331

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WSGT-4 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 22 to 27'

Description of Soil Fine Sand Grading to a Fine To Coarse Sand With Gravel

Materials Used: Fine Sand @ Top of Sample.

Unit Weight Determination:

Diameter, D, cm 6.23 Wt. Soil (lb.) 0.822

Area, A, cm^2 30.48 Moisture Content 5.4

Length, L, cm 6.350000 Volume (ft^3) 0.00685

Dry Density 113.9

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	5.4	20	41.15	127	6773.75	0.01594	0.85039	22	0.953	1.79E-02
2	14.7	20	11.08	127	4965.04	0.05921	2.31496	22	0.953	2.44E-02
3	20.3	20	9.02	127	5581.72	0.07274	3.19685	22	0.953	2.17E-02
4	23.5	20	7.49	127	5365.56	0.0876	3.70079	22	0.953	2.26E-02
5	25.5	20	7.08	127	5503.5	0.09267	4.01575	22	0.953	2.20E-02
6	27.5	20	6.89	127	5775.87	0.09522	4.33071	22	0.953	2.10E-02
7	28	20	6.46	127	5513.87	0.10156	4.40945	22	0.953	2.20E-02
8									AVG	2.16E-02
9										
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24332

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-5 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 22-27

Description of Soil Sand, Fine to Coarse Grained, Trace Gravel, Black

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 5.08 Wt. Soil (lb.) 0.619

Area, A, cm^2 20.27 Moisture Content 4.4

Length, L, cm 8.260000 Volume (ft^3) 0.00591

Dry Density 100.3

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	210.9	2.01	1	99.6156	4274.58	0.09917	25.5327	20	1.000	2.33E-02
2	210.9	2.01	150	579.431	641187	0.00066	25.5327	20	1.000	9.04E-04
3										
4										
5										
6										
7										
8										
9									AVG	1.21E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24333

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/29/2005

Location of Sample WC-GT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Clayey Sand; dark brown to tan

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.35 Dry Density 115.000

Area, A, cm^2 31.67 Moisture Content 3.4

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	1.2	20	24	127	912.073	0.02631	0.18898	22	0.953	1.33E-01
2	2.6	20	14	127	1152.76	0.04511	0.40945	22	0.953	1.05E-01
3	4.1	20	10	127	1298.44	0.06315	0.64567	22	0.953	9.32E-02
4	5	20	8	127	1266.77	0.07894	0.7874	22	0.953	9.55E-02
5	5.3	20	8	127	1342.77	0.07894	0.83465	22	0.953	9.01E-02
6	5.5	20	8	127	1393.44	0.07894	0.86614	22	0.953	8.69E-02
7	6	20	8	127	1520.12	0.07894	0.94488	22	0.953	7.96E-02
8	6.8	20	7	127	302.26	0.44994	1.07087	22	0.953	4.00E-01
9									AVG	1.35E-01
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24334

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WC-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Sand, with gravel, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.60 Dry Density 90.900

Area, A, cm^2 45.36 Moisture Content 18.1

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	9.8	20	32.3	127	14359.7	0.01365	1.54331	20	1.000	8.84E-03
2	63	20	18.4	127	52586.6	0.02396	9.92126	20	1.000	2.42E-03
3	65	20	17.3	127	51012.4	0.02548	10.2362	20	1.000	2.49E-03
4	71	20	17.05	127	54916.1	0.02586	11.1811	20	1.000	2.31E-03
									AVG	4.02E-03

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24335

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-1 10.0'-12.0'
DESCR.: CLAYEY SAND/SANDY CLAY,WITH GRAVEL, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	68.74	WET WT, g	208.6		
D & T, g	65.16	DIA, in	2.00	5.08	cm
T, g	19.41	HT, in	2.04	5.19	cm
		AREA		20.29	cm^2
MOIST-		DENSITY:	123.6	PCF WET	
URE, %	7.8	DENSITY:	114.6	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	32.0	PROCTOR:	115.0
SATURATION, %:	44.9	OPTIMUM:	7.8
VOID RATIO:	0.47	COMPACTION, %:	99.7
		OVER OPTIMUM, %:	0.0

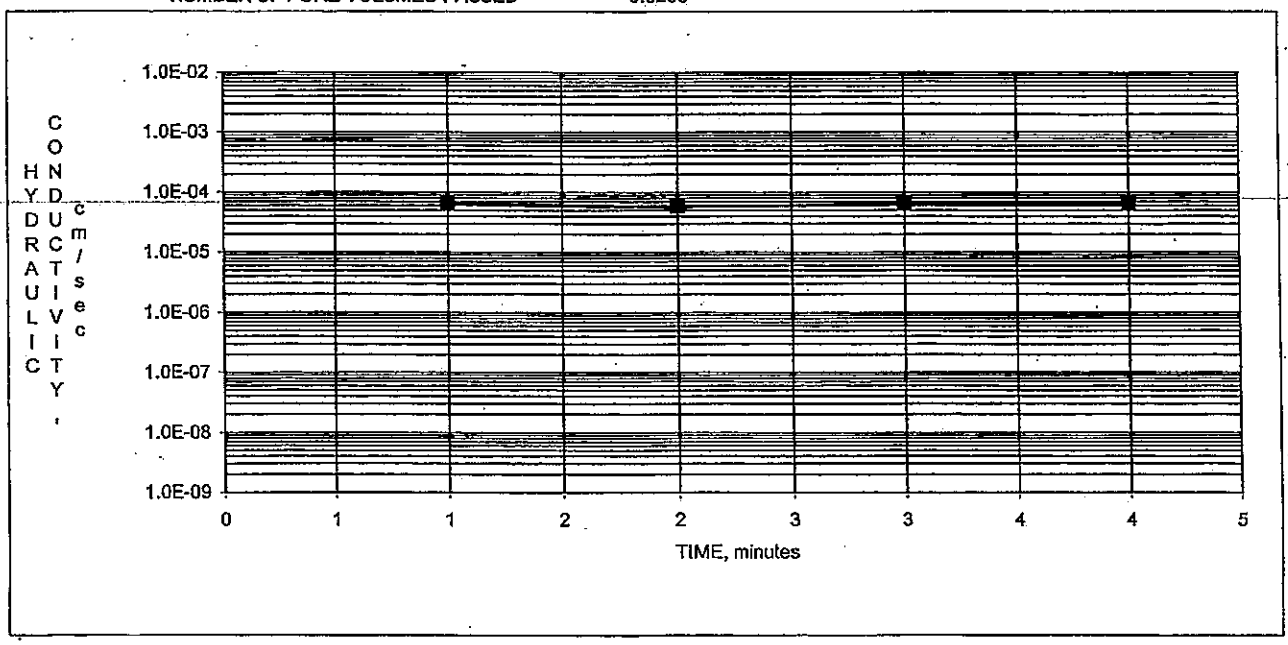
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0	psi	
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER:	100.0	psi
				BIAS PRESSURE (=LOWER-UPPER)		0.0	psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
24.7	43.2	0	18.5									
25.5	42.3	1	16.8	0.096392	6.39E-05	0.8	0.9	0.89	3.2	2	21	0.980
26.2	41.6	2	15.4	0.087011	5.76E-05	0.7	0.7	1.00	3.0	7	21	0.980
26.9	40.9	3	14.0	0.095310	6.31E-05	0.7	0.7	1.00	2.7	1	21	0.980
27.5	40.2	4	12.7	0.097455	6.46E-05	0.6	0.7	0.86	2.4	4	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 6.2E-05 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0263



Terracon

MWG13-15_24336

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-2 7.0' TO8.5'
DESCR.: CLAYEY SAND, TRACE GRAVEL, MEDIUM COURSE, BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	74.82	WET WT, g	230.3		
D & T, g	70.08	DIA, in	1.99	5.06	cm
T, g	20.32	HT, in	2.03	5.16	cm
		AREA		20.09	cm^2
MOIST-		DENSITY:	138.7	PCF WET	
URE, %	9.5	DENSITY:	126.7	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	24.8	PROCTOR:	125.0
SATURATION, %:	77.8	OPTIMUM:	9.7
VOID RATIO:	0.33	COMPACTION, %:	101.3
		OVER OPTIMUM, %:	-0.2

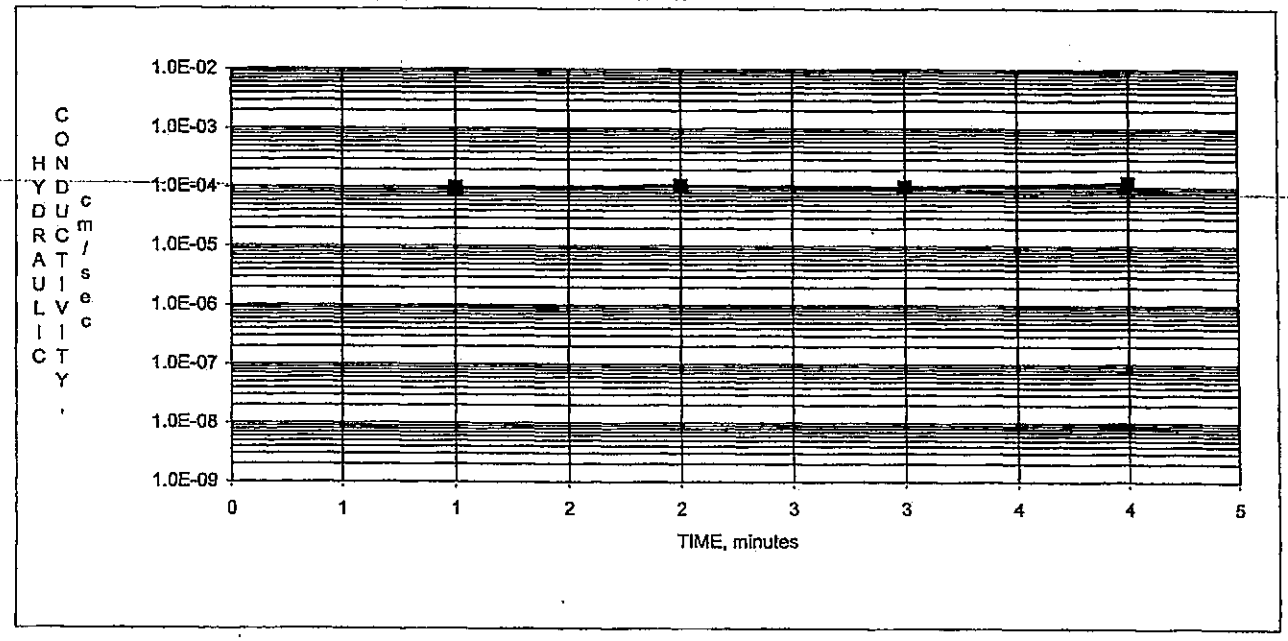
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	37.2	0	16.4									
21.8	36.0	1	14.2	0.144039	9.58E-05	1.0	1.2	0.83	2.8	9	21	0.980
22.8	34.9	2	12.1	0.160037	1.06E-04	1.0	1.1	0.91	2.3	1	21	0.980
23.6	34.0	3	10.4	0.151400	1.01E-04	0.8	0.9	0.89	2.0	4	21	0.980
24.4	33.1	4	8.7	0.178483	1.19E-04	0.8	0.9	0.89	1.7	13	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 1.1E-04 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0443



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Terracon

MWG13-15_24337

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-3 7.0'-9.0'
DESCR.: SAND, WITH CLAY, TRACE GRAVEL & ORGANICS, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	79.03	WET WT, g	208.3		
D & T, g	72.30	DIA, in	1.99	5.06	cm
T, g	20.26	HT, in	2.02	5.12	cm
		AREA		20.13	cm^2
MOIST-		DENSITY:	126.2	PCF WET	
URE, %	12.9	DENSITY:	111.8	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	33.7	PROCTOR:	115.0
SATURATION, %:	68.7	OPTIMUM:	12.9
VOID RATIO:	0.51	COMPACTION, %:	97.2
		OVER OPTIMUM, %:	0.0

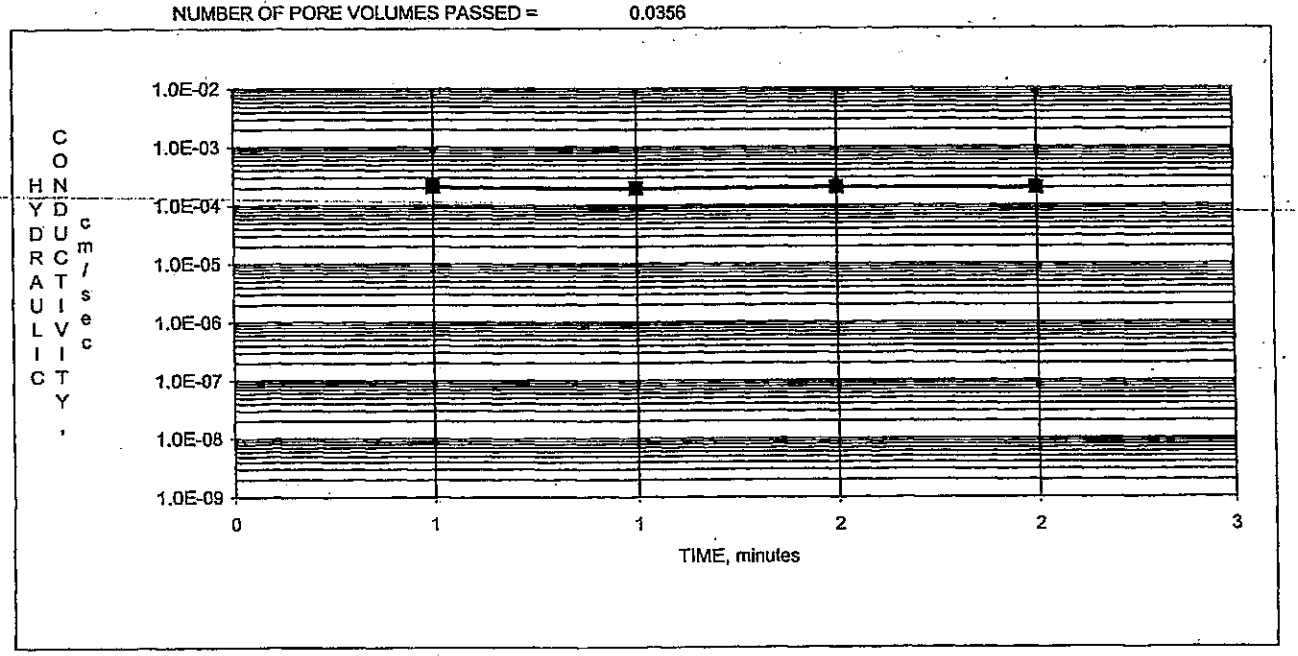
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
22.1	39.1	0	17.0									
23.3	37.8	0	14.5	0.159065	2.09E-04	1.2	1.3	0.92	2.8	4	21	0.980
24.3	36.8	1	12.5	0.148420	1.95E-04	1.0	1.0	1.00	2.4	3	21	0.980
25.2	35.9	1	10.7	0.155485	2.05E-04	0.9	0.9	1.00	2.1	1	21	0.980
26.0	35.2	2	9.2	0.151040	1.99E-04	0.8	0.7	1.14	1.8	2	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.0E-04 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0356



Terracon

MWG13-15_24338

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-4
DESCR.: SAND, WITH CLAY & GRAVEL, TRACE ORGANICS, FINE TO COURSE GRAINED, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	66.57	WET WT, g	223.0		
D & T, g	60.35	DIA, in	1.97	5.00	cm
T, g	20.37	HT, in	2.08	5.29	cm
		AREA		19.66	cm^2
MOIST-		DENSITY:	133.9	PCF WET	
URE, %	15.6	DENSITY:	115.9	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	31.2	PROCTOR:	115.0
SATURATION, %:	92.5	OPTIMUM:	15.7
VOID RATIO:	0.45	COMPACTION, %:	100.8
		OVER OPTIMUM, %:	-0.1

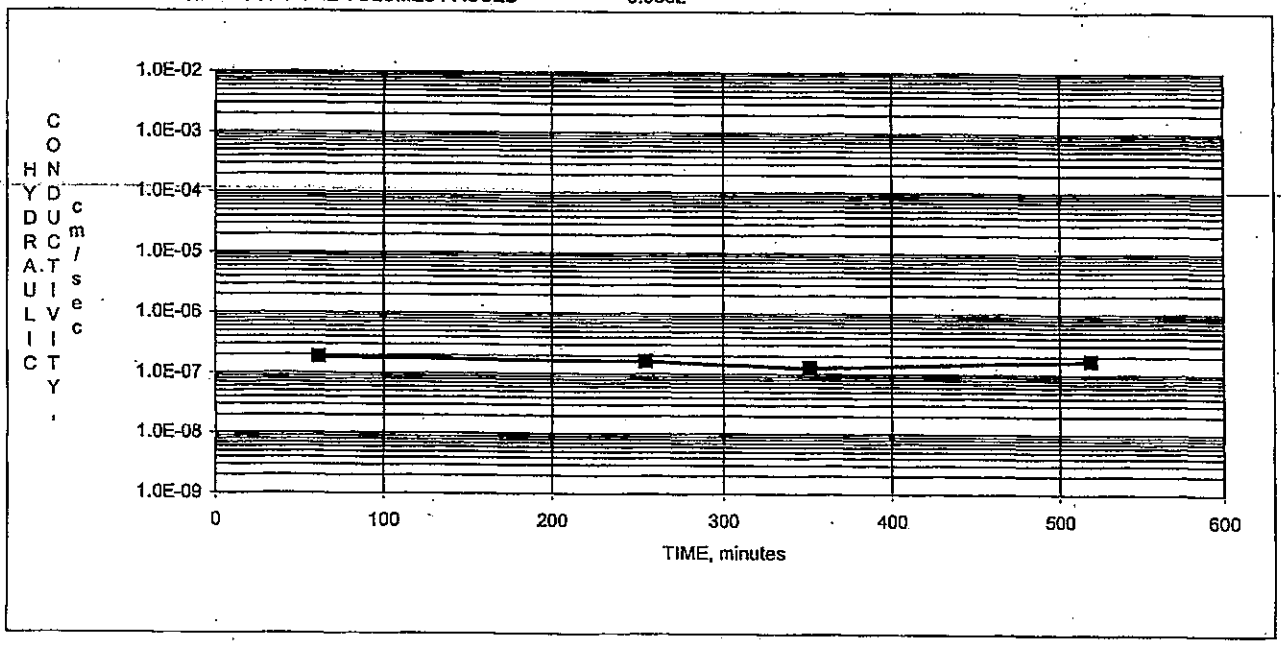
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP., C	TEMP. CORR.:
4.1	71.3	0	67.2									
4.6	70.7	62	66.1	0.016505	1.85E-07	0.5	0.6	0.83	12.5	16	21	0.980
5.9	69.1	254	63.2	0.044864	1.63E-07	1.3	1.6	0.81	12.0	1	21	0.980
6.4	68.5	351	62.1	0.017558	1.26E-07	0.5	0.6	0.83	11.7	21	21	0.980
7.5	67.2	519	59.7	0.039414	1.67E-07	1.1	1.3	0.85	11.3	4	20	1.005

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 1.6E-07 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0332



Terracon

MWG13-15_24339

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 10/1/2005

Location of Sample PS-GT-6 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 13 to 18'

Description of Soil Sand, fine to coarse, trace gravel, trace rubble, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.23 Dry Density 107.000

Area, A, cm^2 30.48 Moisture Content 4.3

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	17.6	20	25.1	127	13466.4	0.02614	2.77165	22	0.953	8.99E-03
2	31.8	20	14.7	127	14249.8	0.04463	5.00787	22	0.953	8.49E-03
3	36.8	20	13	127	14583.3	0.05047	5.79528	22	0.953	8.30E-03
4	38.8	20	12.6	127	14902.8	0.05207	6.11024	22	0.953	8.12E-03
5	40.8	20	12.2	127	15173.5	0.05378	6.4252	22	0.953	7.98E-03
6	42.7	20	11.4	127	14838.8	0.05755	6.72441	22	0.953	8.16E-03
7	47.8	20	9.7	127	14134	0.06764	7.52756	22	0.953	8.56E-03
									AVG	8.37E-03

Note:

Tested by: _____ Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24340

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE
ID: PS-GT-7 10.0'-13.0' -#4 MATERIAL
DESCR.: SAND WITH SILT and GRAVEL (SW-SM), DARK GRAY

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	88.50	WET WT, g	191.6		
D & T, g	83.87	DIA, in	1.94	4.93	cm
T, g	19.37	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	126.2	PCF WET	
URE, %	7.2	DENSITY:	117.7	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	30.1	PROCTOR:	NA
SATURATION, %:	44.9	OPTIMUM:	NA
VOID RATIO:	0.43	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

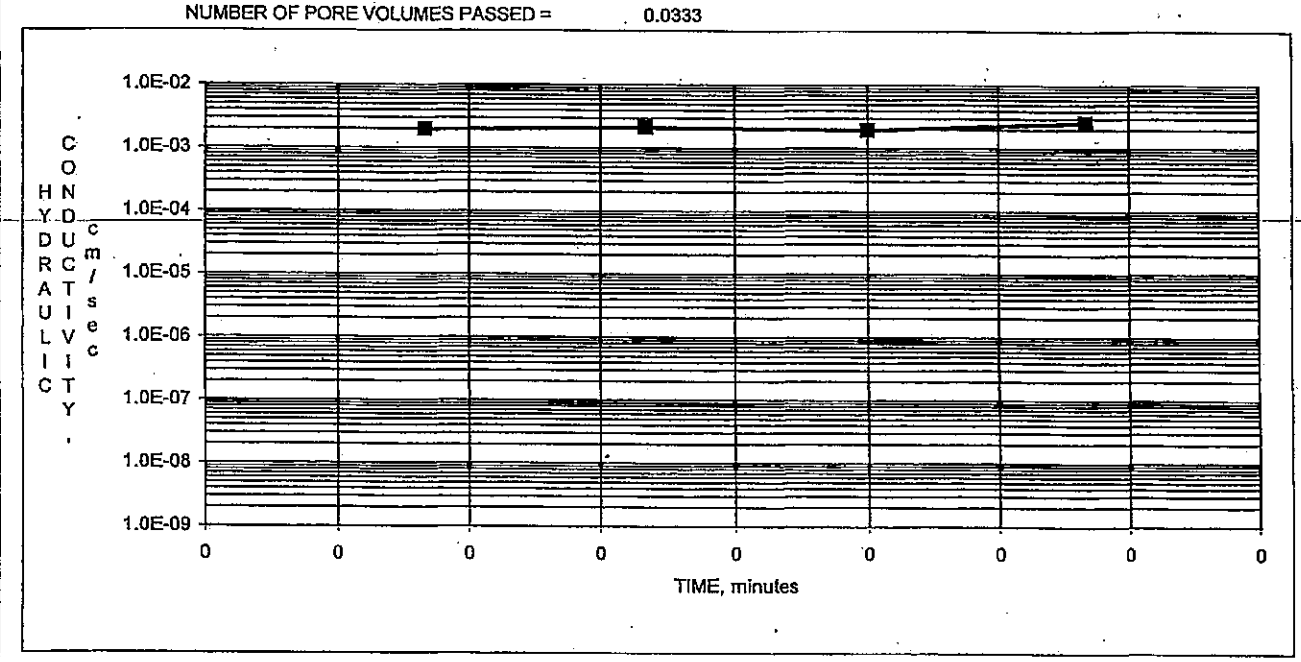
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0	psi	
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER:	100.0	psi
				BIAS PRESSURE (=LOWER-UPPER)		0.0	psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	30.1	0	9.3									
21.8	29.1	0	7.3	0.242140	1.96E-03	1.0	1.0	1.00	1.5	9	21	0.980
22.6	28.2	0	5.6	0.265108	2.15E-03	0.8	0.9	0.89	1.1	1	21	0.980
23.2	27.6	0	4.4	0.241162	1.96E-03	0.6	0.6	1.00	0.9	10	21	0.980
23.8	27.0	0	3.2	0.318454	2.58E-03	0.6	0.6	1.00	0.6	19	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.2E-03 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0333



Terracon

MWG13-15_24341

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/18/2005

Location of Sample PS-GT-8 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 10 to 15'

Description of Soil Silty Sand, trace clay, dark gray

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.320

Area, A, cm^2 45.60 Moisture Content 12.0

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 115.3

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3.3	20	31.5	127	4740.5	0.01392	0.51969	20	1.000	2.68E-02
2	8.7	20	14	127	5554.52	0.03133	1.37008	20	1.000	2.29E-02
3	13.5	20	9.2	127	5663.97	0.04767	2.12598	20	1.000	2.24E-02
4	17.2	20	7	127	5490.68	0.06265	2.70866	20	1.000	2.31E-02
5	21.5	20	5.5	127	5392.63	0.07974	3.38583	20	1.000	2.36E-02
6	24.3	20	5	127	5540.84	0.08771	3.82677	20	1.000	2.29E-02
7	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
8	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
9									AVG	2.31E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24342

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE
ID: PS-GT-9 15.0'-20.0' #4 MATERIAL
DESCR.: SAND WITH GRAVEL & SILT, DARK YELLOWISH BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	51.97	WET WT, g	183.1		
D & T, g	50.15	DIA, in	1.94	4.94	cm
T, g	20.20	HT, in	1.95	4.96	cm
		AREA		19.15	cm^2
MOIST-URE, %	6.1	DENSITY:	120.3	PCF WET	
		DENSITY:	113.4	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	32.7	PROCTOR:	NA
SATURATION, %:	33.7	OPTIMUM:	NA
VOID RATIO:	0.49	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

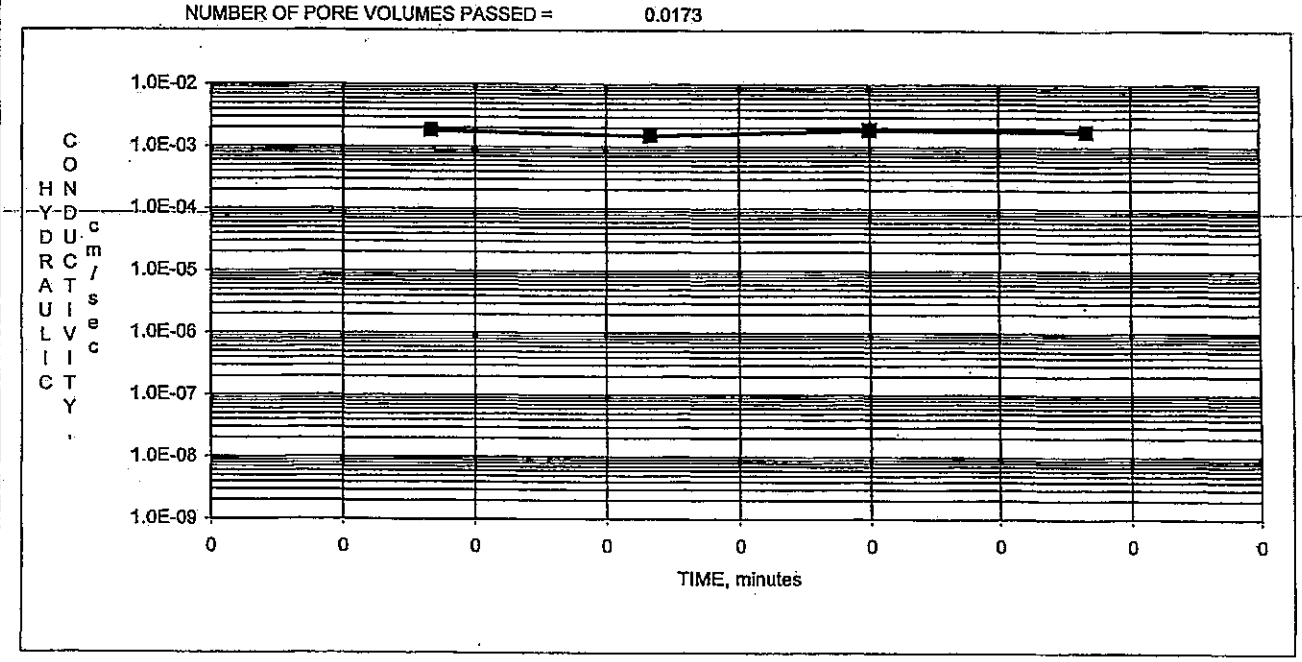
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
10.5	16.3	0	5.8									
11.1	15.7	0	4.6	0.231802	1.82E-03	0.6	0.6	1.00	0.9	5	22	0.956
11.5	15.3	0	3.8	0.191055	1.50E-03	0.4	0.4	1.00	0.8	13	22	0.956
11.9	14.9	0	3.0	0.236389	1.85E-03	0.4	0.4	1.00	0.6	7	22	0.956
12.2	14.6	0	2.4	0.223144	1.75E-03	0.3	0.3	1.00	0.5	1	22	0.956

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 1.7E-03 cm/sec

MAXIMUM HYDRAULIC GRADIENT	1.0E-03 TO 1.0E-04	2	0.75< RATIO <1.25	% < 25 AT > 1.0E-8 OR % < 50 AT < 1.0E-8
	1.0E-04 TO 1.0E-05	5		
	1.0E-05 TO 1.0E-06	10		
	1.0E-06 TO 1.0E-07	20		
	1.0E-07 TO 1.0E-10	30		

NUMBER OF PORE VOLUMES PASSED = 0.0173



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Terracon

MWG13-15_24343

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/16/2005

Location of Sample JS-29-GT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 19 to 24'

Description of Soil Sand, fine grained, trace clay and gravel, dark yellow

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.58 Wt. Soil (lb.) 1.290

Area, A, cm^2 45.13 Moisture Content 5.3

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 119.9

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	2.5	20	31.5	127	3553.68	0.01407	0.3937	20	1.000	3.57E-02
2	7.1	20	14	127	4485.54	0.03166	1.11811	20	1.000	2.83E-02
3	11.2	20	9.5	127	4801.42	0.04665	1.76378	20	1.000	2.65E-02
4	14	20	7	127	4422.36	0.06331	2.20472	20	1.000	2.87E-02
5	17.6	20	5.5	127	4368.21	0.08058	2.77165	20	1.000	2.91E-02
6	18.8	20	5	127	4241.85	0.08864	2.96063	20	1.000	2.99E-02
7	24	20	4	127	4332.11	0.1108	3.77953	20	1.000	2.93E-02
8	24	20	4	127	4332.11	0.1108	3.77953	20	1.000	2.93E-02
9									AVG	2.96E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24344

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/12/2005

Location of Sample JS-9-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 7 to 11.5'

Description of Soil Clayey Sand, with organics, trace gravel, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.150

Area, A, cm^2 45.60 Moisture Content 23.7

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 91.0

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3	20	31.5	127	4309.54	0.01392	0.47244	20	1.000	2.95E-02
2	7.1	20	14	127	4533	0.03133	1.11811	20	1.000	2.80E-02
3	11.9	20	9.5	127	5155.49	0.04616	1.87402	20	1.000	2.46E-02
4	13.3	20	7	127	4245.7	0.06265	2.09449	20	1.000	2.99E-02
5	18.2	20	5.5	127	4564.92	0.07974	2.86614	20	1.000	2.78E-02
6	20.8	20	5	127	4742.78	0.08771	3.27559	20	1.000	2.68E-02
7	27	20	4	127	4925.19	0.10964	4.25197	20	1.000	2.58E-02
8	27	20	4	127	4925.19	0.10964	4.25197	20	1.000	2.58E-02
9									AVG	2.73E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24345

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/15/2005

Location of Sample JS-29-GT-3 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 19 to 24'

Description of Soil Sand, with gravel, trace clay, brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.59 Wt. Soil (lb.) 1.340

Area, A, cm^2 45.25 Moisture Content 8.6

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 120.7

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	2.9	20	31.5	127	4133.15	0.01403	0.45669	20	1.000	3.07E-02
2	7.3	20	14	127	4624.07	0.03157	1.14961	20	1.000	2.75E-02
3	11.3	20	9.5	127	4857.08	0.04653	1.77953	20	1.000	2.61E-02
4	16.4	20	7	127	5194.16	0.06315	2.58268	20	1.000	2.45E-02
5	21.7	20	5.5	127	5400.02	0.08037	3.41732	20	1.000	2.35E-02
6	23.9	20	5	127	5406.81	0.08841	3.76378	20	1.000	2.35E-02
7	31	20	4	127	5610.41	0.11051	4.88189	20	1.000	2.26E-02
8	31	20	4	127	5610.41	0.11051	4.88189	20	1.000	2.26E-02
9									AVG	2.51E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24346

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE
ID: JS 29-GT-5 5.0' - 9.0' Top 8" -#4 MATERIAL
DESCR.: CLAYEY GRAVEL WITH SAND (GC), DARK GRAY WITH YELLOWISH BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	48.02	WET WT, g	172.0		
D & T, g	44.14	DIA, in	1.94	4.93	cm
T, g	20.33	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	113.3	PCF WET	
URE, %	16.3	DENSITY:	97.4	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	42.2	PROCTOR:	NA
SATURATION, %:	60.2	OPTIMUM:	NA
VOID RATIO:	0.73	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

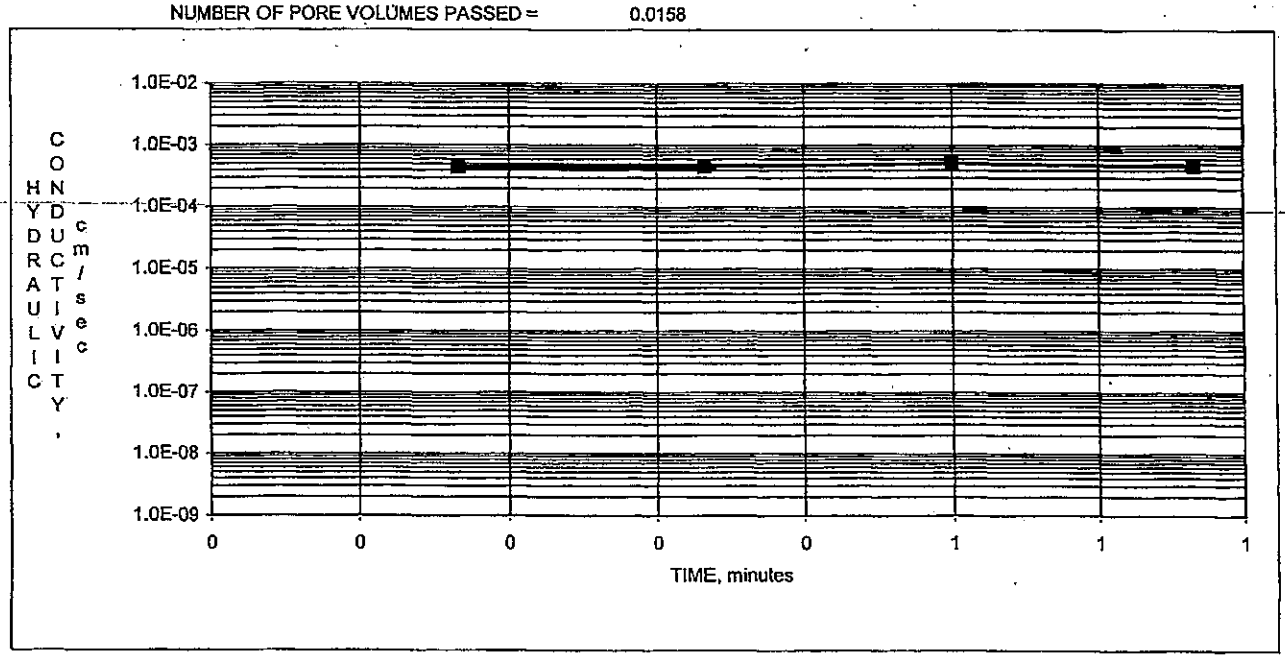
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
10.6	20.9	0	10.3									
11.2	20.4	0	9.2	0.112940	4.47E-04	0.6	0.5	1.20	1.8	5	22	0.956
11.7	19.9	0	8.2	0.115069	4.55E-04	0.5	0.5	1.00	1.6	3	22	0.956
12.2	19.4	1	7.2	0.130053	5.14E-04	0.5	0.5	1.00	1.4	9	22	0.956
12.6	19.0	1	6.4	0.117783	4.66E-04	0.4	0.4	1.00	1.3	1	22	0.956

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 4.7E-04 cm/sec

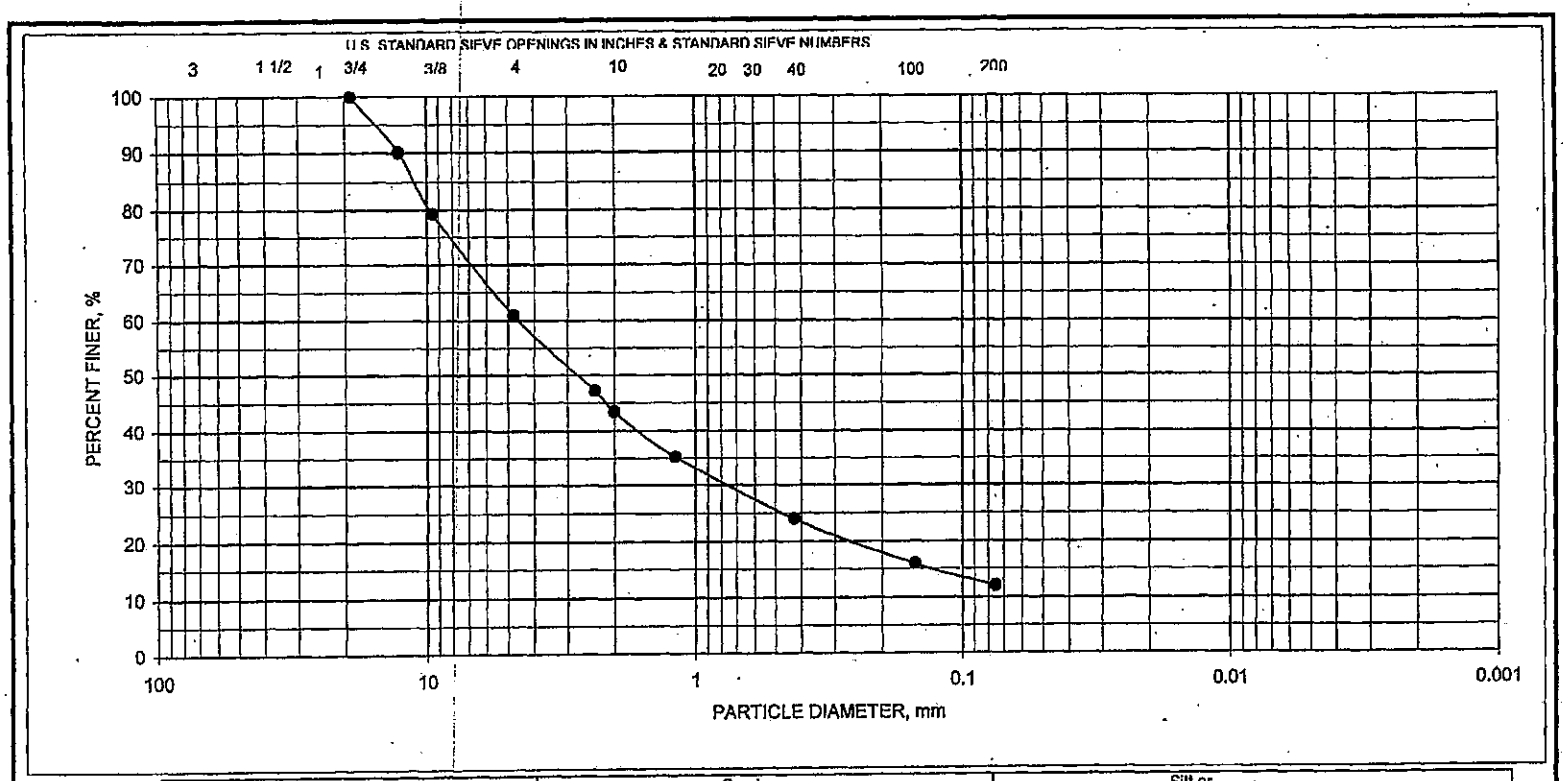
MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0158



Terracon

MWG13-15_24347



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
CS-GT-1		5 to 10'	Sand, fine to coarse grained, trace gravel and silt, brown, dark brown, blac	SP				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve CS-GT-1.xls

MWG13-15_24348

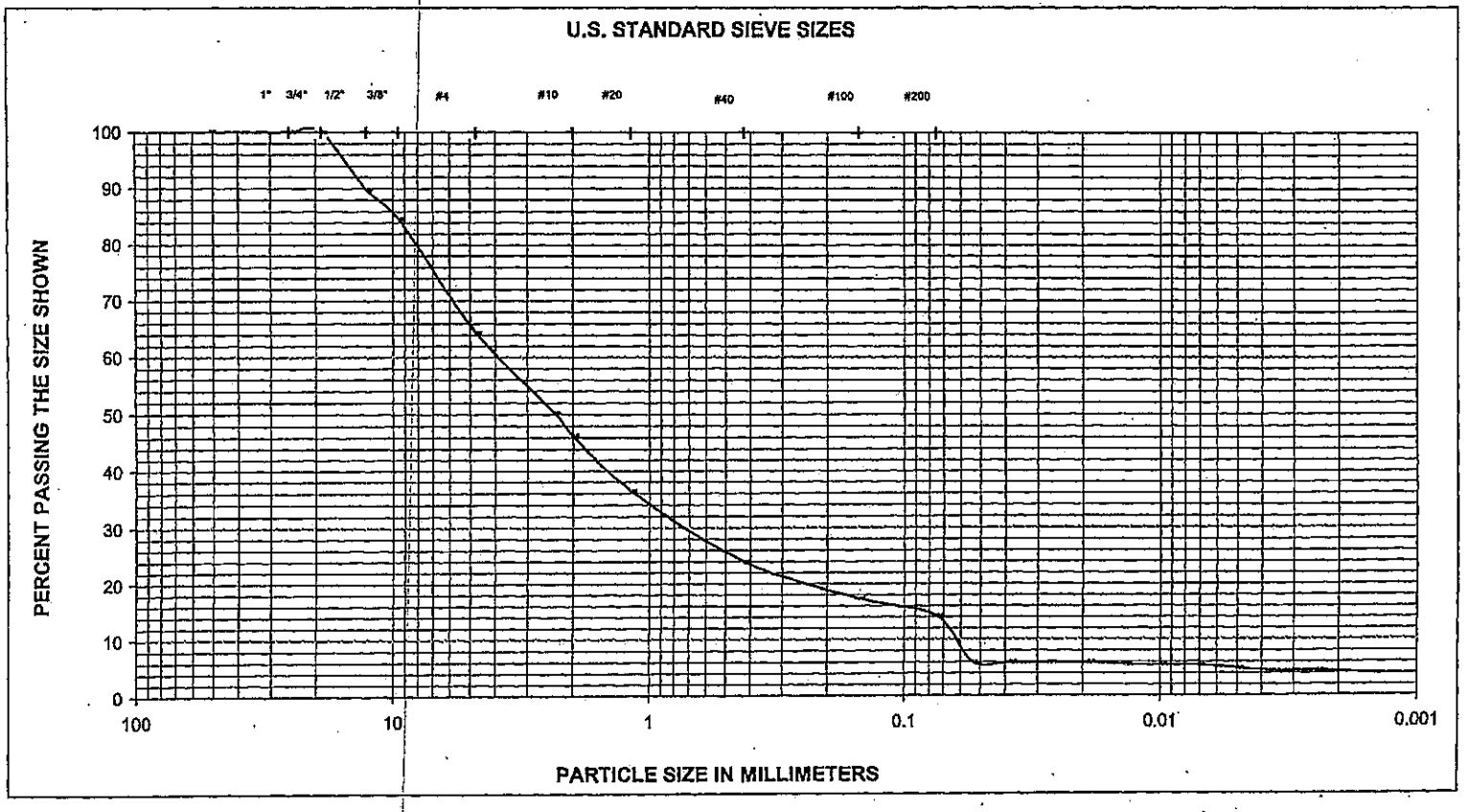
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number CS-GT-2 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: 10-12' (top) | Sample type.:

Sample Description: Sand, fine to coarse grained, with gravel, gray (crushed limestone)



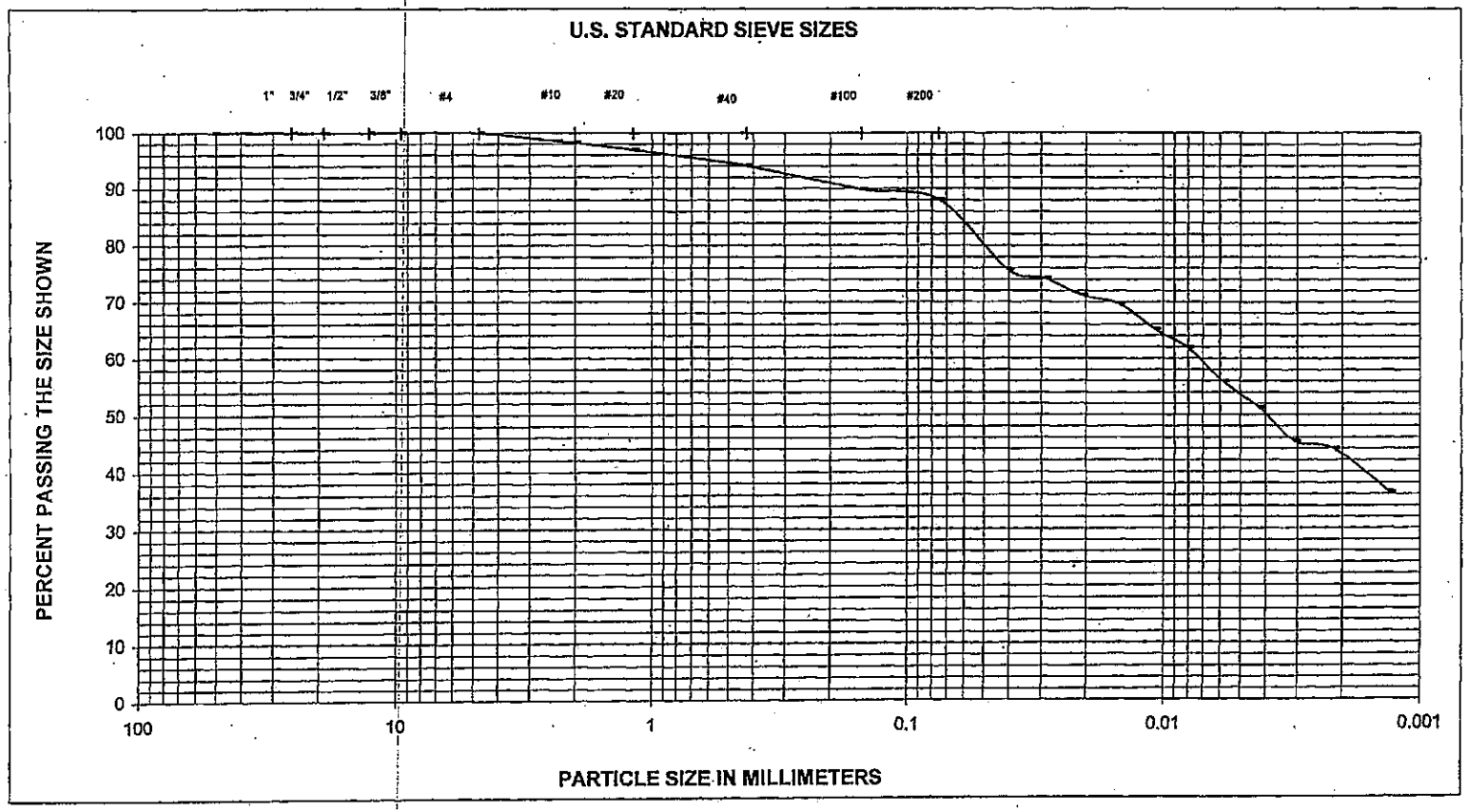
MWG13-15_24349

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number: CS-GT-2 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: bottom | Sample type.:

Sample Description: Lean clay, trace sand, gray



MWG13-15_24350

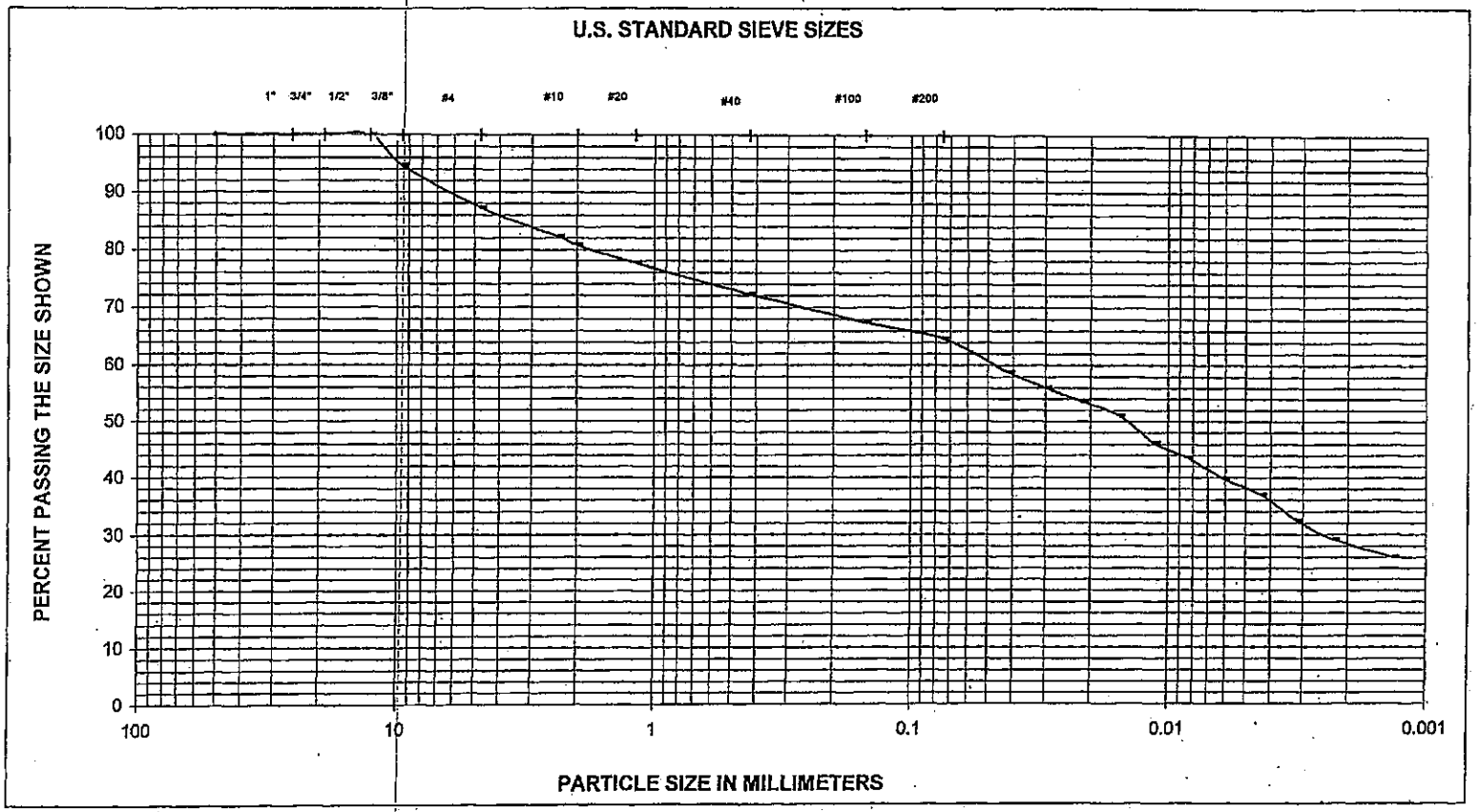
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number CS-GT-4 Date: 8/25/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Lean Clay, Trace Sand and Gravel, Gray



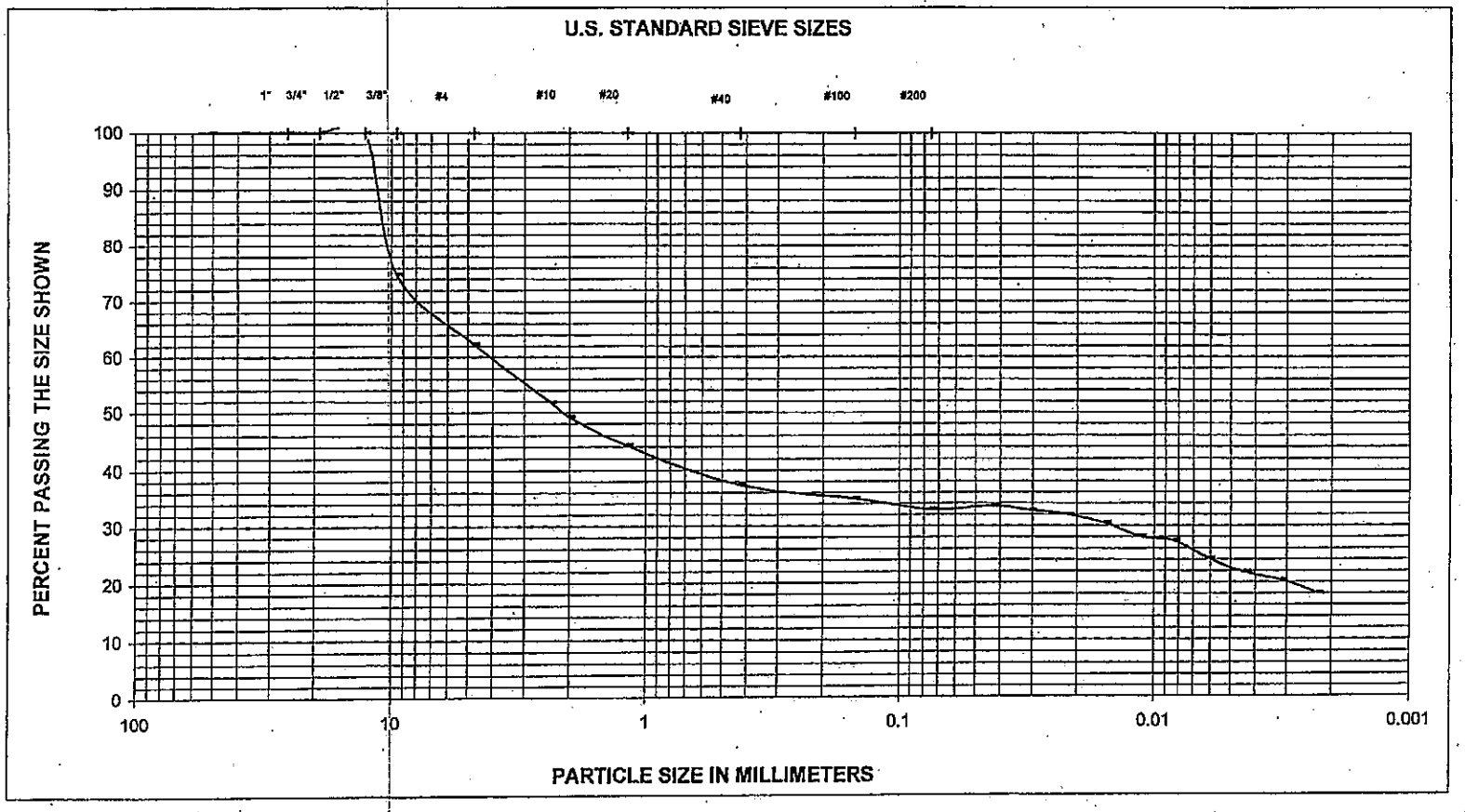
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number CS-GT-5 Date: 8/25/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Silly clay, with sand, brown and gray



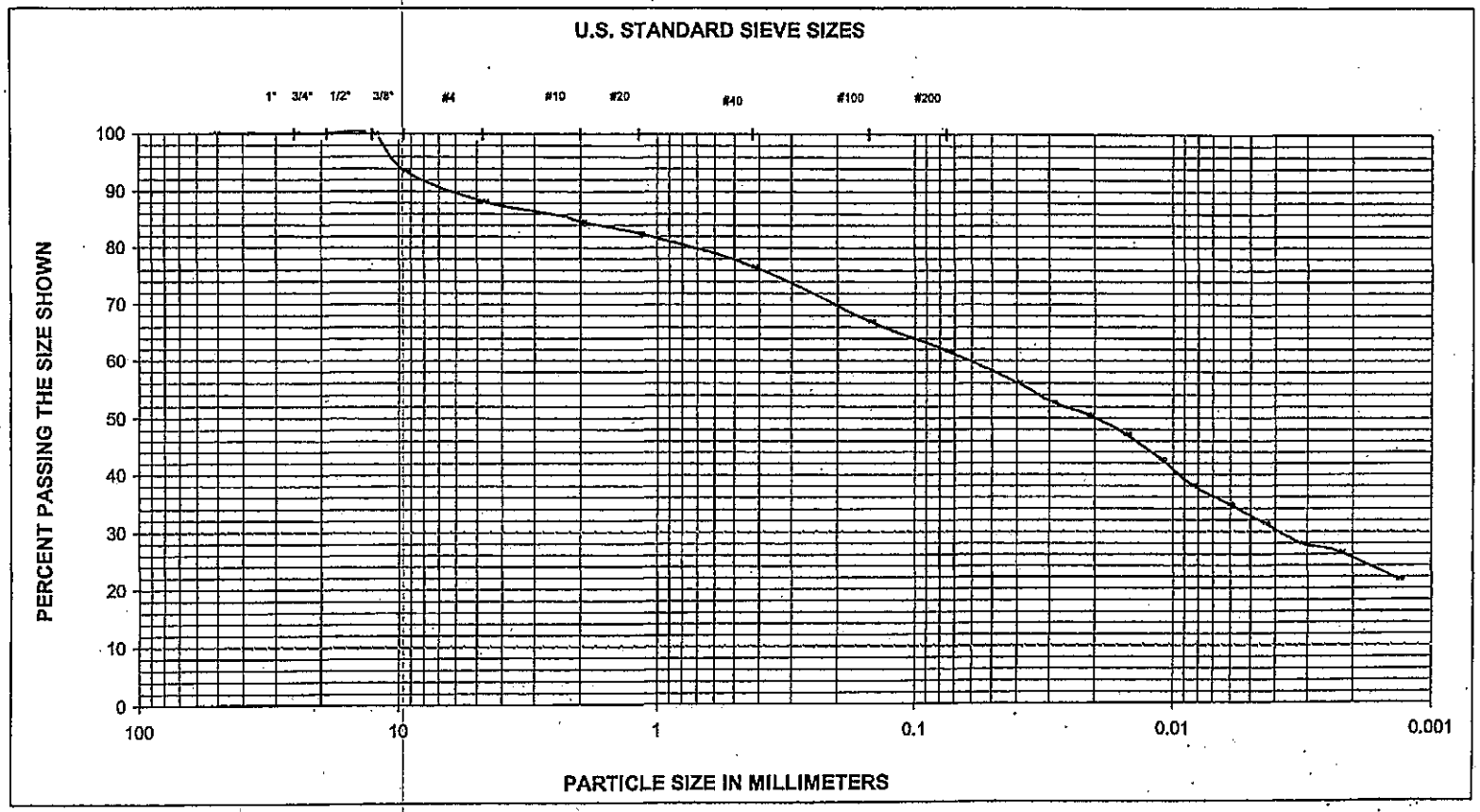
MWG13-15_24352

GRAIN SIZE DISTRIBUTION CURVE

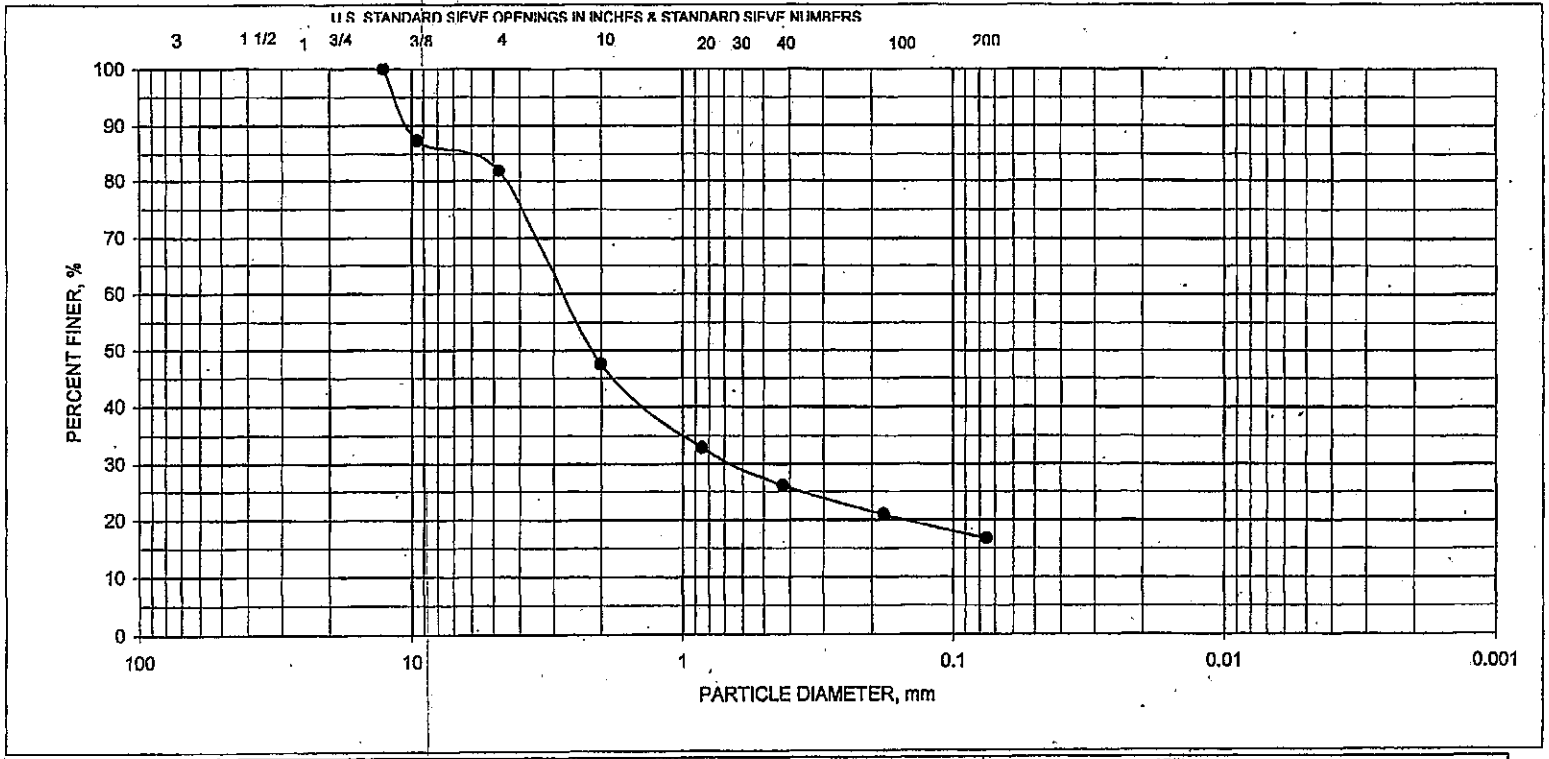
Project Name: KPRG Labarotory Testing | Boring Number: CS-GT-6 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: | Sample type.:

Sample Description: Sandy Lean Clay, with gravel, brown and dark brown



MWG13-15_24353



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

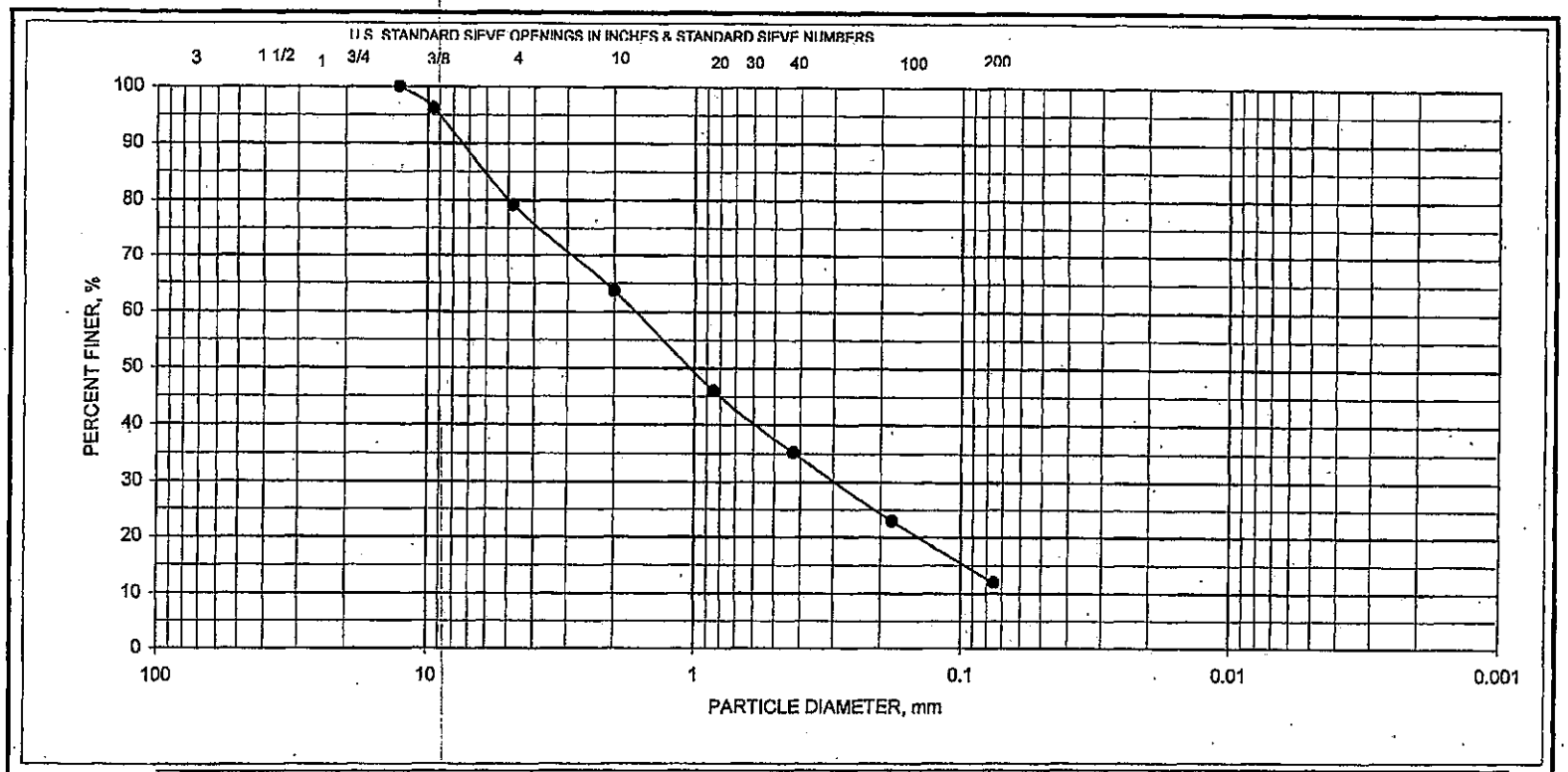
BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-1		5 to 10'-Top	Clayey Gravelly Sand	SC				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 10/1/2005

Terracon

Sieve WCGT-1.xls



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-2		5 to 10' BTM	VeryDark Brown Fine To Coarse Sand With Gravel, Trace Clay and Glass Slag	SC				

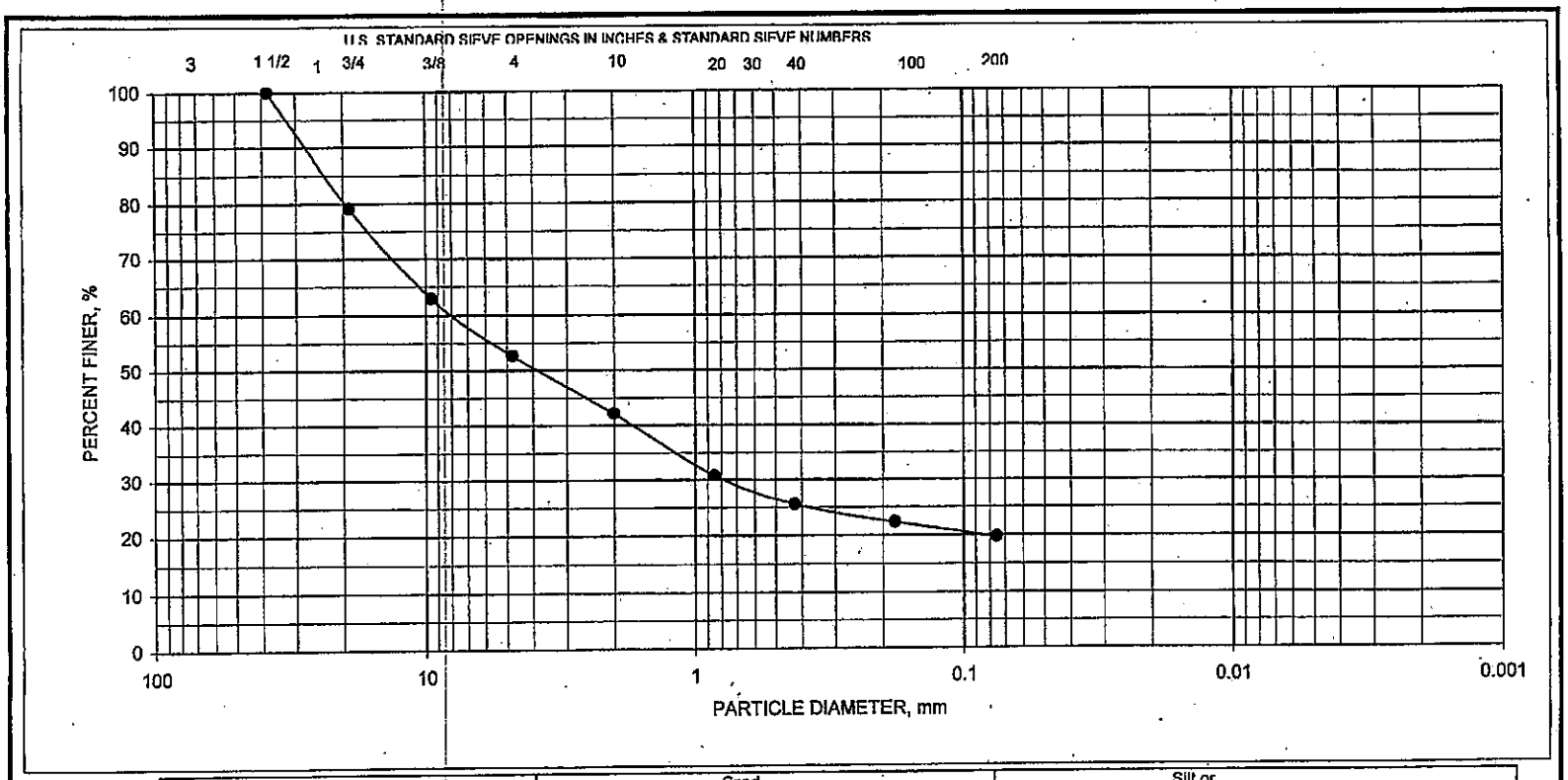
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/30/2005

Terracon

Sieve WCGT-2.xls

MWG13-15_24355



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-3		3 to 8' (Top)	Clayey Gravelly Fine To Coarse Sand	SC				

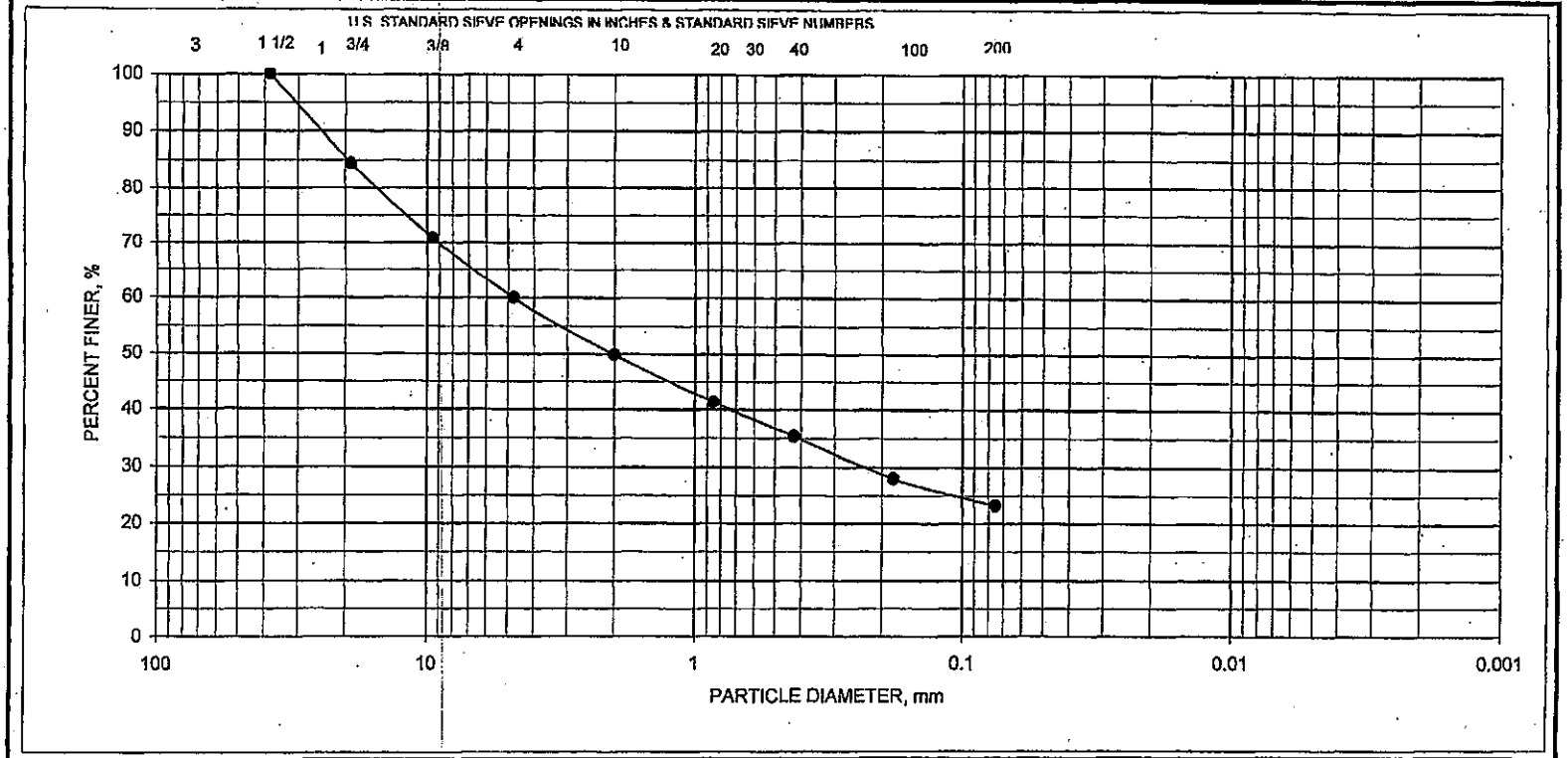
PROJECT KPRG Laboratory Testing

JOB NO. 58065075 DATE 10/4/2005

Terracon

Sieve WCGT-3.xls

MWG13-15_24356



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-4		5 to 10'-Bottom of Sample	Sandy Fine To Coarse Gravel With Clay	GC				

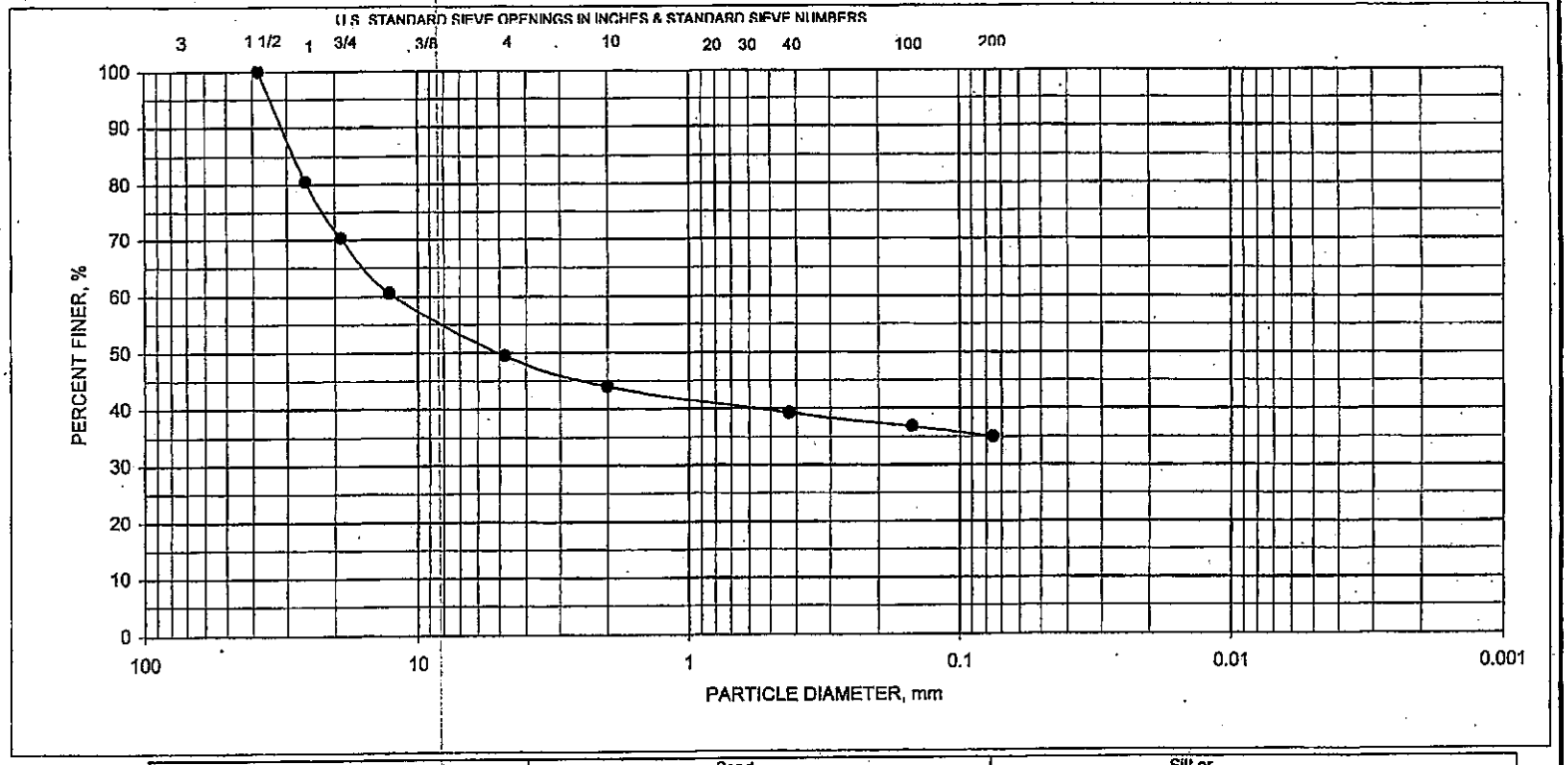
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/24/2005

Terracon

Sieve WCGT-4.xls

MWG13-15_24357



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-5		5 to 9'-Bottom of Sample	Sandy clay with gravel	CL				

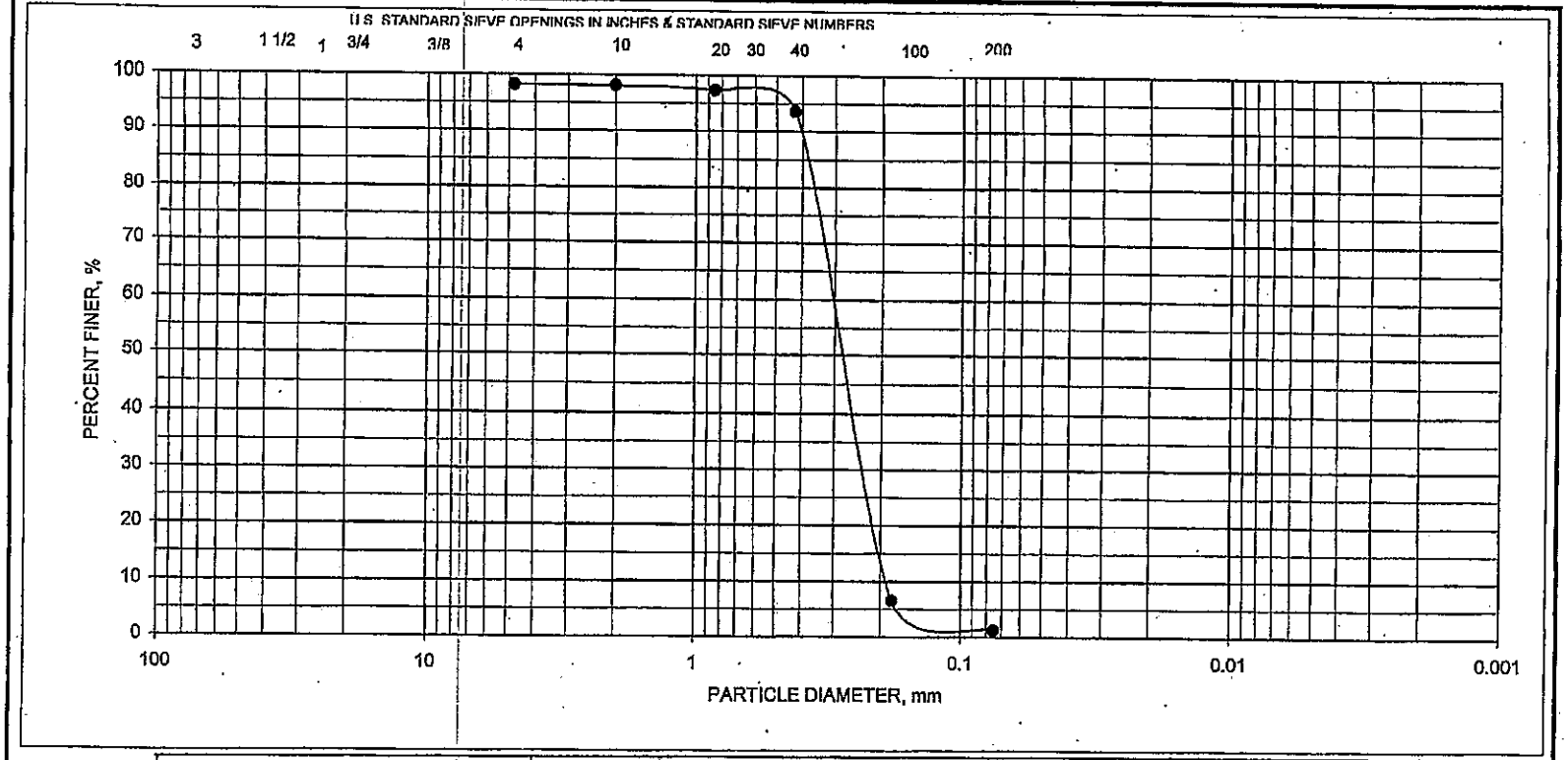
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/29/2005

Terracon

Sieve WCGT-5.xls

MWG13-15_24358



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-1		5 to 10'	Fine Sand, Trace Gravel & Silt	SP	14	NP	NP	NP

PROJECT KPRG Laboratory Testing

JOB NO. 68055075 DATE 9/21/2005

Terracon

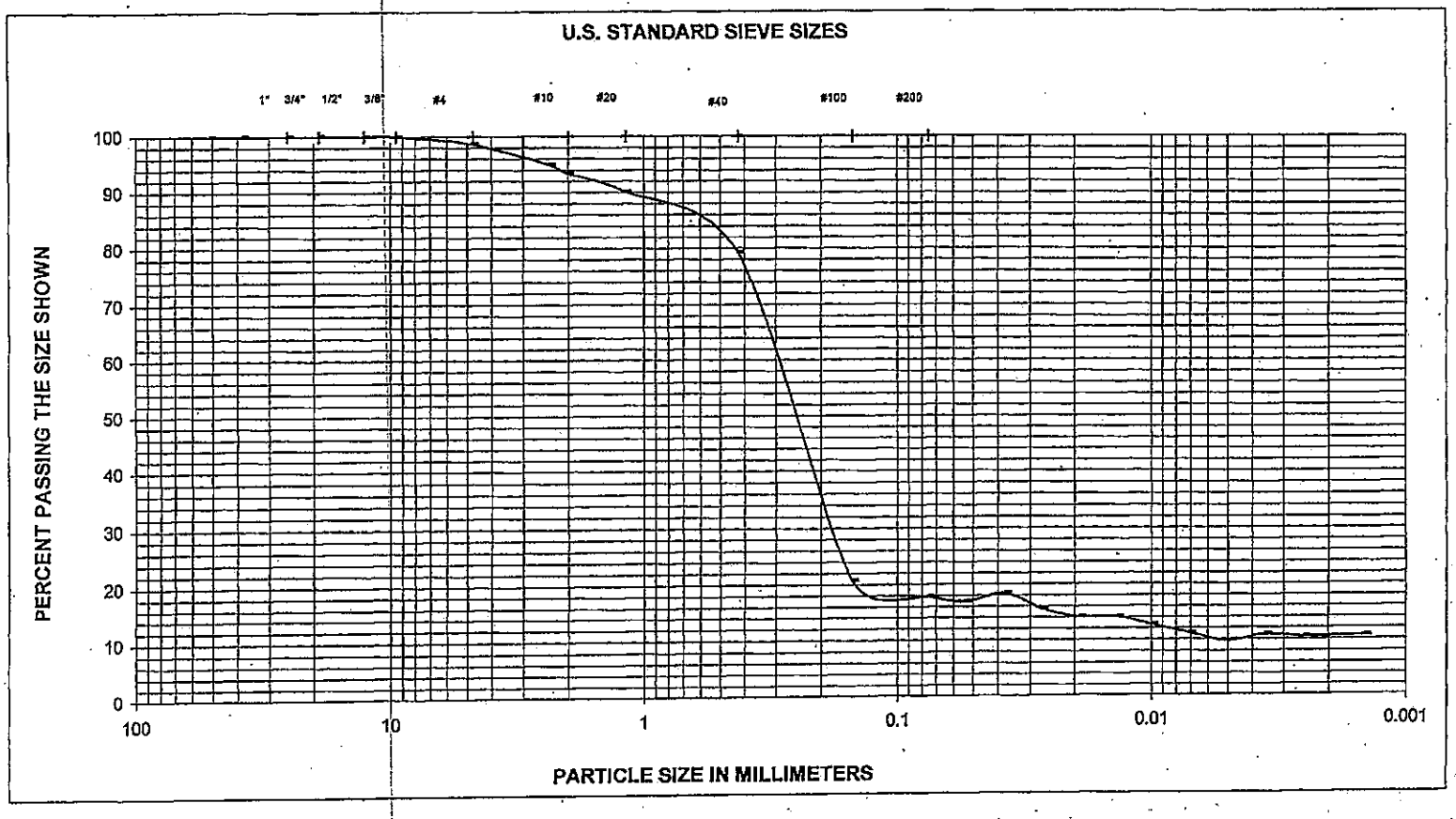
Sieve WSGT-1.xls

MWG13-15_24359

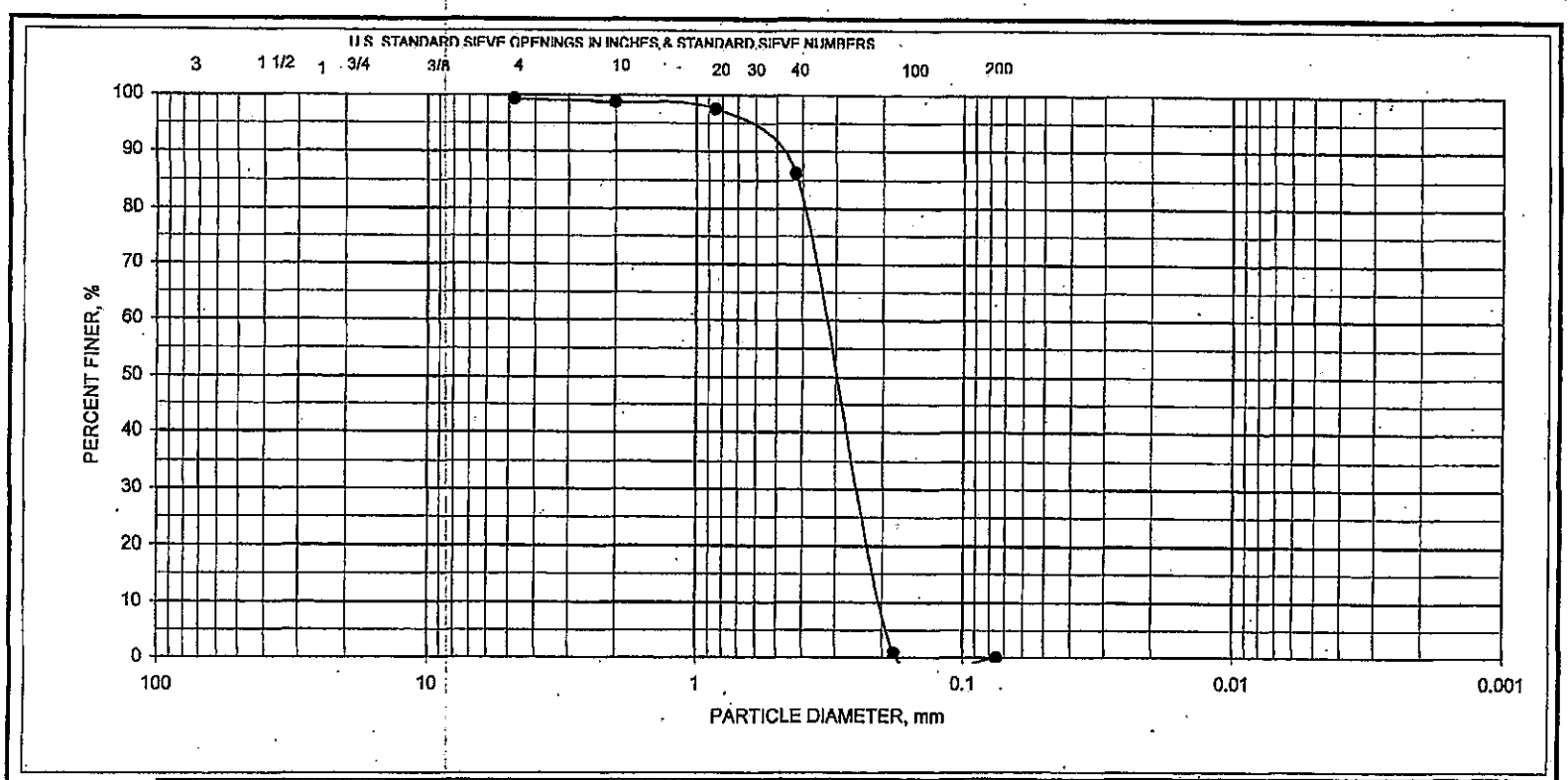
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing
Terracon Project #: 58055075
Boring Number: WS-GT-2
Sample No.:
Date: 8/26/2005
Sample type.:
Sample Description: Silty sand, trace gravel, dark brown



MWG13-15_24360



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-3			Fine Sand, Trace Silt	SP	11.2	NP	NP	NP

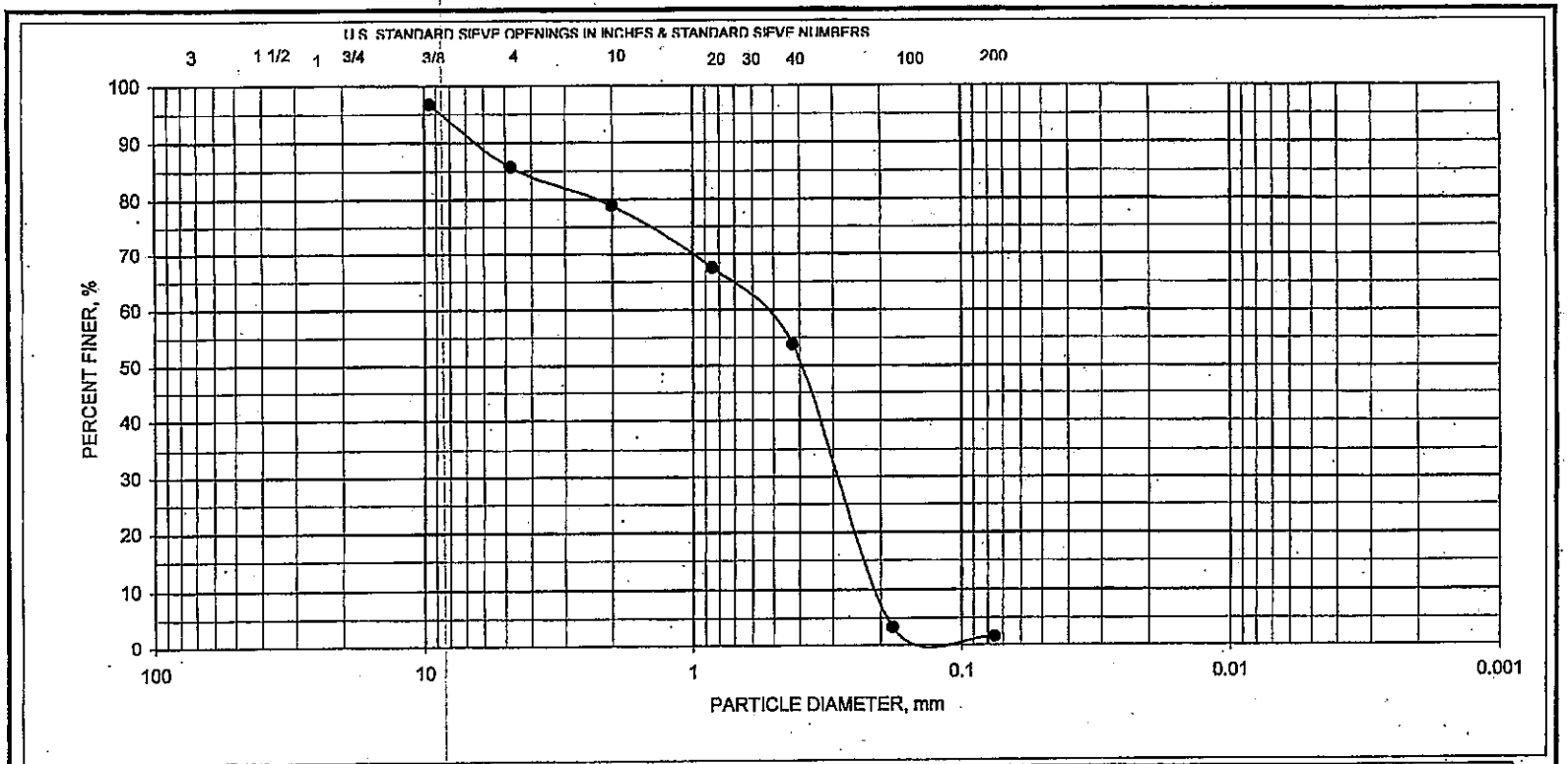
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/22/2005

Terracon

Sieve WSGT-3.xls

MWG13-15_24361



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-4		5 to 10'-Bottom of Sample	Fine to Medium Sand With Gravel	SP	9.5	NP	NP	NP

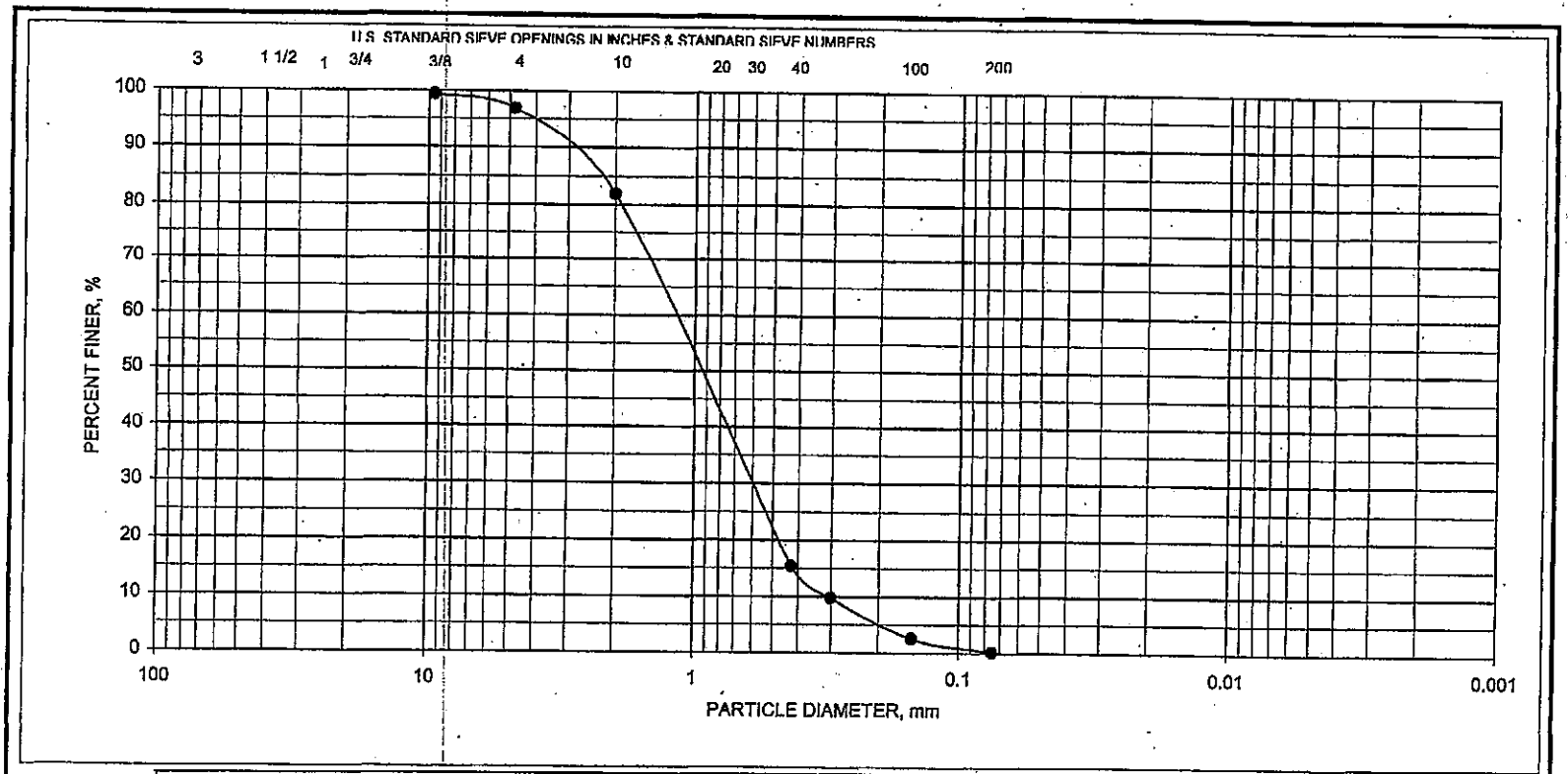
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/22/2005

Terracon

Sieve WSGT-4.xls

MWG13-15_24362



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-5		22 to 27	Sand, trace gravel, black	SP	9.5	NP	NP	NP

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/28/2005

Terracon

Sieve WSGT-5.xls

MWG13-15_24363

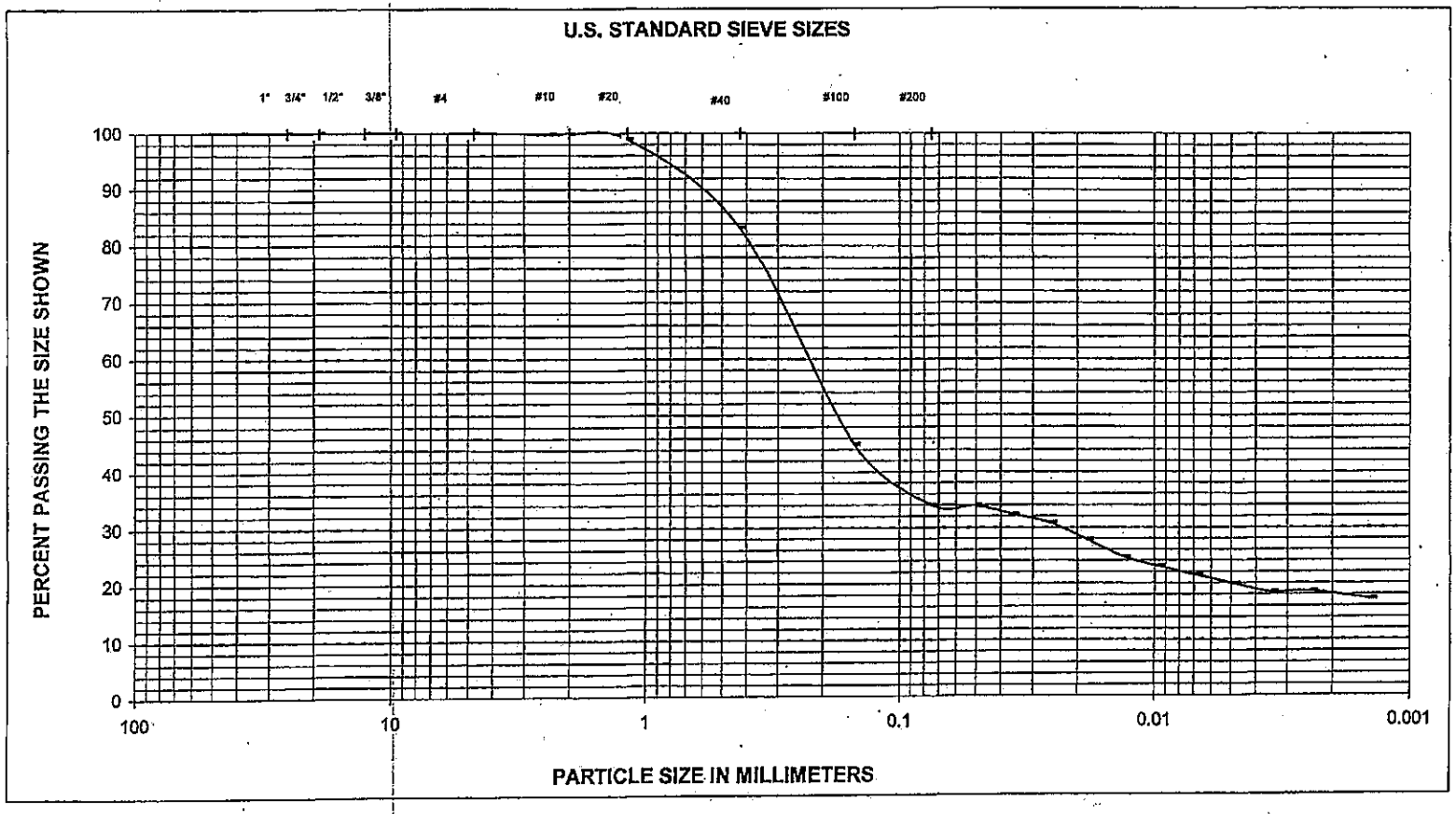
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number PS-GT-1 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: | Sample type.:

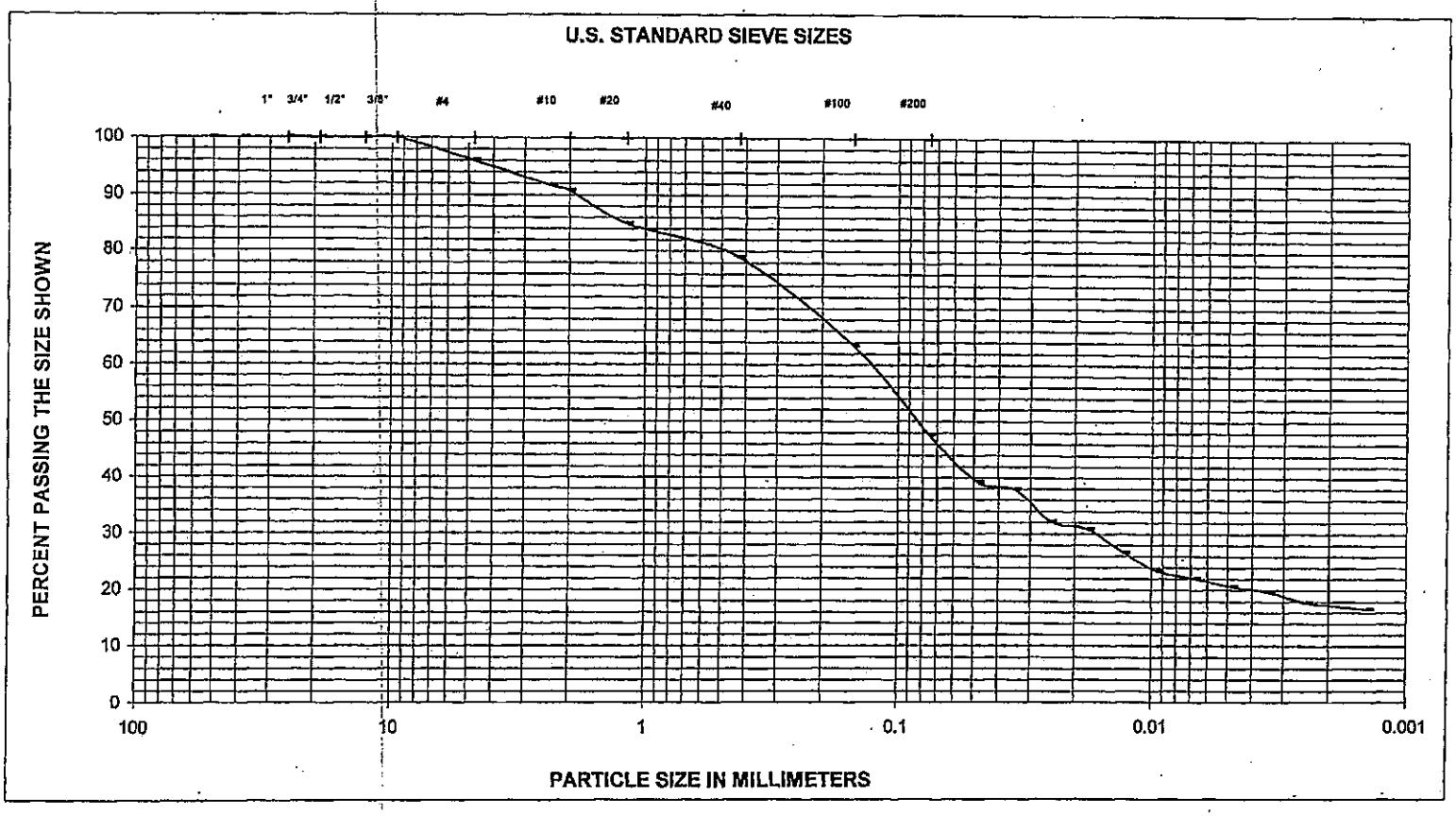
Sample Description: Clayey sand, dark brown



MWG13-15_24364

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing
Boring Number PS-GT-2
Date: 8/25/2005
Terracon Project #: 58055074
Sample No.:
Sample type.:
Sample Description: Clayey sand, trace gravel, medium to coarse grained, brown



MWG13-15_24365

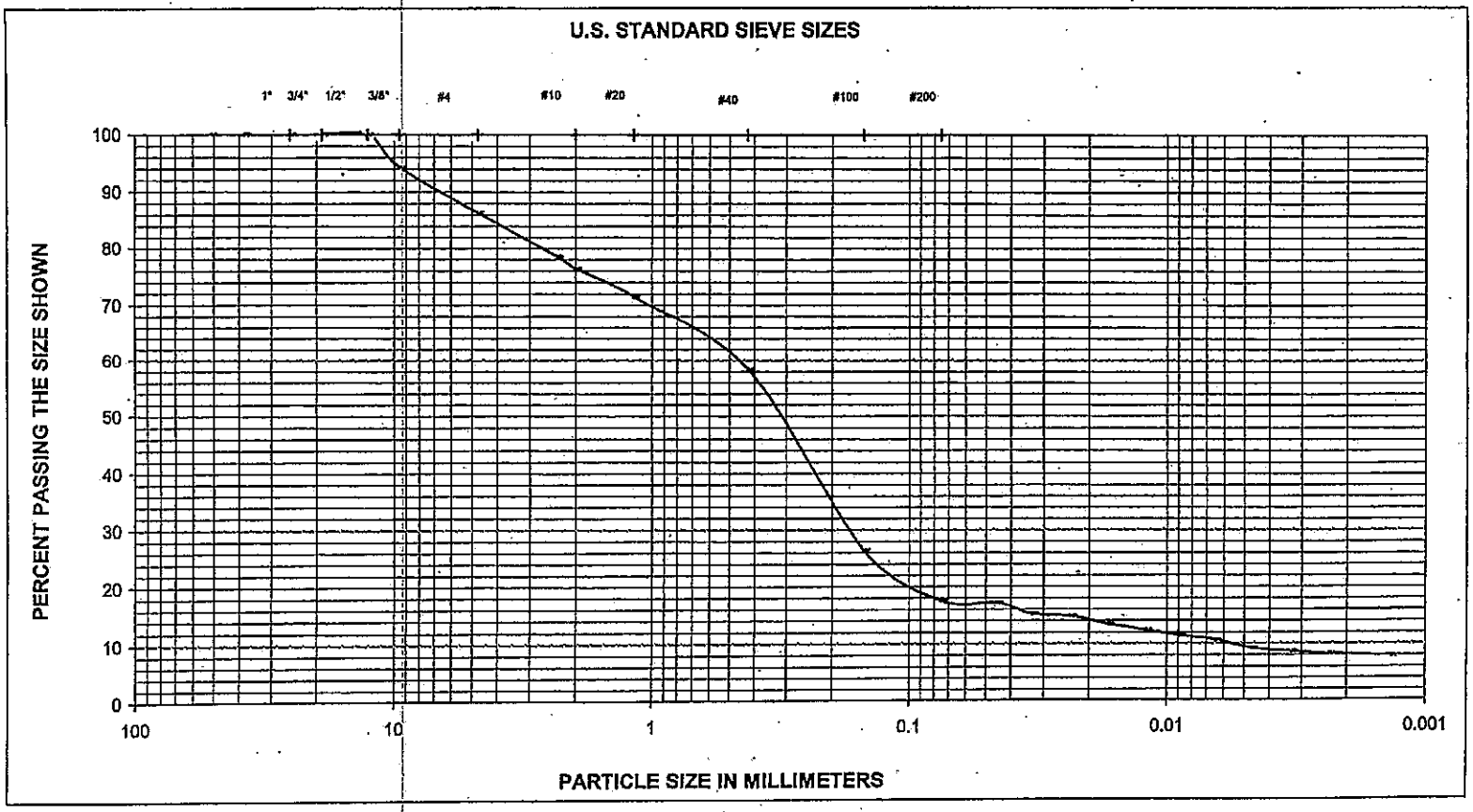
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number: PS-GT-3 | Date: 8/26/2005

Terracon Project #: 58055075 | Sample No.: 7-9' | Sample type.:

Sample Description: Sand, trace clay, gravel and organics, dark brown



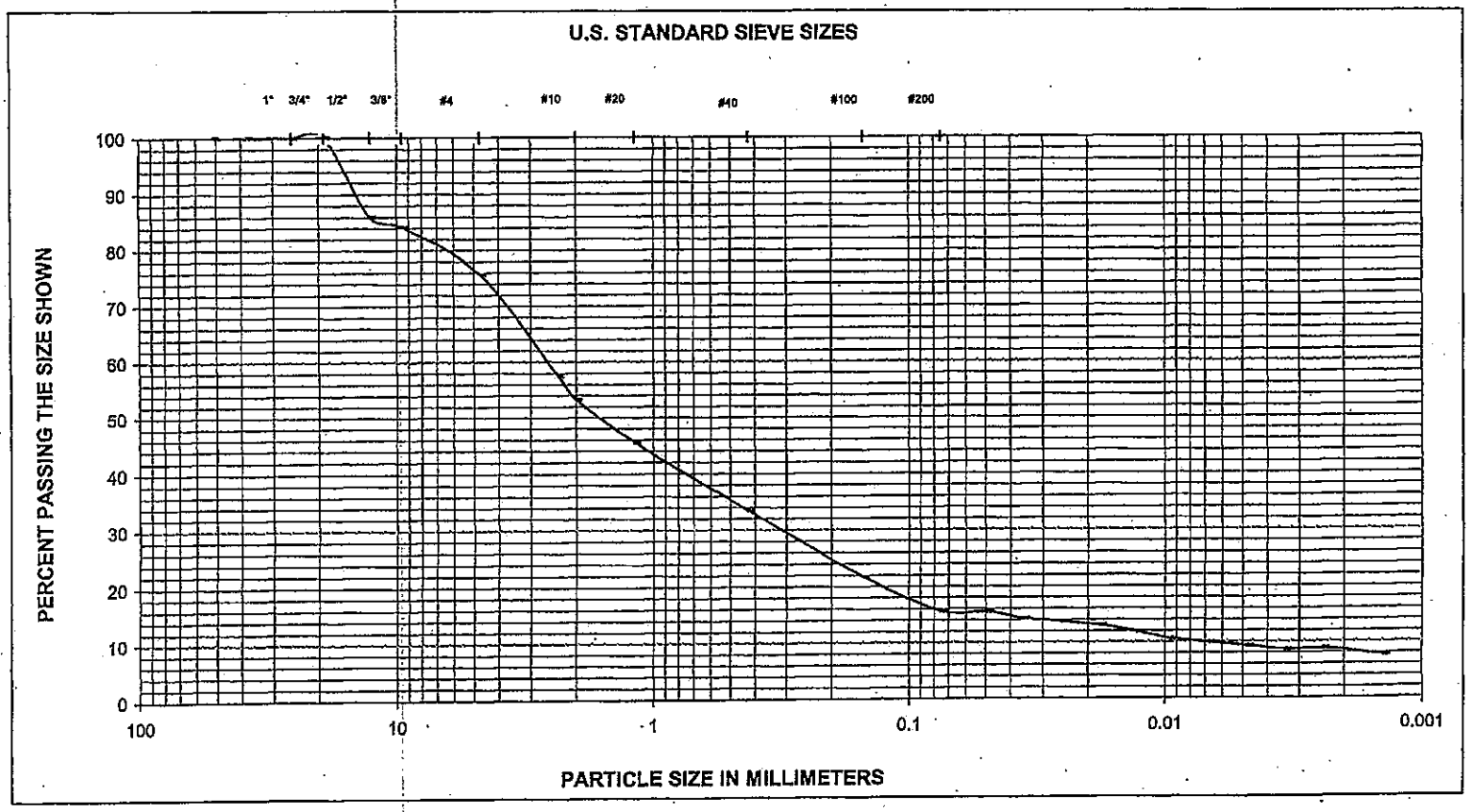
MWG13-15_24366

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number PS-GT-4 Date: 8/29/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Sand, with clay and gravel, trace organics, fine to coarse grained, dark brown



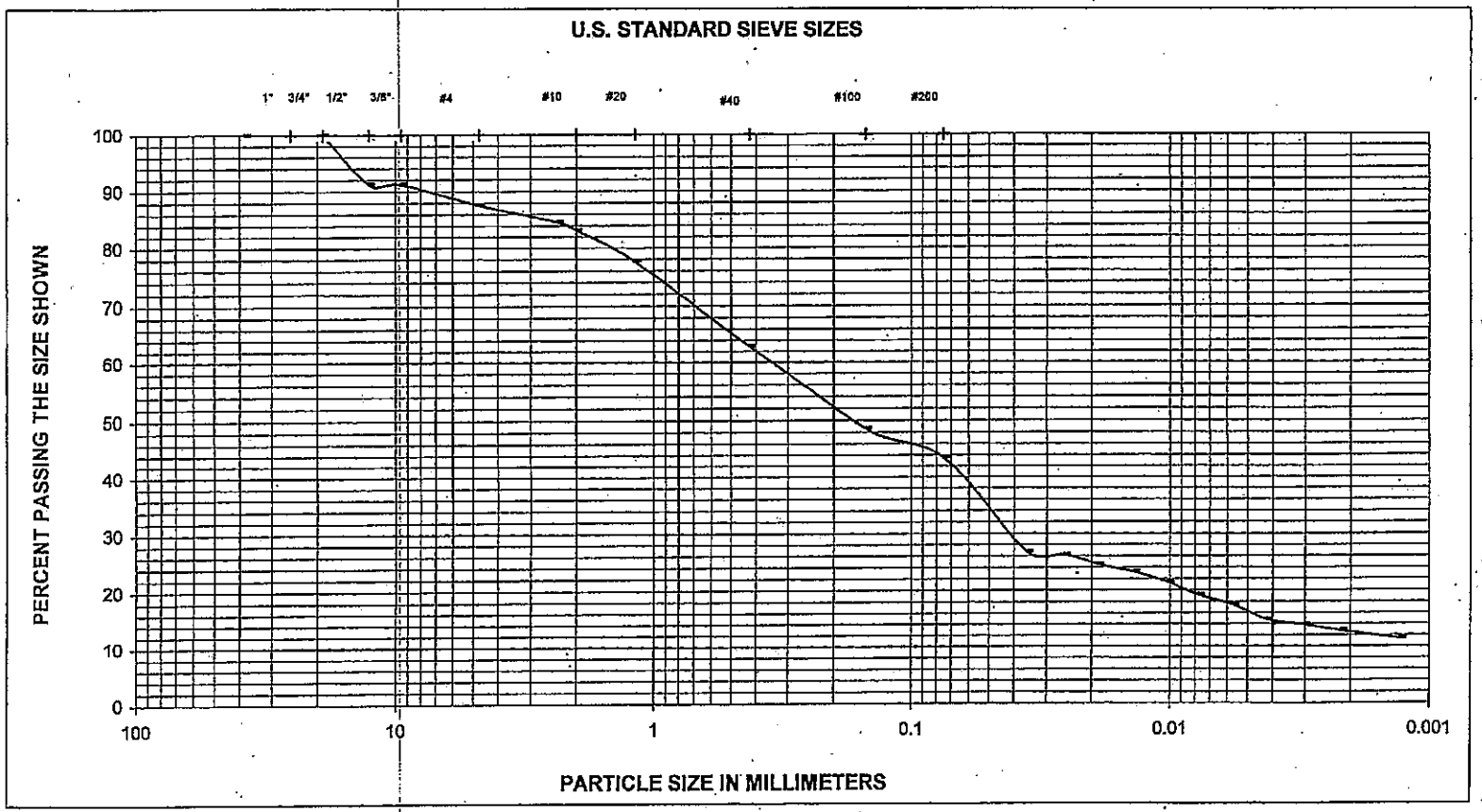
MWG13-15_24367

GRAIN SIZE DISTRIBUTION CURVE

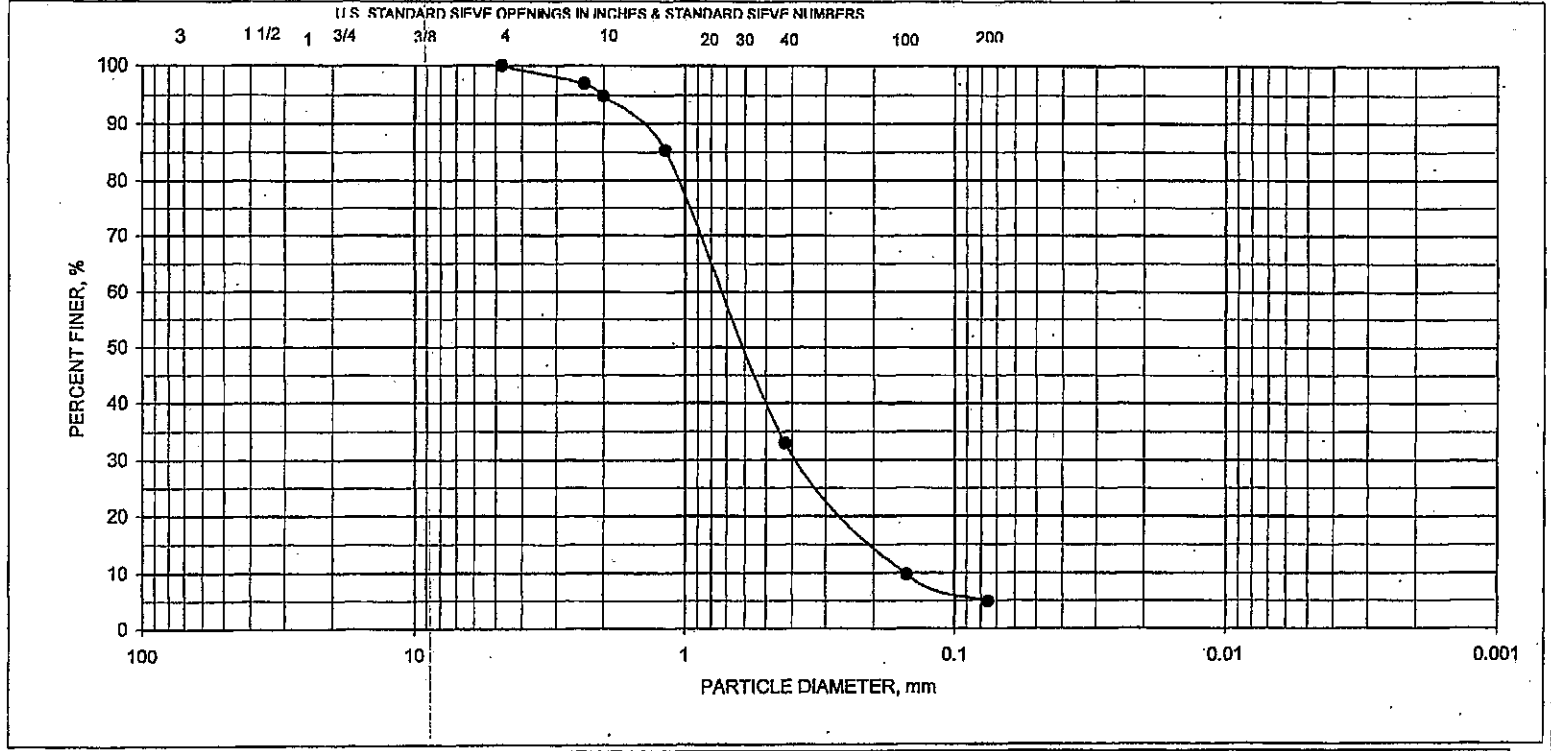
Project Name: KPRG Laboratory Testing Boring Number PS-GT-5 Date: 8/26/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Clayey Sand, trace gravel, brown



MWG13-15_24368



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-6		15-20	Fill: Sand, fine to medium coarse, trace gravel, dark brown	SP				

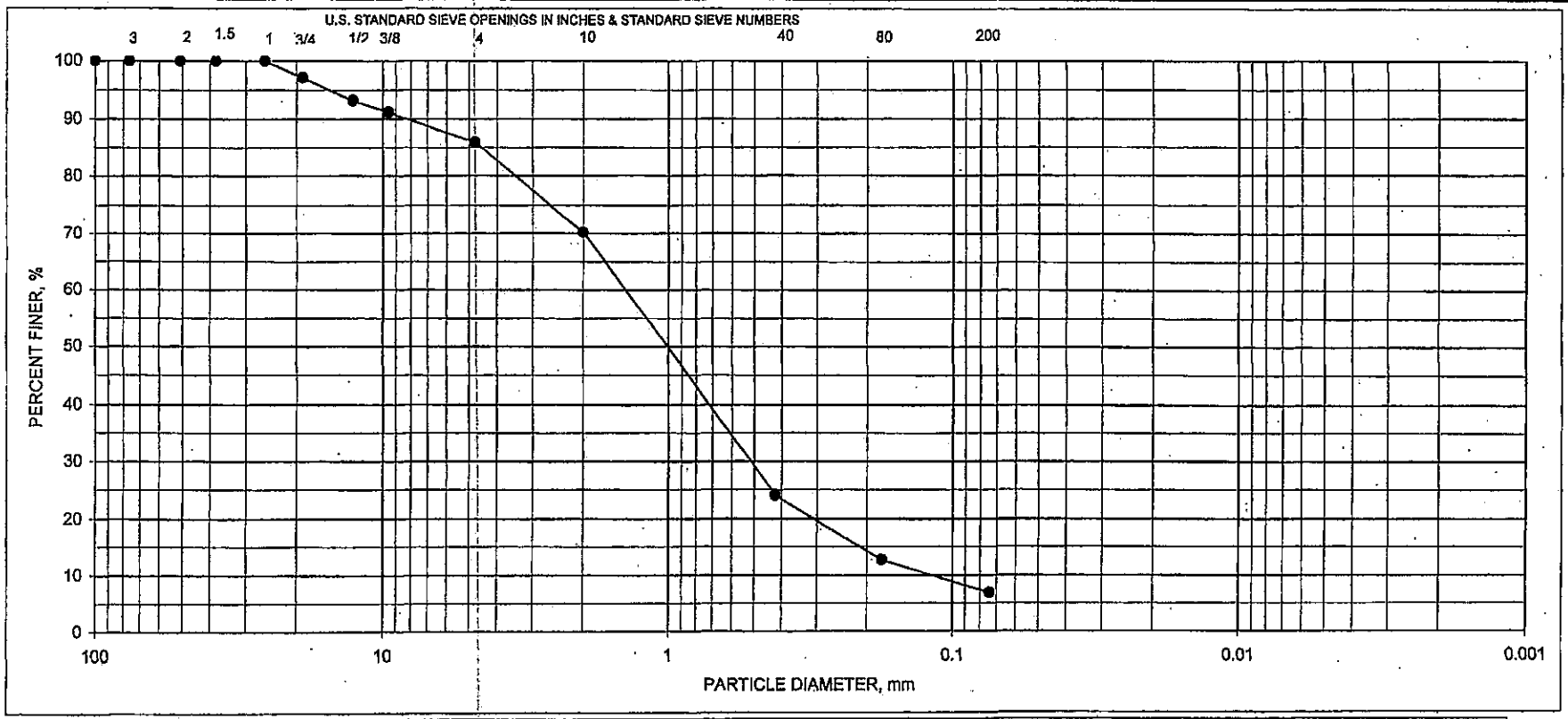
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Grad PS-GT-6.xls

MWG13-15_24369



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-7		10.0 TO 13.0	WELL GRADED SAND WITH SILT, DARK GRAY	SW-SM	7.0	21	18	3

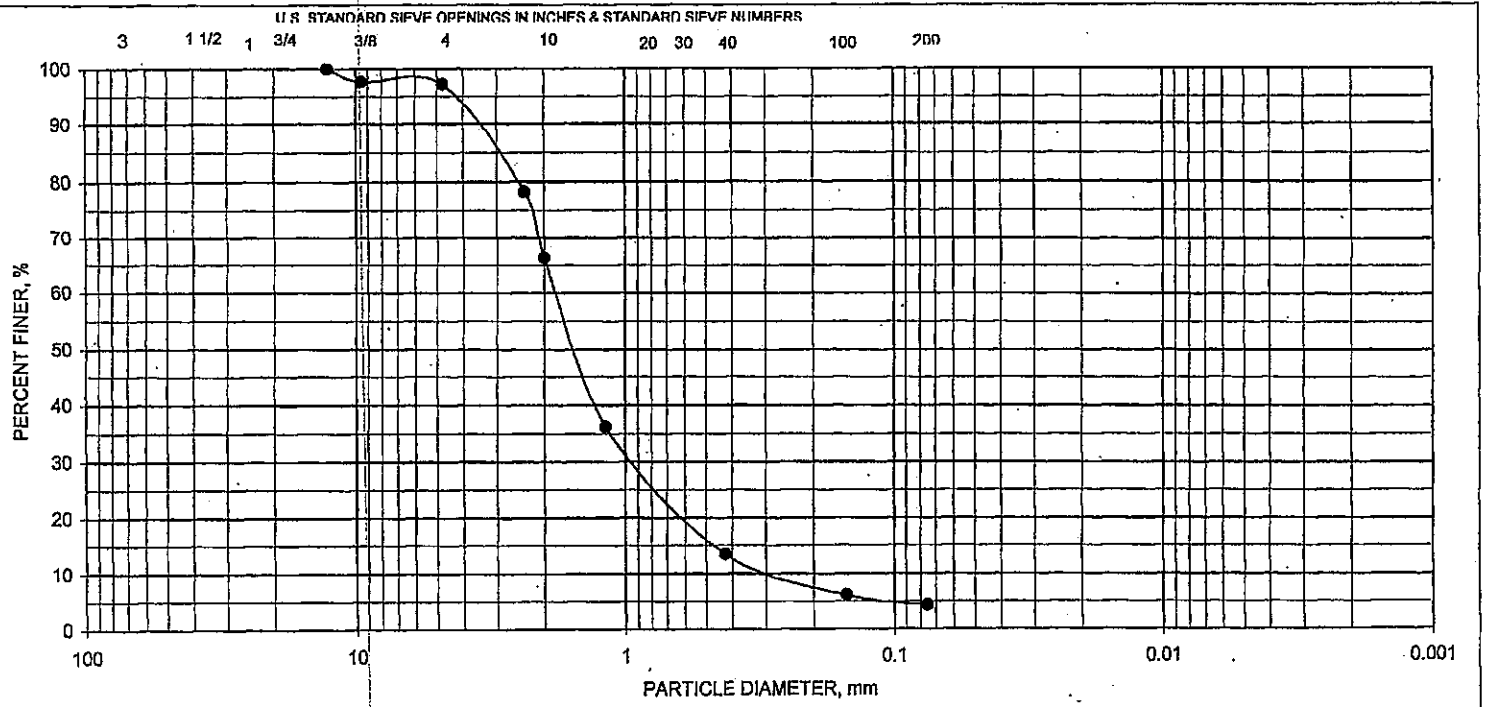
PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

C:\Documents and Settings\tekeuffel\Local Settings\Temporary Internet Files\OLK16\[58055075GradationPlot-PS-GT7-10.xls]REPORT

Terracon

MWG13-15_24370



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-8 (top)		10 to 15'	Cinders, metal shavings, glass, black					

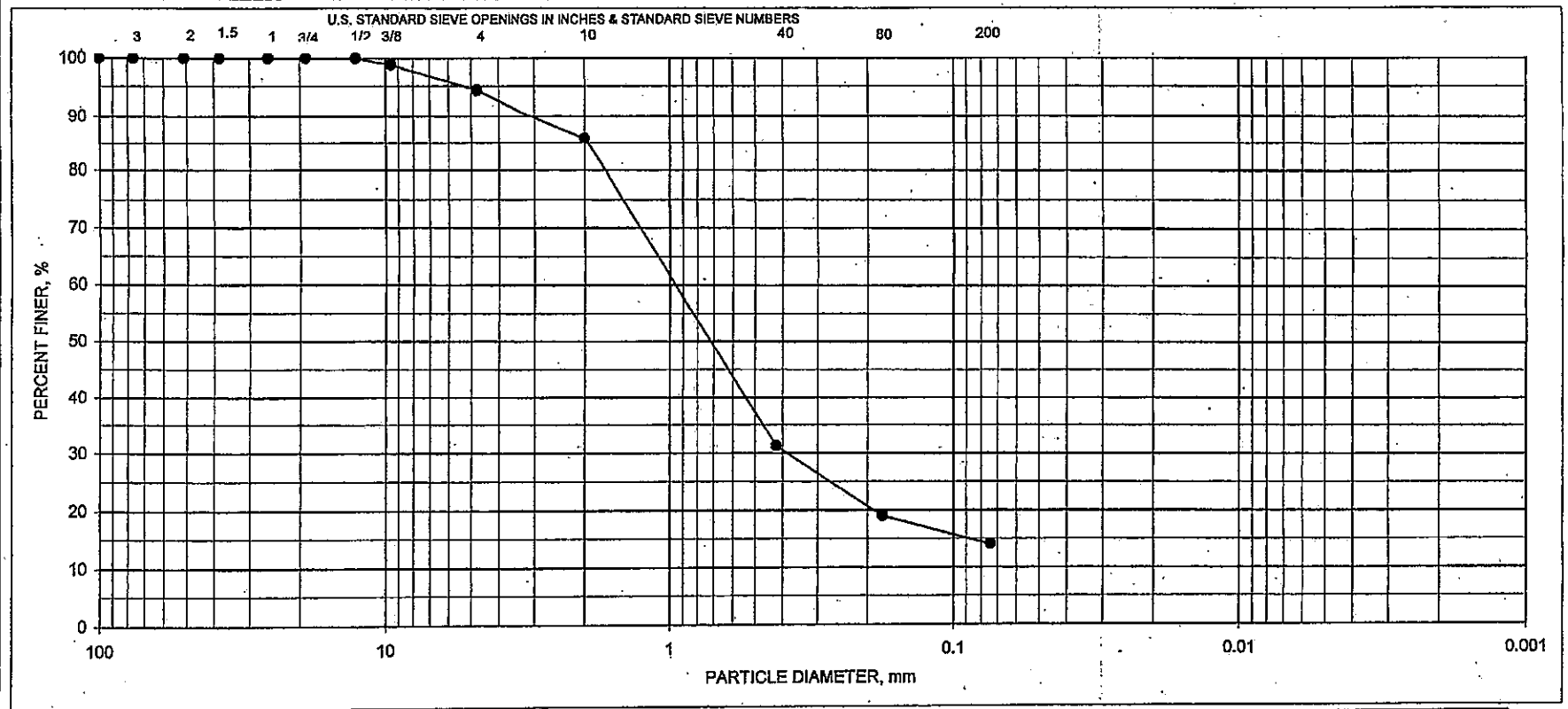
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve PS-GT-8

MWG13-15_24371



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	TOP 16"	15.0 TO 20.0	SILTY SAND, DARK GRAY	SM	8.9	22	19	3

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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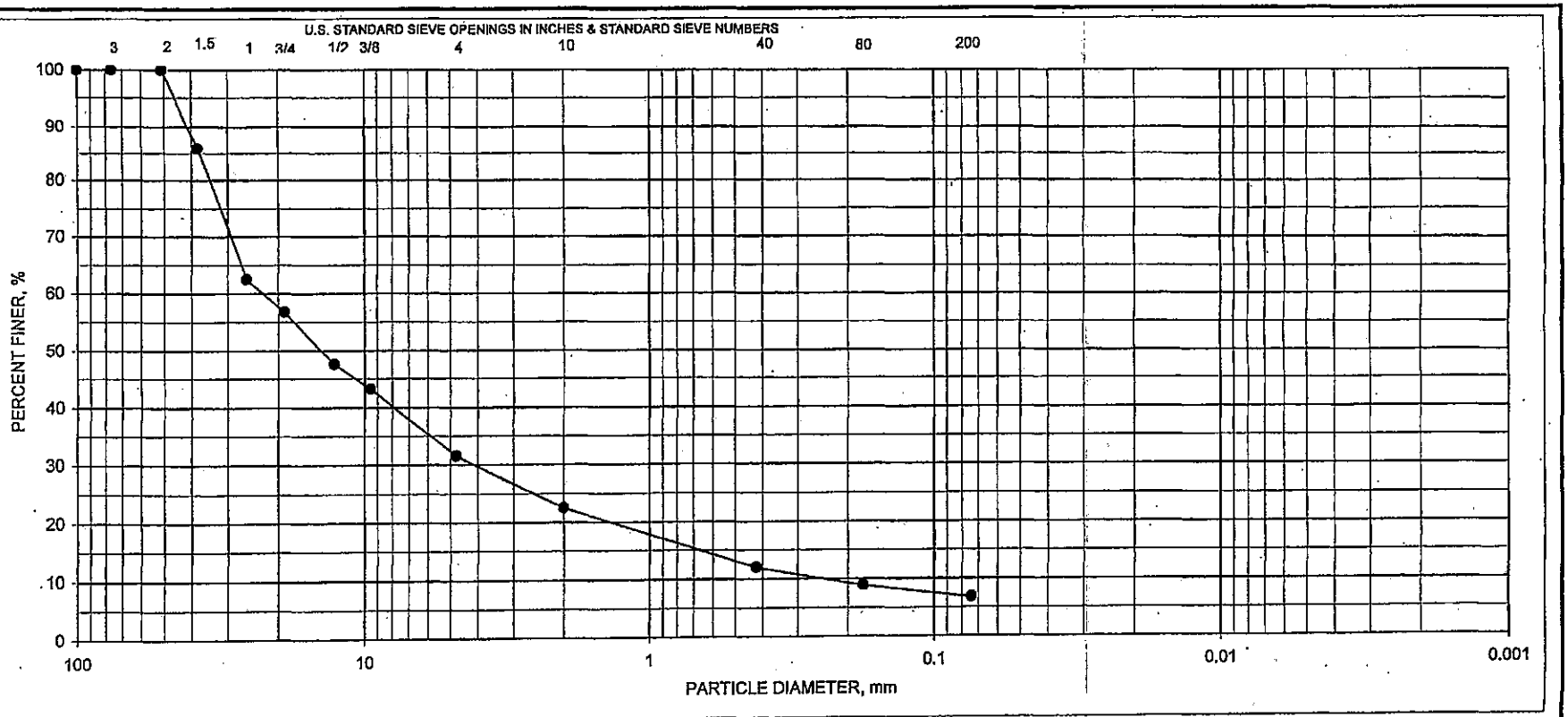
Terracon

MWG13-15_24372



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	MIDDLE 8"	15.0 TO 20.0	POORLY GRADED GRAVEL WITH SILT & SAND, DARK YELLOWISH BROWN	GP-GM	3.3			

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

Terracon

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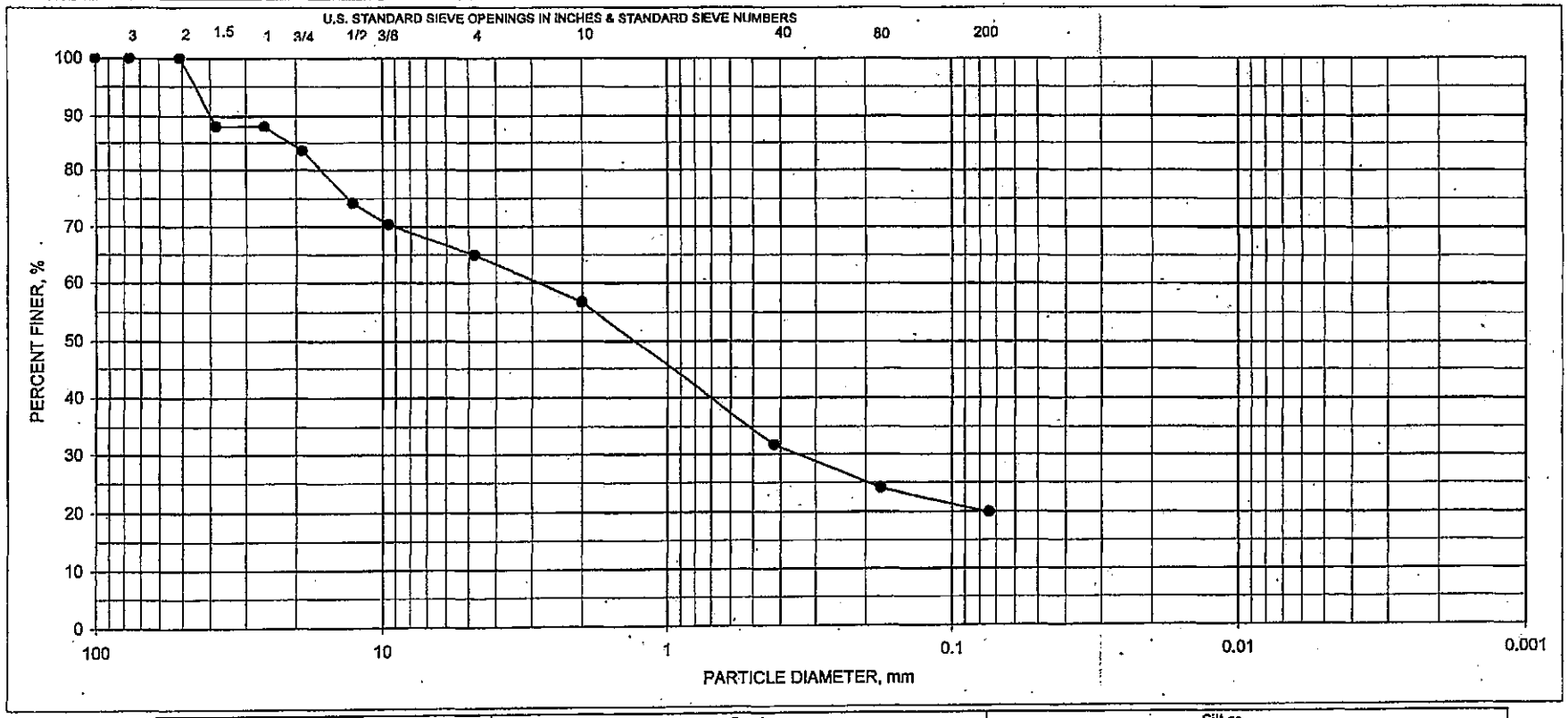
MWG13-15_24373



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	BOTTOM 6"	15.0 TO 20.0	SILTY SAND WITH GRAVEL, DARK GRAY TRACE LIGHT GRAY	SM	16.4	24	21	3

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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Terracon

MWG13-15_24374

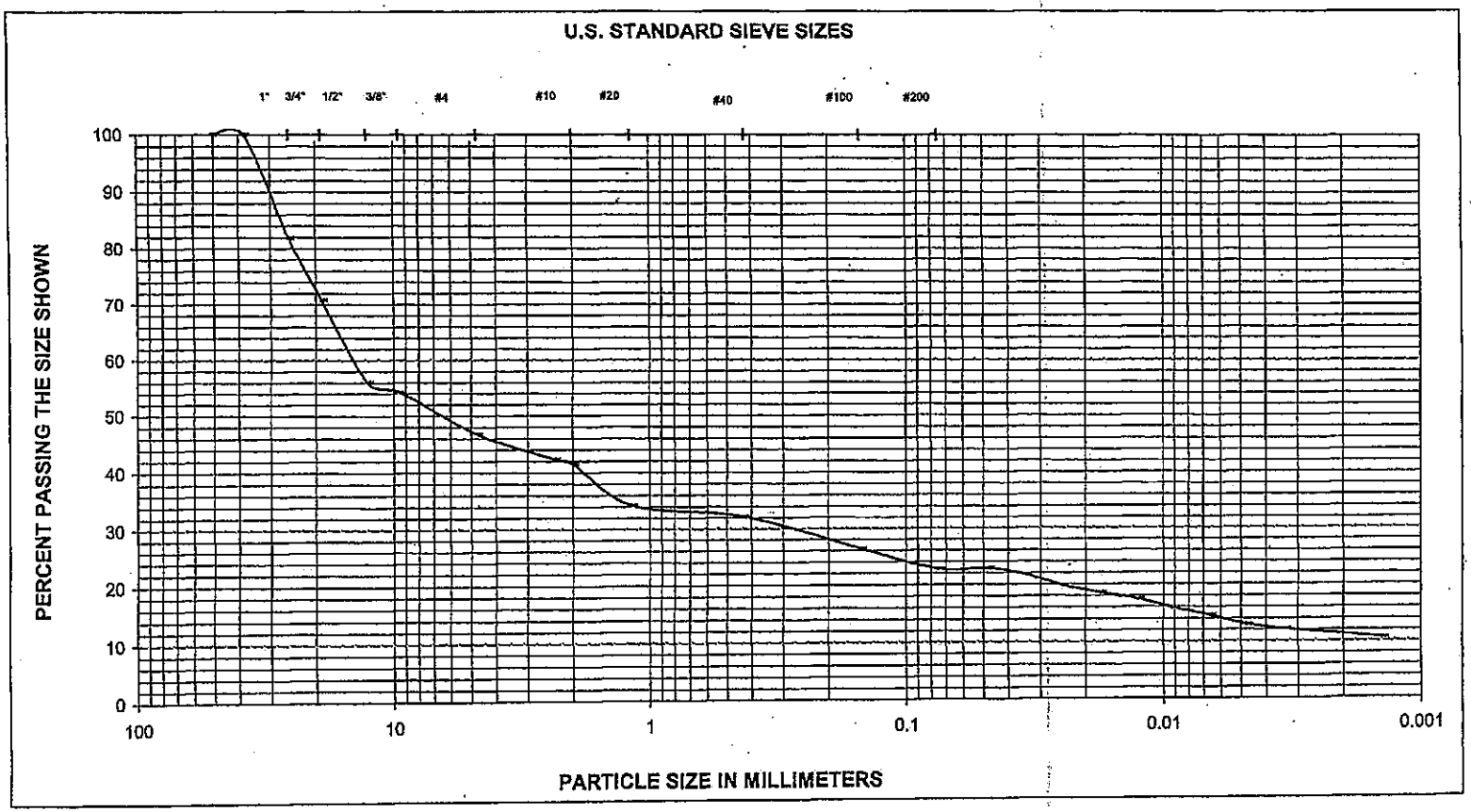
Terracon

GRAIN SIZE DISTRIBUTION CURVE

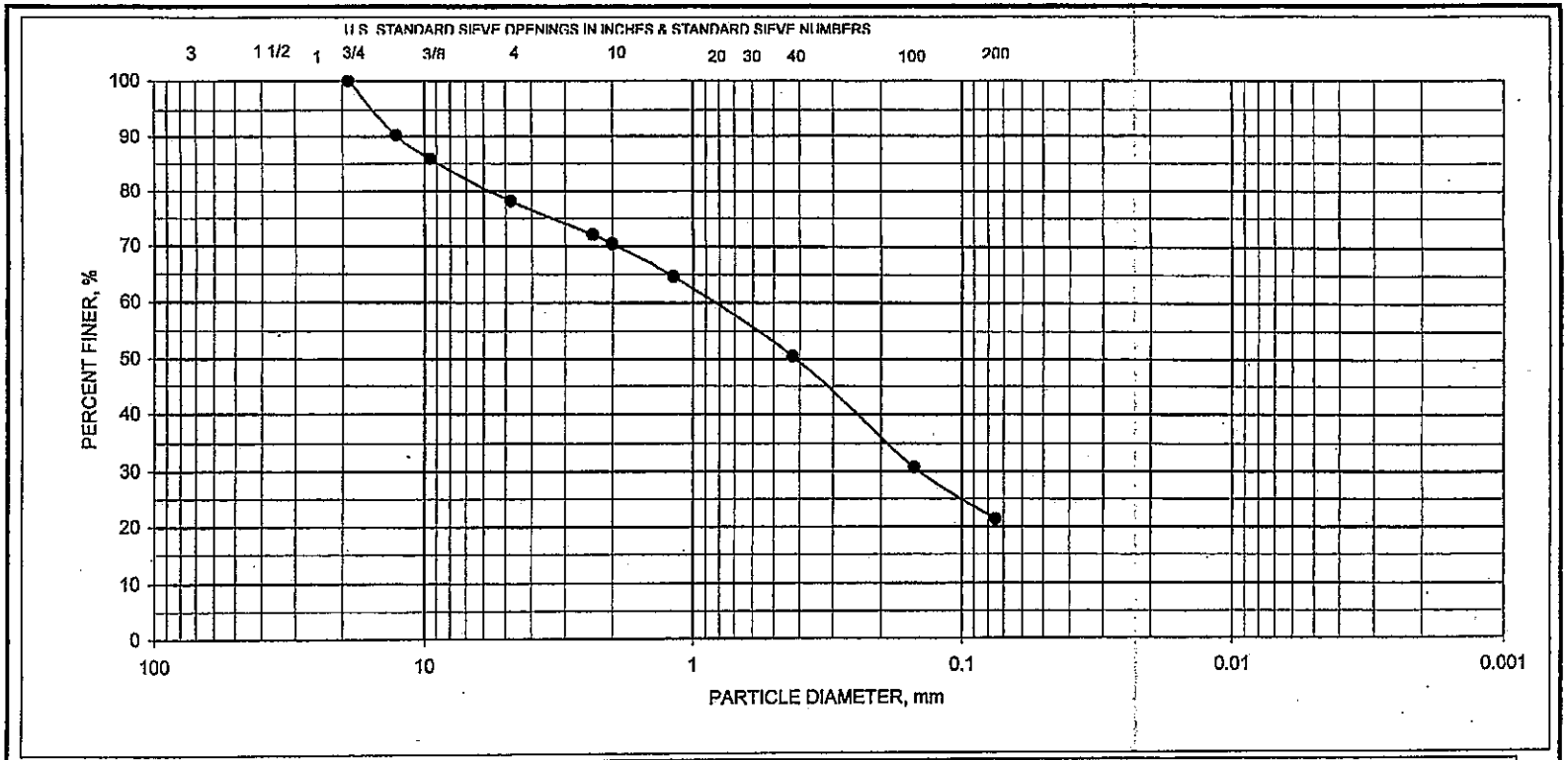
Project Name: KPRG Laboratory Testing
Terracon Project #: 58055075
Sample Description: Sand, with gravel, gray

Boring Number: JS-9-GT-1
Sample No.: 7-12'

Date: 9/26/2005
Sample type.:



MWG13-15_24375



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-9-GT-2		7 to 11.5'	Clayey Sand, with organics, with gravel, dark brown.	SC				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 7/11/2005

Terracon

Sieve JS-9-GT-2.xls

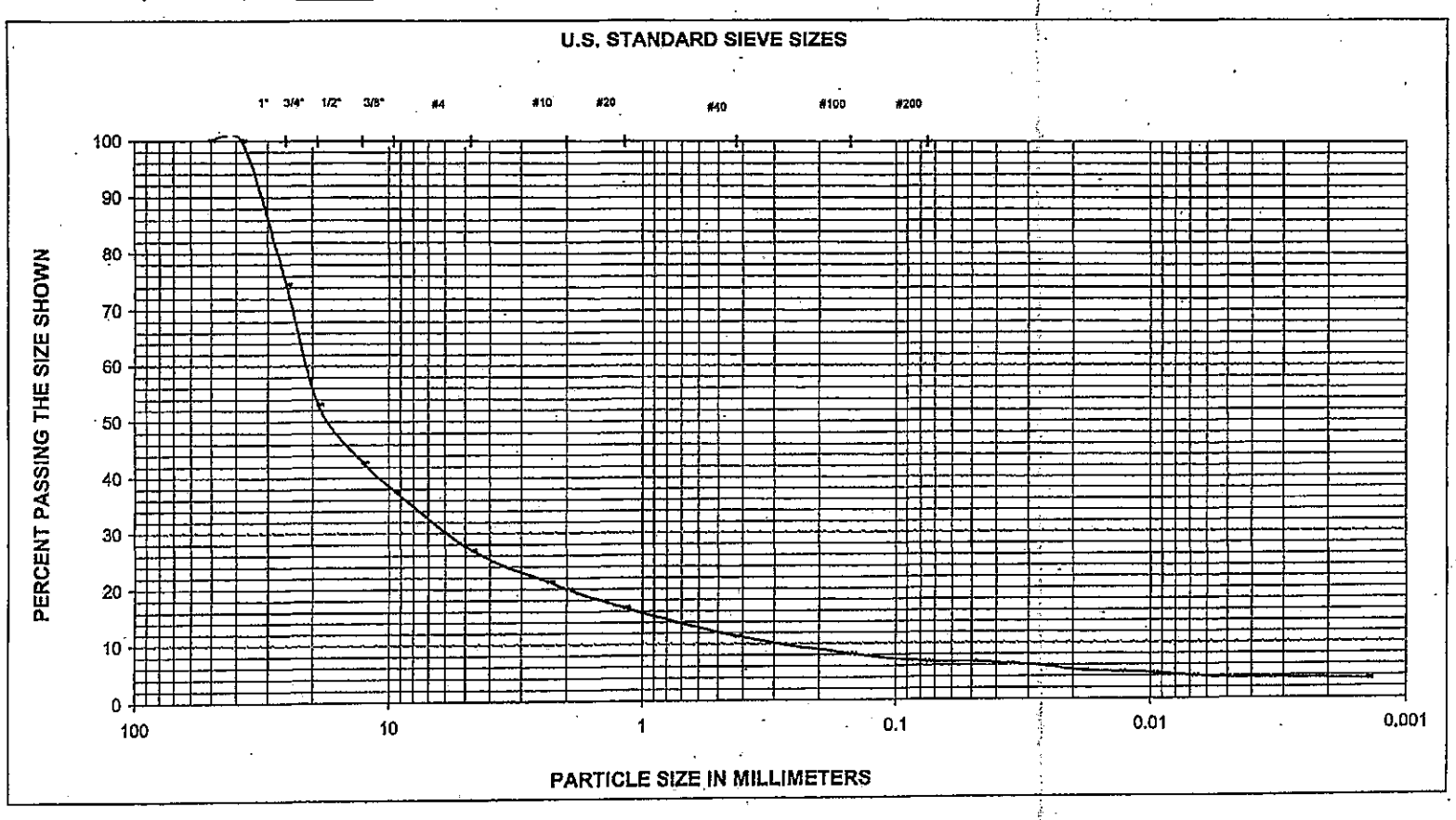
MWG13-15_24376

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number JS-9-GT-3 | Date: 9/26/2005

Terracon Project #: 58055075 | Sample No.: 8-13' | Sample type.:

Sample Description: Sand, with gravel, gray



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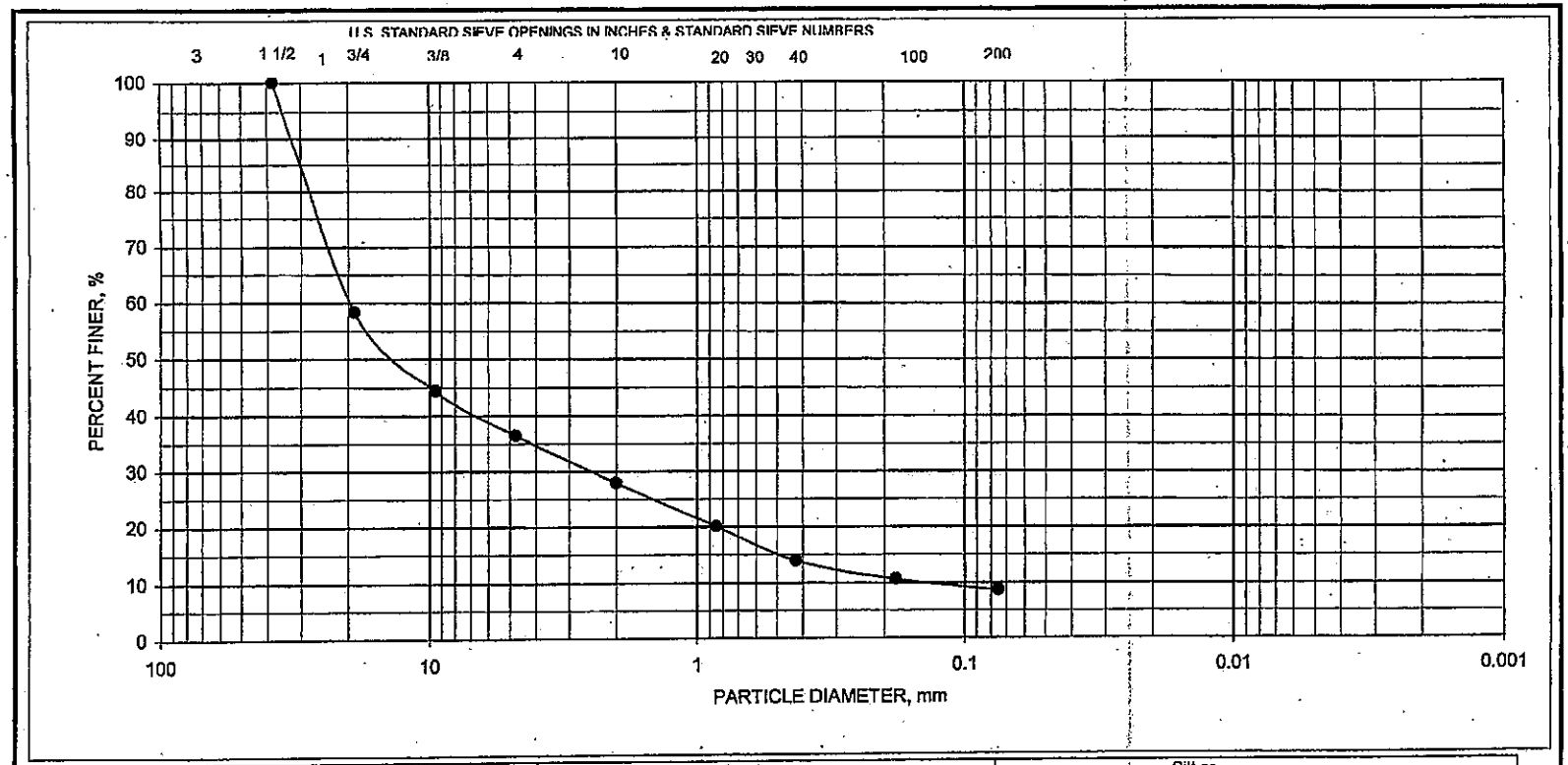


GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS29GT-1		19 to 24'	Sandy Gravel, Trace Clay	GW		NP	NP	NP

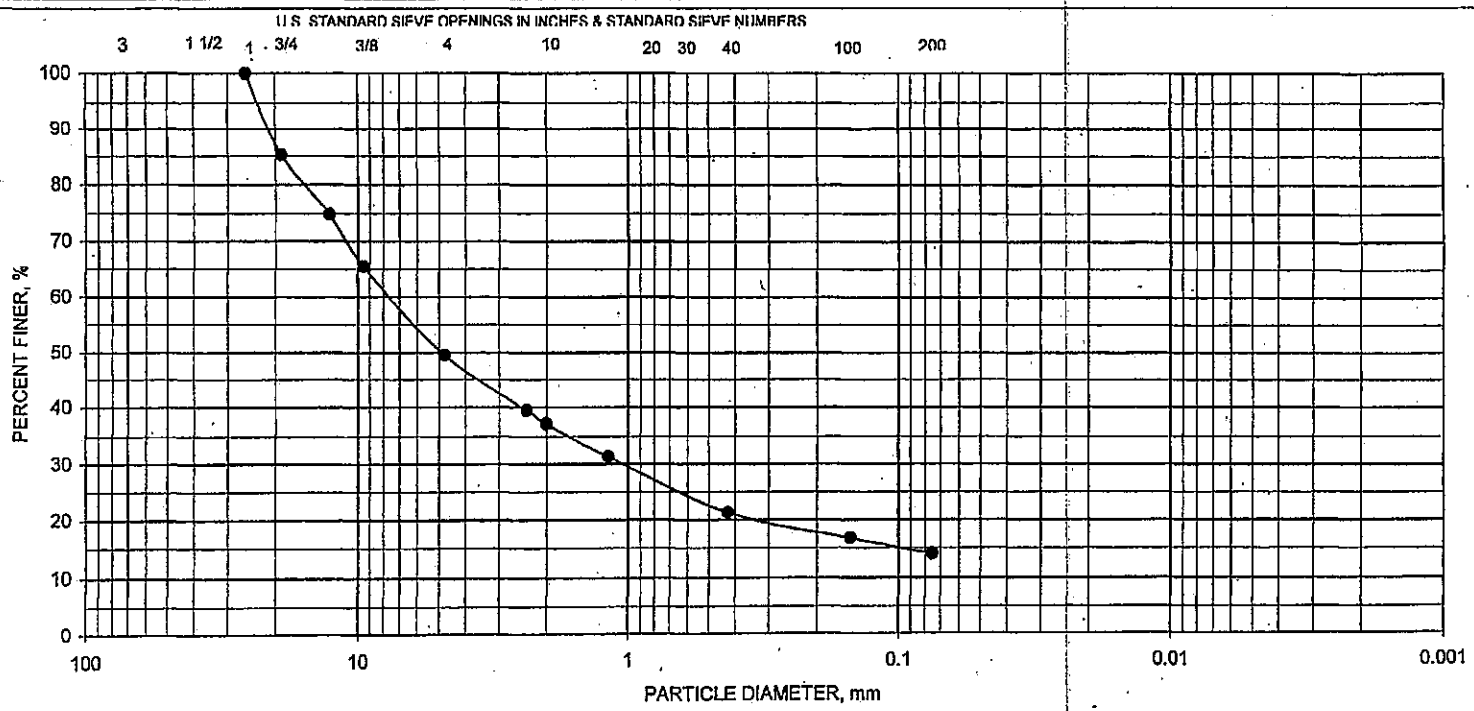
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/21/2005

Terracon

Sieve JS29GT-1.xls

MWG13-15_24378



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-2		19 to 24'	Clayey Gravel, brown	GC				

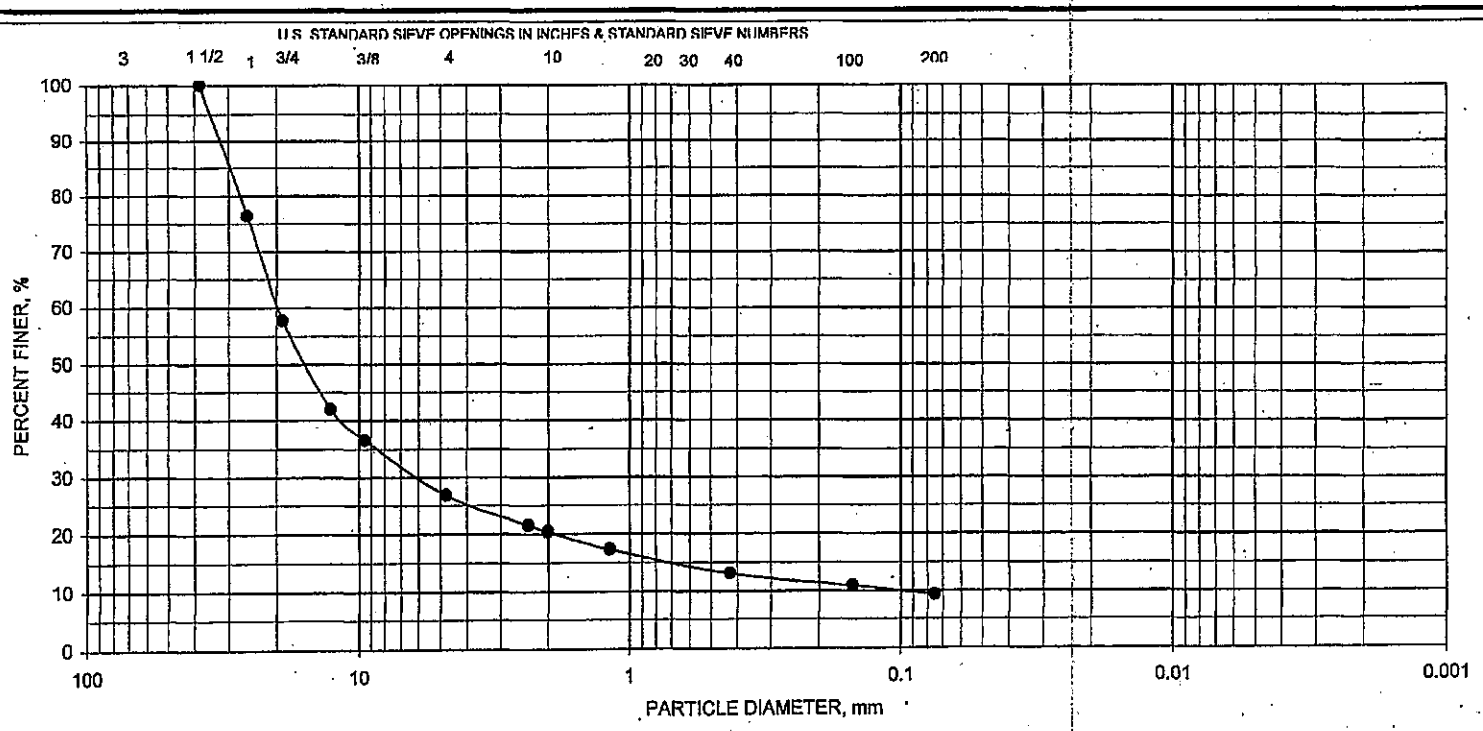
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve JS-29-GT-2.xls

MWG13-15_24379



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-3		19-24'	Poorly graded gravel with clay and sand, gray	GP-GC				

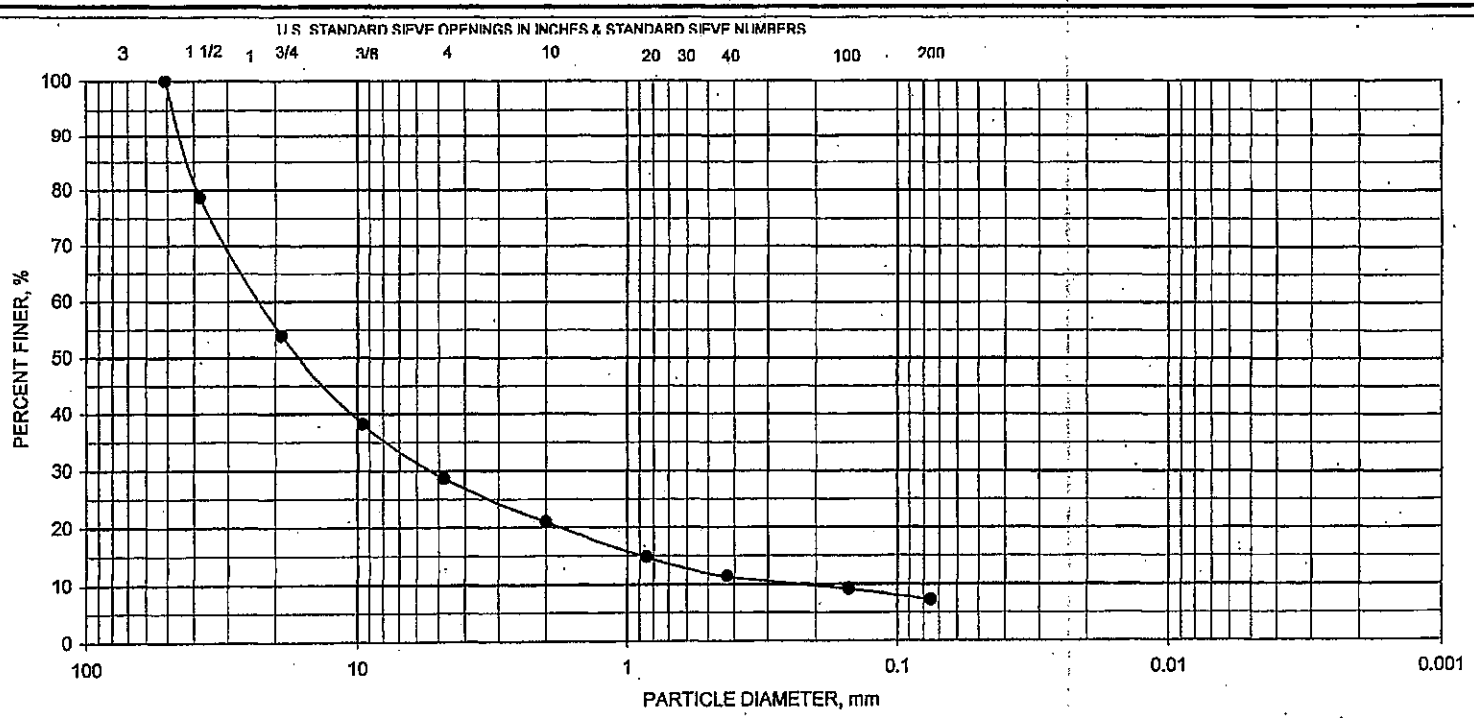
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Grad JS-29-GT-3.xls

MWG13-15_24380



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS29GT-4		17 to 22'	Dolomitic Limestone With Fine To Coarse Sand	GP				

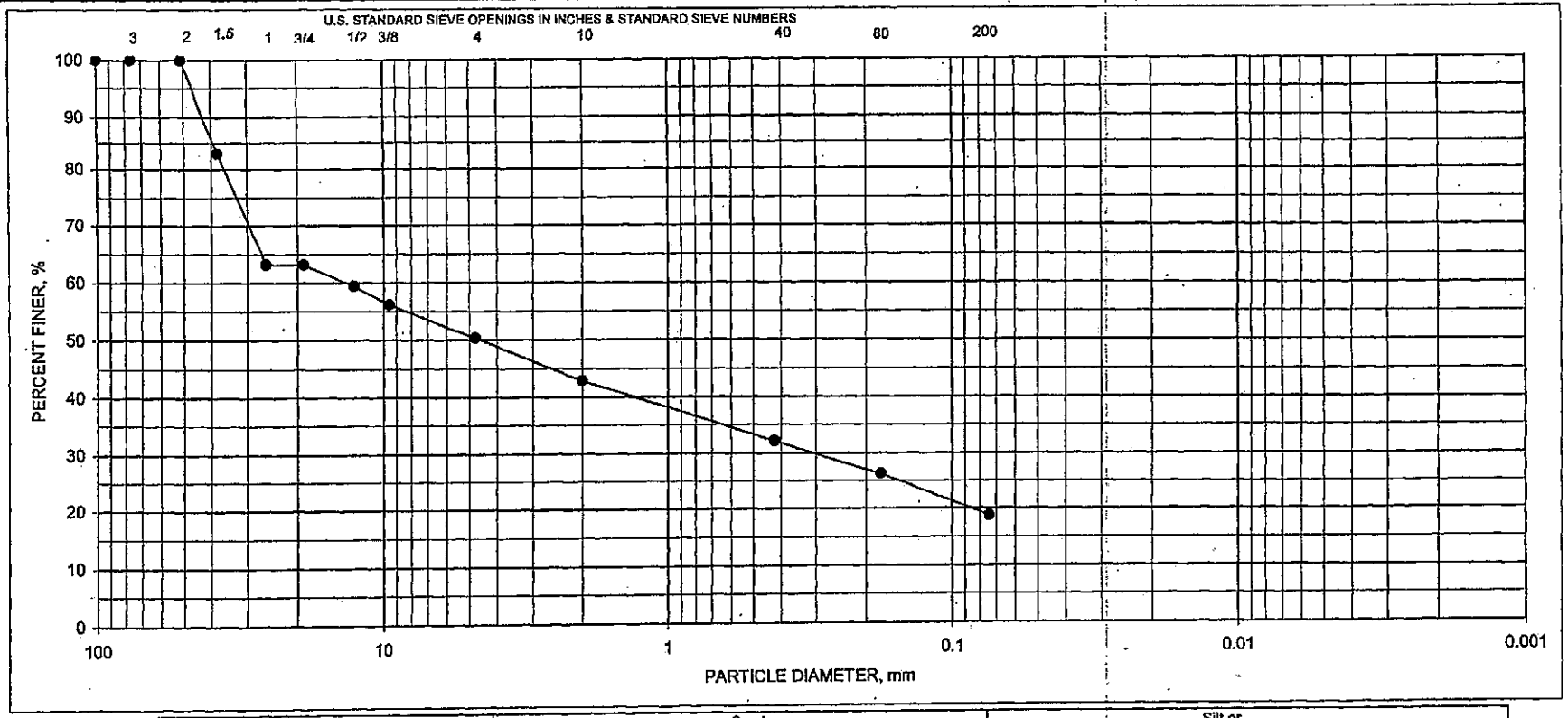
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 10/6/2005

Terracon

Sieve JS29GT-4.xls

MWG13-15_24381



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	TOP 8"	5.0 TO 9.0	CLAYEY GRAVEL WITH SAND, DARK GRAY WITH YELLOWISH BROWN	GC	26.0	34	23	11

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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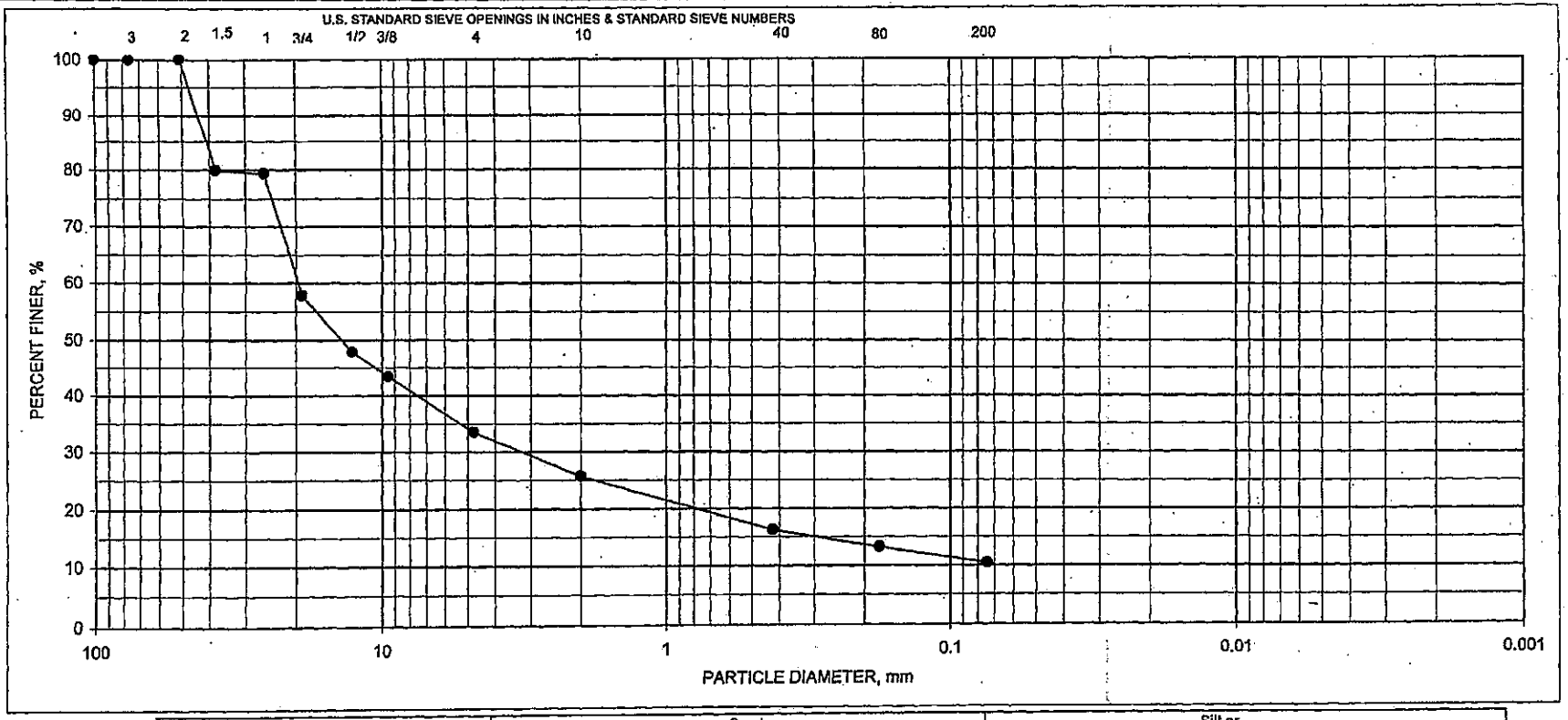
Terracon

MWG13-15_24382



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	TOP 7"	9.0 TO 14.0	POORLY GRADED GRAVEL WITH SILT & SAND, DARK GRAY	GP-GM	8.5			

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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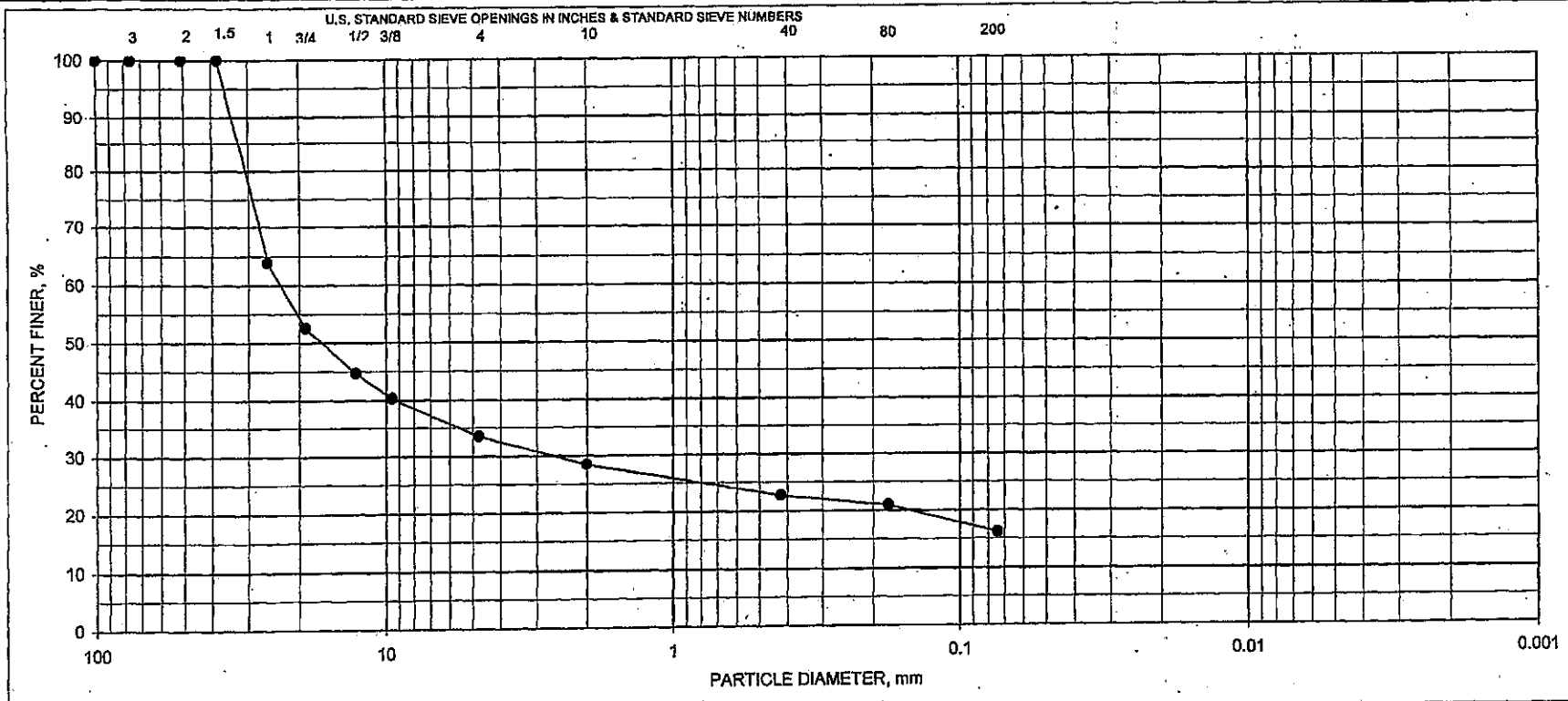
Terracon

MWG13-15_24383



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	BOTTOM 10"	9.0 TO 14.0	SILTY GRAVEL WITH SAND, DARK GRAY	GM	8.9	21	21	NP

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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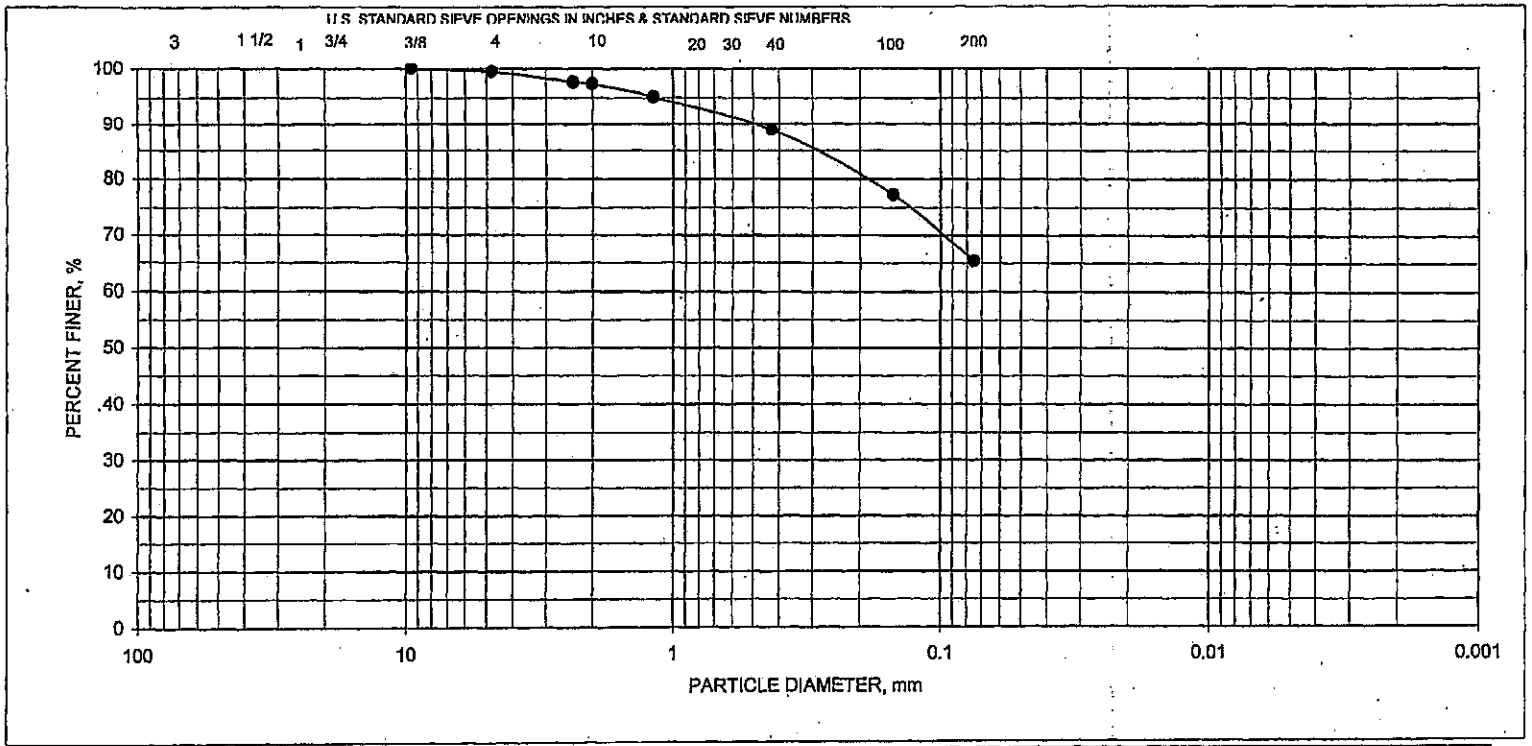
Terracon

MWG13-15_24384



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-6		11 to 14'	Organic Silt, dark gray, black	OH				

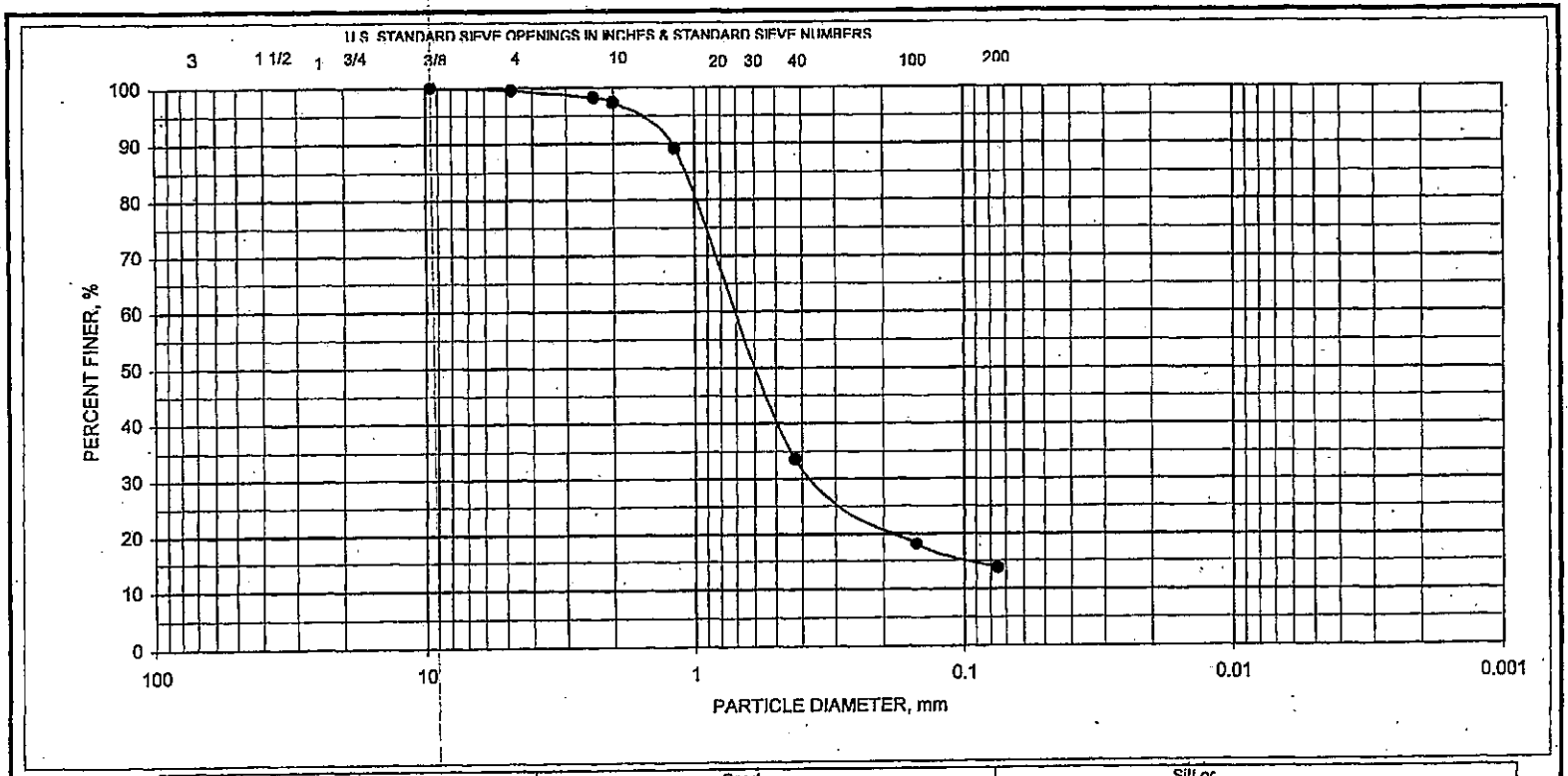
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve JS-29-GT-6.xls

MWG13-15_24385



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-8 (bottom)		10 to 15'	Silty Sand, trace clay, dark gray	SM				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve PS-GT-8 (bottom).xls

MWG13-15_24386