

**TABLE 1  
 BORING SUMMARY**

Boring Number	Type	Ground Elevation msl (Feet)	Refusal Depth (Feet)	Refusal Elevation msl (Feet)	Refusal Type	Boring Termination Depth (Feet)	Boring Termination Elevation msl (Feet)
B-1	STB	781.8	82.2	699.6	AR	82.2	699.6
B-1A	HC	781.8*	NA	NA	NA	5.0	776.8
B-1B	HC	781.8*	NA	NA	NA	5.0	776.8
B-2	STB	795.3	87.5	707.8	AR	87.5	707.8
B-2A	HC	795.3*	NA	NA	NA	5.0	790.3
B-3	STB	810.8	NA	NA	NA	70.0	740.8
B-4	STB	810.6	NA	NA	NA	98.5	712.1
B-4A	STB	810.6*	NA	NA	NA	28.5	782.1
B-5	STB	810.2	NA	NA	NA	41.5	768.7
B-5A	STB	810.2	NA	NA	NA	101.5	708.7
B-6	STB	809.5	NA	NA	NA	86.5	723.0
B-7	STB	767.0*	NA	NA	NA	46.5	720.5
B-8	STB	773.6*	NA	NA	NA	35.0	738.6
B-8A	STB	773.6	70.7	702.9	AR	70.9	702.7
B-9	STB	764.4	61.9	702.5	AR	61.9	702.5
B-10	STB	762.6	39.2	723.4	AR	39.2	723.4
B-11	STB	765.0	62.5	702.5	AR	62.5	702.5
B-12	STB	763.9	59.7	704.2	AR	60.6	703.3
MW-1	MW	781.8*	NA	NA	NA	20.0	761.8
MW-2	MW	795.3*	NA	NA	NA	35.0	760.3
MW-3	MW	810.8*	NA	NA	NA	40.0	770.8

NA – Not Applicable

STB – Soil Test Boring

AR – Auger Refusal

HC – Auger Boring used for In-Situ Hydraulic Conductivity Testing

MW – Monitoring Well or Piezometer

\* - Elevations were estimated based on nearby surveyed boring locations and field reconnaissance

Prepared By CTT Date 5/4/04 Checked By MBH Date 5/4/04

**TABLE 2**  
**GROUND-WATER DATA**

Boring Number	Ground Elevation msl (Feet)	Depth to Ground Water at Time of Drilling (Feet)	Ground-Water Elevation, msl at Time of Drilling (Feet)	Depth to Ground Water 24 Hours After Drilling (Feet)	Ground-Water Elevation 24 Hours After Drilling msl (Feet)
B-1	781.8	7.4	774.4	Not Measured	Not Measured
B-1A	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-1B	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-2	795.3	26.2	769.1	Not Measured	Not Measured
B-2A	795.3	Not Encountered	Not Encountered	Not Measured	Not Measured
B-3	810.8	28.0	782.8	Not Measured	Not Measured
B-4	810.6	28.0	782.6	Not Measured	Not Measured
B-4A	810.6	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5	810.2	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5A	810.2	41.0	769.2	Not Measured	Not Measured
B-6	809.5	42.0	767.5	Not Measured	Not Measured
B-7	767.0	12.6	754.4	Not Measured	Not Measured
B-8	773.6	12.2	761.4	Not Measured	Not Measured
B-8A	773.6	12.0	761.6	Not Measured	Not Measured
B-9	764.4	9.0	755.4	Not Measured	Not Measured
B-10	762.6	3.0	759.6	Not Measured	Not Measured
B-11	765.0	21.9	743.1	Not Measured	Not Measured
B-12	763.9	18.5	745.4	Not Measured	Not Measured
MW-1	781.8	Not Measured	Not Measured	6.9 *	774.9
MW-2	795.3	Not Measured	Not Measured	15.4 *	779.9
MW-3	810.8	Not Measured	Not Measured	27.3 *	783.5

\*Measurements were taken 24 hours after monitoring well (piezometer) installation.

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

**TABLE 3  
 NATURAL MOISTURE CONTENT AND  
 ATTERBERG LIMITS LABORATORY TEST RESULTS**

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-1	UD-1	UD	ASH	4-4.5	19	NT	NT	NT
B-1	UD-2	UD	Alluvium	65-67	20	NV	NP	NP
B-2	UD-4	UD	Alluvium	70-72	17	NV	NP	NP
B-3	1	SPT	ASH	0-1.5	24	NT	NT	NT
B-3	2	SPT	ASH	5-6.5	20	NT	NT	NT
B-3	3	SPT	ASH	10-11.5	16	NT	NT	NT
B-3	4	SPT	ASH	15-16.5	17	NT	NT	NT
B-3	5	SPT	ASH	20-21.5	39	NT	NT	NT
B-3	6	SPT	ASH	25-26.5	40	NT	NT	NT
B-3	7	SPT	ASH	30-31.5	34	NT	NT	NT
B-3	8	SPT	ASH	35-36.5	22	NT	NT	NT
B-3	9	SPT	ASH	40-41.5	22	NT	NT	NT
B-3	10	SPT	ASH	45-46.5	31	NT	NT	NT
B-3	11	SPT	ASH	50-51.5	39	NT	NT	NT
B-3	12	SPT	ASH	55-56.5	43	NT	NT	NT
B-3	13	SPT	FILL/ASH	60-61.5	30	NT	NT	NT
B-3	14	SPT	ASH	65-66.5	16	NT	NT	NT
B-4A	UD-1	UD	ASH	15-17	37	NT	NT	NT
B-4A	UD-3	UD	ASH	25-27	38	NT	NT	NT
B-5	1	SPT	ASH	0-1.5	22	NT	NT	NT
B-5	2	SPT	ASH	5-6.5	39	NT	NT	NT
B-5	3	SPT	ASH	10-11.5	25	NT	NT	NT
B-5	4	SPT	ASH	15-16.5	32	NT	NT	NT
B-5	5	SPT	ASH	20-21.5	30	NT	NT	NT
B-5	6	SPT	ASH	25-26.5	39	NT	NT	NT
B-5	7	SPT	ASH	30-31.5	41	NT	NT	NT
B-5	8	SPT	ASH	35-36.5	29	NT	NT	NT
B-5	9	SPT	ASH	40-41.5	34	NT	NT	NT
B-8	1	SPT	ASH	0-1.5	25	NT	NT	NT
B-8	2	SPT	ASH	5.8-7.3	20	NT	NT	NT
B-8	UD-2	UD	ASH	10-12	19	NT	NT	NT
B-8	3	SPT	ASH	12-13.5	22	NT	NT	NT
B-8	4	SPT	ASH	15-16.5	45	NT	NT	NT
B-8	UD-3	UD	ASH	20-22	32	NT	NT	NT

**TABLE 3  
 NATURAL MOISTURE CONTENT AND  
 ATTERBERG LIMITS LABORATORY TEST RESULTS**

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-8	5	SPT	ASH	22-23.5	43	NT	NT	NT
B-8	6	SPT	ASH	25.6-27.1	27	NT	NT	NT
B-8	7	SPT	ASH	30-31.5	25	NT	NT	NT
B-8A	1	SPT	ASH	35-36.5	37	NT	NT	NT
B-8A	2	SPT	ASH	40-41.5	47	NT	NT	NT
B-8A	3	SPT	ASH	45-46.5	37	NT	NT	NT
B-8A	4	SPT	ASH	50-51.5	36	NT	NT	NT
B-8A	5	SPT	Alluvium	57-58.5	24	26	15	11
B-8A	6	SPT	Alluvium	62-63.5	24			
B-8A	UD-2	UD	Alluvium	60-62	22	26	16	10
B-8A	7	SPT	Alluvium	65-66.5	27	NV	NP	NP
B-8A	8	SPT	Alluvium	70-70.9	17			
B-10	1	SPT	ASH	0-1.5	18	NT	NT	NT
B-10	UD-1	UD	ASH	5-7	25	NT	NT	NT
B-10	2	SPT	ASH	7-8.5	28	NT	NT	NT
B-10	UD-2	UD	ASH	10-12	25	NT	NT	NT
B-10	3	SPT	ASH	12-13.5	30	NT	NT	NT
B-10	UD-3	UD	ASH	15-17	38	NT	NT	NT
B-10	4	SPT	ASH	17-18.5	45	NT	NT	NT
B-10	UD-4	UD	ASH	20-22	37	NT	NT	NT
B-10	5	SPT	ASH	22-23.5	32	NT	NT	NT
B-10	6	SPT	ASH	25-26.5	48	NT	NT	NT
B-10	7	SPT	Alluvium	30-31.5	25	NT	NT	NT
B-10	UD-5	UD	Alluvium	35-37	22	NV	NP	NP
B-10	8	SPT	Alluvium	37-38.5	20	NT	NT	NT

NT - Not Tested  
 NV - Non-Viscous  
 NP - Non-Plastic  
 SPT - Standard Penetration Test

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 4  
 ASH TRIAXIAL SHEAR STRENGTH TEST DATA  
 CONSOLIDATED-UNDRAINED WITH PORE PRESSURE MEASUREMENTS FOR ASH SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type <sup>(1,2)</sup>	Description	Standard Penetration Test N-Value (Blows Per Foot) <sup>(3)</sup>	Average Initial Moisture Content (%)	Average Initial Dry Density (pcf)	Strength Parameters			
							Total Cohesion, C (ksf)	Friction Angle, $\phi$ (Degrees)	Effective Cohesion, C' (ksf)	Friction Angle, $\phi$ (Degrees)
B-4A	15-17	1	Gray Ash	1	32.0	83.1	5.6	32.7	0	34.7
B-10	5-7	2	Gray Ash	17	24.7	89.4	3.0	28.5	0.1	36.6
B-10	20-22	1	Gray Ash	3	36.5	79.2	5.0	25.0	0	32.1

(1) UD = Undisturbed Sample

(2) Remolded

(3) Performed after undisturbed sample retrieval

Prepared By CTT Date 5/4/04 Checked By mbjt Date 5/10/04

**TABLE 5**  
**LABORATORY HYDRAULIC CONDUCTIVITY TEST DATA FOR ASH SAMPLES**

Boring Number	Sample Depth (Feet)	Sample Type	Description	Initial Moisture Content (%)	Initial Dry Density (pcf)	Average or Mean Hydraulic Conductivity (cm/Sec)
B-1A, 1B	0 - 5	1	Gray Ash	21.4	87.8	$1.87 \times 10^{-5}$
B-2A	0 - 5	1	Gray Ash	19.4	90.9	$1.67 \times 10^{-5}$

(1) Bulk samples remolded to dry density and moisture content conditions determined from laboratory tests performed on an undisturbed sample obtained at a depth of 4 to 4.5 feet from boring B-1.

Prepared By CJT Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 6  
 CONSOLIDATION TEST DATA FOR SOIL SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type	Origin	Initial Moisture Content (%)	Initial Dry Density (pcf)	<sup>e</sup> Initial Void Ratio	"Laboratory" Cc Compression Index	"Field" Cc Compression Index	Pc Preconsolidation Pressure (ksf)
B-8A	60-62	UD	Alluvium	21.9	102.0	0.6795	0.19	0.21	5.0
UD - Undisturbed Sample (ASTM D 1587)									
Prepared By <u>CTJ</u> Date <u>5/4/04</u> Checked By <u>mBif</u> Date <u>5/4/04</u>									

**REPORT OF GEOTECHNICAL EXPLORATION**

**ASH DISPOSAL AREA  
KINGSTON FOSSIL PLANT  
KINGSTON, TENNESSEE**

**Prepared For:**

**TENNESSEE VALLEY AUTHORITY**

**Chattanooga, Tennessee**

**Prepared By:**

**MACTEC ENGINEERING AND CONSULTING, INC.**

**Knoxville, Tennessee**

**MACTEC Project 3043041009/0001**

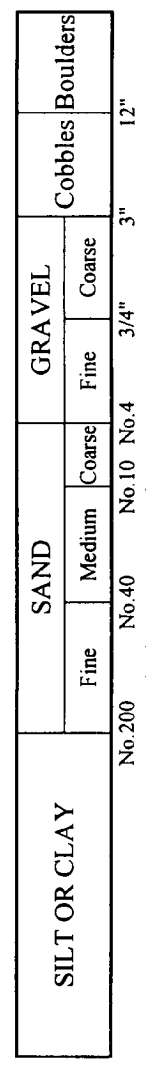
**May 4, 2004**





GROUP SYMBOLS	TYPICAL NAMES	GROUP SYMBOLS	TYPICAL NAMES	Undisturbed Sample 1.5-2.0 = Recovered (ft) / Pushed (ft)
	TOPSOIL		CONCRETE	Split Spoon Sample Auger Cuttings
	ASH		DOLOMITE	Rock Core 60-100 = RQD / Recovery Dilatometer
	GRAVEL		LIMESTONE	No Sample Crandall Sampler
	FILL		SHALE	Rotary Drill Pressure Meter
	SUBSOIL		LIMESTONE/SHALE - Limestone with shale interbeds	Water Table at time of drilling No Recovery
	ALLUVIUM		SANDSTONE	Water Table after 24 hours
	COLLUVIUM		SILTSTONE	
	RESIDUUM - Soft to firm		AUGER BORING	
	RESIDUUM - Stiff to very hard		UNDISTURBED SAMPLE ATTEMPT	

**BOUNDARY CLASSIFICATIONS:** Soils possessing characteristics of two groups are designated by combinations of group symbols.



Correlation of Penetration Resistance with Relative Density and Consistency

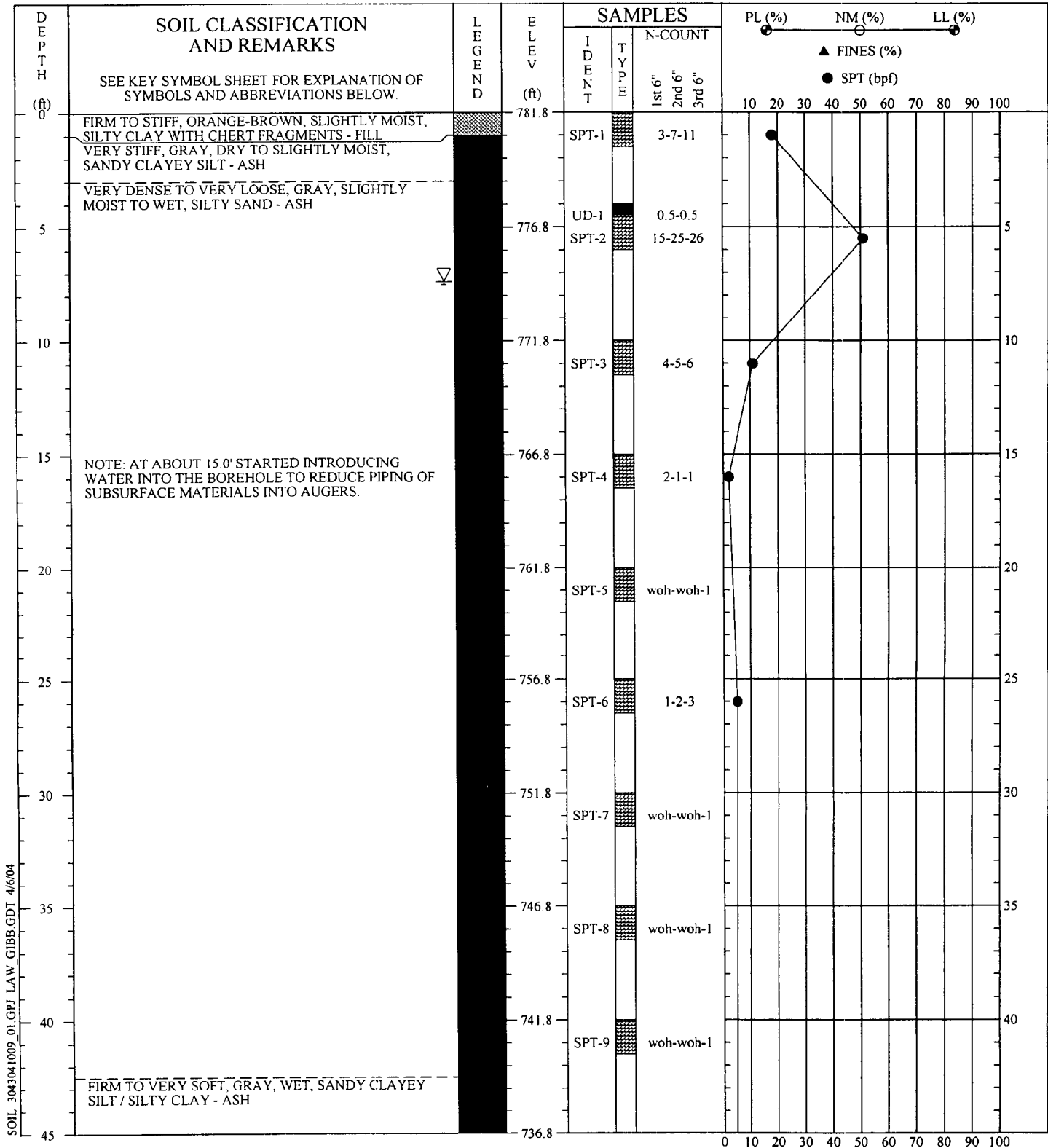
SAND & GRAVEL		SILT & CLAY	
No. of Blows	Relative Density	No. of Blows	Consistency
0 - 4	Very Loose	0 - 2	Very Soft
5 - 10	Loose	3 - 4	Soft
11 - 20	Firm	5 - 8	Firm
21 - 30	Very Firm	9 - 15	Stiff
31 - 50	Dense	16 - 30	Very Stiff
Over 50	Very Dense	31 - 50	Hard
		Over 50	Very Hard

# KEY TO SYMBOLS AND DESCRIPTIONS



MACTEC Engineering and Consulting of Georgia, Inc.  
 1725 Louisville Drive  
 Knoxville, Tennessee 37921-5904  
 865-588-8544 • Fax: 865-588-8026

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)



SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

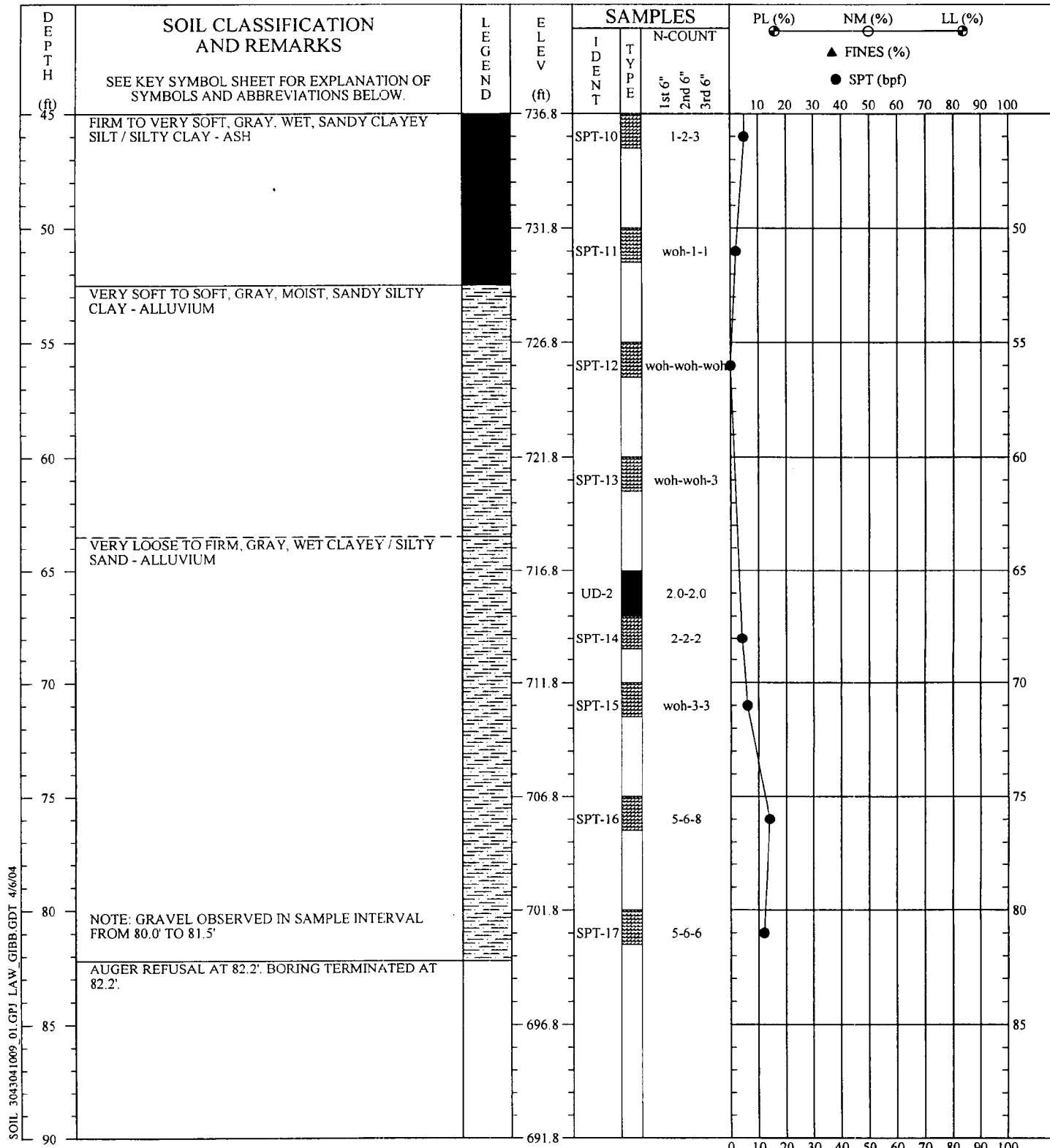
THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

PROJECT: TVA Kingston Ash  
 DRILLED: March 8, 2004 BORING NO.: B-1  
 PROJ. NO.: 3043041009/0001 PAGE 1 OF 2





SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

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Driller : Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

PROJECT: TVA Kingston Ash  
 DRILLED: March 8, 2004 BORING NO.: B-1  
 PROJ. NO.: 3043041009/0001 PAGE 2 OF 2




DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES			PL (%)	NM (%)	LL (%)
				IDENT	TYPE	N-COUNT	▲ FINES (%)		
							1st 6"	2nd 6"	3rd 6"
0	NOTE: B-1A WAS OFFSET APPROXIMATELY 22.0' SOUTH WEST OF B-1.  AUGER BORING FROM 0.0' TO 5.0' USED FOR IN-SITU HYDRAULIC CONDUCTIVITY TESTING.		781.8						
5	BORING TERMINATED AT 5.0'		776.8						
10			771.8						
15			766.8						
20			761.8						
25			756.8						
30			751.8						
35			746.8						
40			741.8						
45			736.8						

SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

REMARKS:

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Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-1A
DRILLED: March 15, 2004	PAGE 1 OF 1
PROJ. NO.: 3043041009/0001	
	


DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES			PL (%)	NM (%)	LL (%)				
				IDENT	TYPE	N-COUNT	▲ FINES (%)						
							● SPT (bpf)						
1st 6"	2nd 6"	3rd 6"	10	20	30	40	50	60	70	80	90	100	
0	NOTE: B-1B WAS OFFSET APPROXIMATELY 47.0' SOUTH WEST OF B-1.  AUGER BORING FROM 0.0' TO 5.0' USED FOR IN-SITU HYDRAULIC CONDUCTIVITY TESTING.		781.8										
5	BORING TERMINATED AT 5.0'		776.8										
10			771.8										
15			766.8										
20			761.8										
25			756.8										
30			751.8										
35			746.8										
40			741.8										
45			736.8										

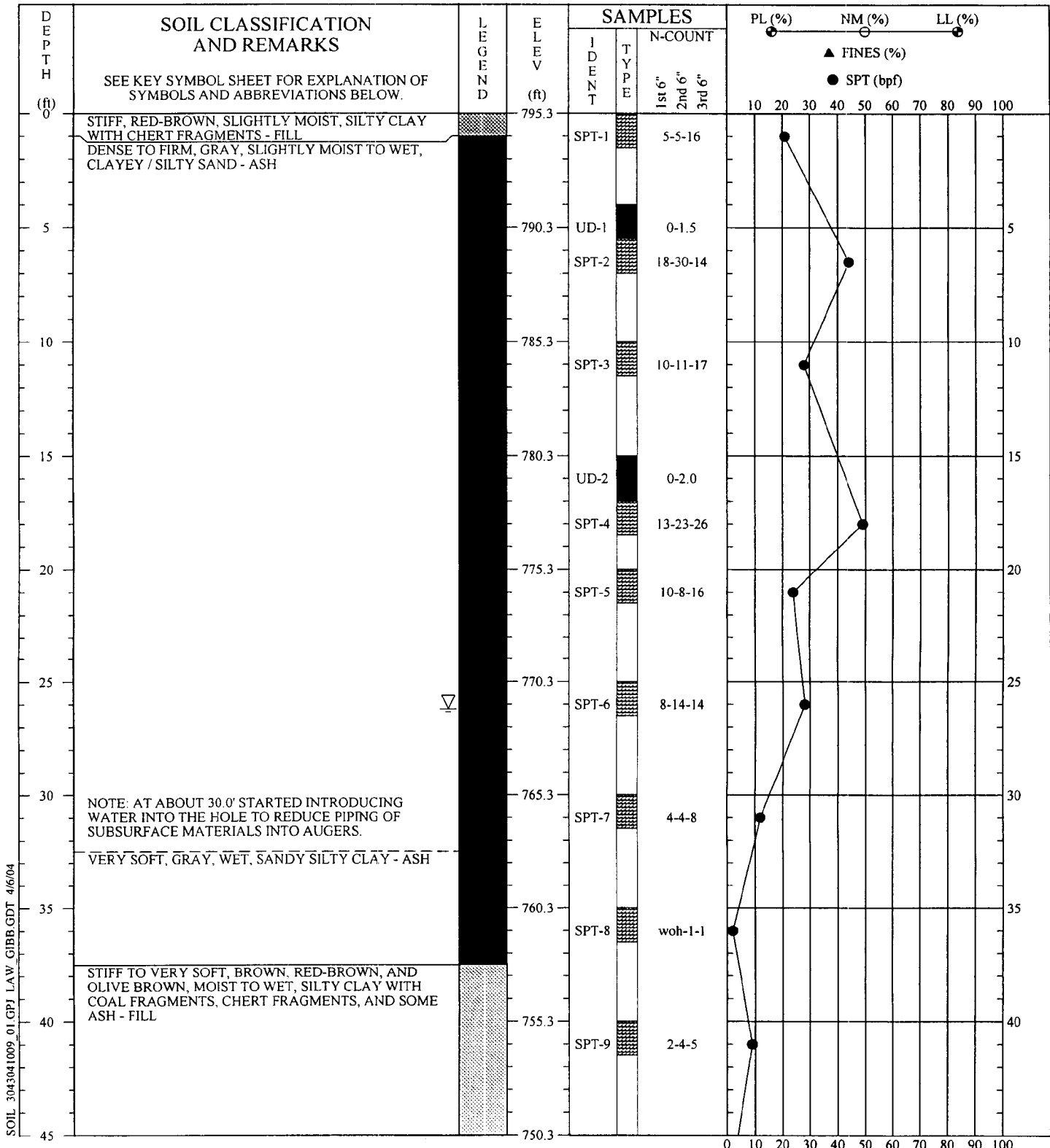
SOIL 3043041009 01.GPJ LAW\_GIBB.GDT 4/7/04

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-1B
DRILLED: March 15, 2004	PAGE 1 OF 1
PROJ. NO.: 3043041009/0001	
 <b>MACTEC</b>	




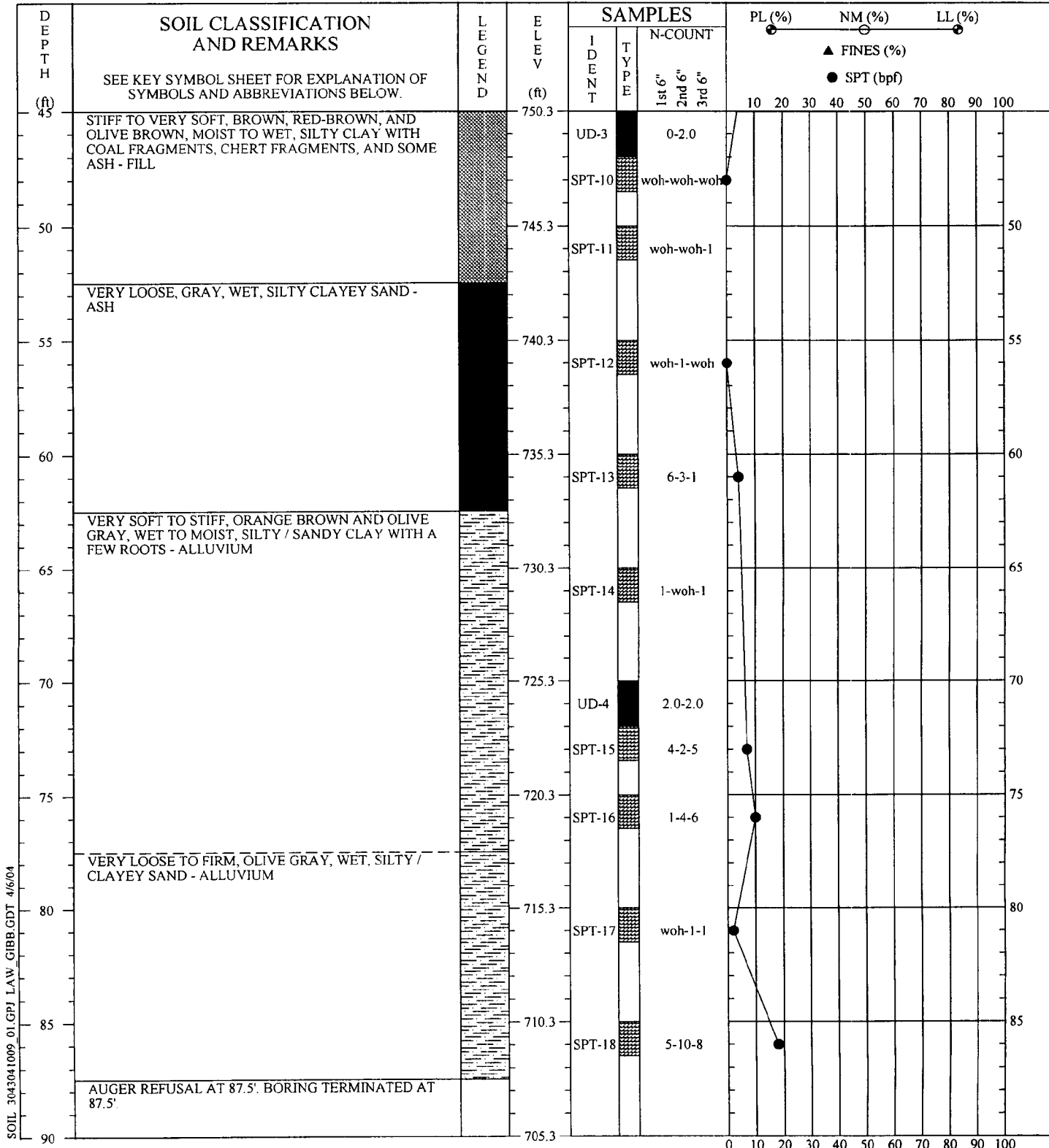
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-2
DRILLED: March 4, 2004	PAGE 1 OF 2
PROJ. NO.: 3043041009/0001	
	



SOIL 3043041009 01.GPJ LAW\_GIBB.GDT 4/6/04

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Driller : Akins  
 Prepared By: Justice  
 Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-2
DRILLED: March 4, 2004	PAGE 2 OF 2
PROJ. NO.: 3043041009/0001	


DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES			PL (%)	NM (%)	LL (%)
				IDENT	TYPE	N-COUNT	FINES (%)		
							1st 6"	2nd 6"	3rd 6"
0	NOTE: B-2A WAS OFFSET APPROXIMATELY 15.0' SOUTH WEST OF B-2.  AUGER BORING FROM 0.0 TO 5.0' USED FOR IN-SITU HYDRAULIC CONDUCTIVITY TESTING.		795.3						
5	BORING TERMINATED AT 5.0'		790.3						
10			785.3						
15			780.3						
20			775.3						
25			770.3						
30			765.3						
35			760.3						
40			755.3						
45			750.3						

SOIL 3043041009\_01.GPJ LAW GIBB.GDT 4/7/04

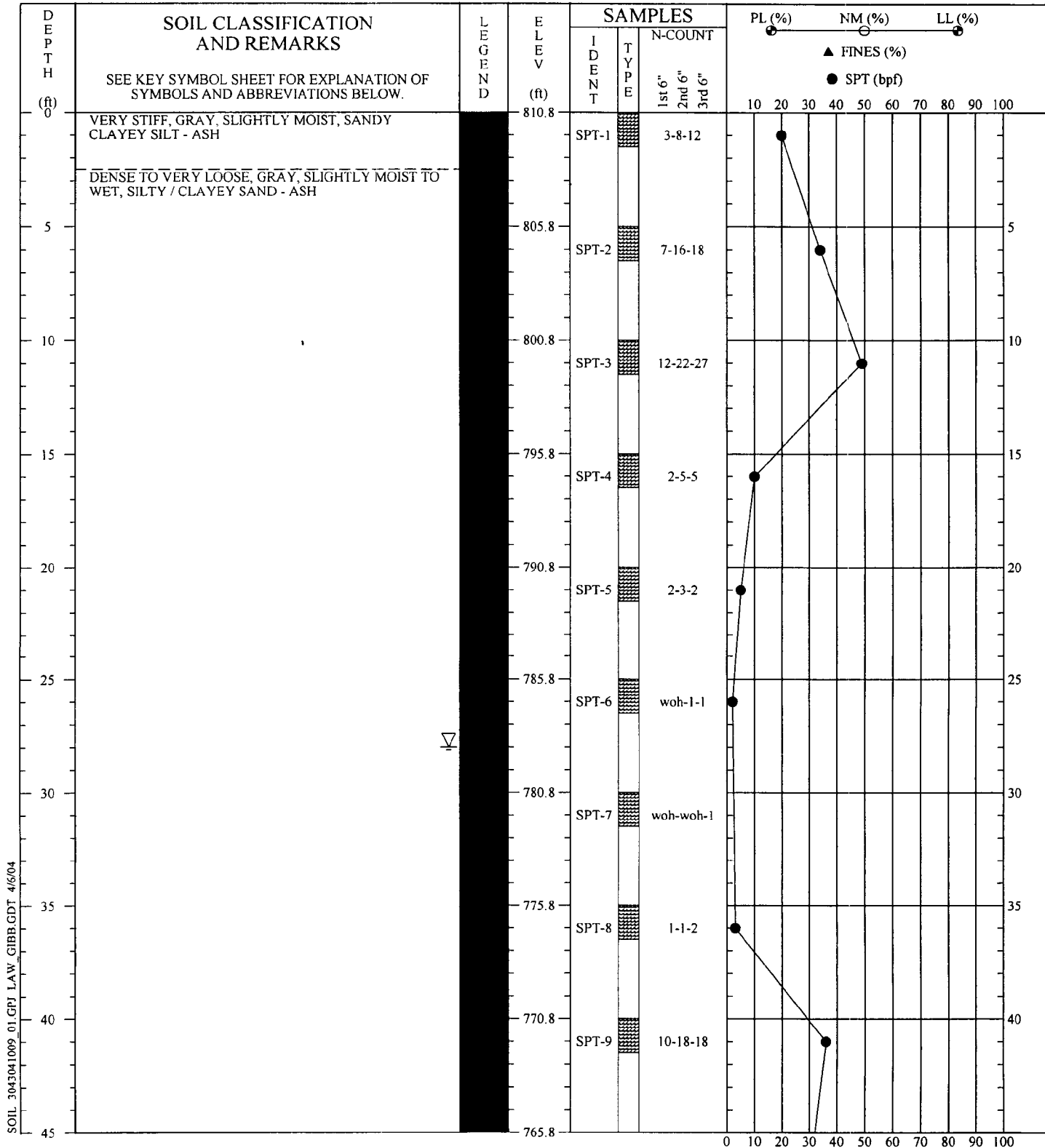
REMARKS:

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Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-2A
DRILLED: March 15, 2004	PAGE 1 OF 1
PROJ. NO.: 3043041009/0001	
	





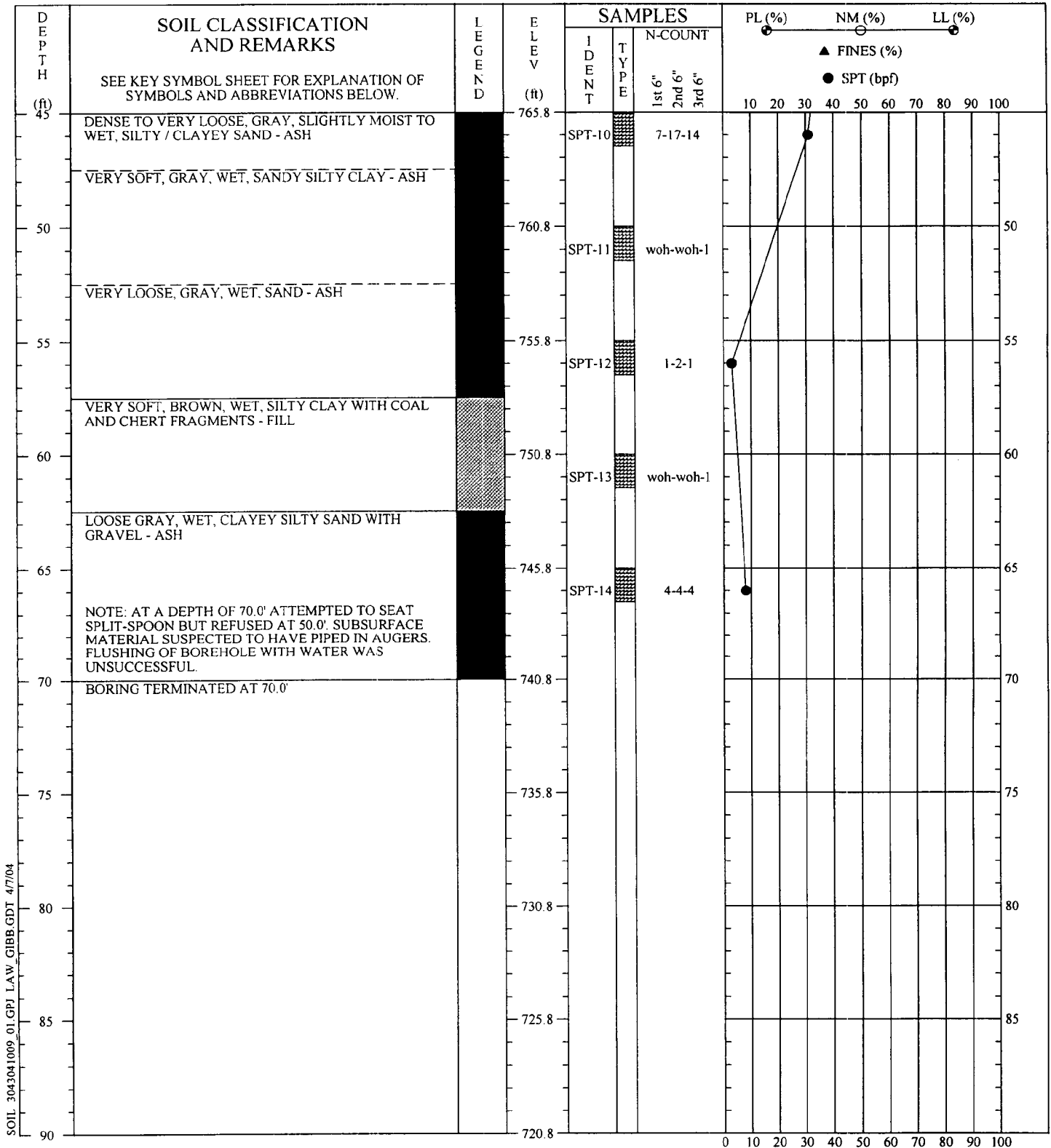
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Driller : Akins  
 Prepared By: Justice  
 Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-3
DRILLED: March 3, 2004	
PROJ. NO.: 3043041009/0001	PAGE 1 OF 2




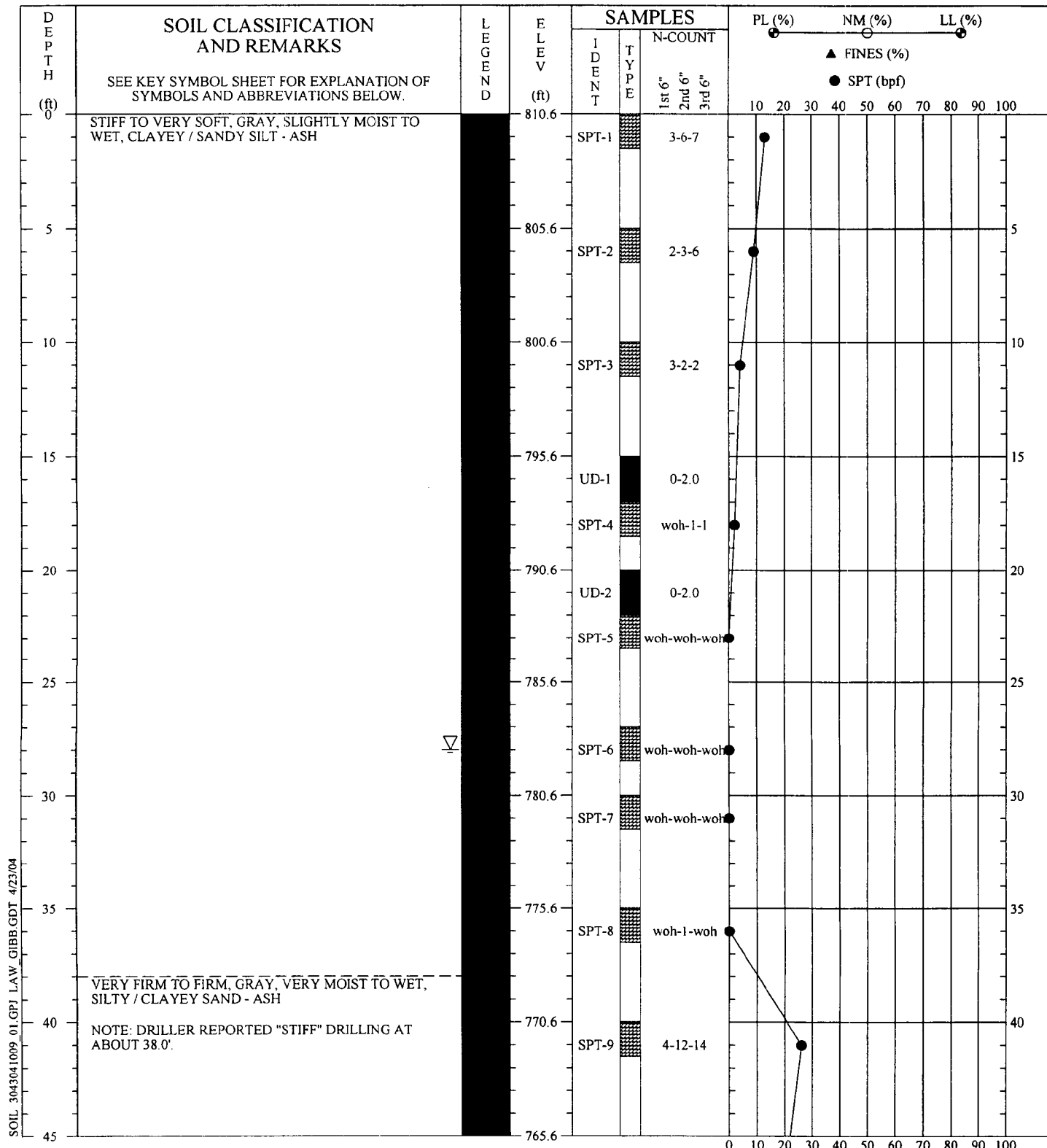
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

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Driller Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-3
DRILLED: March 3, 2004	PAGE 2 OF 2
PROJ. NO.: 3043041009/0001	
	




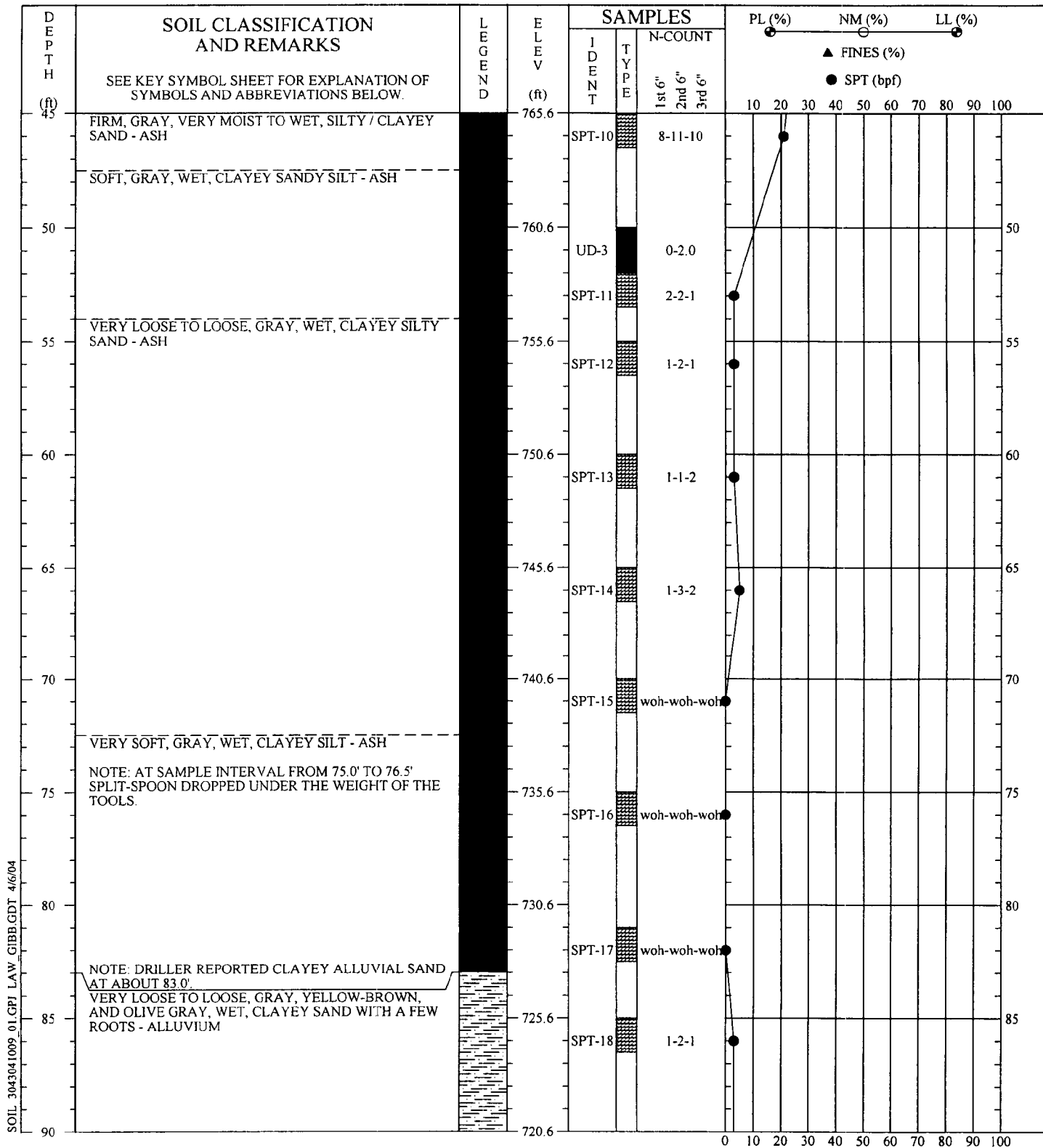
SOIL 3043041009 01.GPJ LAW\_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: Kingston Fossil Plant - Ash Diposal Area	
DRILLED: March 23, 2004	BORING NO.: B-4
PROJ. NO.: 3043041009/0001	PAGE 1 OF 3
 <b>MACTEC</b>	



SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

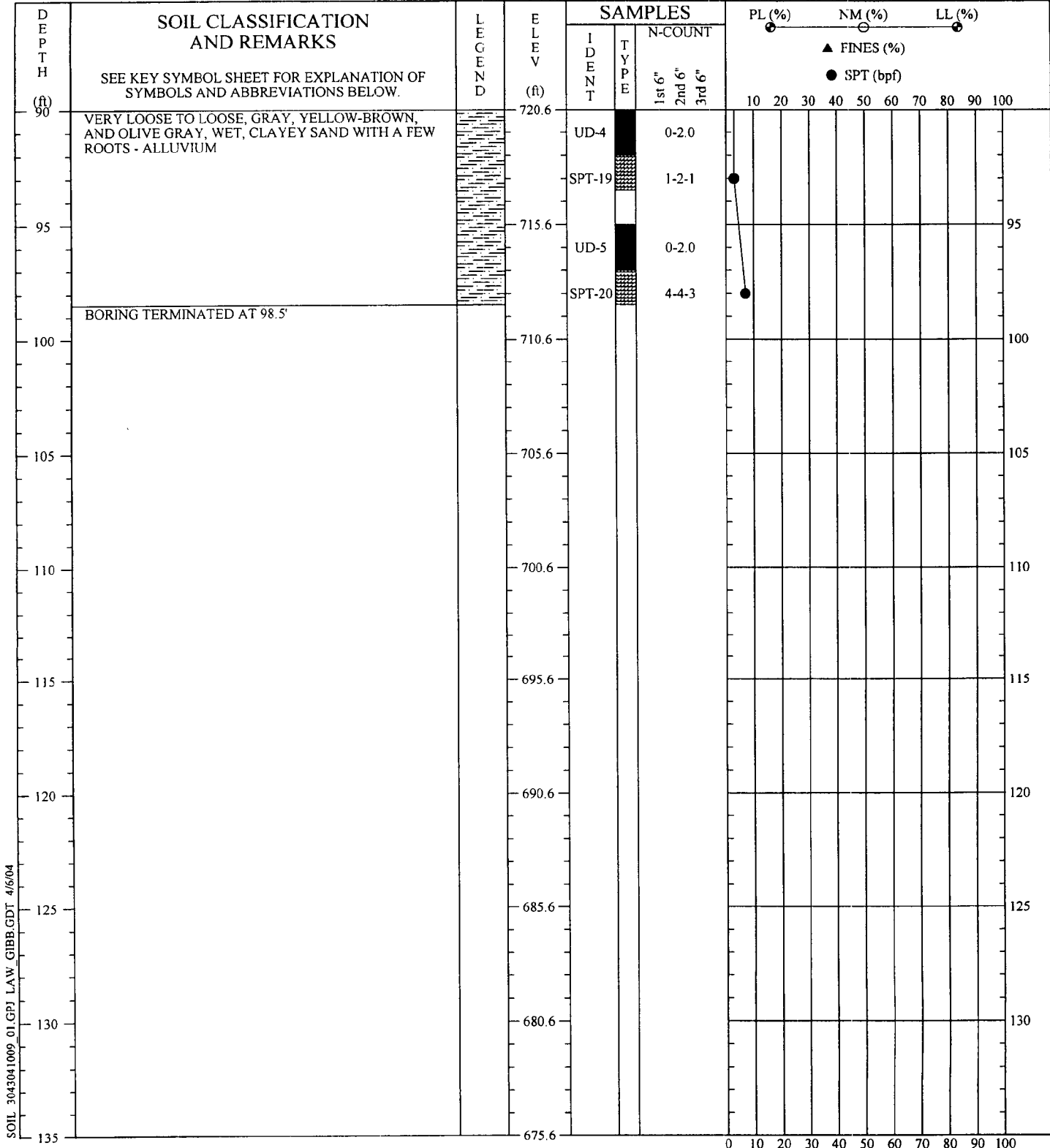
**SOIL TEST BORING RECORD**

**PROJECT:** TVA Kingston Ash  
**DRILLED:** March 23, 2004 **BORING NO.:** B-4  
**PROJ. NO.:** 3043041009/0001 **PAGE 2 OF 3**

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller: Akins  
 Prepared By: Justice  
 Checked By:





SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

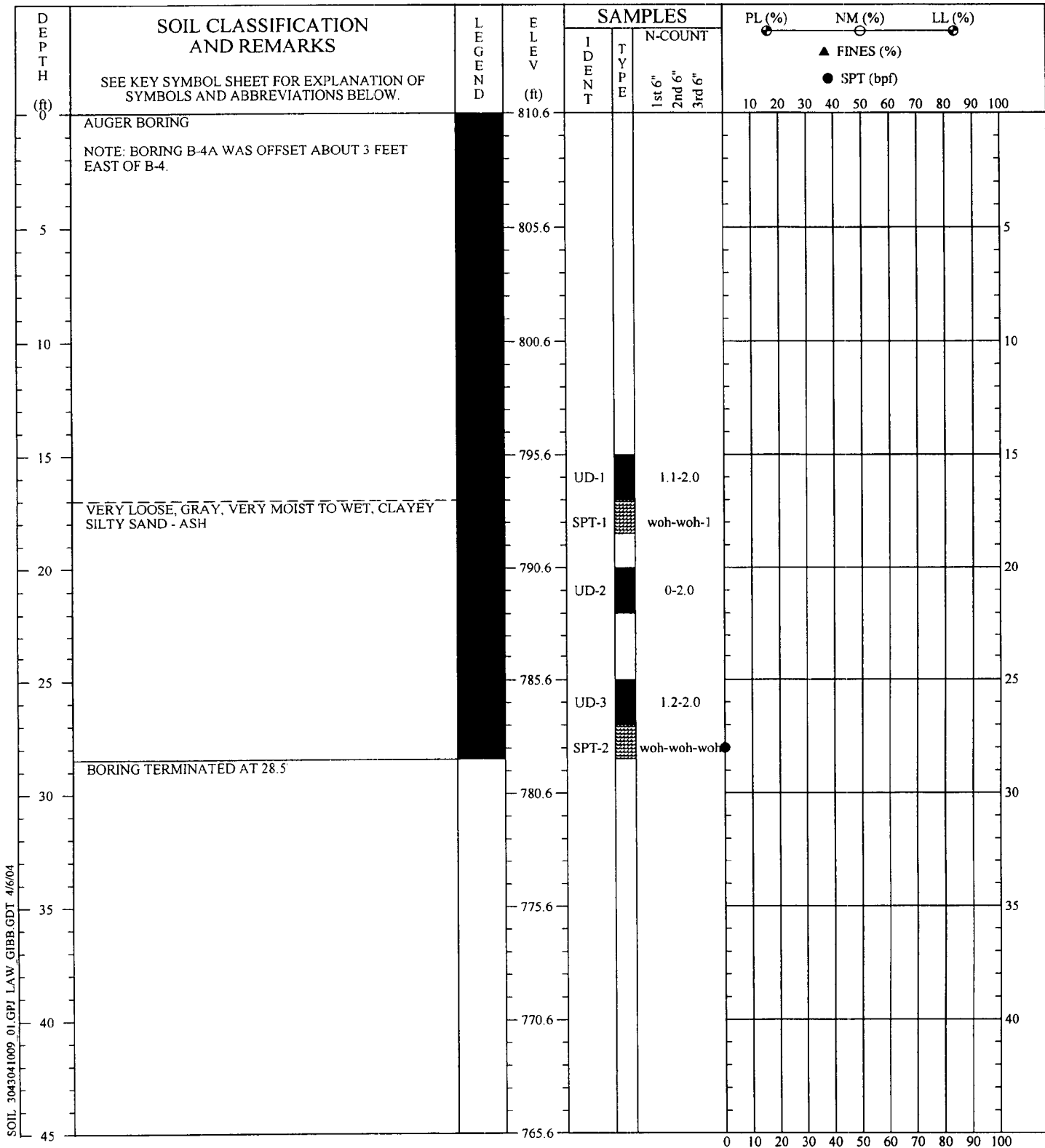
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Driller : Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

**PROJECT:** TVA Kingston Ash  
**DRILLED:** March 23, 2004 **BORING NO.:** B-4  
**PROJ. NO.:** 3043041009/0001 **PAGE 3 OF 3**






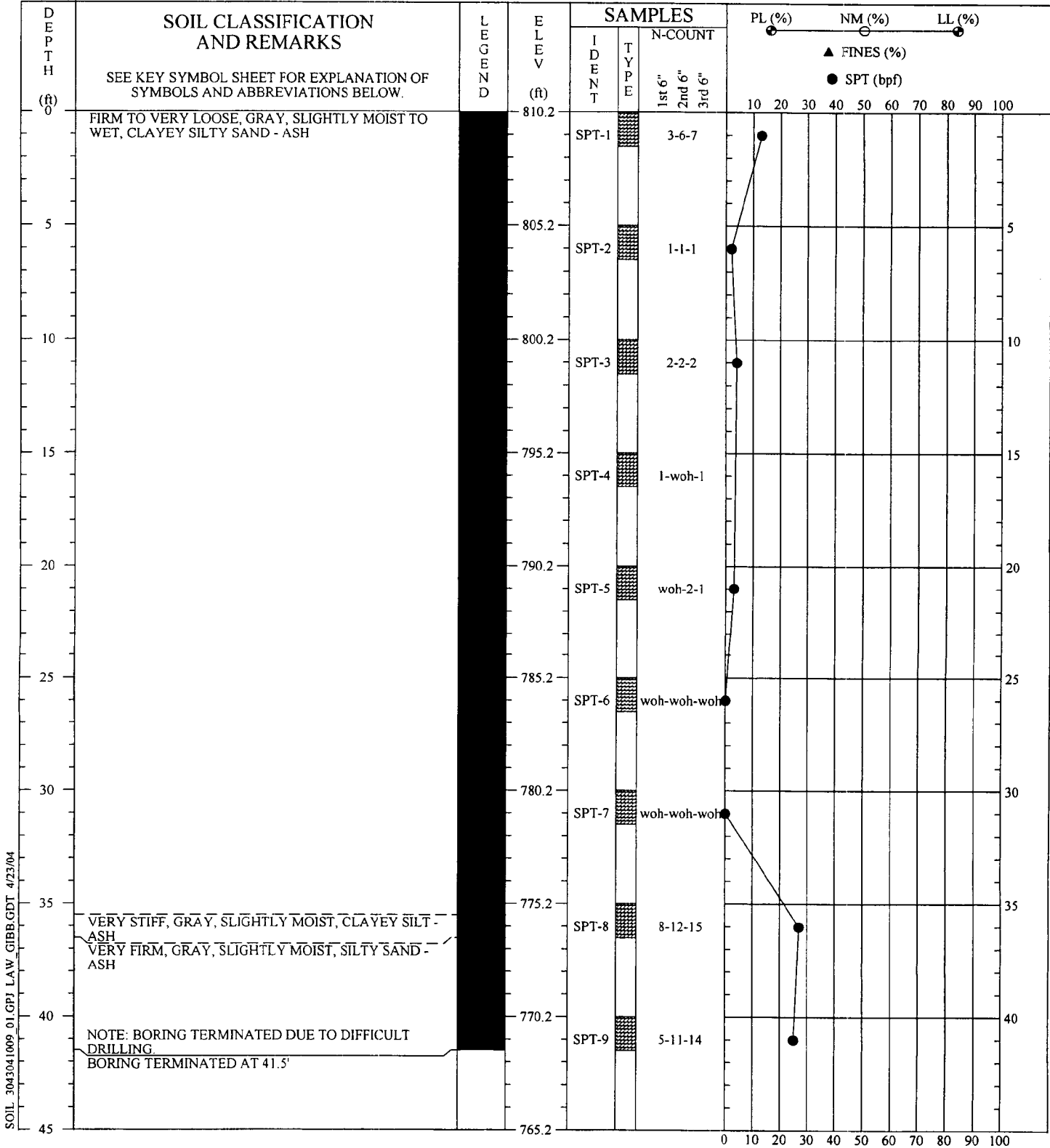
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER. NO GROUND WATER ENCOUNTERED AT TIME OF EXPLORATION.

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Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-4A
DRILLED: March 24, 2004	PAGE 1 OF 1
PROJ. NO.: 3043041009/0001	
	



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER. NO GROUND WATER ENCOUNTERED AT TIME OF EXPLORATION.

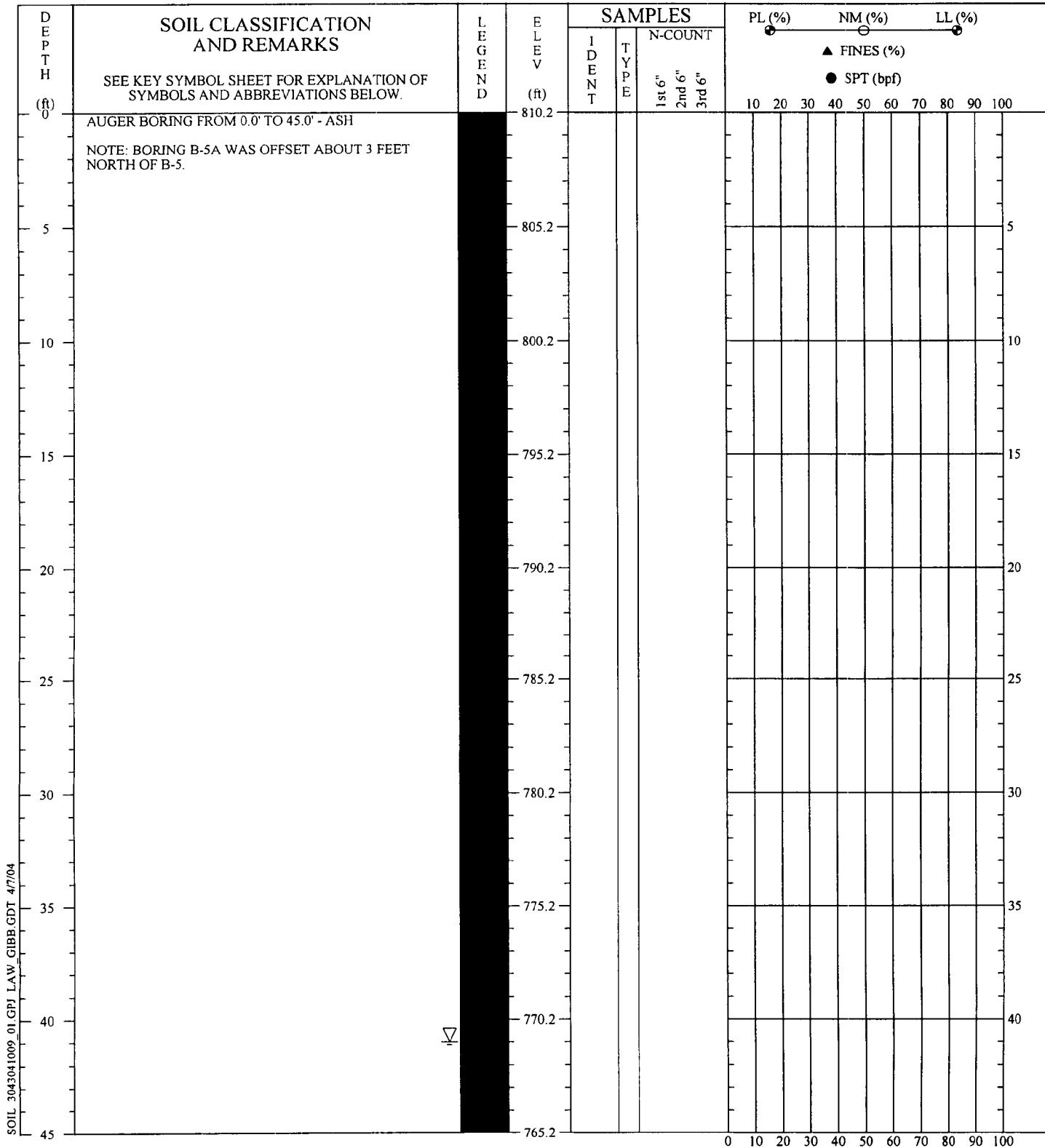
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Driller: Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

**PROJECT:** Kingston Fossil Plant - Ash Diposal Area  
**DRILLED:** March 1, 2004 **BORING NO.:** B-5  
**PROJ. NO.:** 3043041009/0001 **PAGE 1 OF 1**






SOIL 3043041009\_01.GPJ LAW. GIBB.GDT 4/7/04

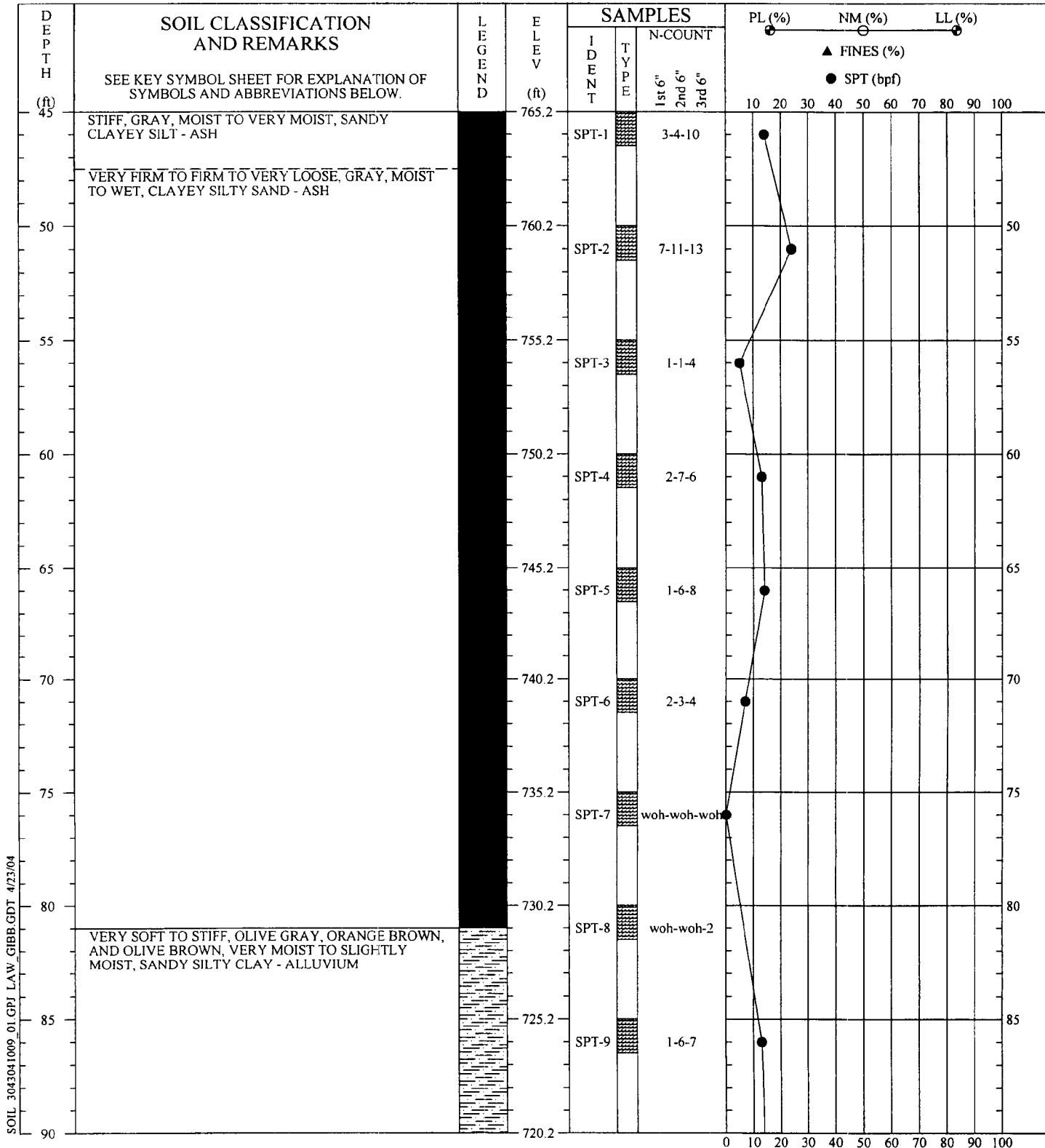
REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	
DRILLED: March 2, 2004	BORING NO.: B-5A
PROJ. NO.: 3043041009/0001	PAGE 1 OF 3
	





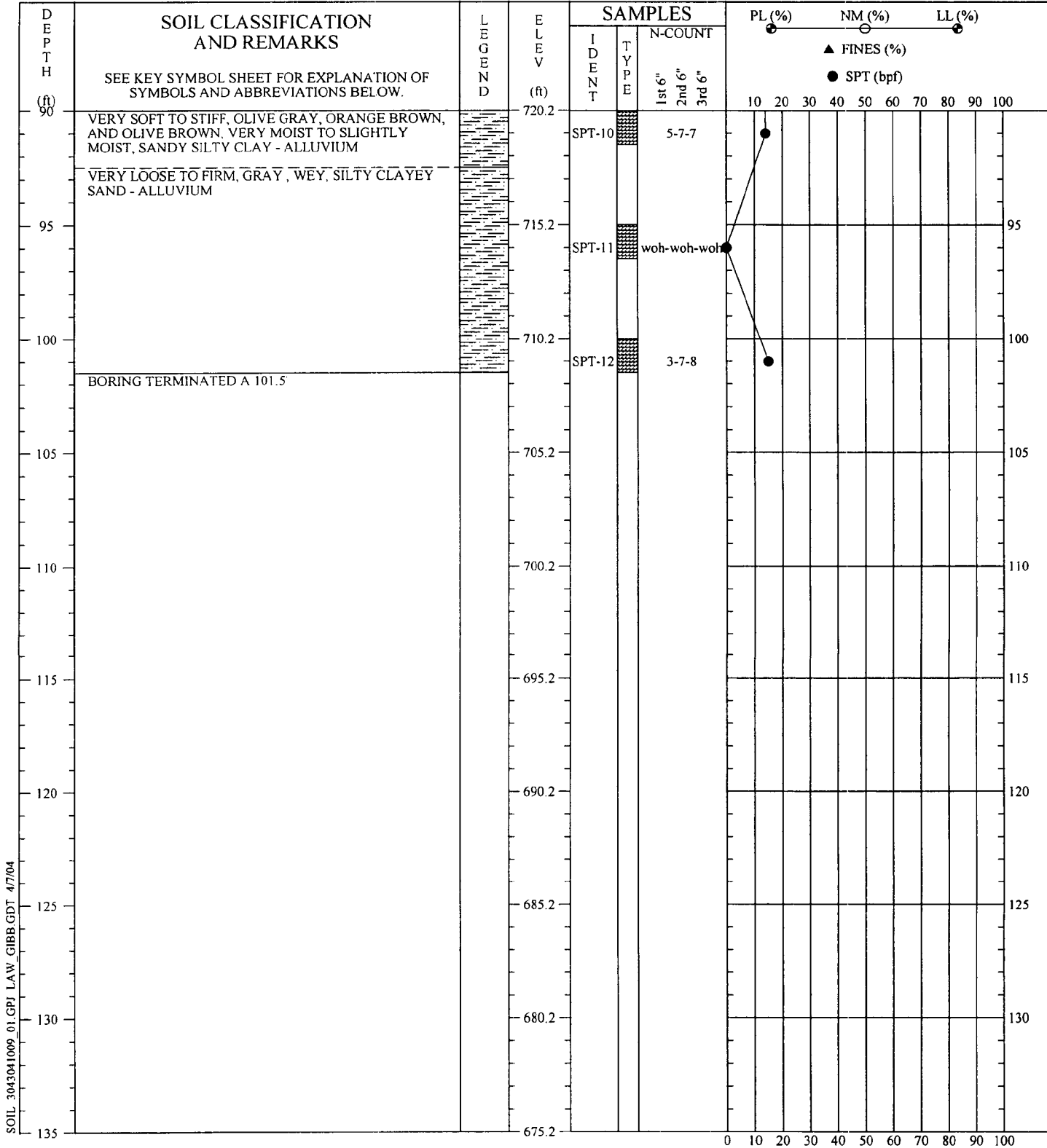
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
 Prepared By: Justice  
 Checked By:

SOIL TEST BORING RECORD	
PROJECT: Kingston Fossil Plant - Ash Diposal Area	
DRILLED: March 2, 2004	BORING NO.: B-5A
PROJ. NO.: 3043041009/0001	PAGE 2 OF 3




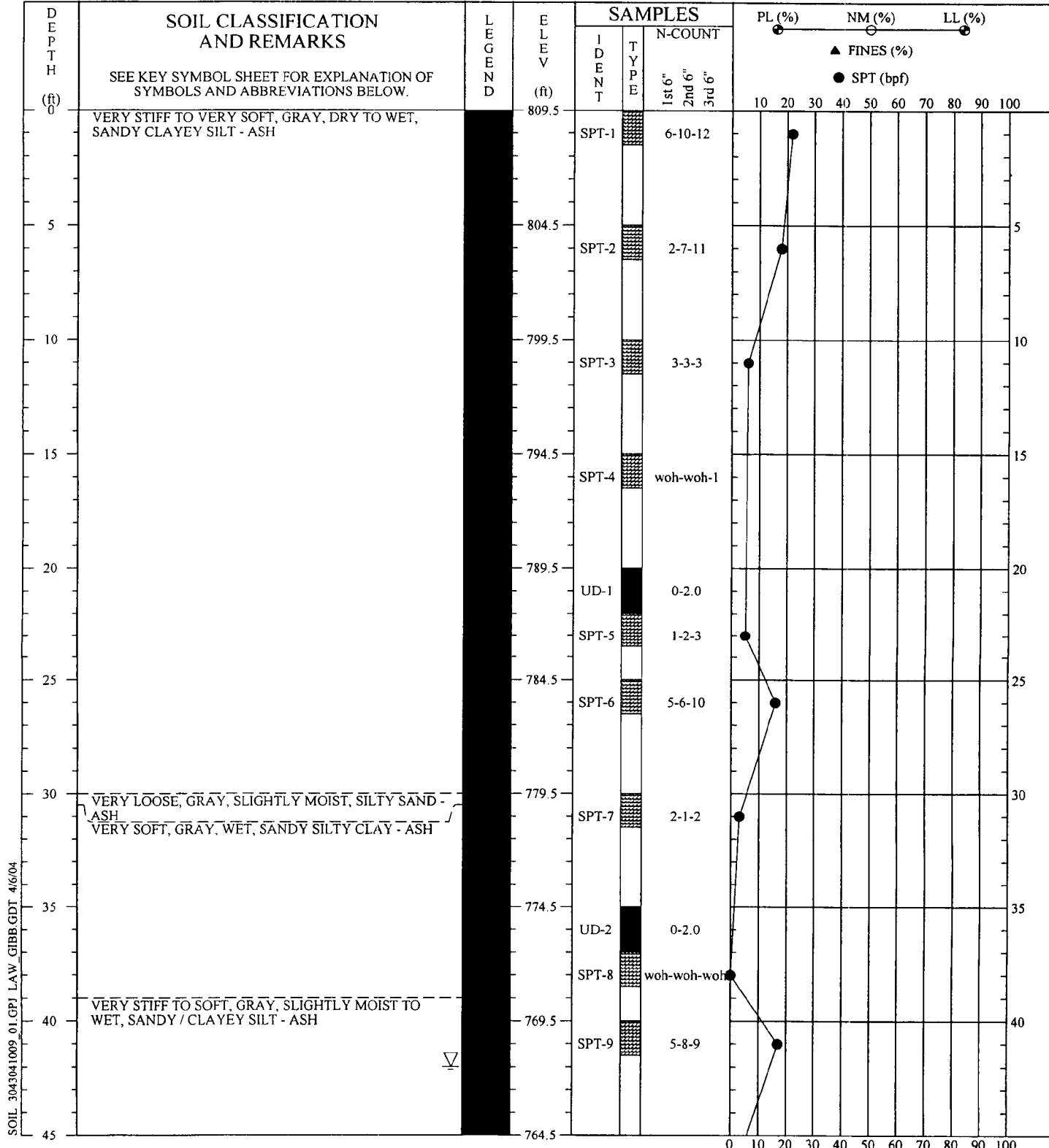
SOIL 3043041009 01.GPI LAW\_GIBB.GDT 4/7/04

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Driller Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> TVA Kingston Ash	<b>BORING NO.:</b> B-5A
<b>DRILLED:</b> March 2, 2004	<b>PAGE 3 OF 3</b>
<b>PROJ. NO.:</b> 3043041009/0001	
	



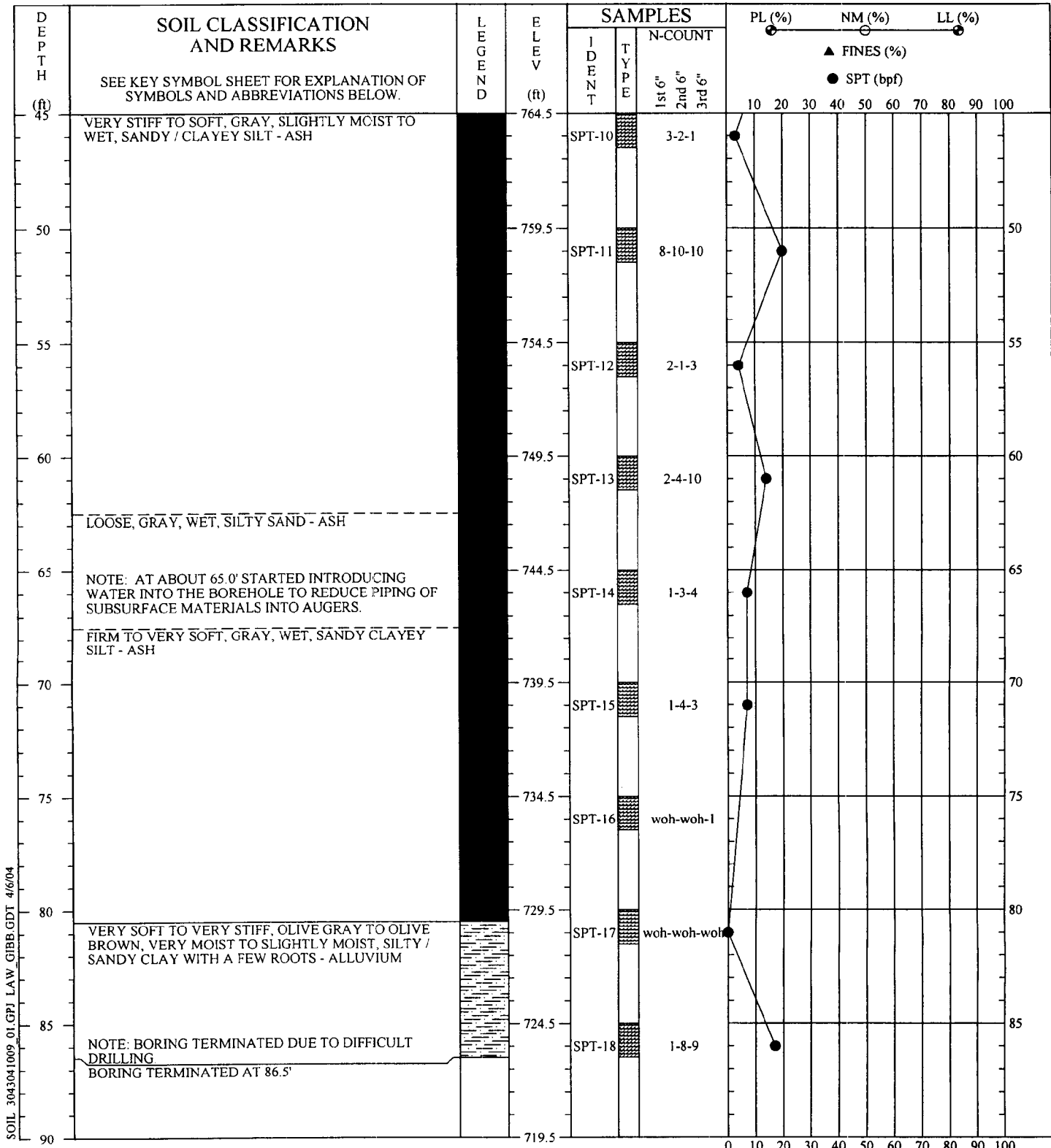
SOIL 3043041009 01.GPJ LAW GIBB.GDT 4/6/04

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Driller Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> TVA Kingston Ash	<b>BORING NO.:</b> B-6
<b>DRILLED:</b> March 10, 2004	<b>PROJ. NO.:</b> 3043041009/0001
<b>PAGE 1 OF 2</b>	



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller: Akins  
Prepared By: Justice  
Checked By:

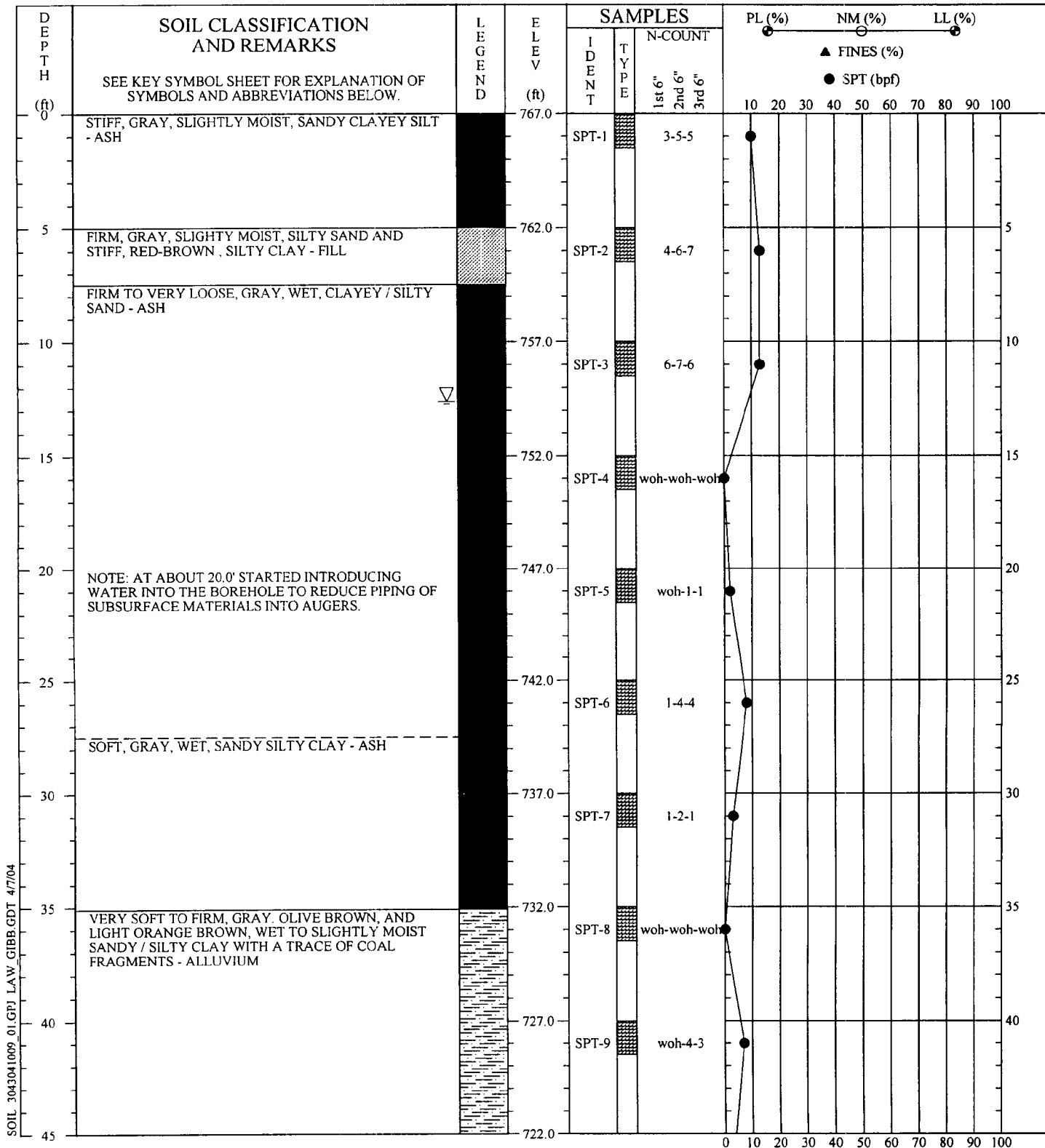
**SOIL TEST BORING RECORD**

PROJECT: TVA Kingston Ash

DRILLED: March 10, 2004      BORING NO.: B-6

PROJ. NO.: 3043041009/0001      PAGE 2 OF 2

**MACTEC**




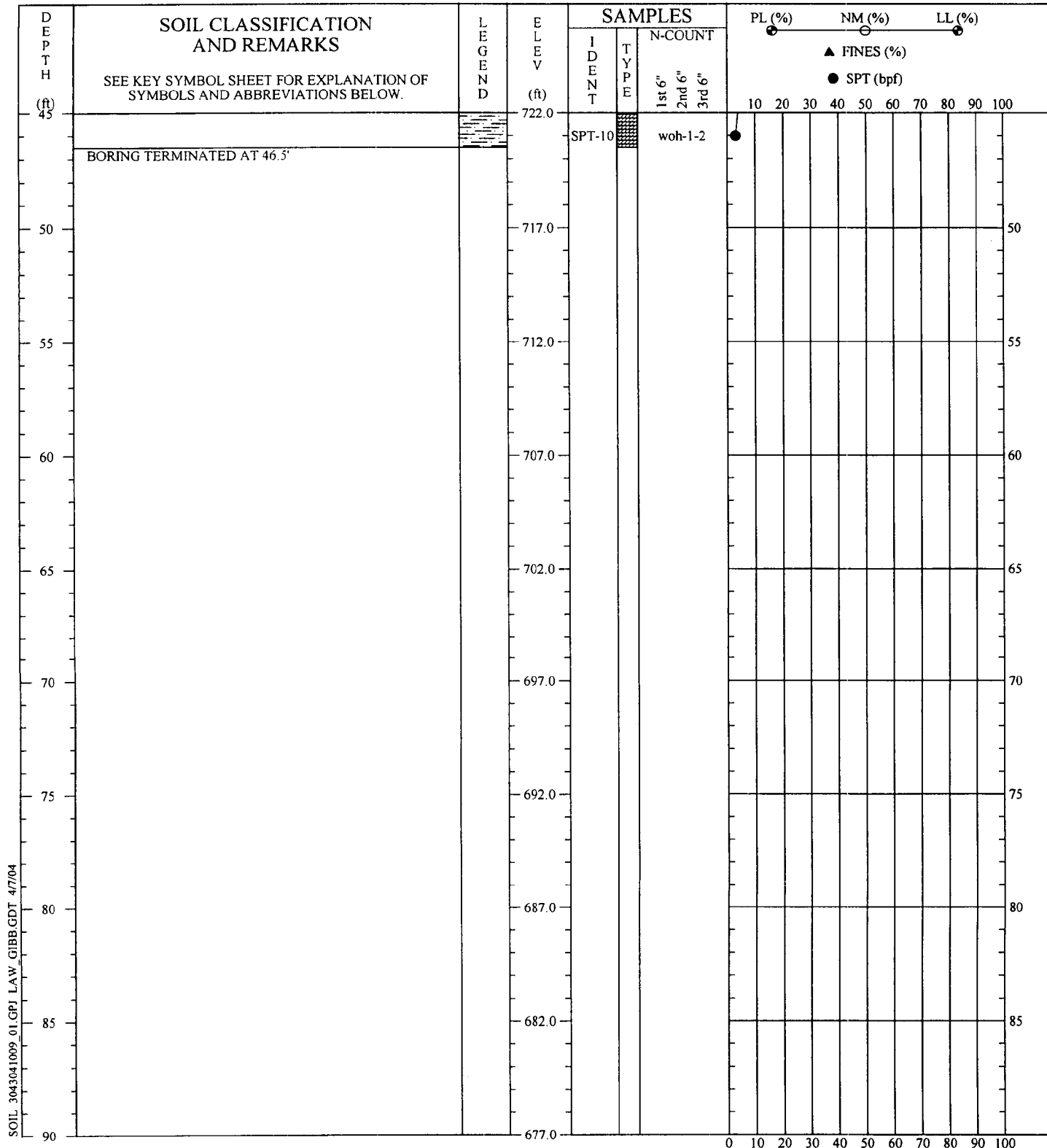
SOIL 3043041069\_01.GPJ LAW\_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-7
DRILLED: March 11, 2004	
PROJ. NO.: 3043041009/0001	PAGE 1 OF 2
	



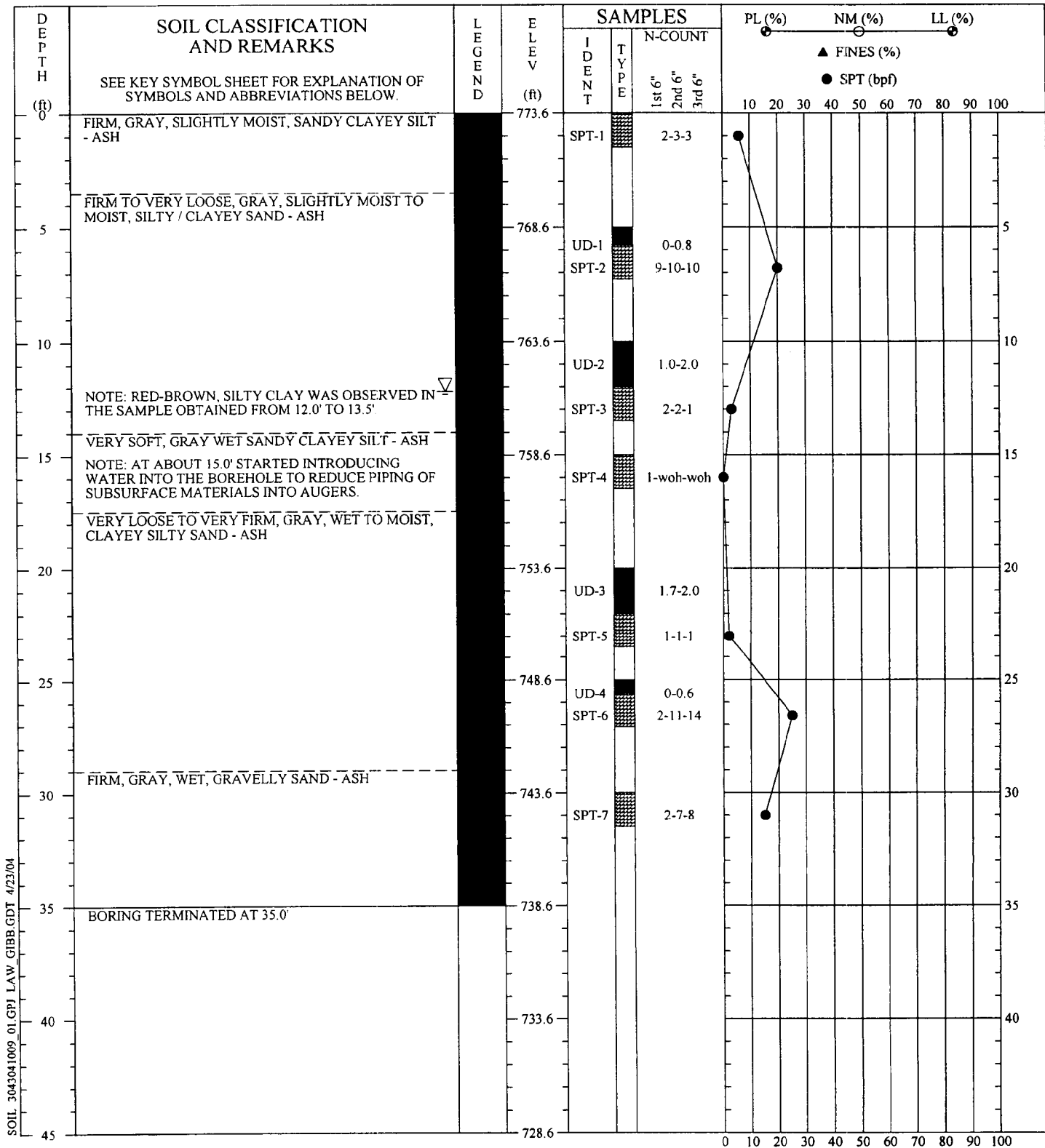
SOIL 3043041009 01.GPJ LAW\_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-7
DRILLED: March 11, 2004	PAGE 2 OF 2
PROJ. NO.: 3043041009/0001	




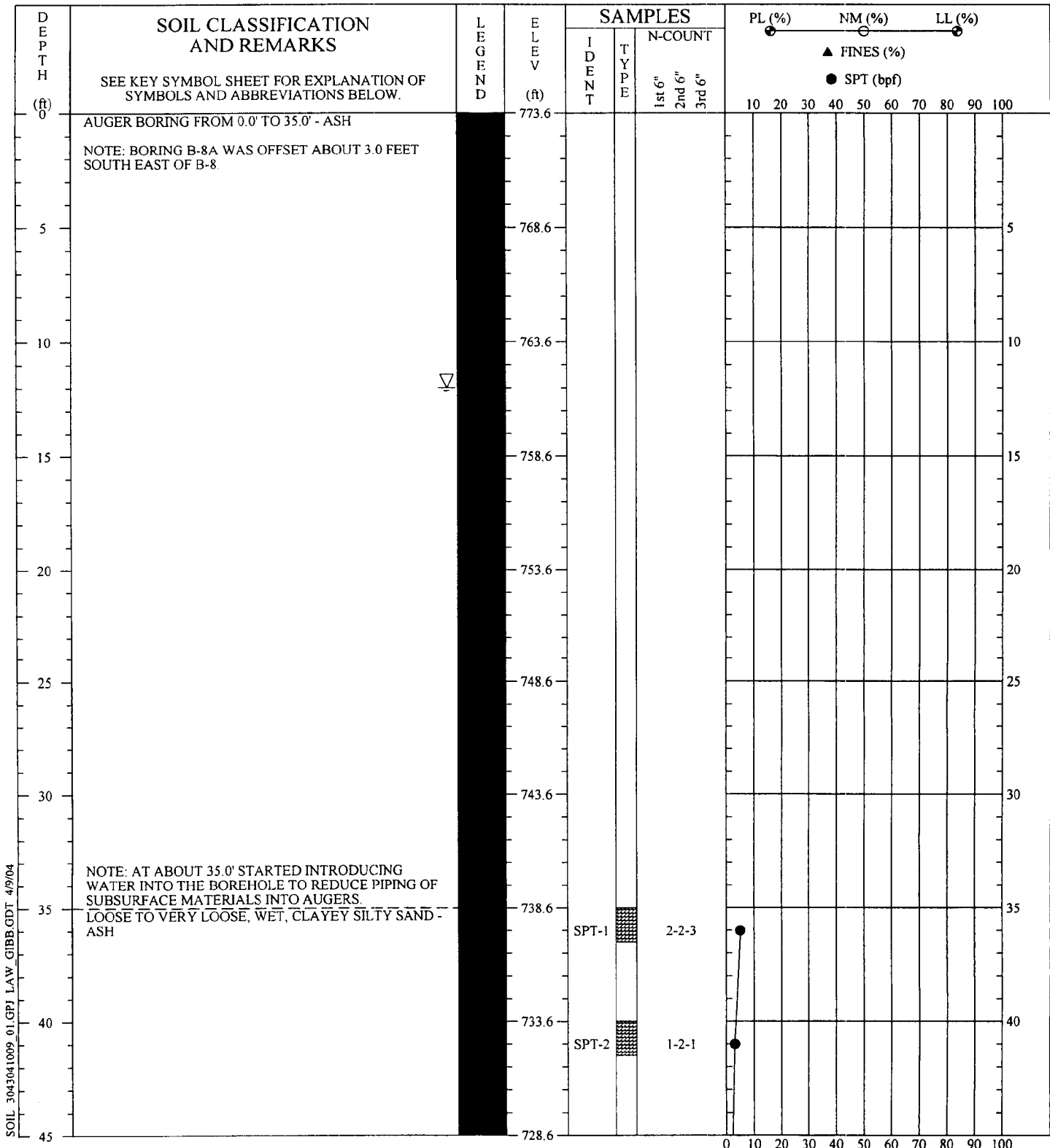
SOIL 3043041009\_01.GPJ LAW GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: Kingston Fossil Plant - Ash Diposal Area	
DRILLED: March 19, 2004	BORING NO.: B-8
PROJ. NO.: 3043041009/0001	PAGE 1 OF 1
	



SOIL 3043041009 01.GPJ L.A.W. GIBB.GDT 4/9/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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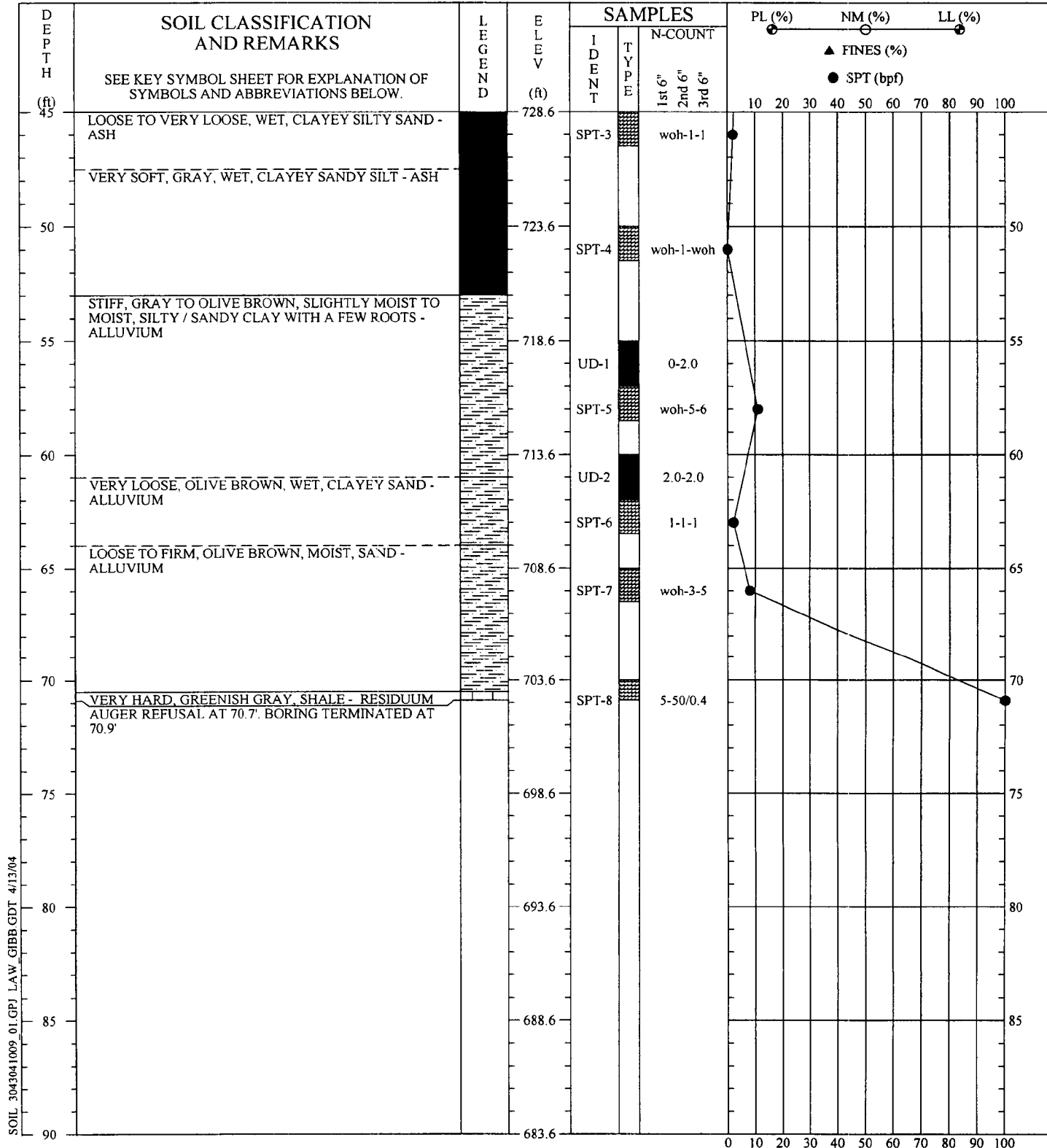
Driller : Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

**PROJECT:** TVA Kingston Ash  
**DRILLED:** March 22, 2004      **BORING NO.:** B-8A  
**PROJ. NO.:** 3043041009/0001      **PAGE 1 OF 2**







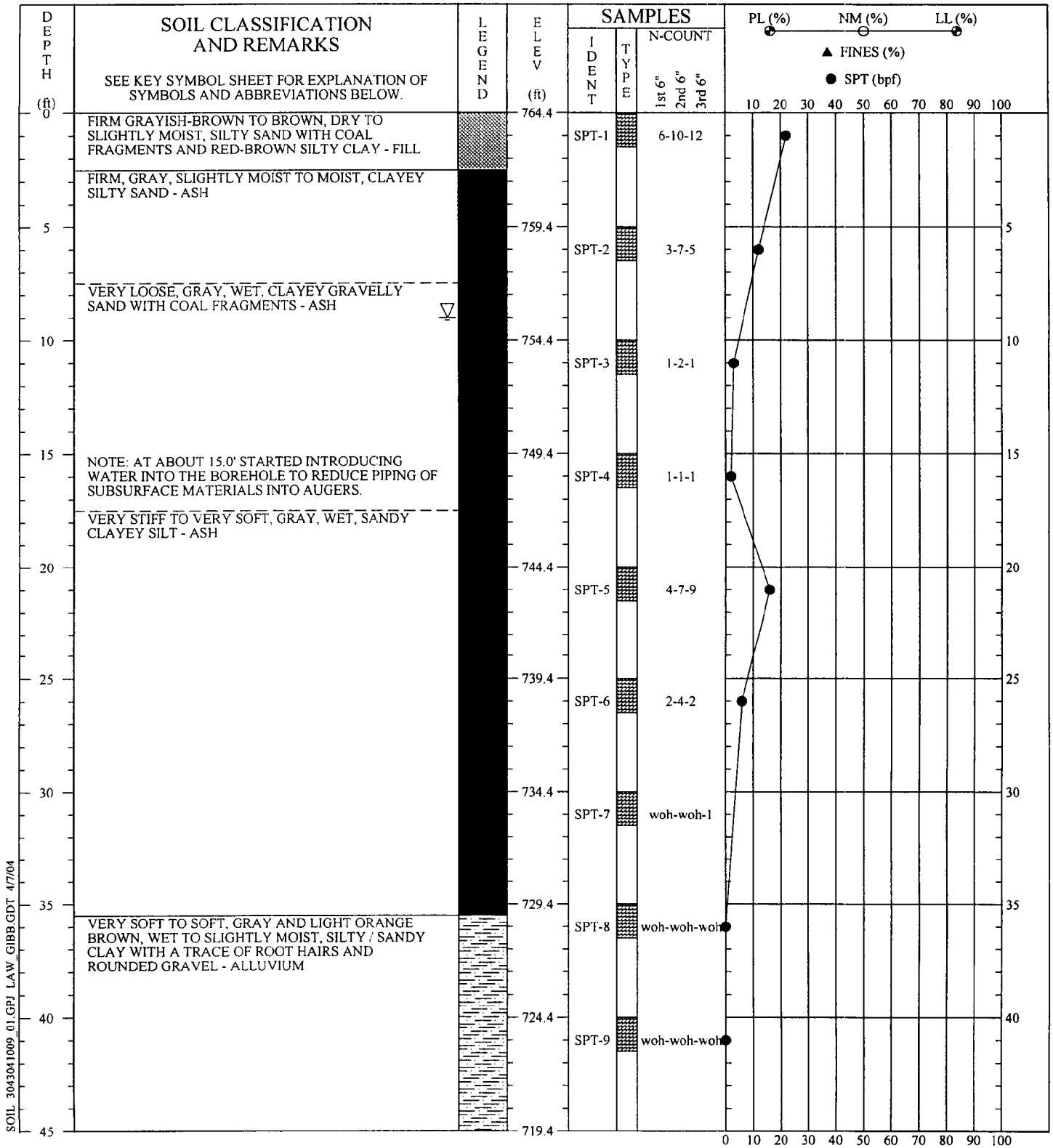
SOIL 3043041009 01.GPJ LAW\_GFBB.GDT 4/13/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

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Driller : Akins  
 Prepared By: Justice  
 Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> TVA Kingston Ash	<b>BORING NO.:</b> B-8A
<b>DRILLED:</b> March 22, 2004	<b>PAGE 2 OF 2</b>
<b>PROJ. NO.:</b> 3043041009/0001	




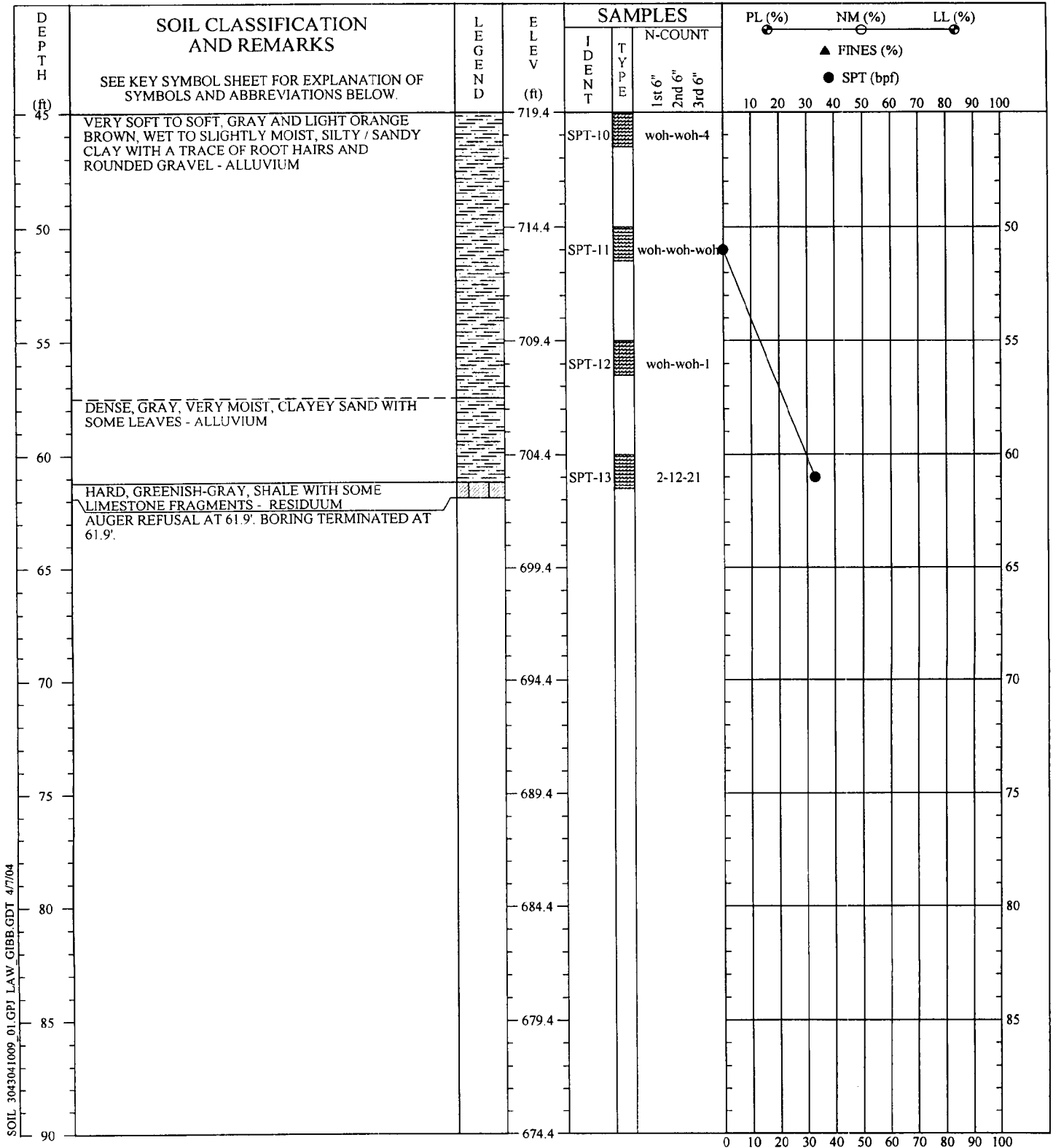
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-9
DRILLED: March 12, 2004	
PROJ. NO.: 3043041009/0001	PAGE 1 OF 2
	




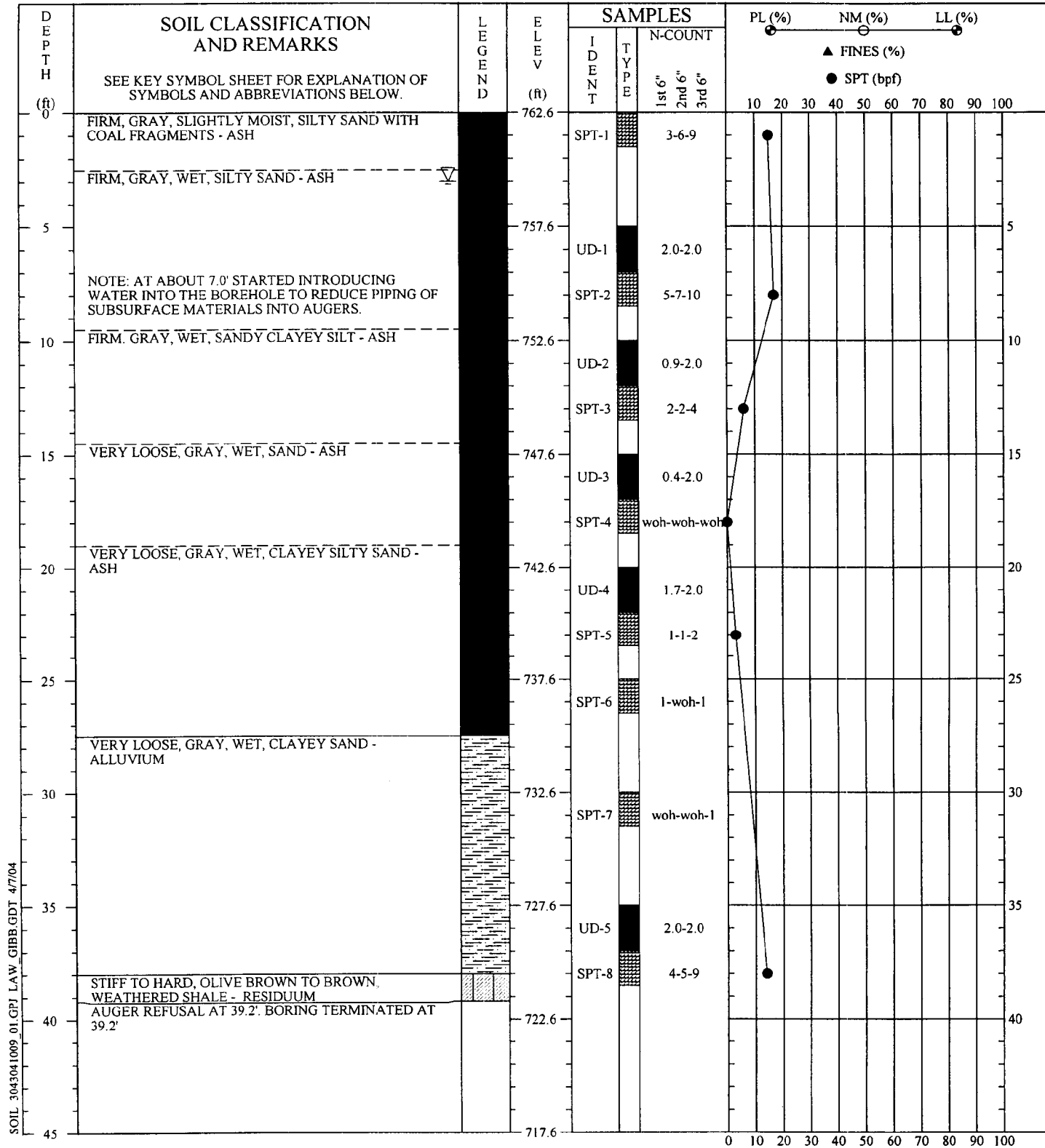
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-9
DRILLED: March 12, 2004	
PROJ. NO.: 3043041009/0001	PAGE 2 OF 2
	



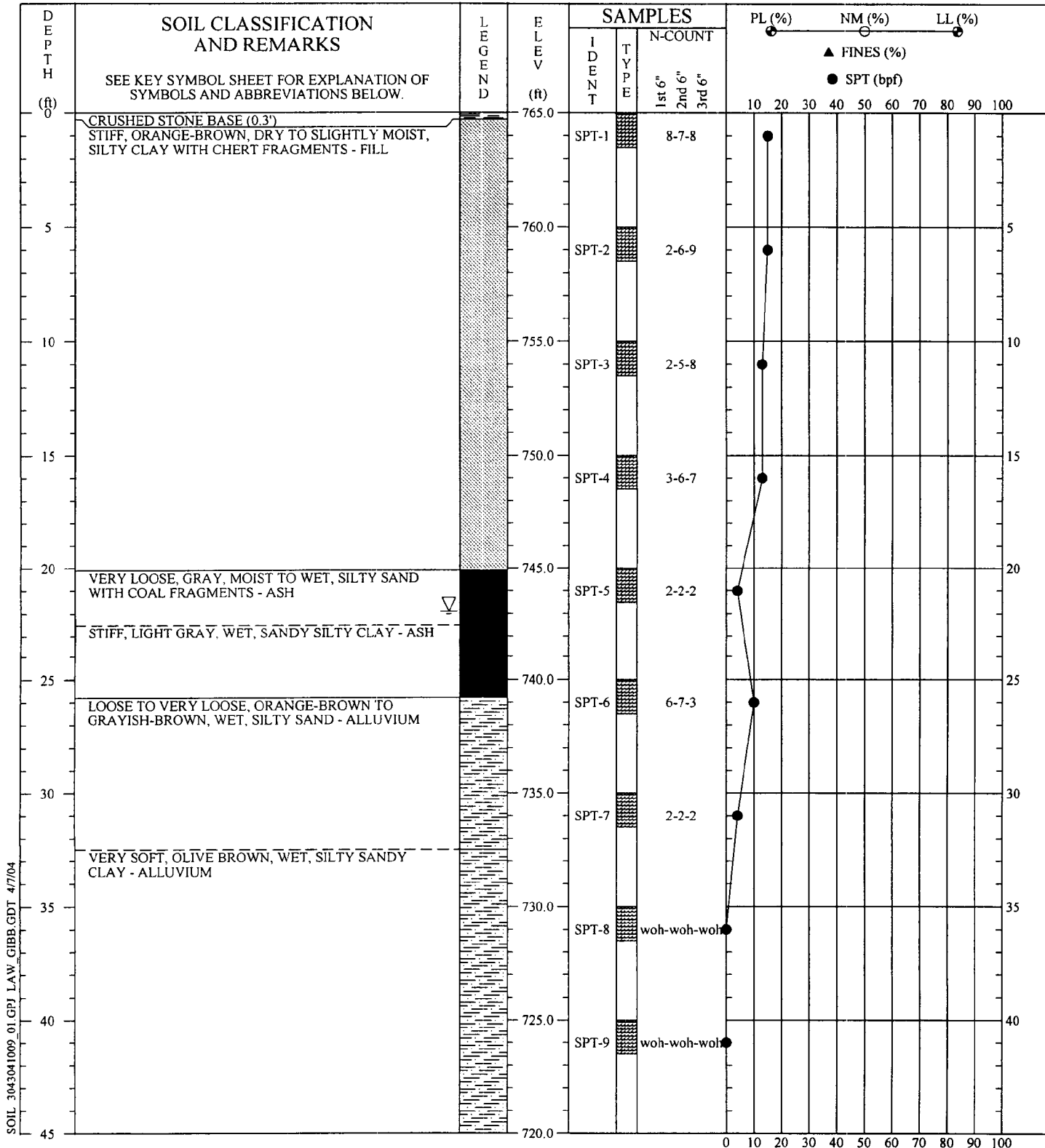
SOIL 3043041009 01.GPJ LAW. GIBB.GDT 4/7/04

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	BORING NO.: B-10
DRILLED: March 18, 2004	PAGE 1 OF 1
PROJ. NO.: 3043041009/0001	



SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

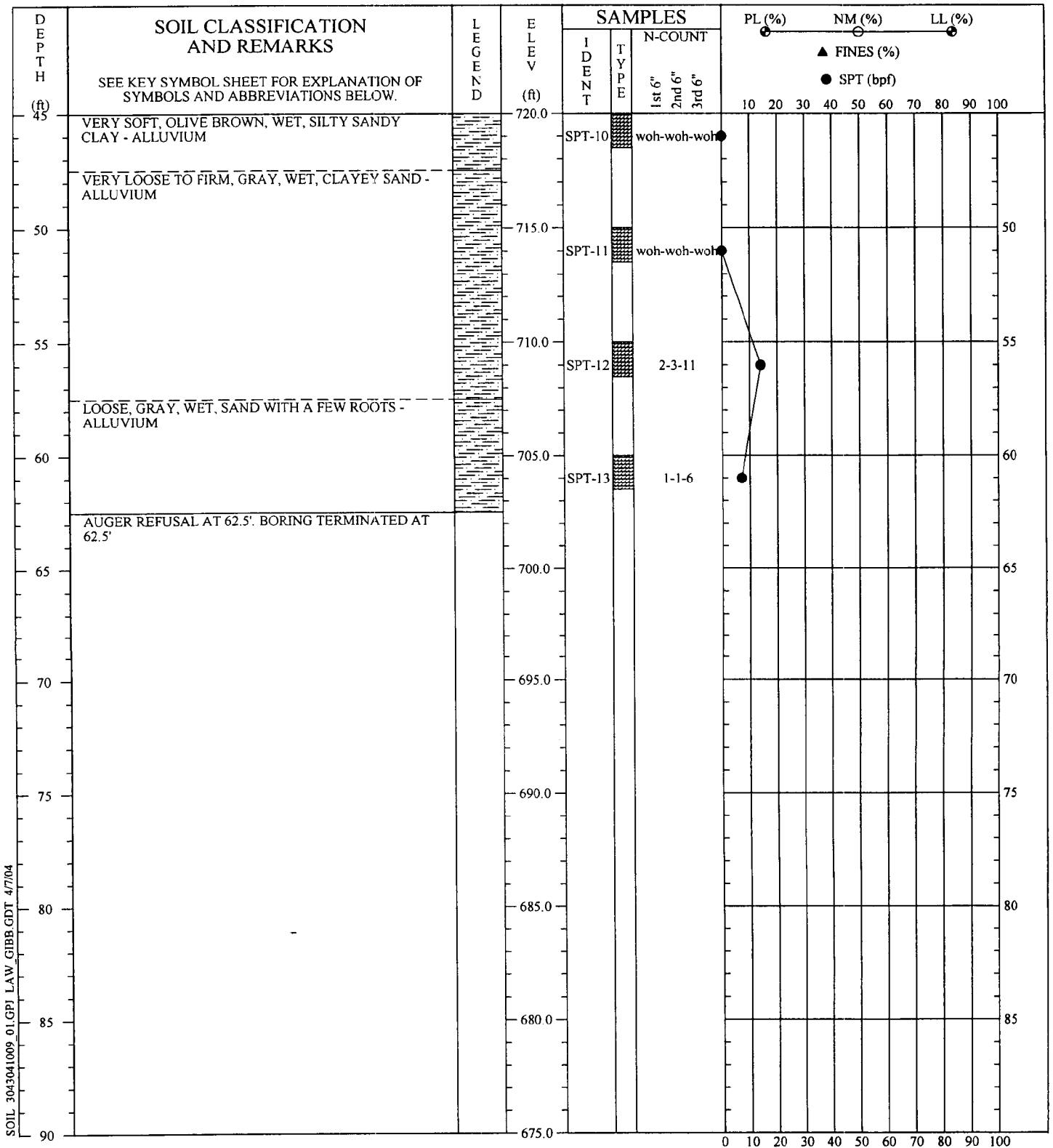
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Driller Akins  
Prepared By: Justice  
Checked By:

**SOIL TEST BORING RECORD**

PROJECT: TVA Kingston Ash  
 DRILLED: March 15, 2004 BORING NO.: B-11  
 PROJ. NO.: 3043041009/0001 PAGE 1 OF 2






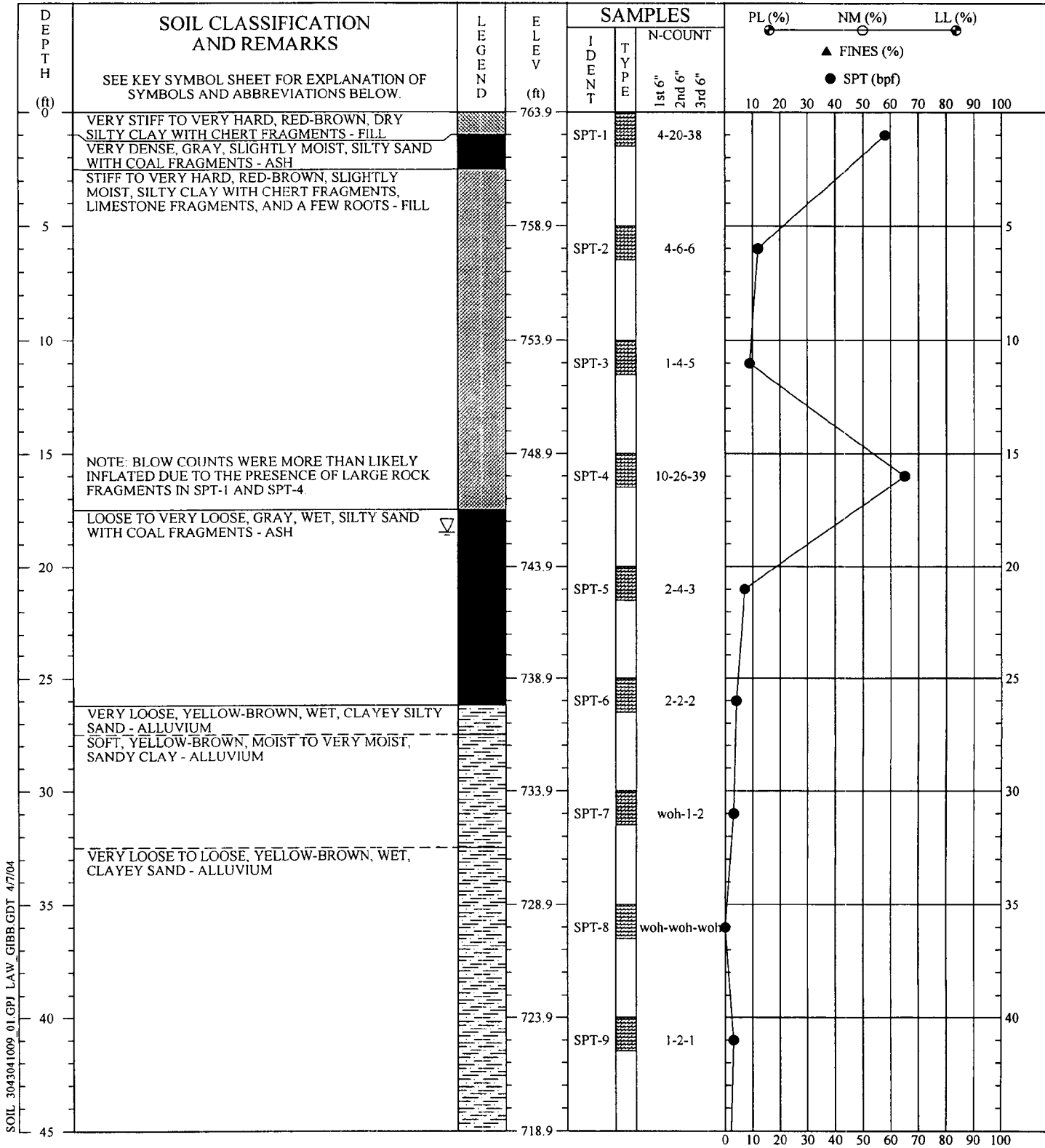
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/7/04

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Driller : Akins  
 Prepared By: Justice  
 Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> TVA Kingston Ash	<b>BORING NO.:</b> B-11
<b>DRILLED:</b> March 15, 2004	<b>PAGE 2 OF 2</b>
<b>PROJ. NO.:</b> 3043041009/0001	
	



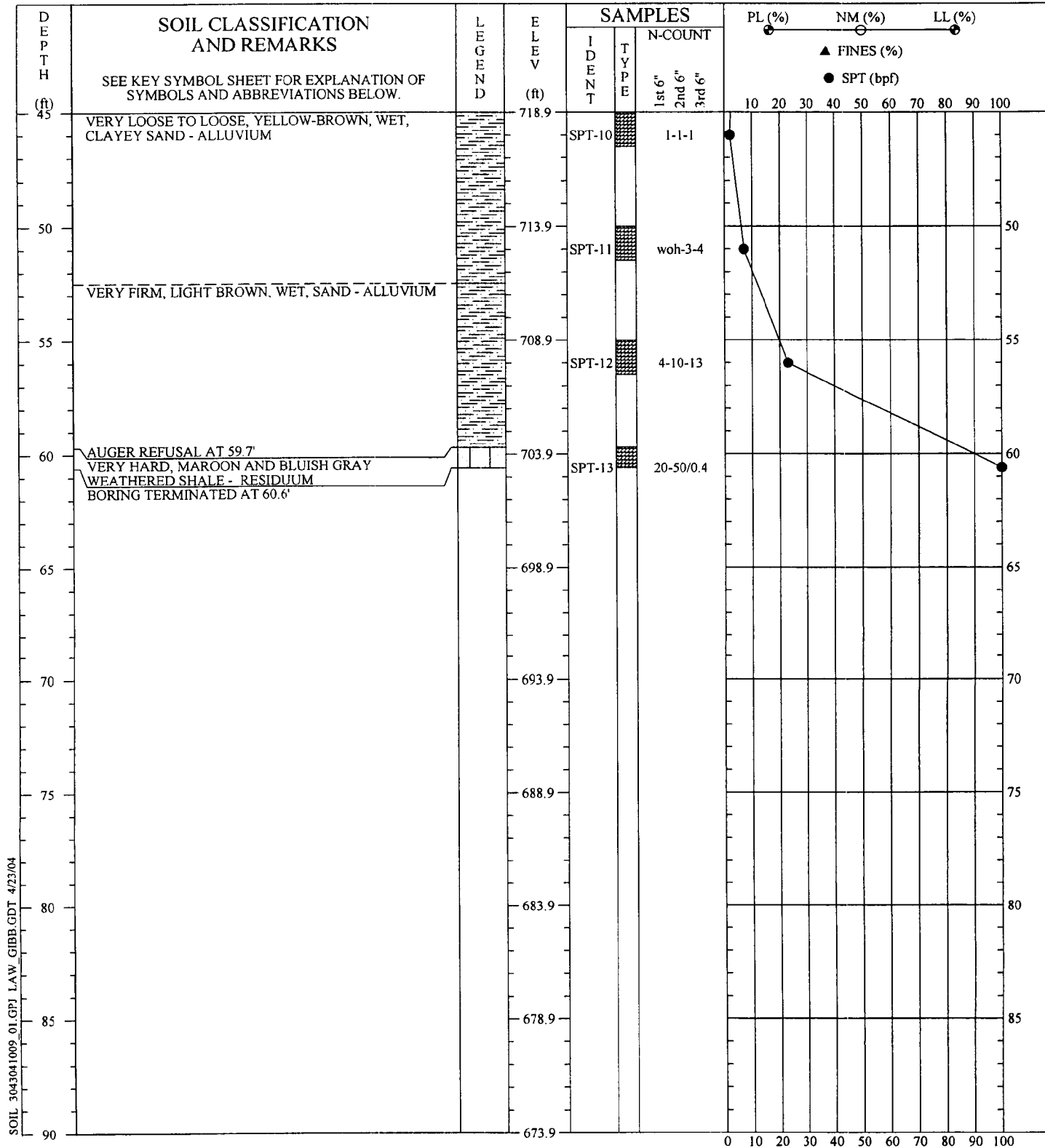
SOIL 3043041009\_01.GPI LAW\_GIBB.GDT 4/7/04

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Driller: Akins  
 Prepared By: Justice  
 Checked By:


SOIL TEST BORING RECORD	
PROJECT: TVA Kingston Ash	
DRILLED: March 16, 2004	BORING NO.: B-12
PROJ. NO.: 3043041009/0001	PAGE 1 OF 2



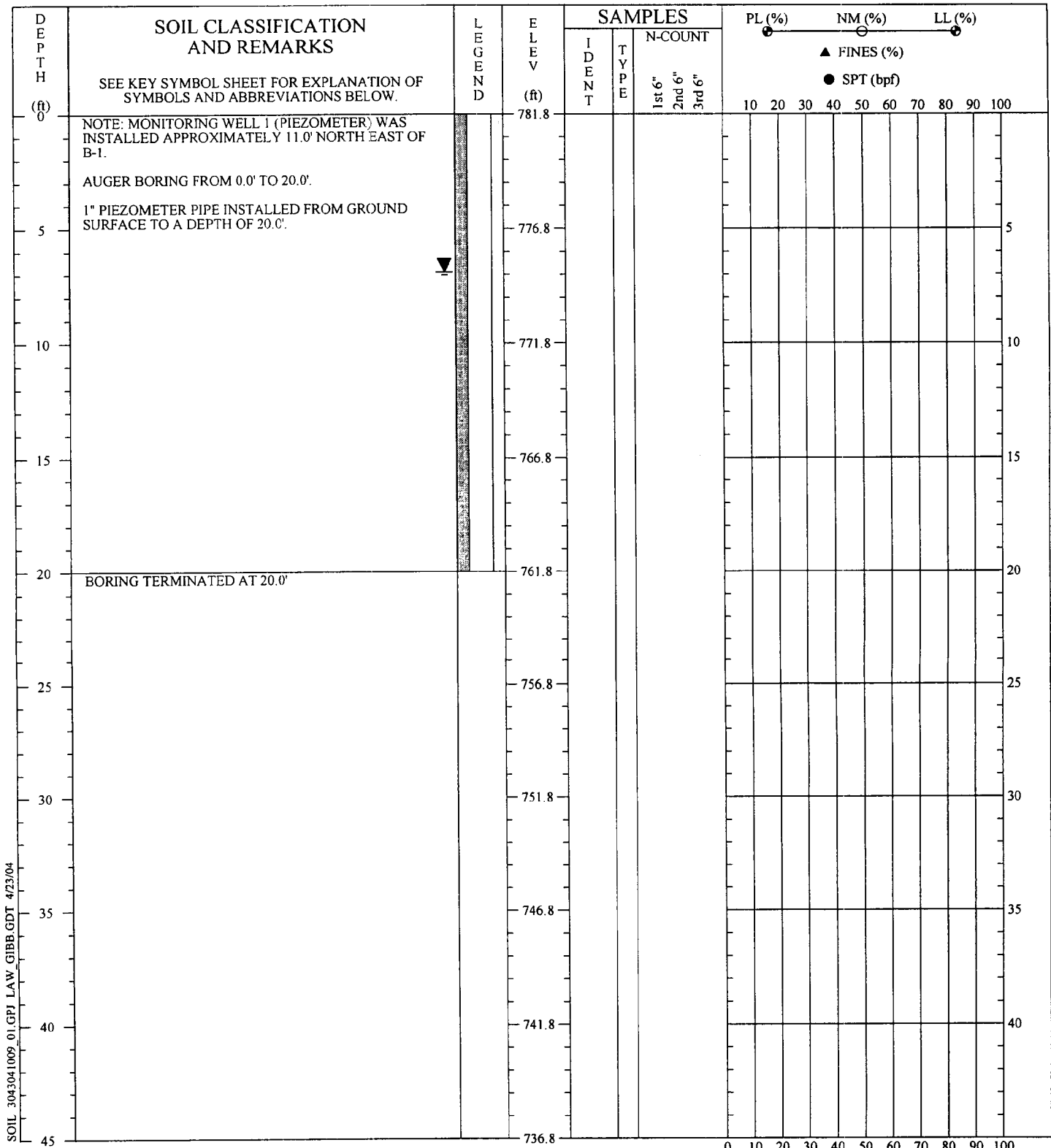
REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER

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Driller: Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: Kingston Fossil Plant - Ash Diposal Area	
DRILLED: March 16, 2004	BORING NO.: B-12
PROJ. NO.: 3043041009/0001	PAGE 2 OF 2
	






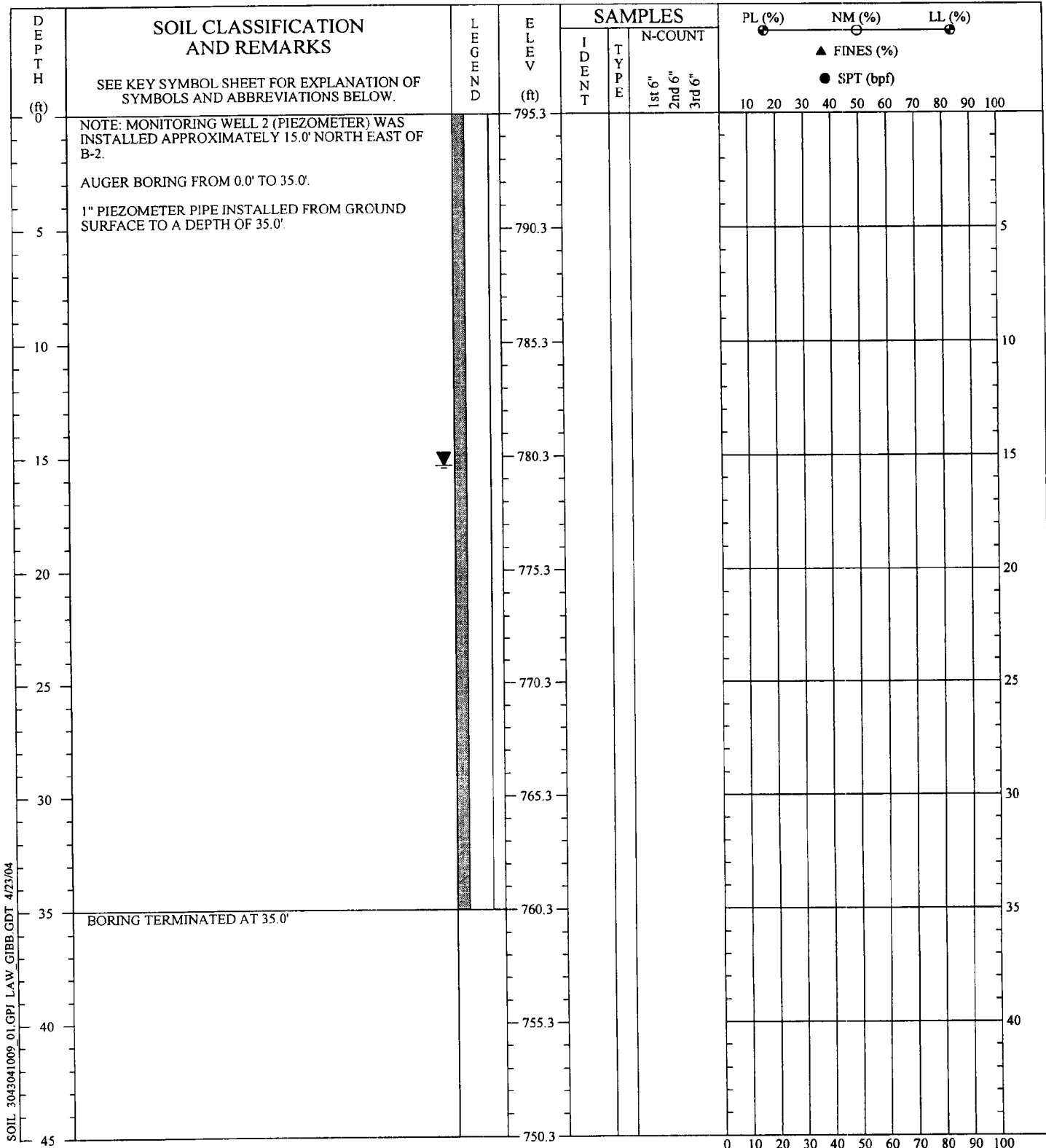
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/23/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF  
SUBSURFACE CONDITIONS AT THE EXPLORATION  
LOCATION. SUBSURFACE CONDITIONS AT OTHER  
LOCATIONS AND AT OTHER TIMES MAY DIFFER.  
INTERFACES BETWEEN STRATA ARE APPROXIMATE.  
TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> Kingston Fossil Plant - Ash Diposal Area	<b>BORING NO.:</b> MW-1
<b>DRILLED:</b> March 25, 2004	<b>PROJ. NO.:</b> 3043041009/0001
<b>PAGE 1 OF 1</b>	
	




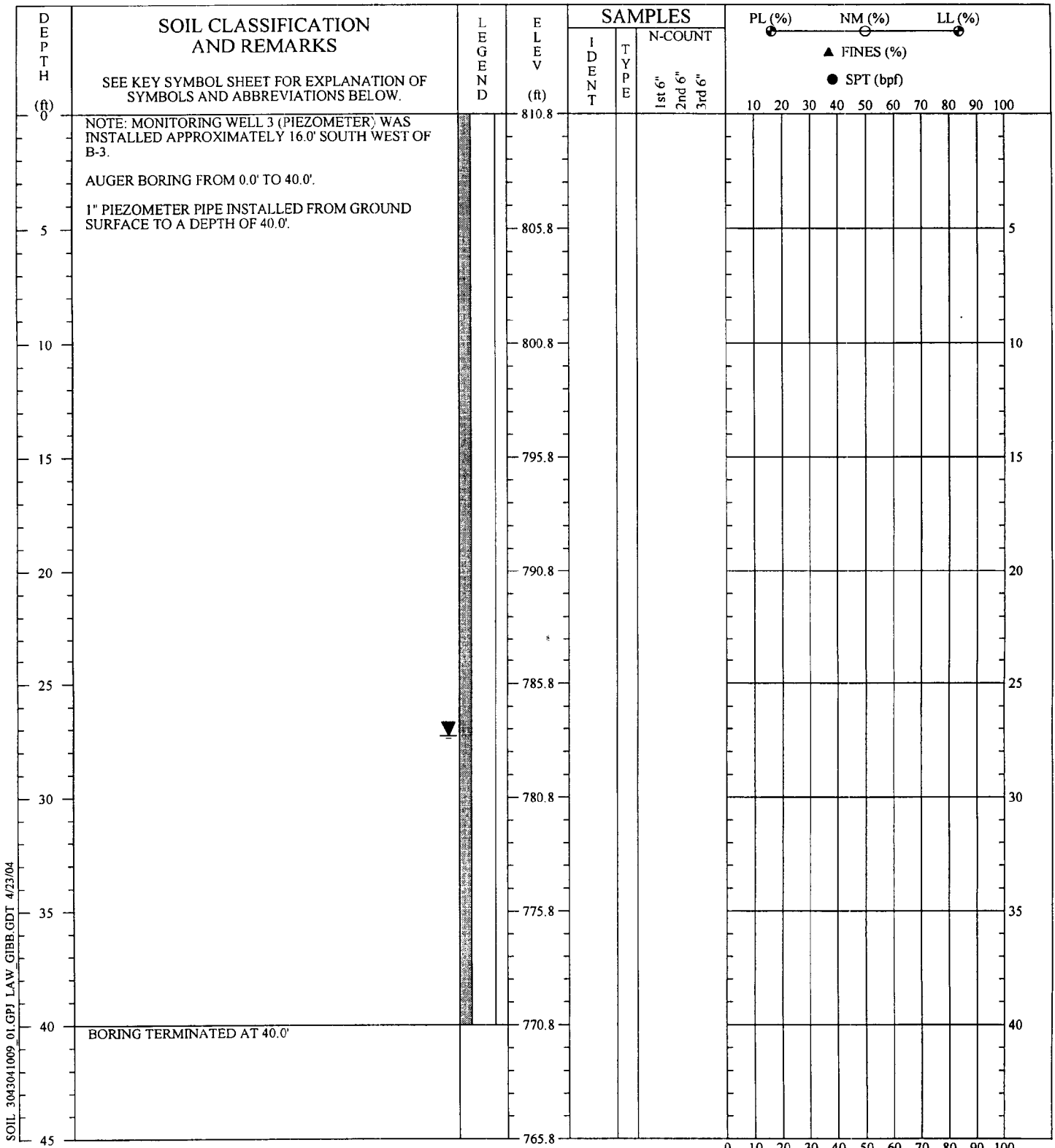
SOIL 3043041009\_01.GPJ L.A.W. GIBB.GDT 4/23/04

REMARKS:

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Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
<b>PROJECT:</b> Kingston Fossil Plant - Ash Diposal Area	<b>BORING NO.:</b> MW-2
<b>DRILLED:</b> March 25, 2004	<b>PROJ. NO.:</b> 3043041009/0001
<b>PAGE 1 OF 1</b>	
	




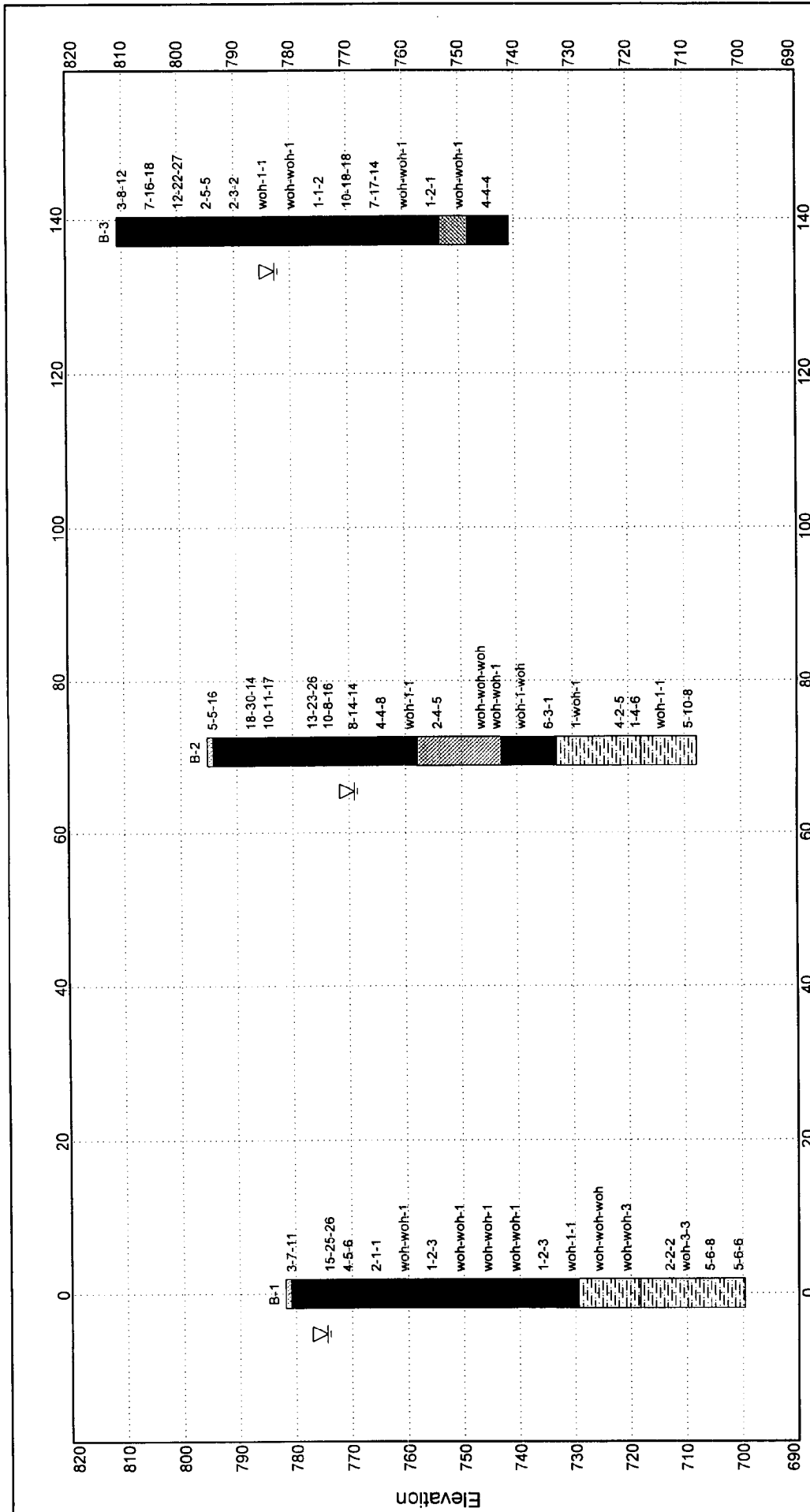
SOIL 3043041009\_01.GPJ LAW\_GIBB.GDT 4/23/04

REMARKS:

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SUBSURFACE CONDITIONS AT THE EXPLORATION  
LOCATION. SUBSURFACE CONDITIONS AT OTHER  
LOCATIONS AND AT OTHER TIMES MAY DIFFER.  
INTERFACES BETWEEN STRATA ARE APPROXIMATE.  
TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins  
Prepared By: Justice  
Checked By:

SOIL TEST BORING RECORD	
PROJECT: Kingston Fossil Plant - Ash Diposal Area	BORING NO.: MW-3
DRILLED: March 25, 2004	
PROJ. NO.: 3043041009/0001	PAGE 1 OF 1
	



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Distance Along Baseline

SUBSURFACE FENCE DIAGRAM A - A

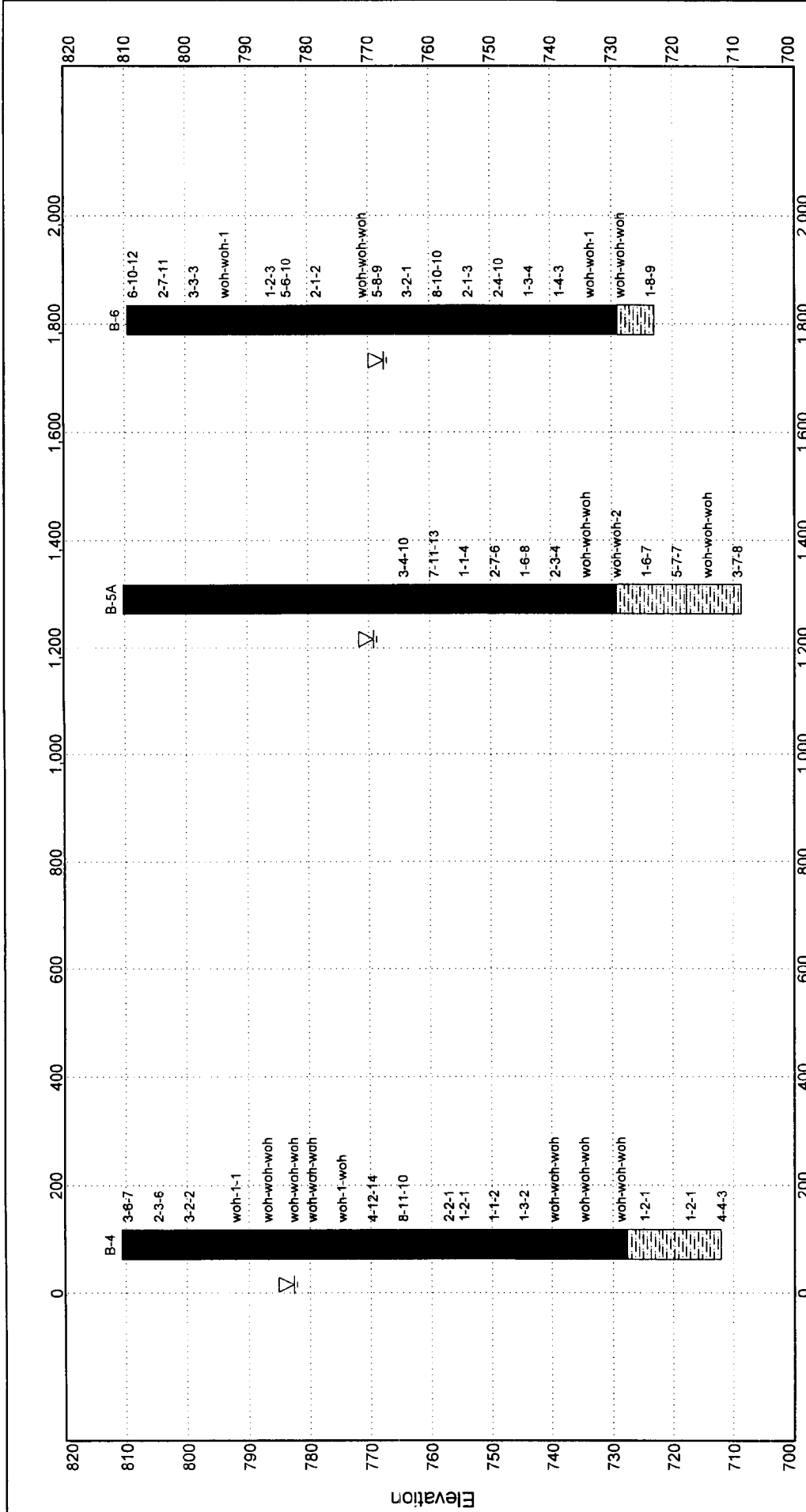
Kingston Fossil Plant - Ash Disposal Area

DISTANCES:  
Beginning 0  
Ending 140  
VIEWING ANGLES (degrees):  
Horizontal 0.0  
Vertical 0.0

Borehole	North	East	Elev.	Depth
B-1	556953	2439764	781.8	82.2
B-2	556903	2439814	795.3	87.5
B-3	556859	2439865	810.8	70.0

Position	North	East
Left, Front	556952	2439763
Right, Front	556857	2439866
Left, Back	556952	2439763
Right, Back	556857	2439866

PROJECT #	3043041009/0001
DATE	Apr 04
PLATE	1



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Distance Along Baseline

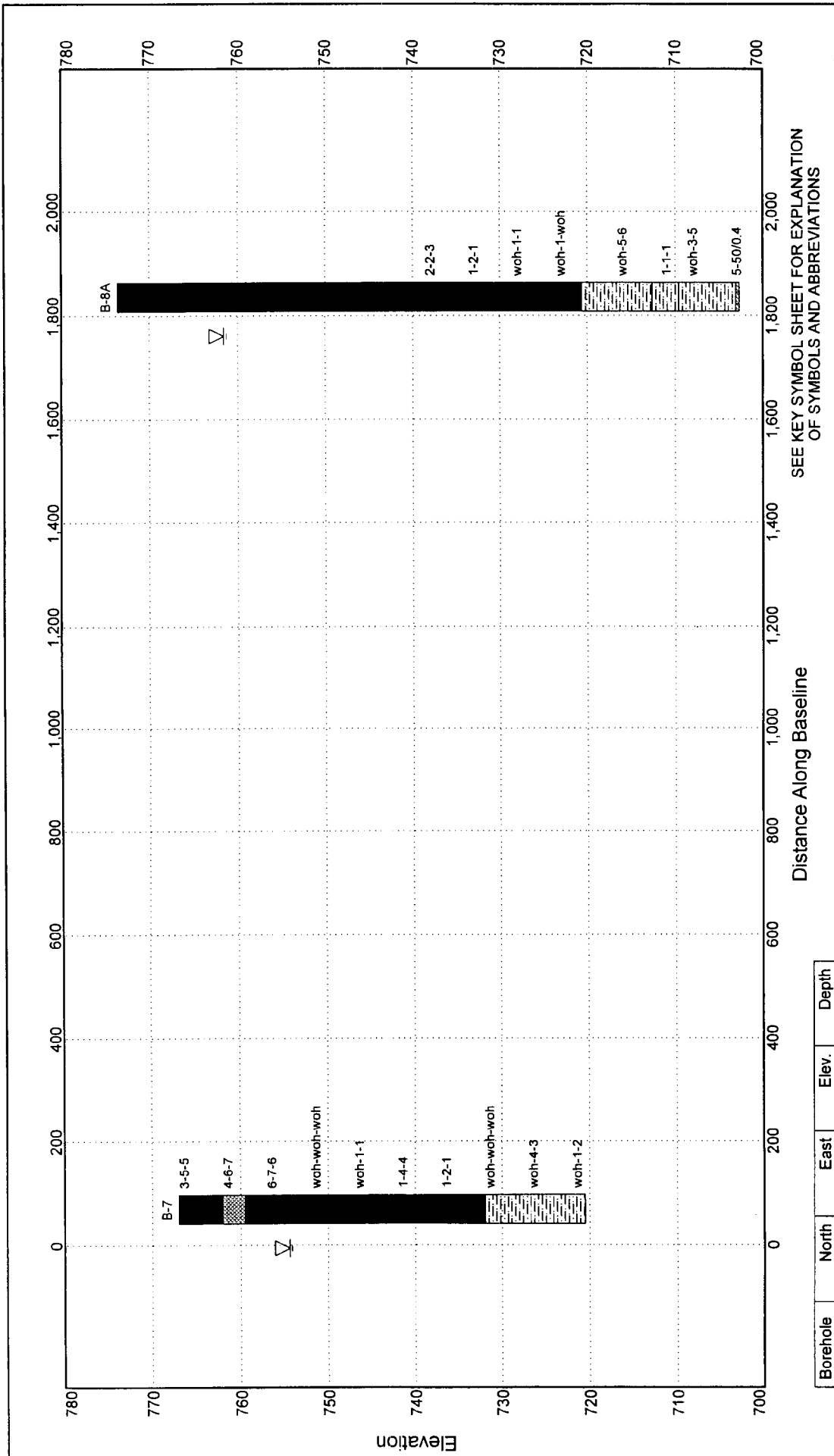
DISTANCES:  
 Beginning 0  
 Ending 2000  
 VIEWING ANGLES (degrees):  
 Horizontal 0.0  
 Vertical 0.0

Borehole	North	East	Elev.	Depth
B-4	556619	2440897	810.6	98.5
B-5A	555597	2440247	810.2	101.5
B-6	555292	2439808	809.5	86.5

SUBSURFACE FENCE DIAGRAM B - B'

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	2



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Distance Along Baseline

SUBSURFACE FENCE DIAGRAM C - C'

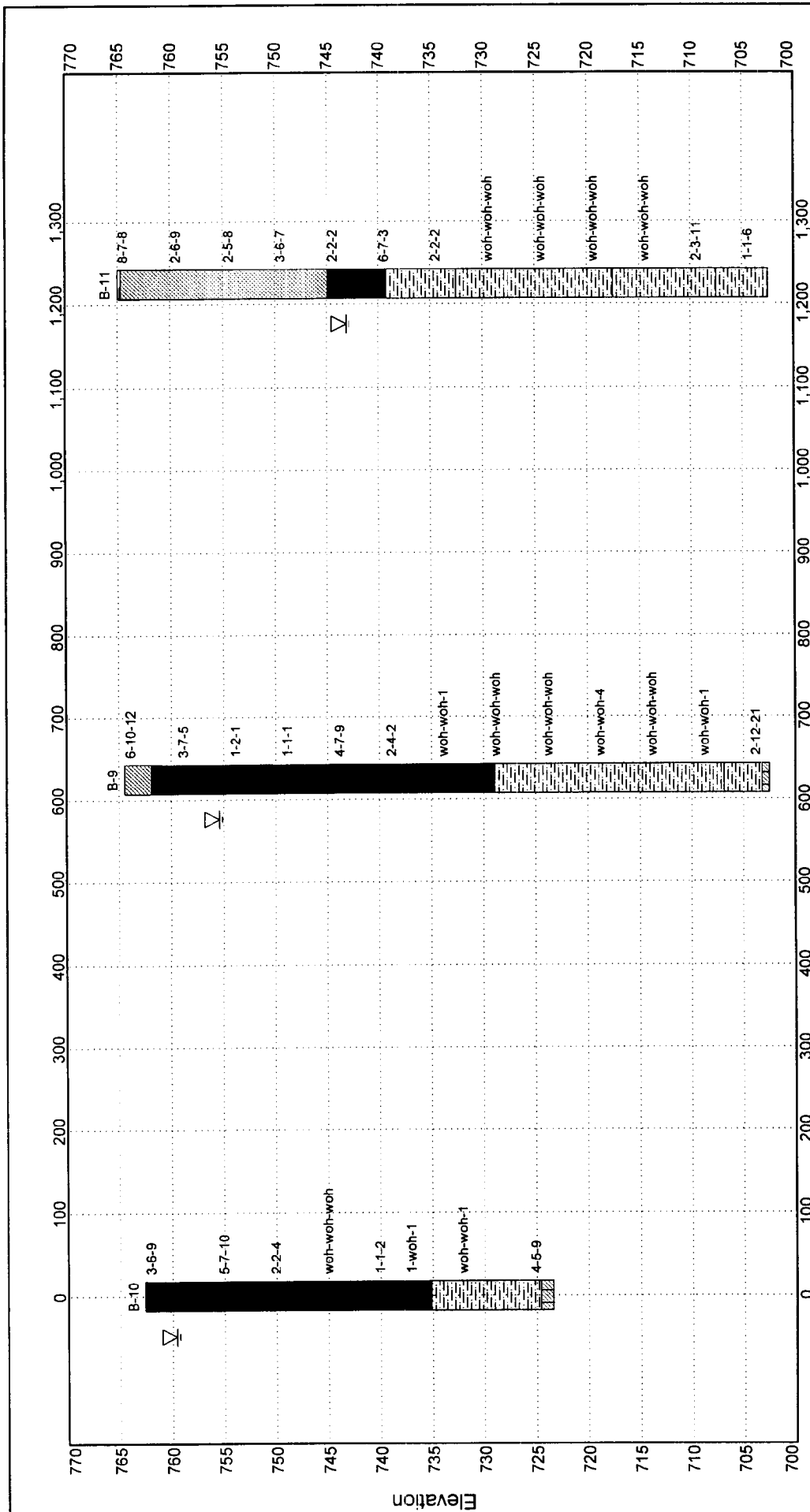
Kingston Fossil Plant - Ash Disposal Area

DISTANCES:  
 Beginning 0  
 Ending 2000  
 VIEWING ANGLES (degrees):  
 Horizontal 0.0  
 Vertical 0.0

Borehole	North	East	Elev.	Depth
B-7	556249	2441518	767.0	46.5
B-8A	554787	2440526	773.6	70.9

PROJECT #	3043041009/0001
DATE	Apr 04
PLATE	3

Position	North	East
Left, Front	556304	2441560
Right, Front	554663	2440417
Left, Back	556304	2441560
Right, Back	554663	2440417



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Distance Along Baseline

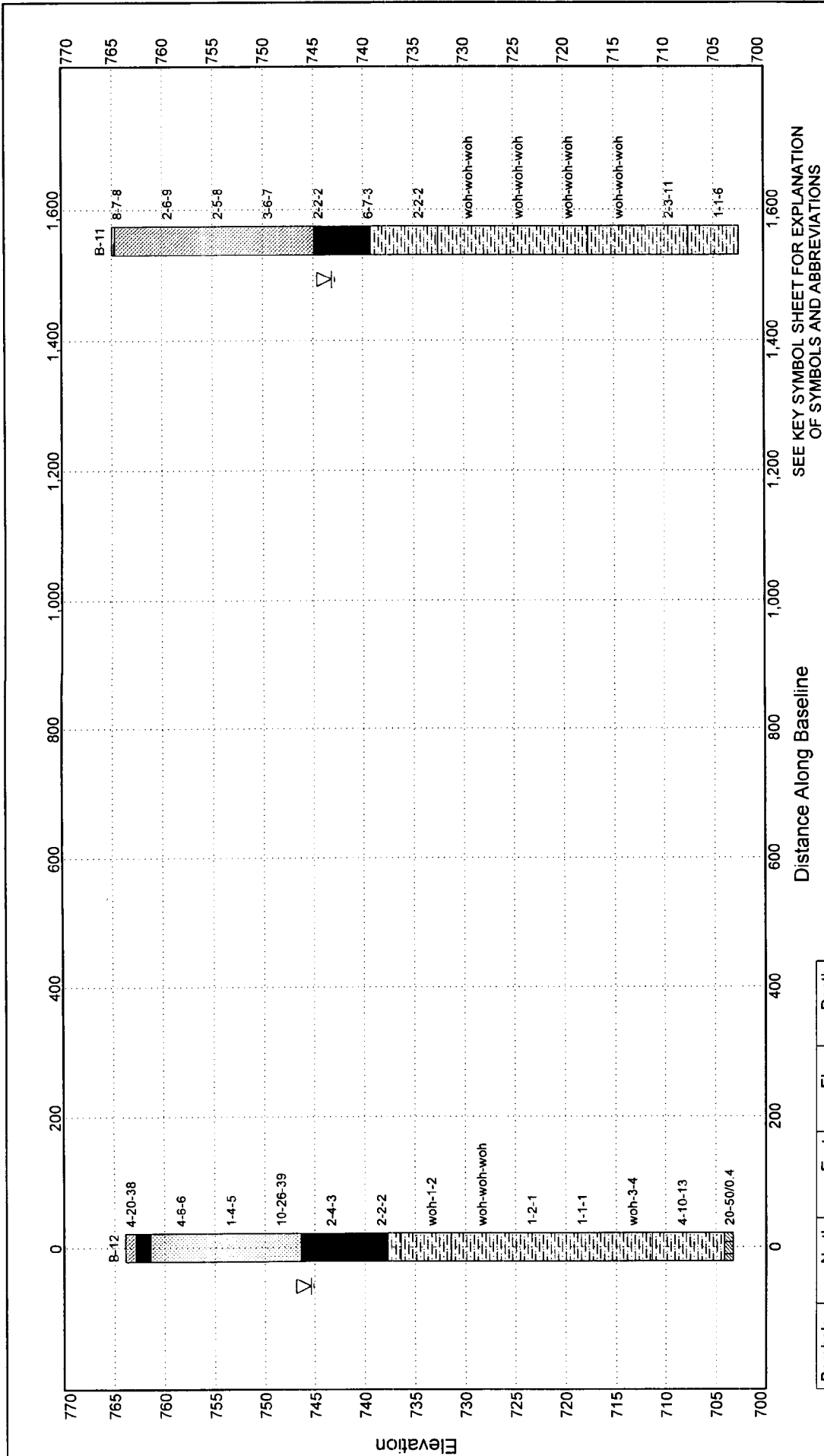
SUBSURFACE FENCE DIAGRAM D - D'

Kingston Fossil Plant - Ash Disposal Area

DISTANCES:	Beginning	0
	Ending	1300
VIEWING ANGLES (degrees):	Horizontal	0.0
	Vertical	0.0
Position	North	East
	Left, Front	554523
Right, Front	554858	2442896
	Left, Back	554523
Right, Back	554858	2442896

Borehole	North	East	Elev.	Depth
B-10	554428	2441665	762.6	39.2
B-11	554761	2442844	765.0	62.5
B-9	554858	2442197	764.4	61.9

PROJECT #	3043041009/0001
DATE	Apr 04
PLATE	4



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Distance Along Baseline

SUBSURFACE FENCE DIAGRAM E - E'

Kingston Fossil Plant - Ash Disposal Area

DISTANCES:

Beginning	0
Ending	1600

VIEWING ANGLES (degrees):

Horizontal	0.0
Vertical	0.0

Borehole	Position		Elev.	Depth
	North	East		
B-11	554761	2442844	765.0	62.5
B-12	556266	2442464	763.9	60.6

PROJECT #	3043041009/0001
DATE	Apr 04
PLATE	5



**APPENDIX C**

**IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS AND PROCEDURE**

## IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS

### Stage 1 – Maximum Vertical Hydraulic Conductivity

Location:	Boring B-1
Depth:	5 Ft.
Max. Vertical Hydraulic Conductivity:	$5.13 \times 10^{-6}$ cm/s

Location:	Boring B-2
Depth:	5 Ft.
Max. Vertical Hydraulic Conductivity:	$3.59 \times 10^{-6}$ cm/s

### Stage 2 – Minimum Horizontal Hydraulic Conductivity

Location:	Boring B-1
Depth:	5.42 Ft.
Min. Horizontal Hydraulic Conductivity:	$1.42 \times 10^{-5}$ cm/s

Location:	Boring B-2
Depth:	5.38 Ft.
Min. Horizontal Hydraulic Conductivity:	$3.67 \times 10^{-6}$ cm/s

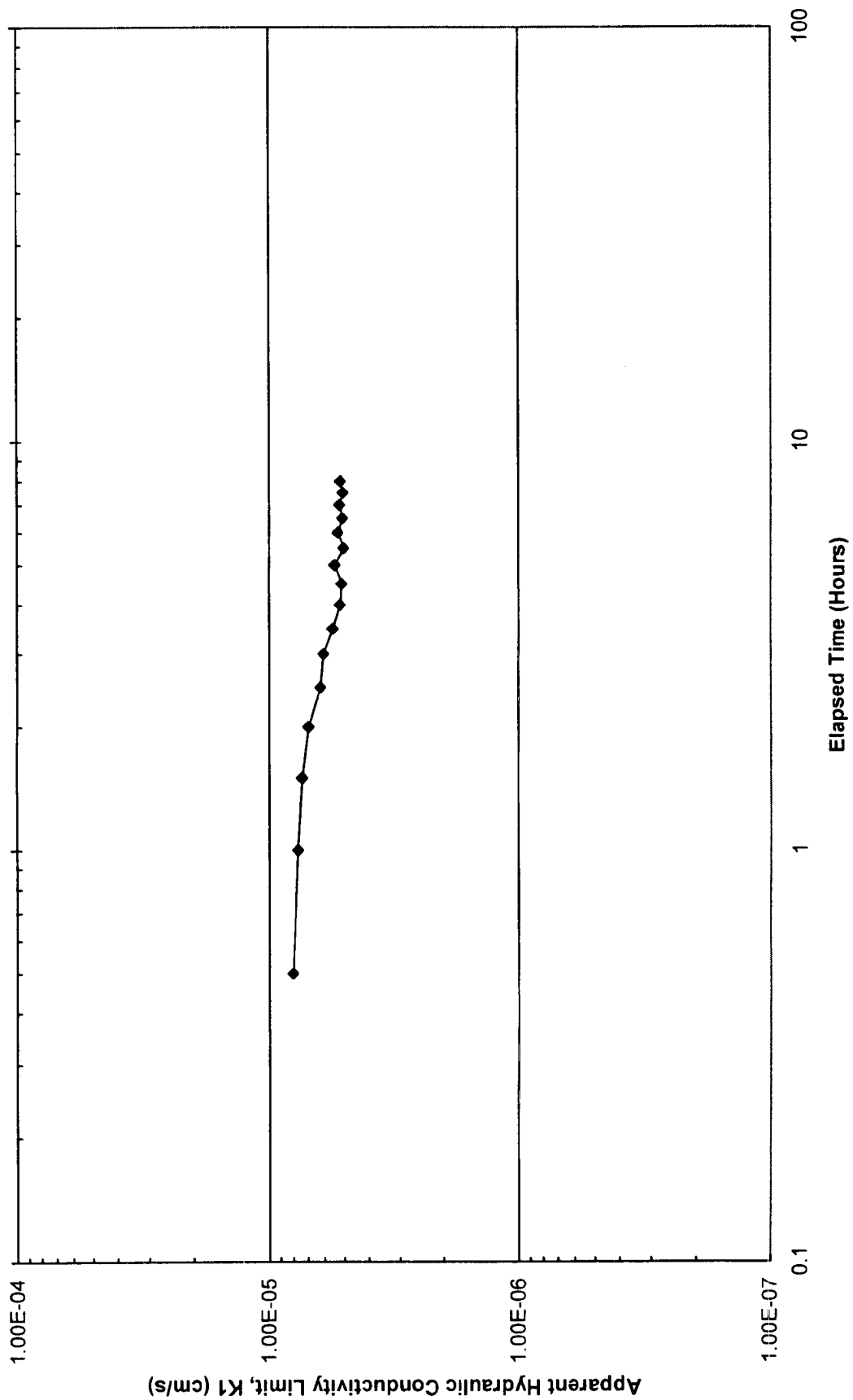
Note: The stage 2 depth is reported as the middle of the test interval below the bottom of the casing.

TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA  
ASTM D 6391  
STAGE 1

Project: TVA KIF Ash  
Number: 3043041009/0001  
Test: Stage 1  
Location: B-1A

Date	Time	Delta t (sec)	Test			TEG at B-1B					Cumulative			Rem		
			R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2' (cm)	Temp (deg)	Rt	K1 (cm/s)	Vol (cc)		Cum Hrs	
3/26/2004	10:14	1800	88.8	327.0	327.0	70.9	70.9	0.0	-	9	-	-	-	-	-	Start
3/26/2004	10:44	1800	19.3	327.0	257.5	70.9	70.6	-0.3	257.8	9	1.339	8.01E-06	87.9	0.5	-	Refill
3/26/2004	10:45	1800	99.0	-	337.2	70.6	70.6	0.0	337.2	9	-	-	-	-	-	Refill
3/26/2004	11:15	1800	30.2	337.2	268.4	70.6	70.4	-0.2	268.6	9	1.339	7.66E-06	175.0	1	-	Refill
3/26/2004	11:17	1800	98.5	-	336.7	70.4	70.4	0.0	336.7	9	-	-	-	-	-	Refill
3/26/2004	11:47	1800	32.5	336.7	270.7	70.4	70.4	0.0	270.7	9	1.339	7.35E-06	258.8	1.5	-	Refill
3/26/2004	11:48	1800	99.0	-	337.2	70.4	70.4	0.0	337.2	9	-	-	-	-	-	Refill
3/26/2004	12:18	1800	36.2	337.2	274.4	70.4	70.3	-0.1	274.5	9	1.339	6.93E-06	338.5	2	-	Refill
3/26/2004	12:19	1800	100.0	-	338.2	70.3	70.3	0.0	338.2	9	-	-	-	-	-	Refill
3/26/2004	12:49	1800	42.9	338.2	281.1	70.3	70.2	-0.1	281.2	9	1.339	6.22E-06	410.8	2.5	-	Refill
3/26/2004	12:51	1800	98.5	-	336.7	70.2	70.2	0.0	336.7	9	-	-	-	-	-	Refill
3/26/2004	13:21	1800	43.2	336.7	281.4	70.3	70.3	0.0	281.4	9	1.339	6.05E-06	481.1	3	-	Refill
3/26/2004	13:23	1800	100.0	-	338.2	70.3	70.4	0.1	338.1	9	-	-	-	-	-	Refill
3/26/2004	13:53	1800	48.6	338.2	286.8	70.4	70.4	0.0	286.8	9	1.339	5.56E-06	546.4	3.5	-	Refill
3/26/2004	13:54	1800	97.0	-	335.2	70.4	70.4	0.0	335.2	9	-	-	-	-	-	Refill
3/26/2004	14:24	1800	49.2	335.2	287.4	70.4	70.4	0.0	287.4	9	1.339	5.18E-06	607.1	4	-	Refill
3/26/2004	14:25	1800	100.0	-	338.2	70.4	70.4	0.0	338.2	9	-	-	-	-	-	Refill
3/26/2004	14:55	1800	52.5	338.2	290.7	70.4	70.4	0.0	290.7	9	1.339	5.1E-06	667.4	4.5	-	Refill
3/26/2004	15:25	1800	9.2	290.7	247.4	70.4	70.5	0.1	247.3	9	1.339	5.45E-06	722.5	5	-	Refill
3/26/2004	15:25	1800	99.0	-	337.2	70.5	70.5	0.0	337.2	9	-	-	-	-	-	Refill
3/26/2004	15:55	1800	52.3	337.2	290.5	70.5	70.5	0.0	290.5	9	1.339	5.02E-06	781.8	5.5	-	Refill
3/26/2004	16:25	1800	10.1	290.5	248.3	70.5	70.5	0.0	248.3	9	1.339	5.29E-06	835.4	6	-	Refill
3/26/2004	16:26	1800	99.5	-	337.7	70.5	70.5	0.0	337.7	9	-	-	-	-	-	Refill
3/26/2004	16:56	1800	52.3	337.7	290.5	70.5	70.5	0.0	290.5	9	1.339	5.07E-06	895.4	6.5	-	Refill
3/26/2004	17:26	1800	10.7	290.5	248.9	70.5	70.4	-0.1	249.0	9	1.339	5.19E-06	948.1	7	-	Refill
3/26/2004	17:28	1800	100.0	-	338.2	70.4	70.3	-0.1	338.3	9	-	-	-	-	-	Refill
3/26/2004	17:58	1800	53.0	338.2	291.2	70.3	70.3	0.0	291.2	9	1.339	5.04E-06	1007.7	7.5	-	Refill
3/26/2004	18:28	1800	11.6	291.2	249.8	70.3	70.3	0.0	249.8	9	1.339	5.17E-06	1060.3	8	-	End

Stage 1 at B-1A



TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA  
ASTM D 6391  
STAGE 1

Project: TVA KIF Ash  
Number: 3043041009/0001  
Test: Stage 1  
Location: B-2A

Date	Time	Delta t (sec)	Test			TEGat B-1A						Cumulative						
			R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2 (cm)	Temp (deg)	Rt	K1 (cm/s)	Vol. (cc)	Cum Hrs	Rem Start			
3/26/2004	10:08	1800	99.4	372.1	372.1	70.9	70.9	0.0	-	9	-	-	-	-	-	-	-	
3/26/2004	10:38	1800	38.7	372.1	311.4	70.9	70.6	-0.3	311.7	9	1.339	5.97E-06	76.7	0.5	0.5	0.5	0.5	
3/26/2004	10:39	1800	99.0	371.7	371.7	70.6	70.6	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	11:09	1800	42.3	371.7	315.0	70.6	70.4	-0.2	315.2	9	1.339	5.56E-06	148.5	1	1	1	1	Refill
3/26/2004	11:10	1800	100.0	372.7	372.7	70.4	70.4	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	11:41	1800	46.4	372.7	319.1	70.4	70.4	0.0	319.1	9	1.339	5.23E-06	216.5	1.5	1.5	1.5	1.5	Refill
3/26/2004	11:41	1800	100.0	372.7	372.7	70.4	70.4	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	12:11	1800	49.2	372.7	321.9	70.4	70.3	-0.1	322.0	9	1.339	4.93E-06	280.9	2	2	2	2	Refill
3/26/2004	12:41	1800	100.0	372.7	372.7	70.3	70.3	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	12:56	1800	53.2	372.7	325.9	70.3	70.2	-0.1	326.0	9	1.339	4.51E-06	340.2	2.5	2.5	2.5	2.5	Refill
3/26/2004	13:26	1800	19.1	325.9	291.8	70.2	70.3	0.1	291.7	9	1.339	3.74E-06	383.7	3	3	3	3	Refill
3/26/2004	13:27	1800	99.5	372.2	372.2	70.3	70.3	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	13:57	1800	54.8	372.2	327.5	70.3	70.4	0.1	327.4	9	1.339	4.32E-06	440.6	3.5	3.5	3.5	3.5	Refill
3/26/2004	14:27	1800	21.7	327.5	294.4	70.4	70.4	0.0	294.4	9	1.339	3.59E-06	482.6	4	4	4	4	Refill
3/26/2004	14:29	1800	97.0	369.7	369.7	70.4	70.4	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	14:59	1800	55.7	369.7	328.4	70.4	70.4	0.0	328.4	9	1.339	3.99E-06	535.1	4.5	4.5	4.5	4.5	Refill
3/26/2004	15:29	1800	23.9	328.4	296.6	70.4	70.5	0.1	296.5	9	1.339	3.44E-06	575.6	5	5	5	5	Refill
3/26/2004	15:31	1800	98.5	371.2	371.2	70.5	70.5	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	16:01	1800	59.0	371.2	331.7	70.5	70.5	0.0	331.7	9	1.339	3.79E-06	625.7	5.5	5.5	5.5	5.5	Refill
3/26/2004	16:31	1800	27.6	331.7	300.3	70.5	70.5	0.0	300.3	9	1.339	3.35E-06	665.6	6	6	6	6	Refill
3/26/2004	16:33	1800	99.5	372.2	372.2	70.5	70.5	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	17:03	1800	60.7	372.2	333.4	70.5	70.5	0.0	333.4	9	1.339	3.71E-06	714.9	6.5	6.5	6.5	6.5	Refill
3/26/2004	17:33	1800	28.7	333.4	301.4	70.5	70.3	-0.2	301.6	9	1.339	3.38E-06	755.3	7	7	7	7	Refill
3/26/2004	17:35	1800	98.5	371.2	371.2	70.3	70.3	0.0	-	9	-	-	-	-	-	-	-	Refill
3/26/2004	18:05	1800	60.2	371.2	332.9	70.3	70.3	0.0	332.9	9	1.339	3.67E-06	803.9	7.5	7.5	7.5	7.5	Refill
3/26/2004	18:35	1800	28.1	332.9	300.8	70.2	70.3	0.1	300.7	9	1.339	3.43E-06	844.8	8	8	8	8	Stop