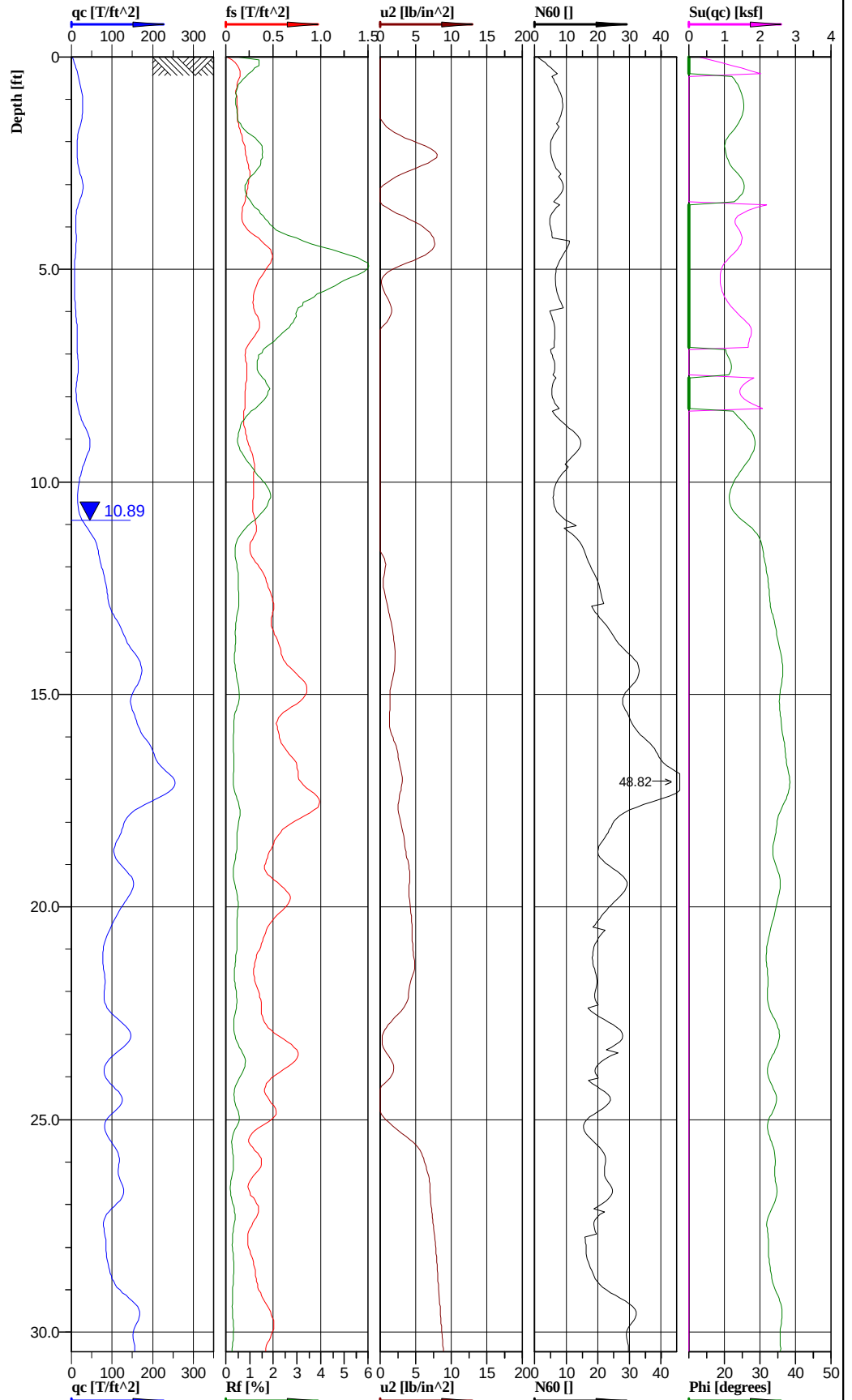
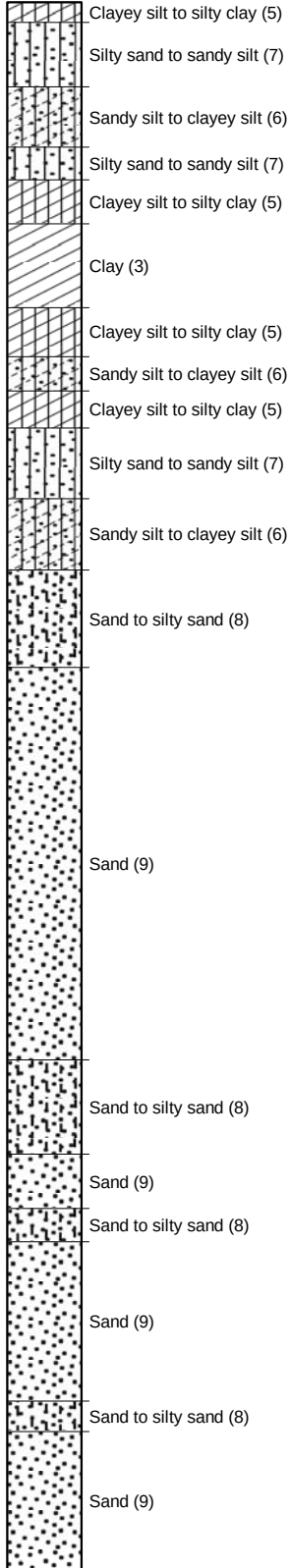


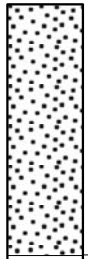
Classification by
Robertson 1986



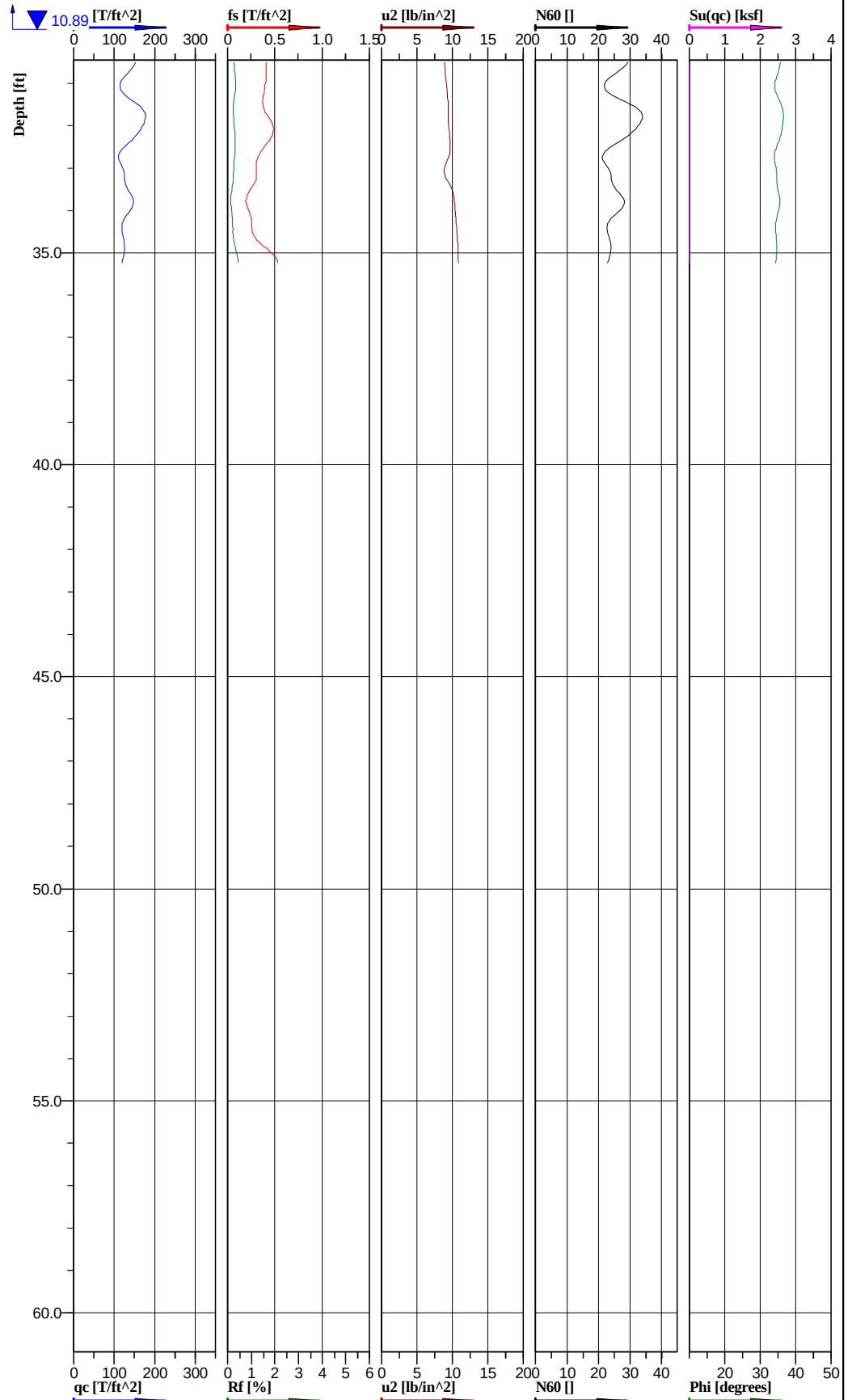
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727263.09 ft, Y: 995508.43 ft	Ground level:	469.09	Test no:	C-21
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-5
				File:	Labadie C-021.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



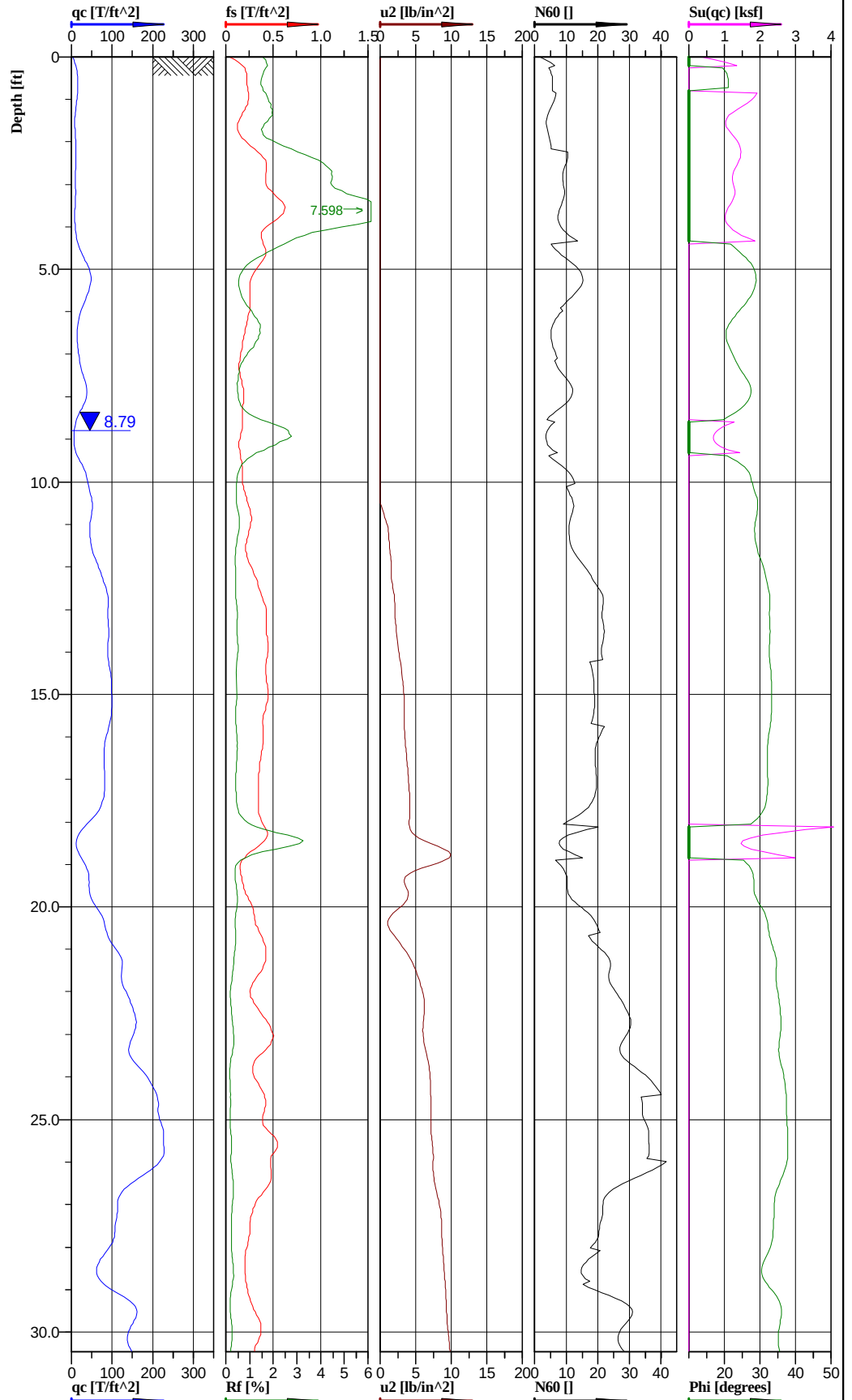
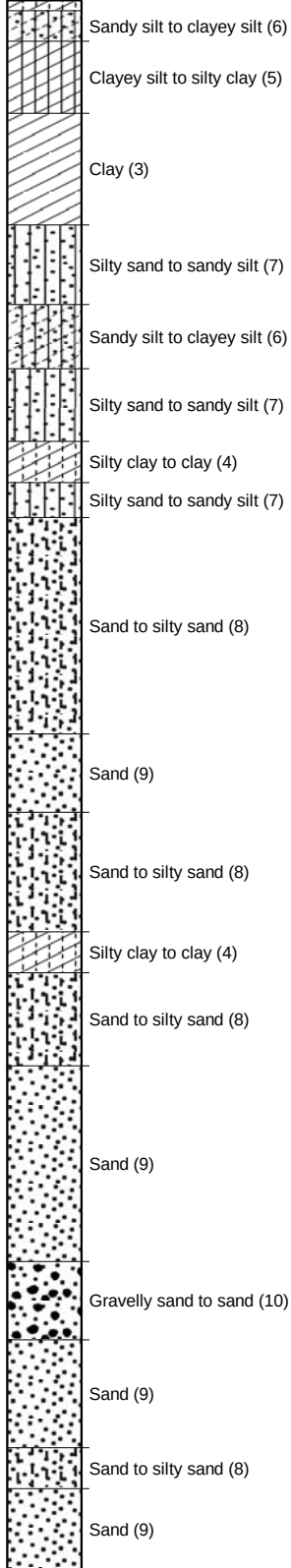
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 727263.09 ft, Y: 995508.43 ft	Ground level: 469.09	Test no: C-21
Project ID: 2008012455	Client: Ameren Missouri	Date: 10/23/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-5
		File: Labadie C-021.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-21
Test date: 10/23/2009
Location: Labadie MO
File name: Labadie C-021.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.742	0.014	1.6755	Sandy silt to clayey silt (6)	6.4	1.176	0.007	0.007	22.9		1.86	6.4	116	0.15	0.15	145
3.75	1.449	0.028	3.6083	Clay (3)	7.4	1.358	0.021	0.021	24.1		1.83	7.4	114	0.44	0.44	407
6.25	1.105	0.028	-0.1141	Clayey silt to silty clay (5)	6.5	1.317	0.035	0.035	21.3		1.82	6.5	114	0.73	0.73	790
8.75	2.474	0.022	-1.5716	Sandy silt to clayey silt (6)	9.1	1.644	0.048	0.048	25.9		1.87	9.1	117	1.00	1.00	206
11.25	4.638	0.031	-2.3962	Sand to silty sand (8)	12.8		0.062	0.061	27.6	61	1.9	8.2	119	1.29	1.27	386
13.75	12.825	0.058	1.5653	Sand (9)	26.3		0.077	0.068	34.8	79	1.98	13.2	124	1.60	1.41	1067
16.25	18.669	0.068	2.1523	Sand (9)	37.3		0.092	0.075	36.9	88	2	18.7	125	1.91	1.56	1553
18.75	12.794	0.059	3.5458	Sand (9)	25.6		0.107	0.083	34.9	76	1.99	12.8	124	2.23	1.73	1064
21.25	8.417	0.037	4.2801	Sand (9)	19.6		0.121	0.09	32.5	63	1.95	9.8	122	2.52	1.87	700
23.75	10.592	0.051	0.6897	Sand (9)	22.3		0.136	0.097	33.8	69	1.97	11.1	123	2.83	2.02	881
26.25	9.951	0.03	5.8138	Sand to silty sand (8)	20.6		0.151	0.104	33.5	66	1.97	13.2	123	3.14	2.16	828
28.75	11.266	0.034	8.1397	Sand (9)	22.8		0.166	0.111	34.0	68	1.98	11.4	124	3.45	2.31	937
31.25	14.095	0.04	9.2242	Sand (9)	28.2		0.18	0.118	35.4	74	1.99	14.1	124	3.74	2.45	1173
33.75	12.117	0.028	10.0422	Sand (9)	24.2		0.195	0.126	34.6	69	1.99	12.1	124	4.06	2.62	1008
36.25	11.694	0.049	10.817	Sand (9)	23.4		0.203	0.129	34.5	68	1.99	11.7	124	4.22	2.68	973

Classification by
Robertson 1986

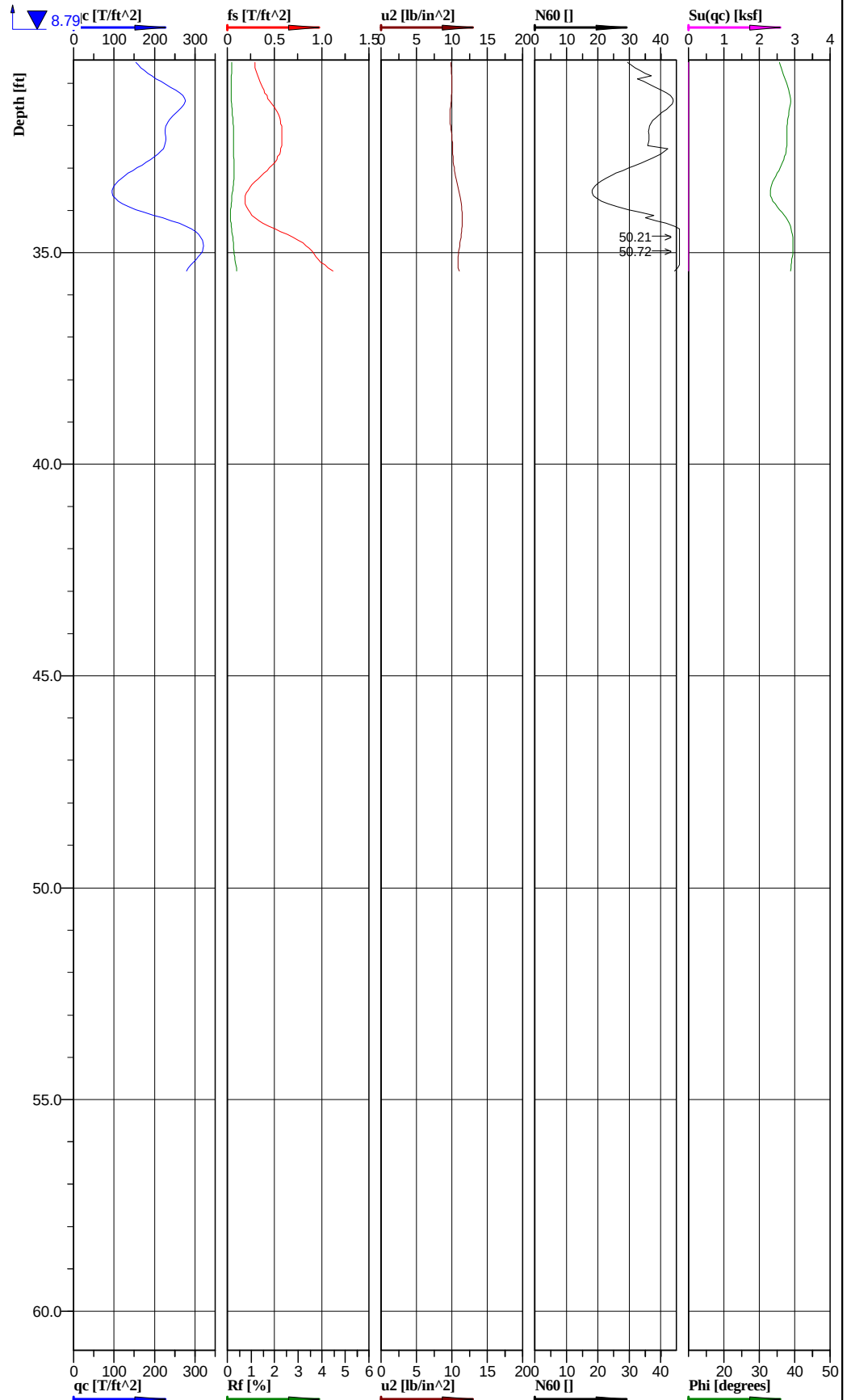
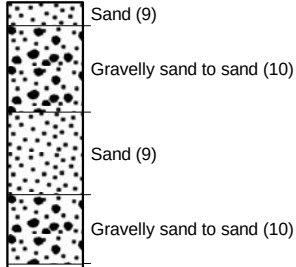


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 727854.20 ft, Y: 995493.86 ft	Ground level:	468.50	Test no:	C-23
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-6
				File:	Labadie C-023.cpd		

Classification by
Robertson 1986



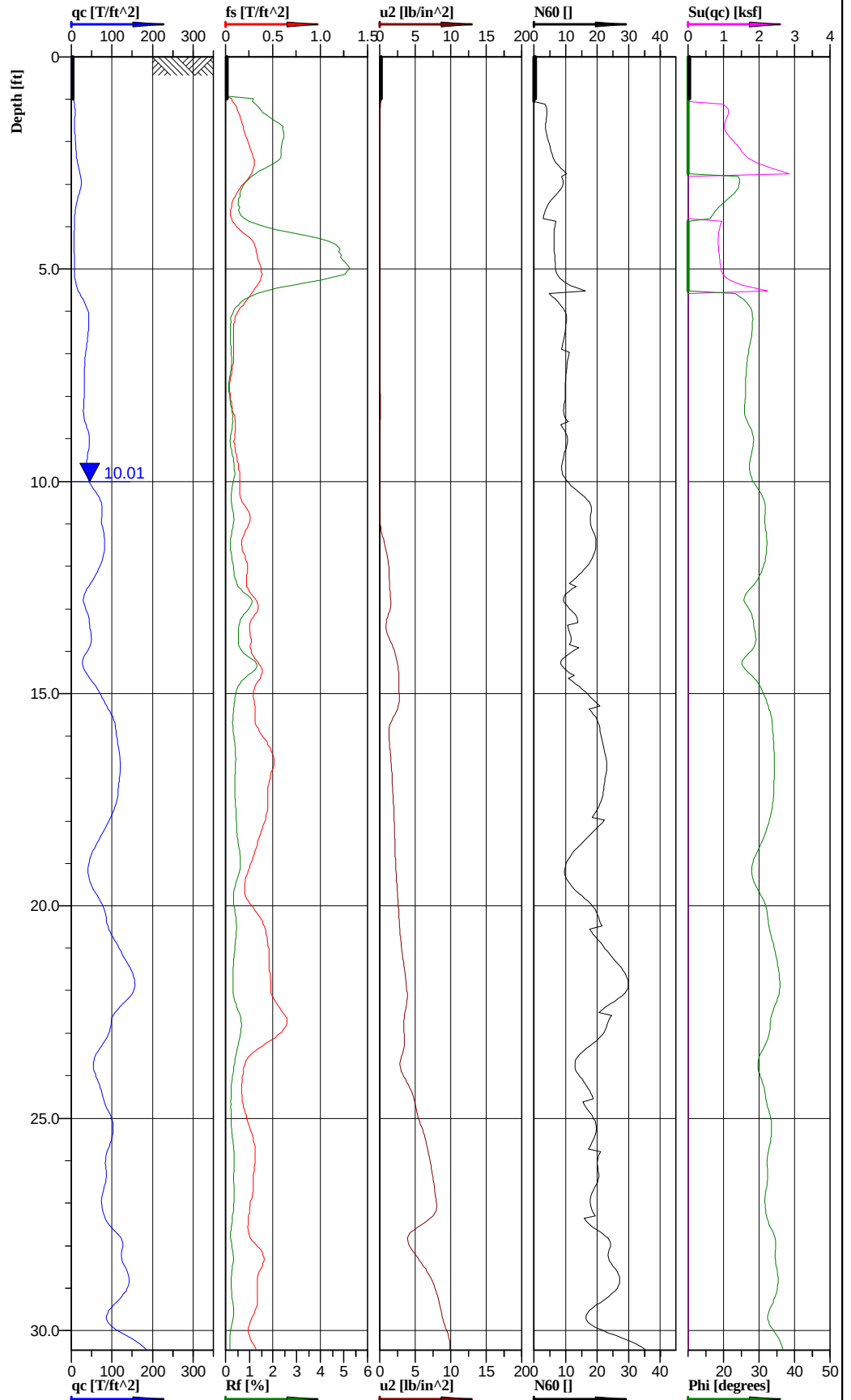
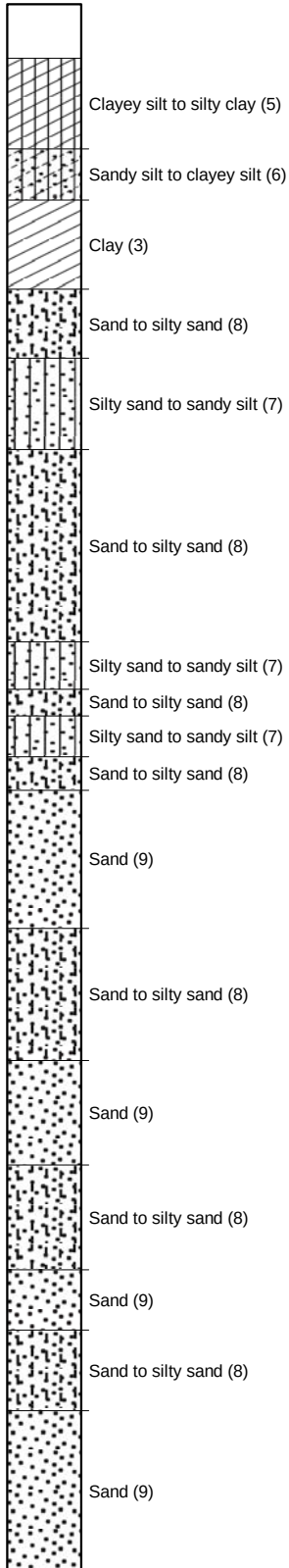
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727854.20 ft, Y: 995493.86 ft	Ground level:	468.50	Test no:	C-23
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-6
				File:	Labadie C-023.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-23
Test date: 10/28/2009
Location: Labadie MO
File name: Labadie C-023.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.035	0.021	-4.2224	Clay (3)	5.7	1.31	0.007	0.007	20.7		1.83	5.7	114	0.15	0.15	393
3.75	1.479	0.043	-4.2924	Silty sand to sandy silt (7)	9.3	1.248	0.021	0.021	25.6		1.81	5.9	113	0.44	0.44	123
6.25	2.531	0.02	-0.8916	Silty sand to sandy silt (7)	8.9		0.034	0.034	24.4		1.87	5.7	117	0.71	0.71	211
8.75	2.168	0.016	-3.773	Silty sand to sandy silt (7)	8.0	0.929	0.048	0.047	25.4		1.86	5.1	116	1.00	0.98	180
11.25	5.312	0.024	0.8328	Sand to silty sand (8)	13.4		0.062	0.055	29.7	57	1.94	8.6	121	1.29	1.14	442
13.75	8.818	0.041	2.5375	Sand (9)	20.5		0.077	0.062	32.9	70	1.96	10.3	122	1.60	1.29	734
16.25	8.282	0.036	3.6544	Sand to silty sand (8)	19.4		0.092	0.069	32.5	67	1.95	12.4	122	1.91	1.44	689
18.75	3.805	0.027	5.1531	Sand to silty sand (8)	11.8	2.303	0.106	0.075	28.9	48	1.9	7.5	119	2.20	1.56	317
21.25	10.804	0.033	4.0027	Sand (9)	22.6		0.12	0.082	33.8	71	1.97	11.3	123	2.50	1.71	899
23.75	16.917	0.037	6.6786	Gravelly sand to sand (10)	32.2		0.135	0.09	36.4	83	2	21.9	125	2.81	1.87	1407
26.25	16.461	0.039	7.7524	Sand (9)	30.2		0.15	0.097	36.0	80	2.01	15.1	125	3.12	2.02	1370
28.75	10.464	0.025	9.0818	Sand (9)	21.9		0.165	0.104	33.5	66	1.97	11.0	123	3.43	2.16	871
31.25	20.363	0.042	9.8656	Sand (9)	35.8		0.18	0.112	37.3	85	2.02	17.9	126	3.74	2.33	1694
33.75	19.13	0.043	10.9222	Gravelly sand to sand (10)	34.9		0.195	0.119	36.6	81	2.01	23.7	125	4.06	2.48	1592
36.25	28.379	0.096	10.8957	Gravelly sand to sand (10)	47.3		0.204	0.123	39.1	94	2.04	32.2	127	4.24	2.56	2361

Classification by
Robertson 1986

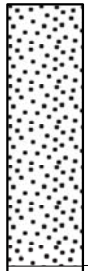


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

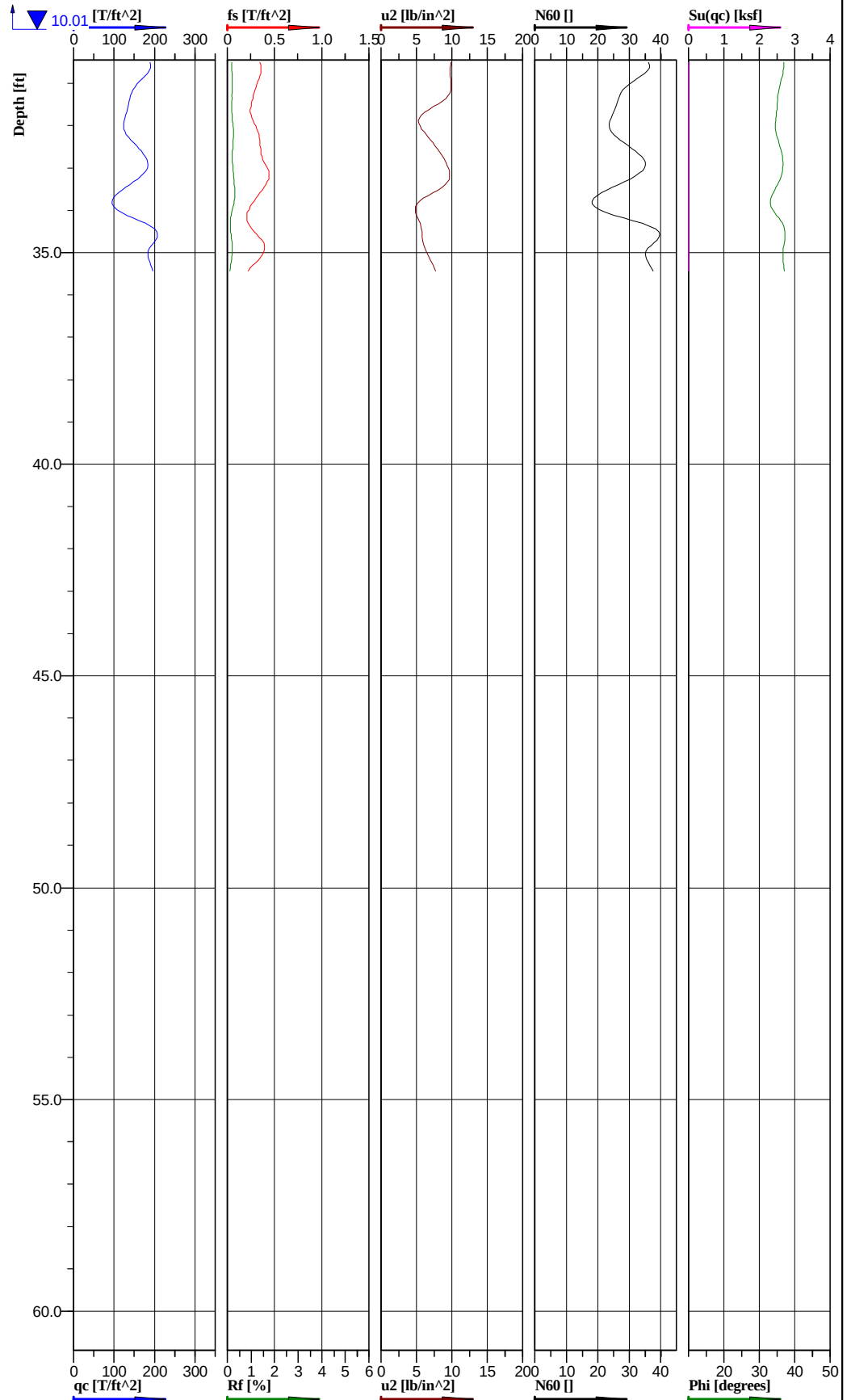


Location:	Labadie, MO	Position:	X: 728426.48 ft, Y: 995479.56 ft	Ground level:	466.99	Test no:	C-25
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-7
				File:	Labadie C-025.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



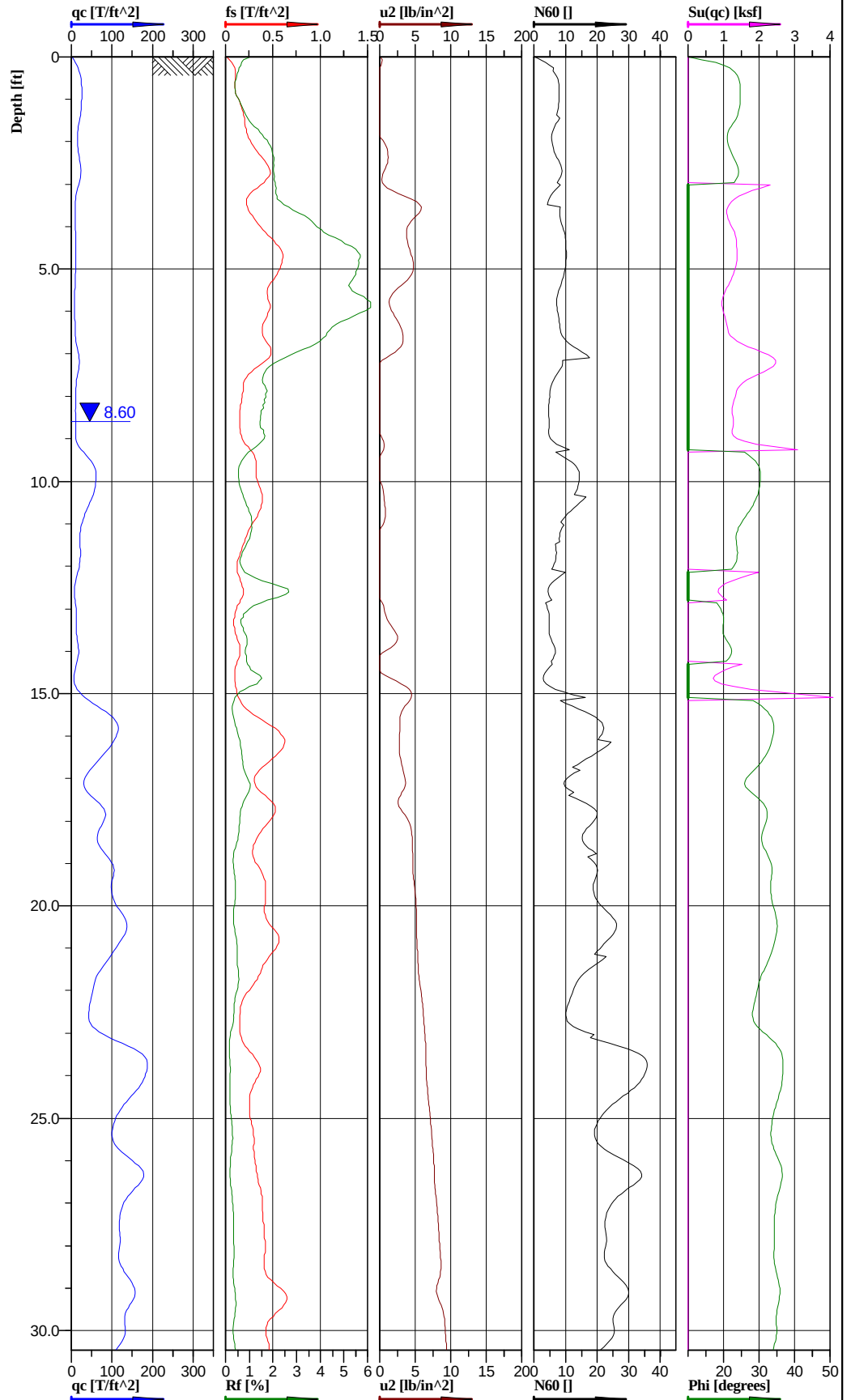
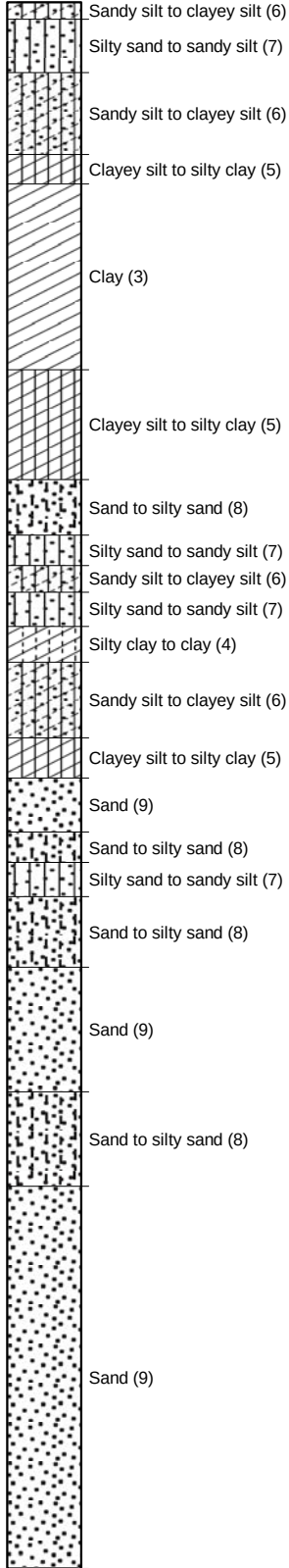
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Labadie, MO	Position: X: 728426.48 ft, Y: 995479.56 ft	Ground level: 466.99	Test no: C-25
Project ID: 2008012455	Client: Ameren Missouri	Date: 10/28/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-7
		File: Labadie C-025.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-25
 Test date: 10/28/2009
 Location: Labadie MO
 File name: Labadie C-025.cpd

Depth [ft]	Corrected point resistance [MPa]	Corrected local friction [MPa]	Pore pressure behind cone [lb/in^2]	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60 [bpf]	Undrained shear strength [ksf]	Total overburden stress [MPa]	Effective total overburden str [MPa]	R&J Phi Angle [degrees]	Relative density [%]	Unit weight [g/cm^3]	Corrected N60 [bpf]	Unit Weight [pcf]	Total Overburden [ksf]	Effective Overburden [ksf]	Es (OCR=4) (ksf)
1.25	0.6	0.012	-0.4317	Clayey silt to silty clay (5)	4.7	1.308	0.007	0.007			1.83	4.7	114	0.15	0.15	785
3.75	1.143	0.02	-1.5508	Clay (3)	6.7	1.163	0.021	0.021	21.1		1.82	6.7	114	0.44	0.44	349
6.25	2.95	0.015	-2.0731	Silty sand to sandy silt (7)	9.6	1.394	0.035	0.035	27.0	53	1.89	6.2	118	0.73	0.73	245
8.75	3.477	0.009	-0.3216	Sand to silty sand (8)	9.8		0.049	0.049	27.1	49	1.91	6.3	119	1.02	1.02	289
11.25	6.586	0.019	0.5079	Silty sand to sandy silt (7)	16.6		0.063	0.059	31.0	63	1.94	10.6	121	1.31	1.23	548
13.75	4.013	0.029	1.8541	Sand to silty sand (8)	11.7		0.077	0.066	27.8	53	1.9	7.5	119	1.60	1.37	334
16.25	10.392	0.039	1.7857	Sand (9)	21.3		0.092	0.073	33.8	72	1.98	10.6	124	1.91	1.52	865
18.75	6.528	0.03	2.2111	Sand to silty sand (8)	15.4		0.107	0.08	30.7	56	1.94	9.9	121	2.23	1.66	543
21.25	11.562	0.043	3.2729	Sand (9)	24.0		0.121	0.087	34.3	73	1.98	12.0	124	2.52	1.81	962
23.75	7.498	0.031	3.8109	Sand (9)	17.8		0.136	0.094	31.8	59	1.95	8.9	122	2.83	1.96	624
26.25	8.381	0.027	6.9818	Sand (9)	19.1		0.15	0.101	32.5	62	1.96	9.5	122	3.12	2.10	697
28.75	11.332	0.03	6.8789	Sand (9)	22.7		0.165	0.108	34.2	69	1.99	11.3	124	3.43	2.25	943
31.25	14.355	0.029	8.2866	Sand (9)	28.7		0.18	0.115	35.5	75	1.99	14.3	124	3.74	2.39	1194
33.75	15.281	0.032	7.0697	Sand (9)	30.6		0.195	0.122	35.8	75	1.99	15.3	124	4.06	2.54	1271
36.25	18.094	0.029	7.1195	Sand (9)	36.2		0.204	0.127	36.8	81	1.99	18.1	124	4.24	2.64	1505

**Classification by
Robertson 1986**

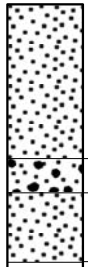


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 727570.51 ft, Y: 995191.80 ft	Ground level:	468.01	Test no:	C-28
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-8
				File:	Labadie C-028.cpd		

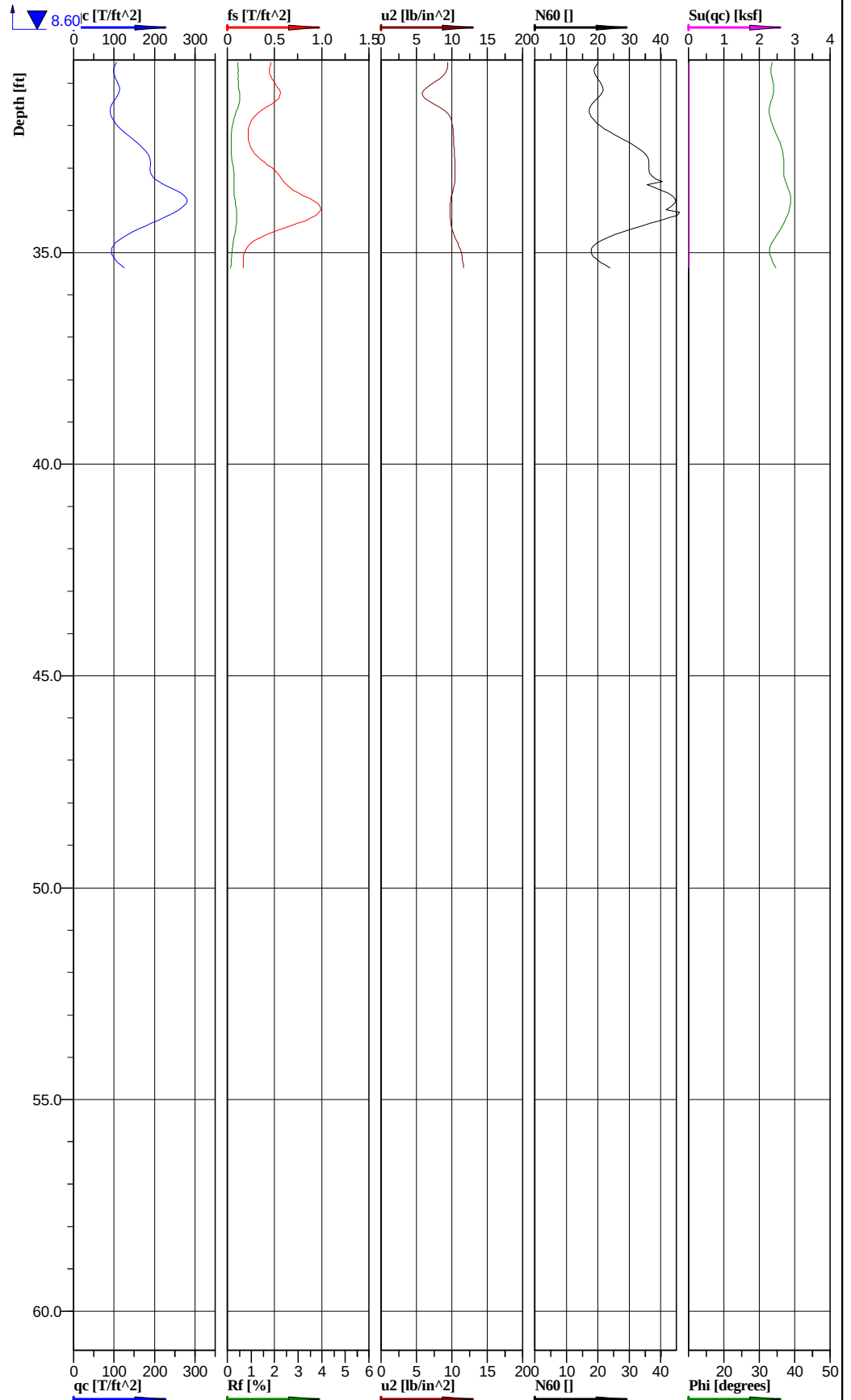
Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



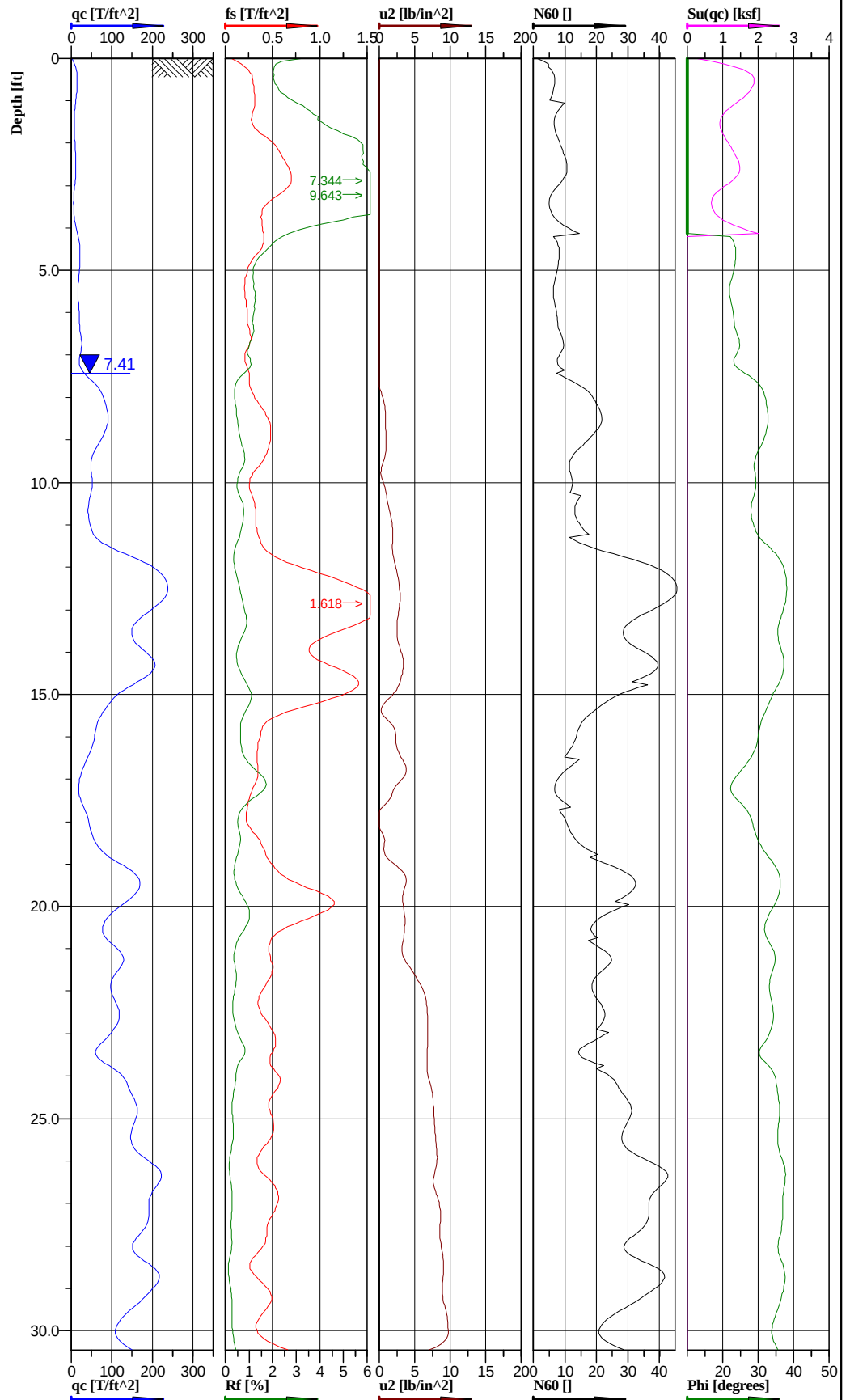
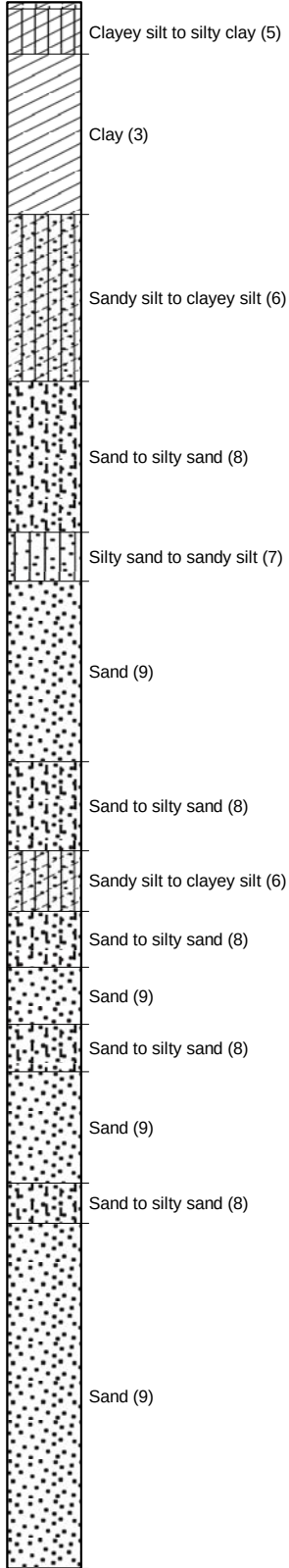
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 727570.51 ft, Y: 995191.80 ft	Ground level: 468.01	Test no: C-28
Project ID: 2008012455	Client: Ameren Missouri	Date: 10/23/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-8
		File: Labadie C-028.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-28
Test date: 10/23/2009
Location: Labadie MO
File name: Labadie C-028.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.828	0.018	-0.303	Sandy silt to clayey silt (6)	6.7		0.007	0.007	22.2		1.85	6.7	115	0.15	0.15	152
3.75	1.201	0.04	3.4882	Clay (3)	8.5	1.361	0.021	0.021	23.8		1.81	8.5	113	0.44	0.44	408
6.25	1.068	0.041	1.9727	Clayey silt to silty clay (5)	9.2	1.437	0.034	0.034			1.8	9.2	112	0.71	0.71	862
8.75	2.294	0.021	-0.4584	Sand to silty sand (8)	7.7	1.48	0.048	0.047	29.3	56	1.86	4.9	116	1.00	0.98	191
11.25	2.718	0.024	-1.324	Silty clay to clay (4)	9.3	1.325	0.062	0.054	25.8	59	1.87	9.3	117	1.29	1.12	663
13.75	1.168	0.012	1.1113	Clayey silt to silty clay (5)	5.3	1.26	0.076	0.06	20.4		1.84	5.3	115	1.58	1.25	756
16.25	6.704	0.038	3.1577	Sand to silty sand (8)	16.1	3.873	0.09	0.066	30.8	65	1.94	10.3	121	1.87	1.37	558
18.75	8.328	0.038	4.3894	Sand (9)	18.5		0.104	0.073	32.4	66	1.96	9.2	122	2.16	1.52	693
21.25	8.565	0.036	5.4654	Sand to silty sand (8)	18.7		0.119	0.08	32.2	63	1.96	12.0	122	2.48	1.66	713
23.75	12.432	0.024	6.5603	Sand (9)	25.4		0.134	0.087	34.1	72	1.98	12.7	124	2.79	1.81	1034
26.25	12.653	0.032	7.6926	Sand (9)	25.3		0.149	0.095	34.8	74	1.99	12.6	124	3.10	1.98	1053
28.75	12.674	0.046	8.5583	Sand (9)	25.3		0.164	0.102	34.9	73	1.99	12.7	124	3.41	2.12	1054
31.25	10.969	0.038	8.8595	Sand (9)	21.9		0.178	0.109	34.0	68	1.99	11.0	124	3.70	2.27	913
33.75	18.474	0.054	10.2779	Sand (9)	34.8		0.193	0.117	36.6	81	2	17.4	125	4.01	2.43	1537
36.25	10.316	0.016	11.5203	Sand (9)	20.6		0.202	0.121	33.7	65	1.99	10.3	124	4.20	2.52	858

Classification by
Robertson 1986



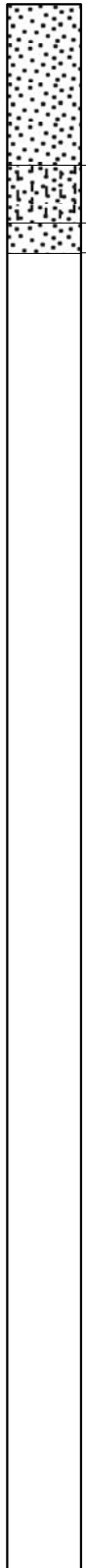
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 728136.94 ft, Y: 995181.53 ft	Ground level:	468.21	Test no:	C-30
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/29/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-9
				File:	Labadie C-030.cpd		

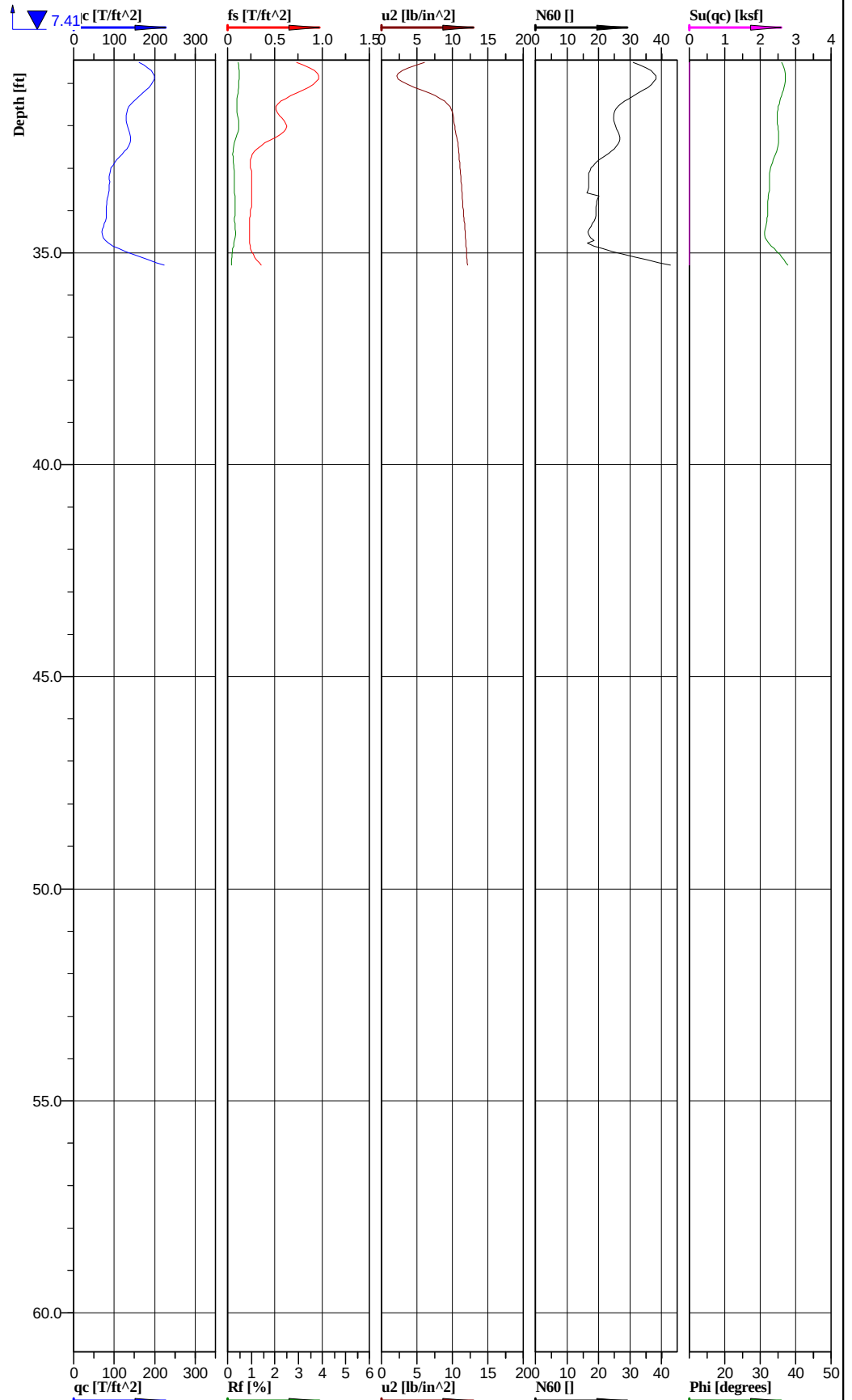
Classification by
Robertson 1986



Sand (9)

Sand to silty sand (8)

Sand (9)



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

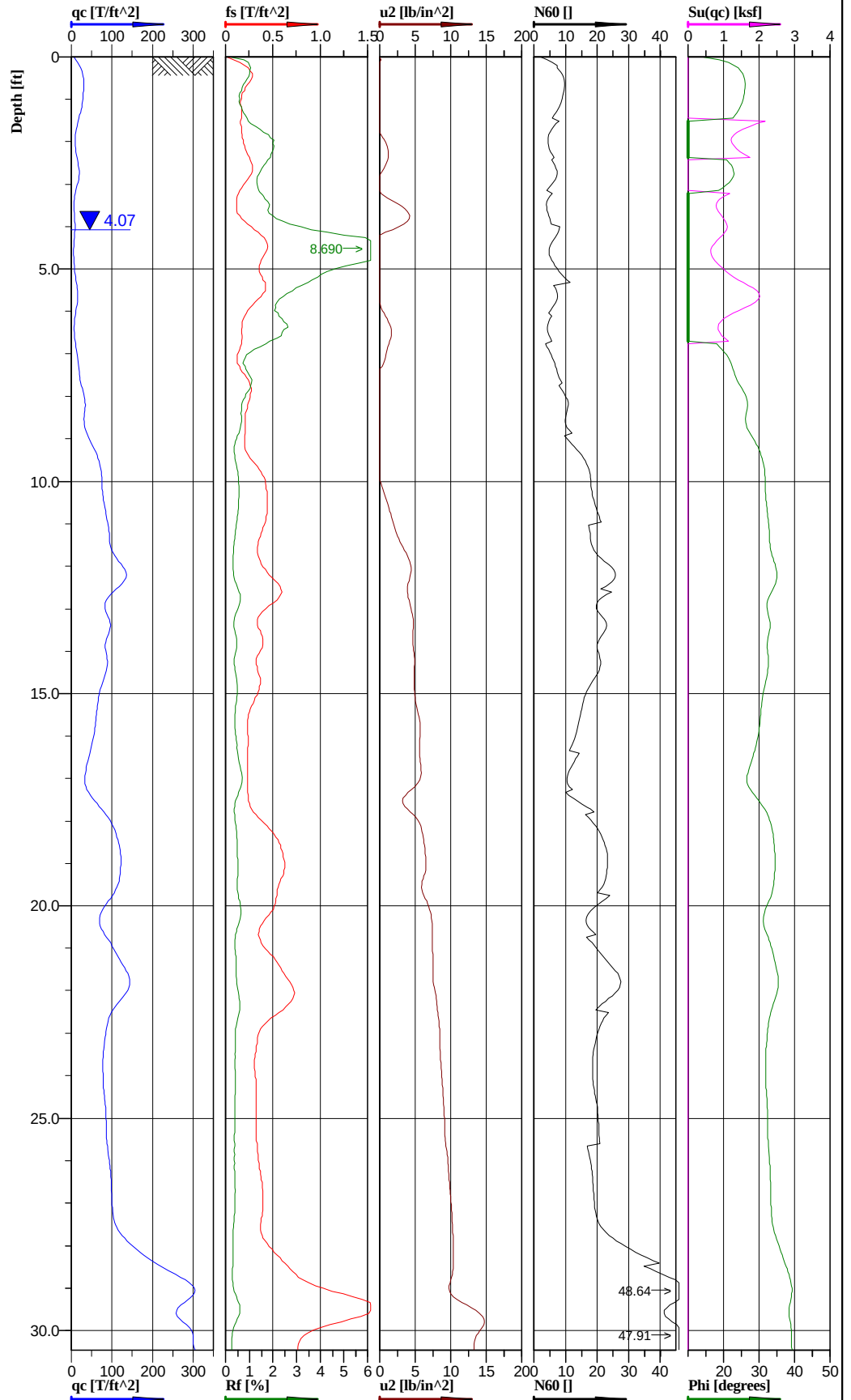
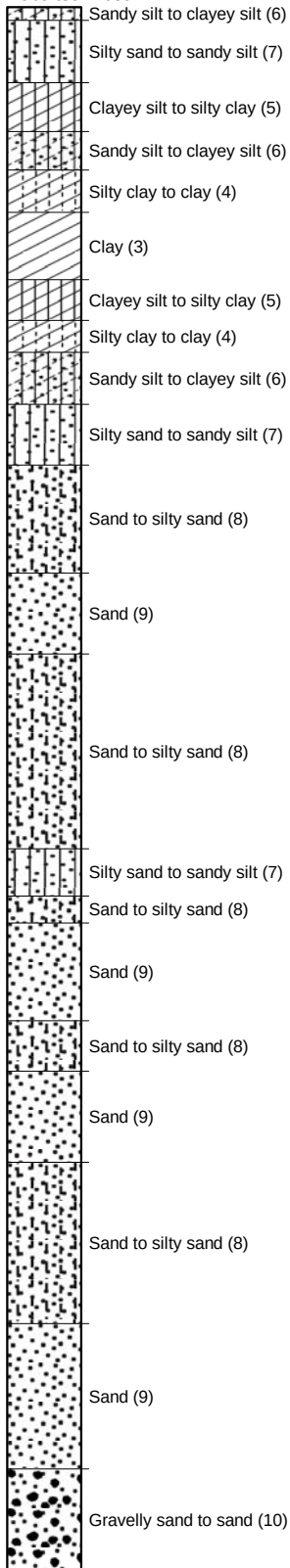


Location:	Labadie, MO	Position:	X: 728136.94 ft, Y: 995181.53 ft	Ground level:	468.21	Test no:	C-30
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/29/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-9
				File:	Labadie C-030.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-30
 Test date: 10/29/2009
 Location: Labadie MO
 File name: Labadie C-030.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.94	0.035	-4.0165	Clay (3)	7.3	1.305	0.007	0.007			1.81	7.3	113	0.15	0.15	392
3.75	1.217	0.043	-3.0654	Sandy silt to clayey silt (6)	8.0	1.115	0.02	0.02	23.2		1.77	8.0	111	0.42	0.42	101
6.25	2.062	0.022	-2.5059	Sand to silty sand (8)	7.8		0.034	0.034	23.5	50	1.85	5.0	115	0.71	0.71	172
8.75	6.502	0.036	0.5778	Sand to silty sand (8)	16.3		0.048	0.044	30.9	66	1.93	10.4	120	1.00	0.92	541
11.25	10.434	0.053	1.8211	Sand (9)	23.3		0.062	0.051	32.3	82	1.94	11.7	121	1.29	1.06	868
13.75	17.203	0.123	2.8134	Sand to silty sand (8)	35.2		0.077	0.058	36.5	90	1.98	22.5	124	1.60	1.21	1431
16.25	4.776	0.043	2.1285	Sandy silt to clayey silt (6)	13.4		0.092	0.065	28.1	60	1.9	13.4	119	1.91	1.35	397
18.75	9.106	0.051	1.6348	Sand to silty sand (8)	20.0		0.106	0.071	31.9	67	1.95	12.8	122	2.20	1.48	758
21.25	9.933	0.052	4.5489	Sand (9)	21.2		0.12	0.078	33.5	70	1.97	10.6	123	2.50	1.62	826
23.75	11.147	0.048	7.0477	Sand (9)	23.5		0.135	0.085	33.9	71	1.97	11.8	123	2.81	1.77	927
26.25	17.581	0.044	8.0751	Sand (9)	35.1		0.15	0.093	36.6	84	2	17.6	125	3.12	1.93	1463
28.75	16.018	0.036	9.051	Sand (9)	32.0		0.165	0.1	36.1	80	2	16.0	125	3.43	2.08	1333
31.25	14.378	0.06	7.9345	Sand (9)	28.7		0.18	0.107	35.5	76	1.99	14.4	124	3.74	2.23	1196
33.75	8.757	0.024	11.4375	Sand (9)	19.1		0.195	0.114	32.7	61	1.97	9.6	123	4.06	2.37	729
36.25	17.704	0.03	12.0524	Sand (9)	35.4		0.203	0.118	36.6	81	2	17.7	125	4.22	2.45	1473

**Classification by
Robertson 1986**

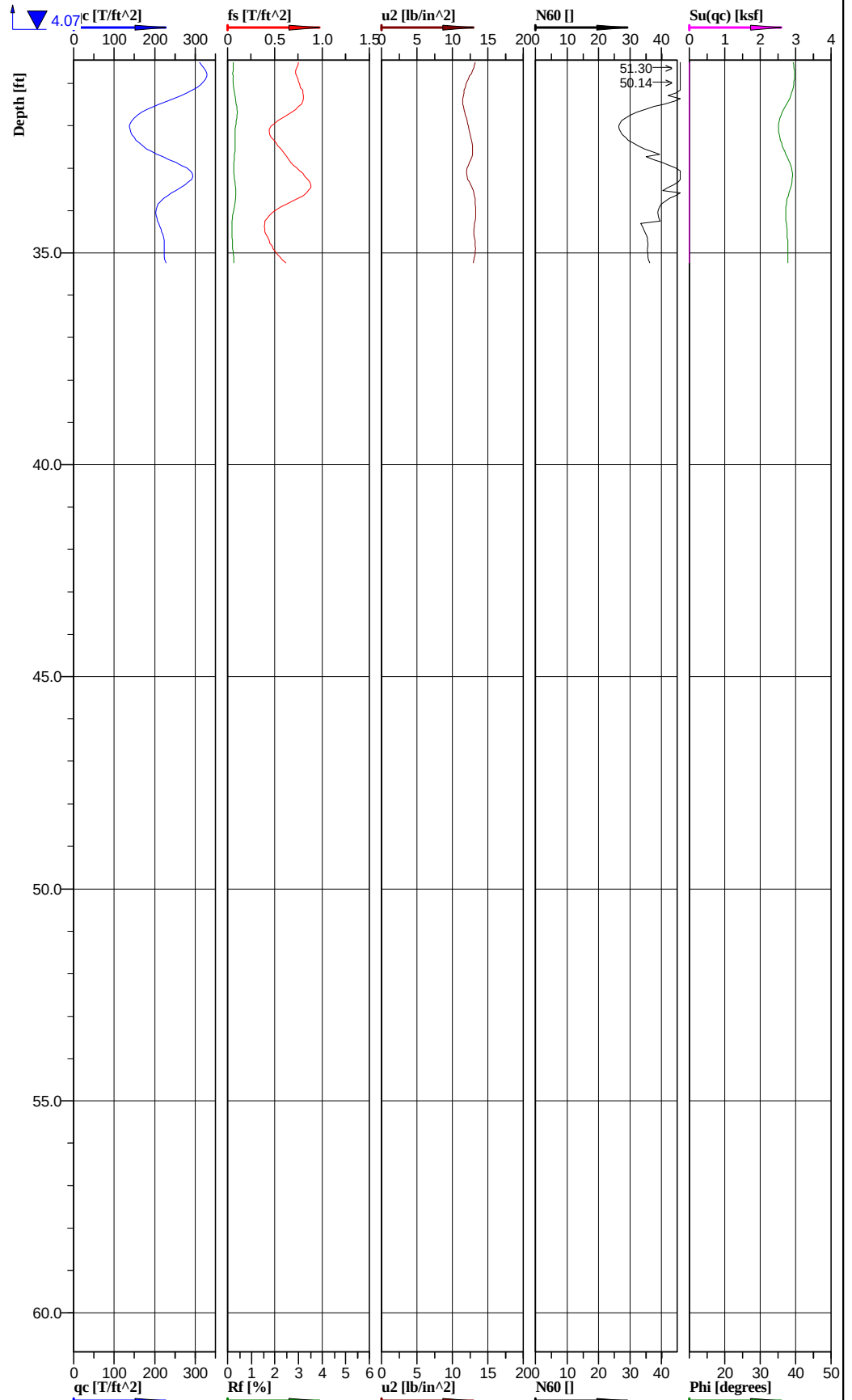


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727242.39 ft, Y: 994920.21 ft	Ground level:	468.11	Test no:	C-32A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Pland UWL DSI			Page:	1	Fig:	C-10
Sounding CPT-32 failed, replaced by CPT-32A				File:	Labadie C-032A.cpd		

Classification by
Robertson 1986

Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)



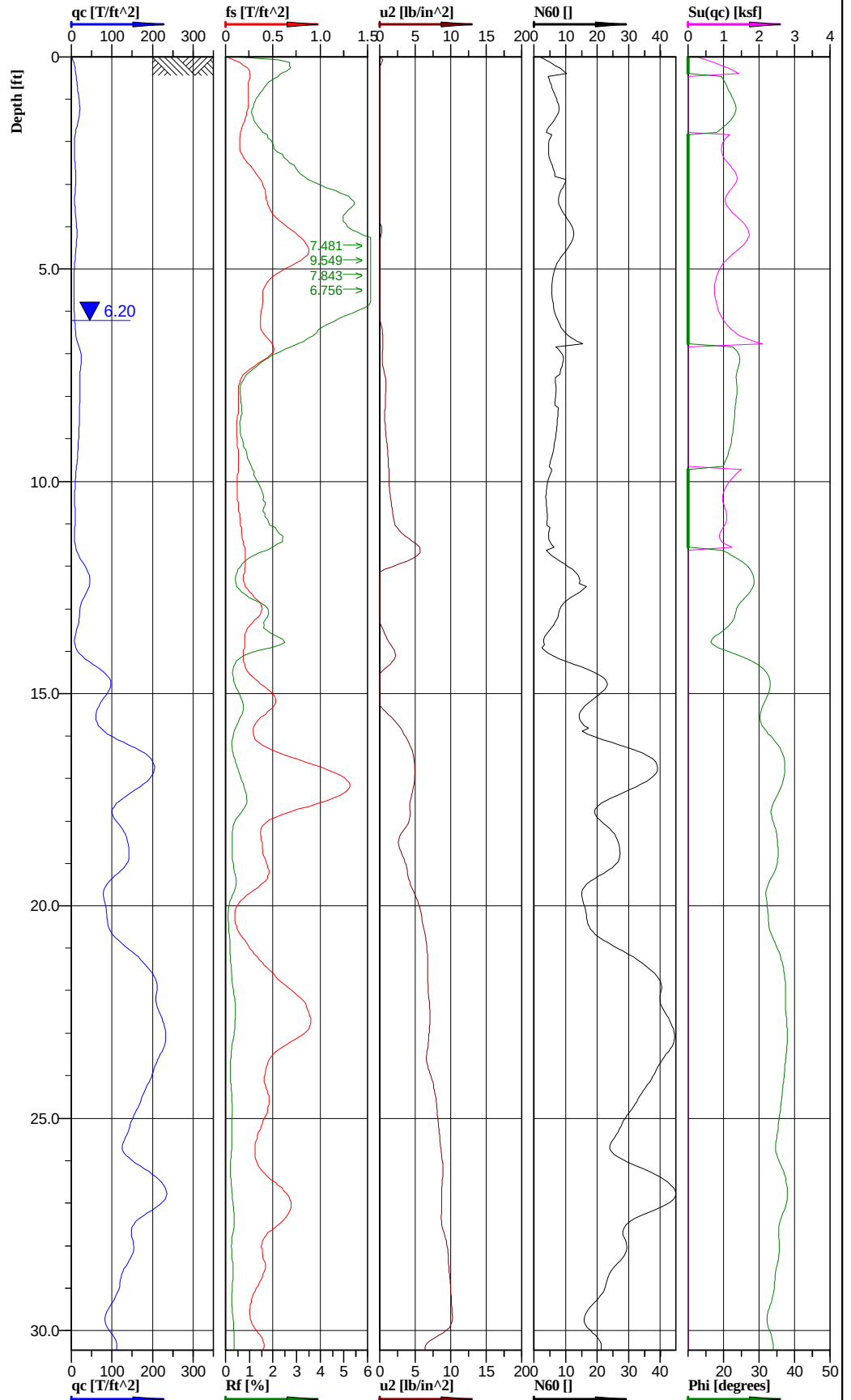
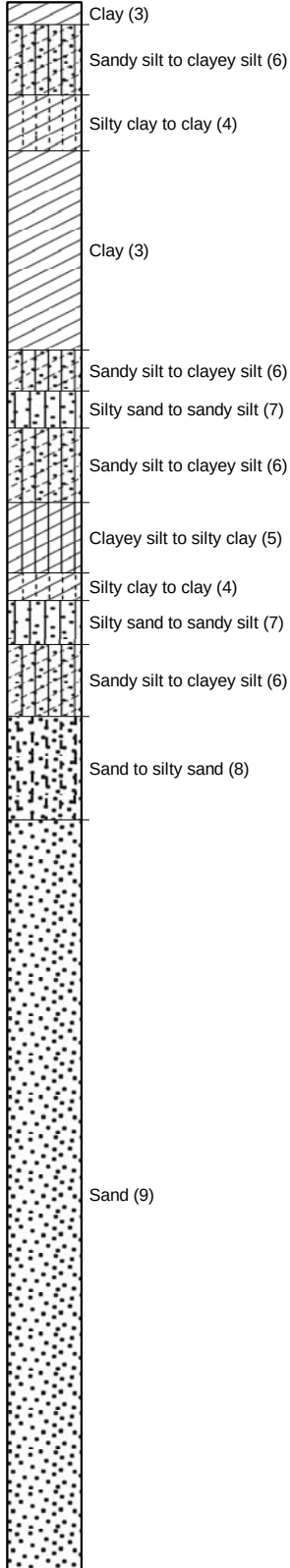
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727242.39 ft, Y: 994920.21 ft	Ground level:	468.11	Test no:	C-32A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Pland UWL DSI			Page:	2	Fig:	C-10
Sounding CPT-32 failed, replaced by CPT-32A				File:	Labadie C-032A.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Pland UWL DSI
 Test no.: C-32A
 Test date: 11/4/2009
 Location: Labadie MO
 File name: Labadie C-032A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.828	0.019	-0.0138	Sandy silt to clayey silt (6)	6.9	1.51	0.007	0.007	23.7		1.86	6.9	116	0.15	0.15	152
3.75	0.891	0.026	0.3718	Clay (3)	5.8	0.888	0.021	0.02	21.6		1.76	5.8	110	0.44	0.42	266
6.25	1.18	0.023	0.306	Sandy silt to clayey silt (6)	6.3	1.367	0.034	0.027	21.3		1.83	6.3	114	0.71	0.56	98
8.75	4.352	0.025	-1.6348	Sand to silty sand (8)	12.3		0.048	0.034	28.0	67	1.9	7.9	119	1.00	0.71	362
11.25	9.482	0.04	2.5565	Sand (9)	20.5		0.062	0.04	33.2	78	1.97	10.2	123	1.29	0.83	789
13.75	8.281	0.038	4.6218	Sand to silty sand (8)	20.6		0.077	0.048	32.5	72	1.95	13.2	122	1.60	1.00	689
16.25	4.783	0.023	5.2832	Sand to silty sand (8)	13.0		0.092	0.054	29.0	58	1.92	8.3	120	1.91	1.12	398
18.75	9.973	0.048	5.816	Sand to silty sand (8)	20.9		0.106	0.061	33.5	73	1.98	13.4	124	2.20	1.27	830
21.25	10.266	0.051	7.5407	Sand to silty sand (8)	21.6		0.121	0.068	33.5	72	1.97	13.8	123	2.52	1.41	854
23.75	7.911	0.033	8.6587	Sand to silty sand (8)	19.8		0.135	0.075	32.2	64	1.94	12.6	121	2.81	1.56	658
26.25	9.123	0.035	9.6726	Sand (9)	19.3		0.15	0.082	33.0	67	1.97	9.6	123	3.12	1.71	759
28.75	22.155	0.085	11.3245	Gravelly sand to sand (10)	38.7		0.165	0.09	37.6	90	2.01	26.3	125	3.43	1.87	1843
31.25	22.952	0.065	12.4246	Sand (9)	40.9		0.18	0.097	37.7	90	2.02	20.4	126	3.74	2.02	1910
33.75	22.236	0.058	12.8779	Gravelly sand to sand (10)	39.4		0.195	0.105	37.8	89	2.02	26.8	126	4.06	2.18	1850
36.25	21.55	0.054	13.0536	Gravelly sand to sand (10)	35.9		0.203	0.109	37.7	88	2.04	24.4	127	4.22	2.27	1793

Classification by
Robertson 1986



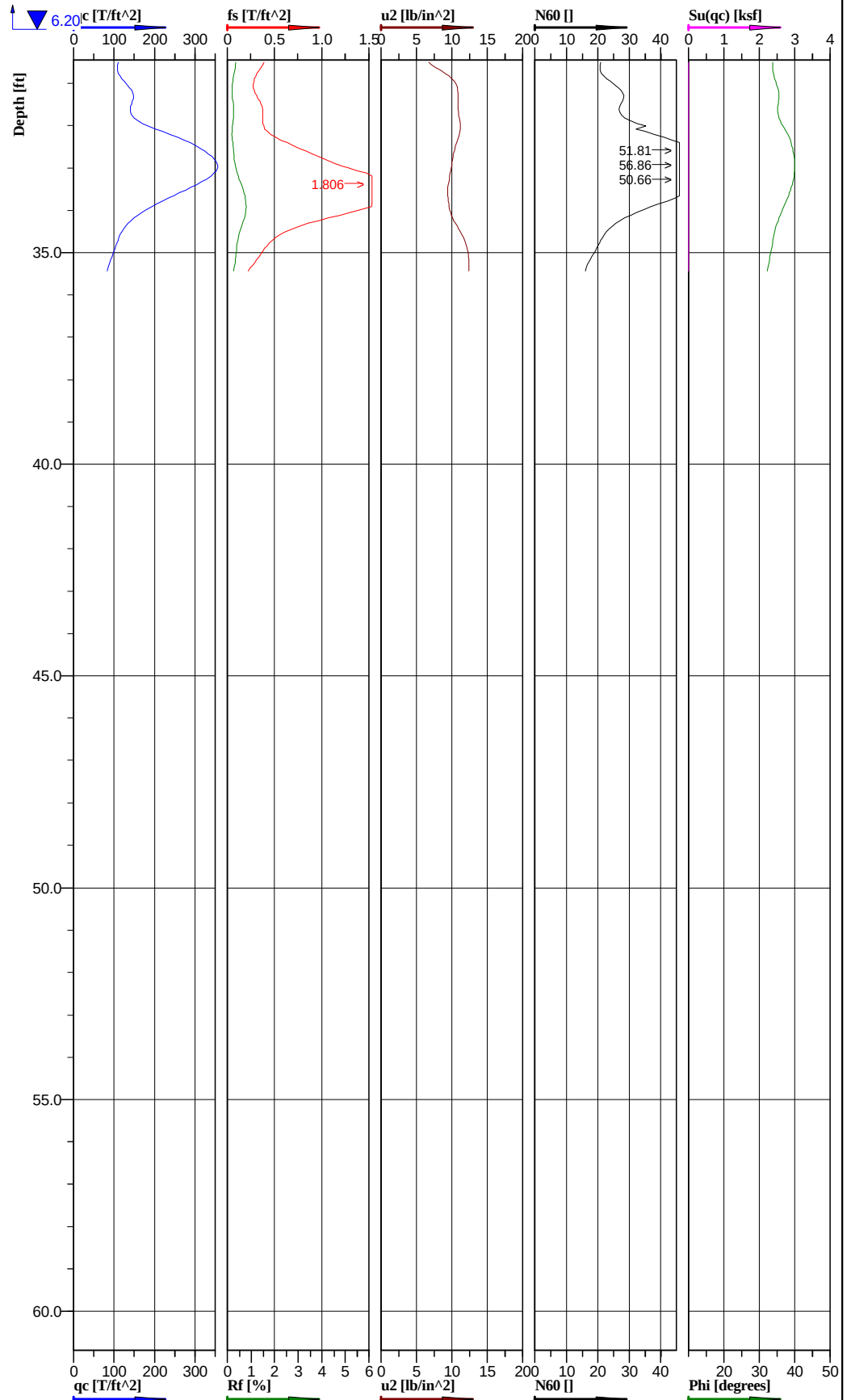
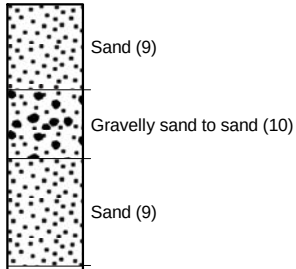
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727840.03 ft, Y: 994906.92 ft	Ground level:	467.09	Test no:	C-34
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/29/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-11
				File:	Labadie C-034.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



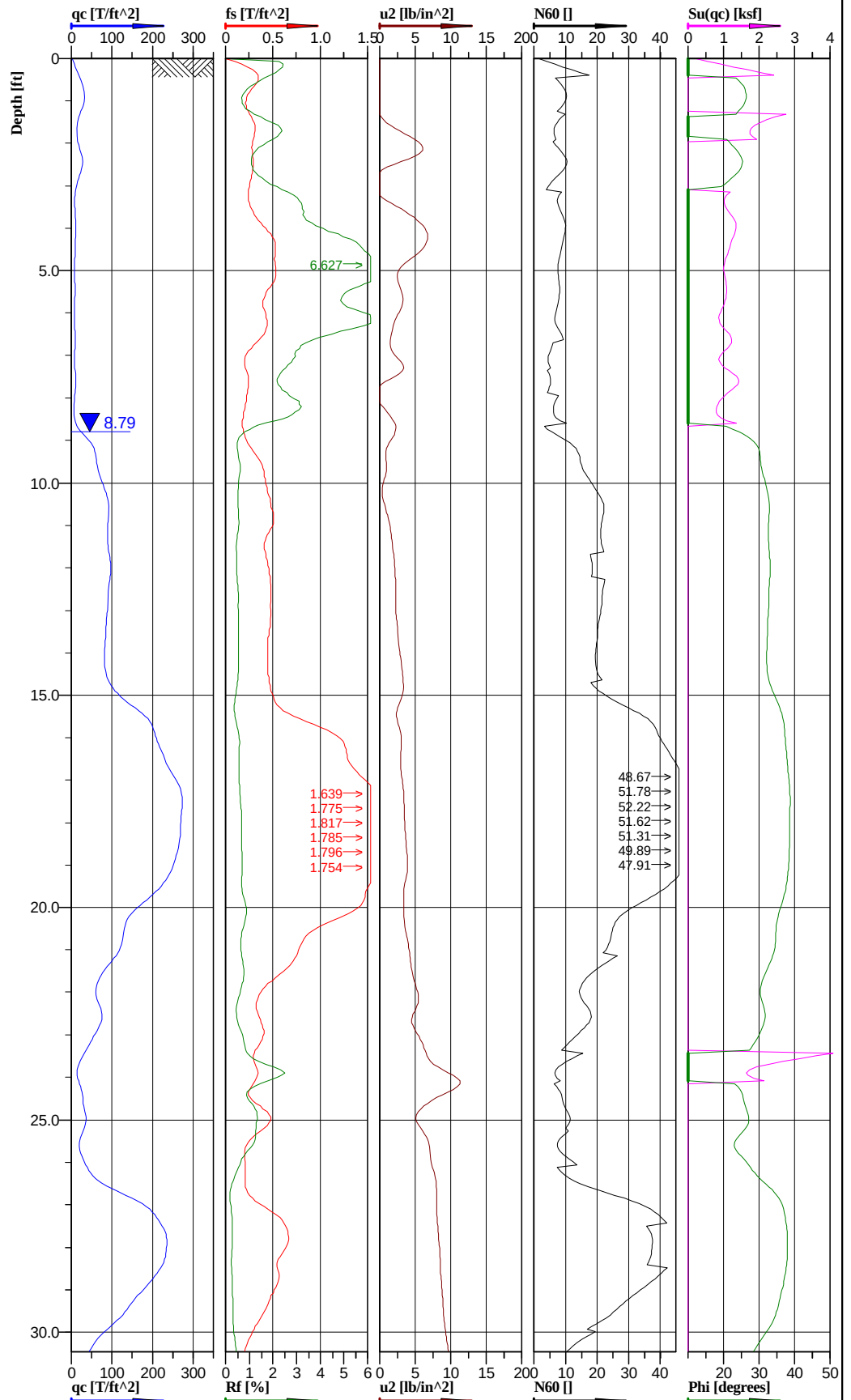
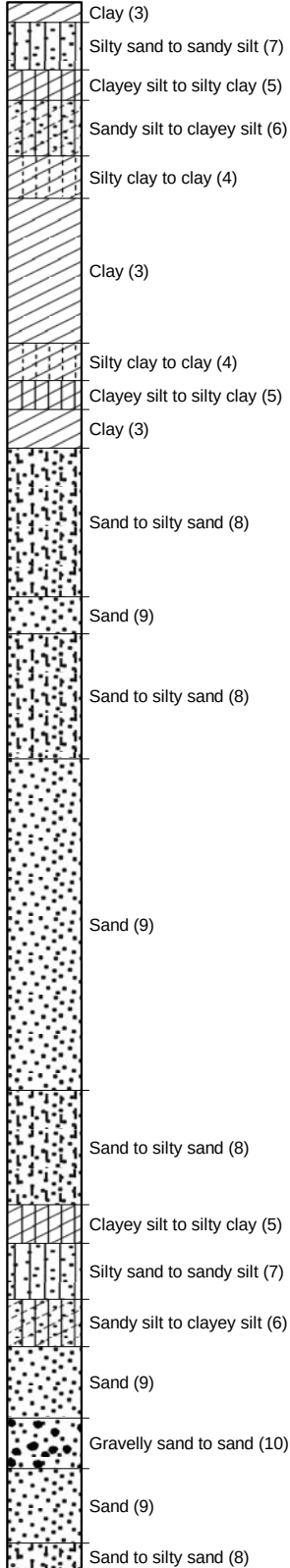
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727840.03 ft, Y: 994906.92 ft	Ground level:	467.09	Test no:	C-34
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/29/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-11
				File:	Labadie C-034.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-34
Test date: 10/29/2009
Location: Labadie MO
File name: Labadie C-034.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.146	0.019	-1.2713	Silty clay to clay (4)	5.9	0.983	0.007	0.007	21.5		1.83	5.9	114	0.15	0.15	492
3.75	0.956	0.055	-0.7536	Clay (3)	9.2	1.304	0.021	0.021			1.79	9.2	112	0.44	0.44	391
6.25	1.181	0.038	0.0138	Silty sand to sandy silt (7)	7.9	1.015	0.034	0.033	23.9		1.8	5.0	112	0.71	0.69	98
8.75	1.658	0.013	0.9533	Clayey silt to silty clay (5)	6.4	1.304	0.048	0.04	22.6		1.85	6.4	115	1.00	0.83	782
11.25	1.717	0.016	2.0129	Sandy silt to clayey silt (6)	6.9	1.019	0.061	0.046	26.0		1.86	6.9	116	1.27	0.96	143
13.75	3.865	0.027	0.0811	Sand to silty sand (8)	11.2		0.075	0.052	25.6	56	1.88	7.2	117	1.56	1.08	322
16.25	12.45	0.068	3.2848	Sand (9)	26.0		0.09	0.059	34.2	78	1.97	13.0	123	1.87	1.23	1036
18.75	10.842	0.042	3.9455	Sand (9)	21.7		0.105	0.066	33.9	75	1.97	10.8	123	2.18	1.37	902
21.25	15.056	0.039	6.5462	Sand (9)	30.1		0.119	0.073	35.5	81	1.99	15.1	124	2.48	1.52	1253
23.75	19.307	0.055	7.2448	Sand (9)	38.6		0.134	0.081	37.1	89	2	19.3	125	2.79	1.68	1606
26.25	16.699	0.045	8.6431	Sand (9)	33.4		0.149	0.088	36.3	83	2	16.7	125	3.10	1.83	1389
28.75	11.596	0.034	9.7291	Sand (9)	23.2		0.164	0.095	34.3	71	1.98	11.6	124	3.41	1.98	965
31.25	15.03	0.037	9.783	Gravelly sand to sand (10)	28.3		0.179	0.103	35.5	77	2	19.3	125	3.72	2.14	1250
33.75	21.619	0.108	10.3489	Sand (9)	39.6		0.194	0.11	37.1	85	2.01	19.8	125	4.04	2.29	1799
36.25	8.623	0.028	12.4037	Sand (9)	17.2		0.203	0.114	32.7	61	1.99	8.6	124	4.22	2.37	717

Classification by
Robertson 1986

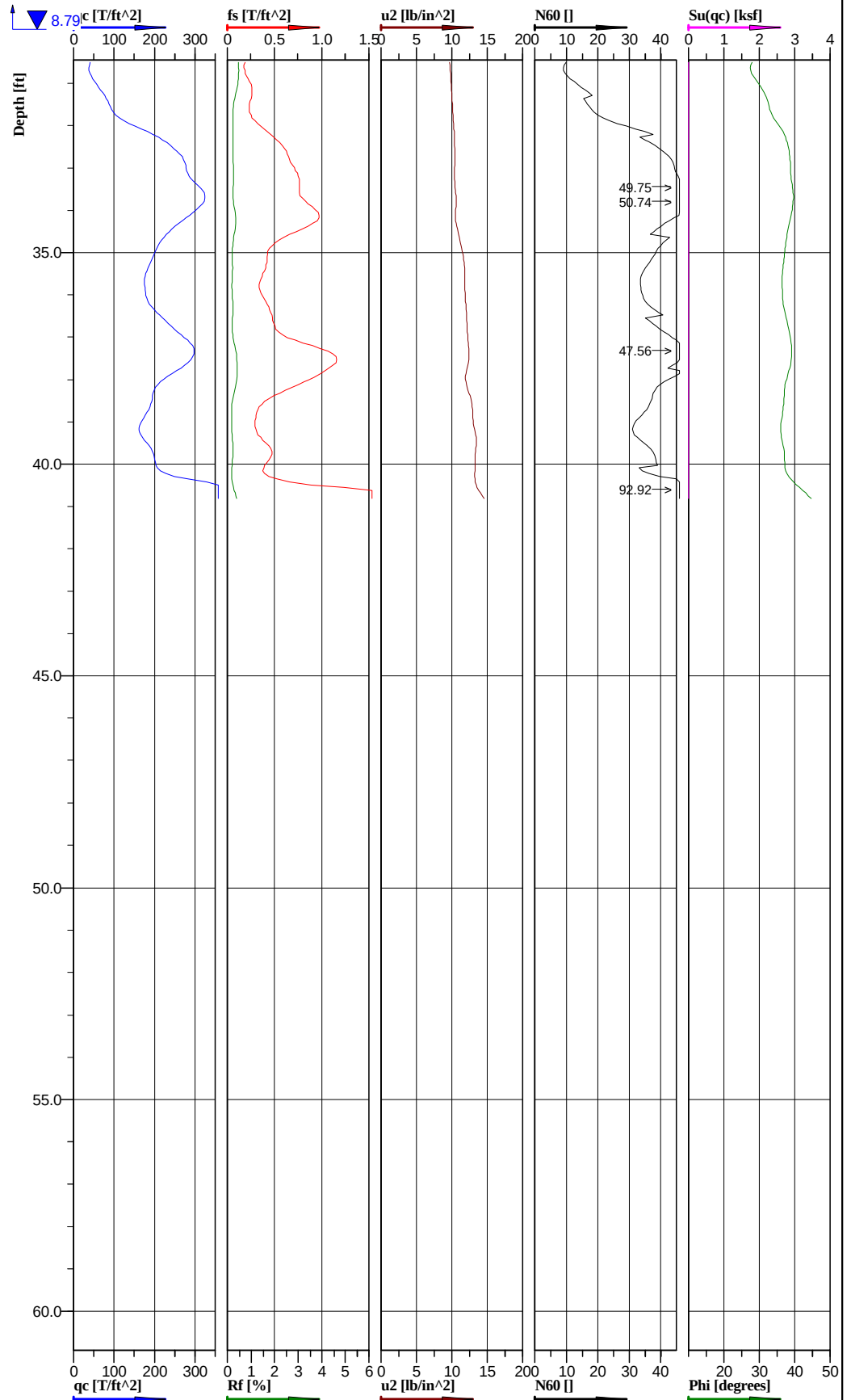


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 726940.78 ft, Y: 994633.33 ft	Ground level:	466.80	Test no:	C-37
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-12
				File:	Labadie C-037.cpd		

Classification by
Robertson 1986

Sand to silty sand (8)
Sand (9)
Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



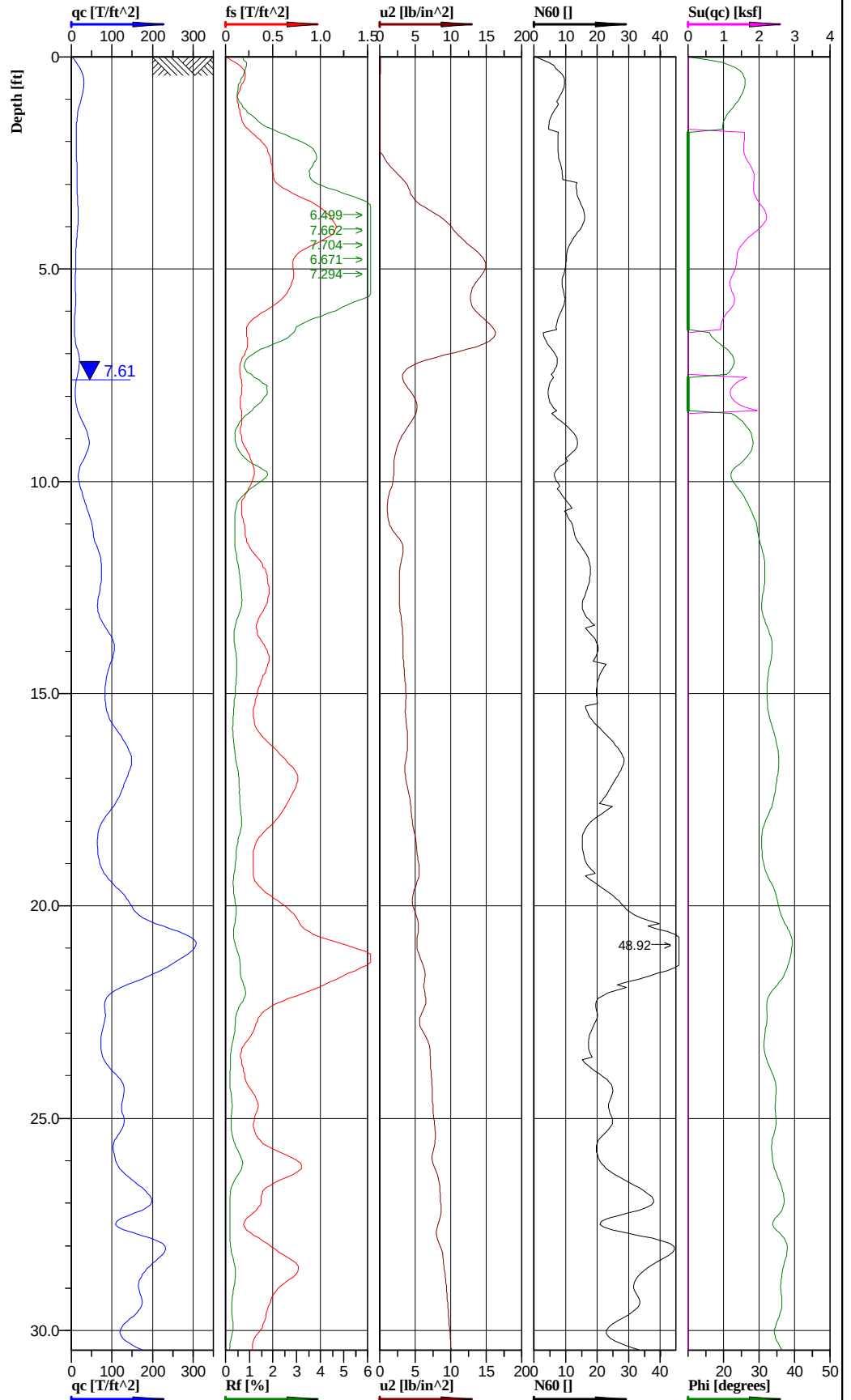
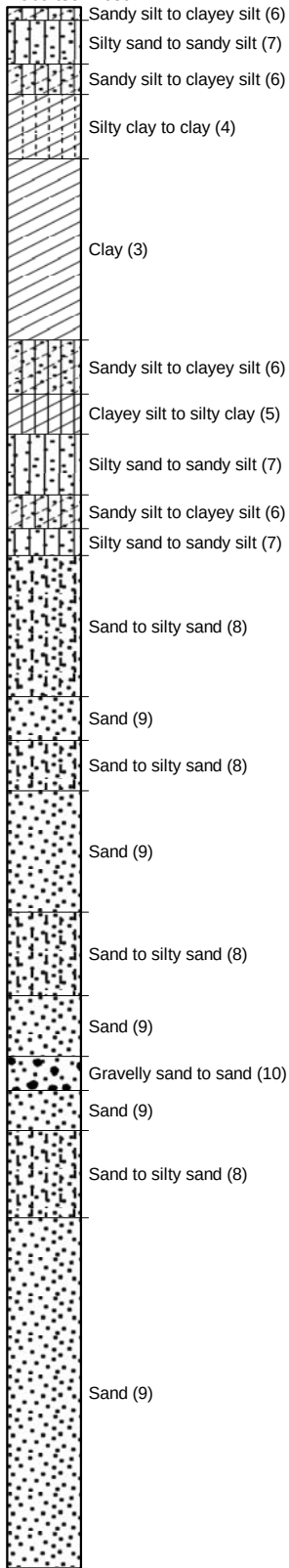
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 726940.78 ft, Y: 994633.33 ft	Ground level:	466.80	Test no:	C-37
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-12
				File:	Labadie C-037.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-37
Test date: 10/22/2009
Location: Labadie MO
File name: Labadie C-037.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.954	0.025	1.4591	Sandy silt to clayey silt (6)	8.6	1.728	0.007	0.007	24.6		1.85	8.6	115	0.15	0.15	163
3.75	1.052	0.036	3.0346	Clay (3)	8.2	1.153	0.021	0.021	22.5		1.81	8.2	113	0.44	0.44	346
6.25	0.791	0.035	2.4193	Clayey silt to silty clay (5)	6.8	1.051	0.034	0.034			1.8	6.8	112	0.71	0.71	631
8.75	3.245	0.026	0.8893	Sand to silty sand (8)	10.0	1.069	0.048	0.047	29.0	56	1.88	6.4	117	1.00	0.98	270
11.25	8.698	0.044	1.4771	Sand to silty sand (8)	20.7		0.062	0.055	32.8	72	1.95	13.2	122	1.29	1.14	724
13.75	8.499	0.044	2.7271	Sand (9)	20.5		0.077	0.062	32.6	69	1.94	10.2	121	1.60	1.29	707
16.25	20.798	0.112	2.9372	Sand (9)	41.6		0.091	0.069	37.4	93	1.99	20.8	124	1.89	1.44	1730
18.75	23.411	0.162	3.5804	Sand (9)	46.8		0.106	0.076	38.1	95	1.99	23.4	124	2.20	1.58	1948
21.25	9.61	0.068	4.3623	Sand to silty sand (8)	21.3		0.121	0.083	33.0	67	1.96	13.6	122	2.52	1.73	800
23.75	3.579	0.033	7.0228	Silty sand to sandy silt (7)	11.1	2.437	0.135	0.09	27.8	52	1.89	7.1	118	2.81	1.87	298
26.25	8.758	0.032	7.3435	Gravelly sand to sand (10)	19.1		0.15	0.096	30.3	71	1.93	13.0	120	3.12	2.00	729
28.75	17.304	0.049	8.6996	Sand to silty sand (8)	32.1		0.165	0.104	36.3	81	2.01	20.6	125	3.43	2.16	1440
31.25	9.674	0.028	9.9585	Gravelly sand to sand (10)	19.7		0.179	0.111	32.2	60	1.96	13.4	122	3.72	2.31	805
33.75	25.914	0.07	10.656	Sand (9)	44.4		0.194	0.118	38.6	92	2.03	22.2	127	4.04	2.45	2156
36.25	21.1	0.052	12.0146	Gravelly sand to sand (10)	38.7		0.209	0.125	37.5	85	2.01	26.3	125	4.35	2.60	1756
38.75	19.297	0.053	12.7964	Sand (9)	37.7		0.224	0.133	37.1	81	2	18.8	125	4.66	2.77	1606
41.25	41.944	0.12	13.5675	Sand (9)	70.4		0.234	0.138	40.2	99	2.03	35.2	127	4.87	2.87	3490

**Classification by
Robertson 1986**



REITZ & JENS, INC.
CONSULTING ENGINEERS

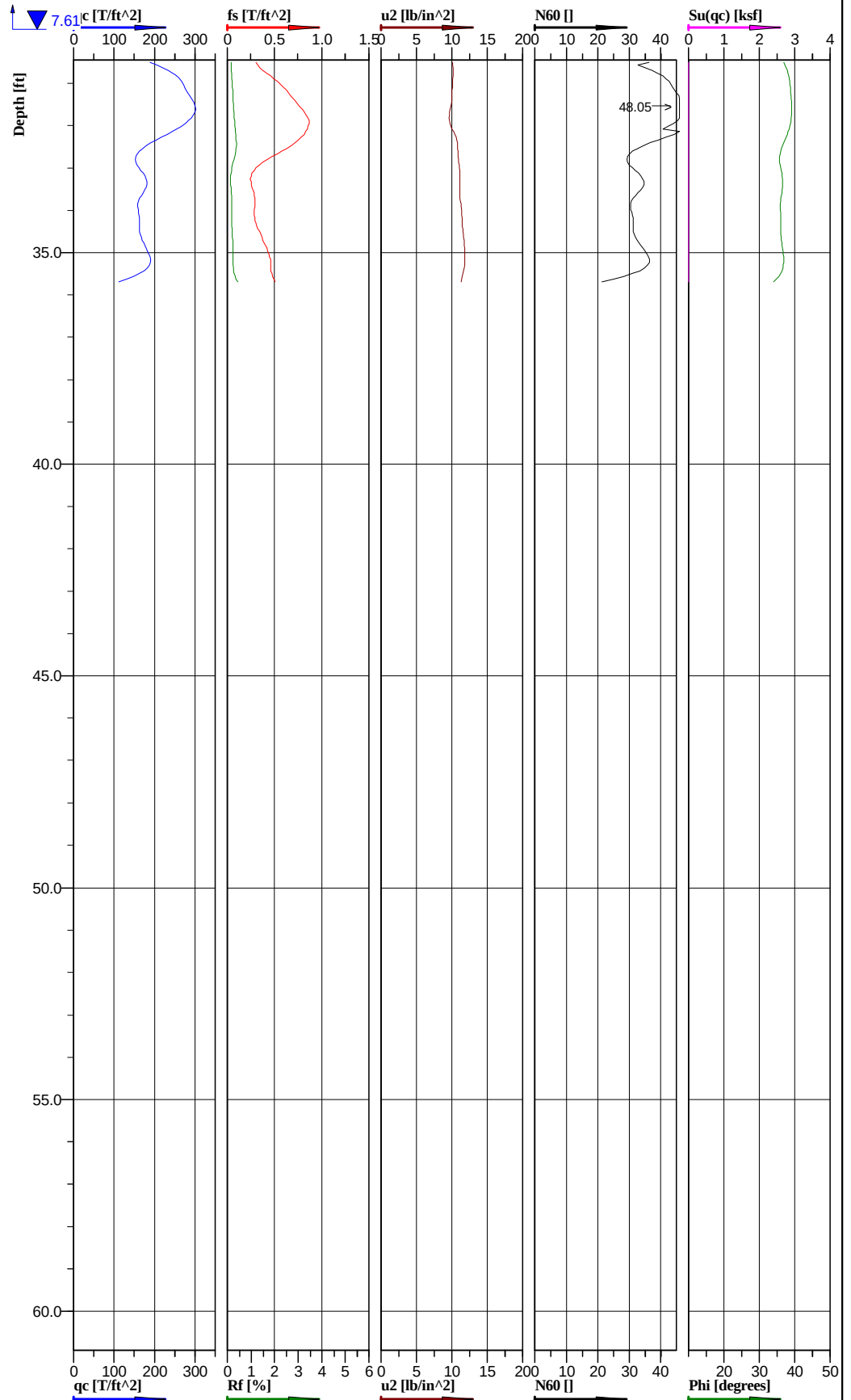


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727532.48 ft, Y: 994610.37 ft	Ground level:	466.99	Test no:	C-39
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-13
				File:	Labadie C-039.cpd		

Classification by
Robertson 1986

Sand (9)
Gravelly sand to sand (10)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



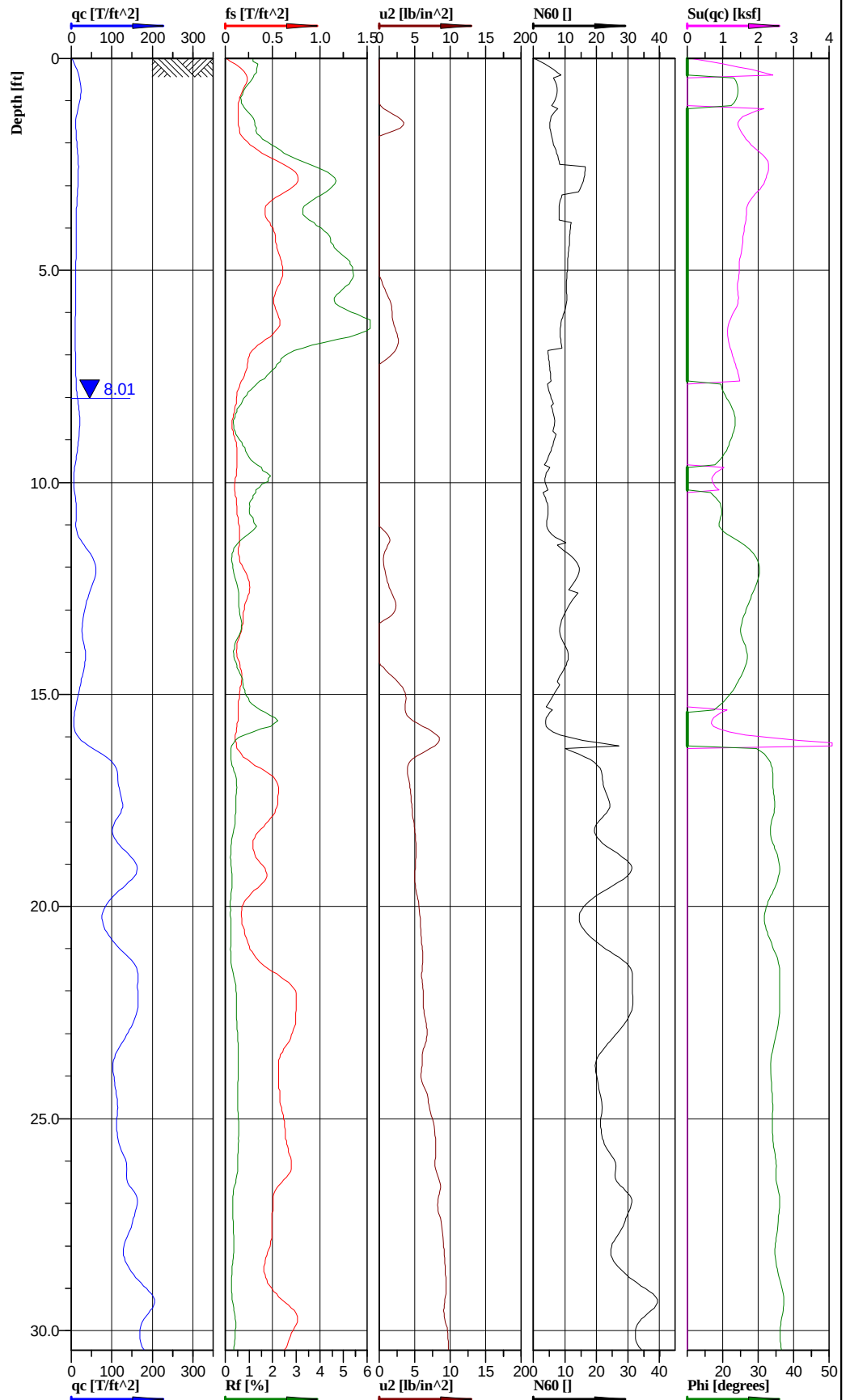
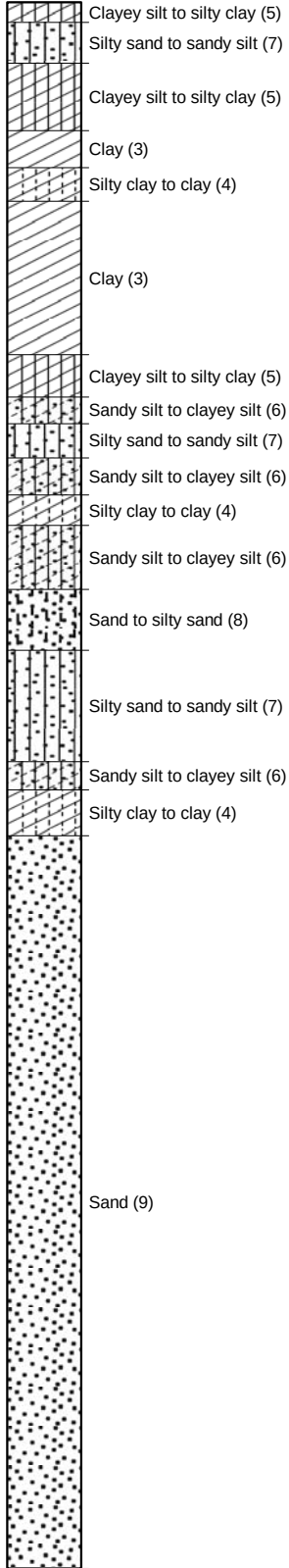
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 727532.48 ft, Y: 994610.37 ft	Ground level:	466.99	Test no:	C-39
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-13
				File:	Labadie C-039.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-39
Test date: 10/23/2009
Location: Labadie MO
File name: Labadie C-039.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.667	0.023	-0.377	Silty clay to clay (4)	7.1	1.609	0.007	0.007	22.1		1.84	7.1	115	0.15	0.15	805
3.75	1.309	0.079	8.5082	Clay (3)	12.4	1.782	0.021	0.021			1.79	12.4	112	0.44	0.44	535
6.25	1.095	0.036	11.9915	Clayey silt to silty clay (5)	7.4	1.176	0.034	0.034	20.5		1.81	7.4	113	0.71	0.71	706
8.75	2.25	0.019	3.3551	Sandy silt to clayey silt (6)	8.4	1.411	0.048	0.044	25.4		1.86	8.4	116	1.00	0.92	187
11.25	5.142	0.027	2.1572	Sand to silty sand (8)	13.5		0.062	0.051	29.1	61	1.92	8.6	120	1.29	1.06	428
13.75	8.101	0.038	3.2008	Sand to silty sand (8)	18.7		0.076	0.058	32.3	68	1.95	11.9	122	1.58	1.21	674
16.25	11.398	0.049	3.767	Sand (9)	23.2		0.091	0.065	34.2	76	1.98	11.6	124	1.89	1.35	948
18.75	8.584	0.04	4.93	Sand (9)	19.4		0.106	0.072	32.5	66	1.96	9.7	122	2.20	1.50	714
21.25	18.633	0.095	5.7662	Sand to silty sand (8)	36.1		0.121	0.079	36.4	86	1.99	23.1	124	2.52	1.64	1550
23.75	9.522	0.025	6.9251	Sand (9)	20.6		0.135	0.086	33.1	67	1.97	10.3	123	2.81	1.79	792
26.25	13.128	0.042	8.0442	Sand (9)	26.2		0.15	0.093	35.0	75	1.99	13.1	124	3.12	1.93	1092
28.75	16.621	0.048	9.1224	Sand (9)	33.2		0.165	0.101	36.3	81	2	16.6	125	3.43	2.10	1383
31.25	22.475	0.057	10.0734	Sand (9)	39.6		0.18	0.108	37.7	88	2.02	19.8	126	3.74	2.25	1870
33.75	16.016	0.033	11.2922	Sand (9)	32.0		0.195	0.115	36.2	78	1.99	16.0	124	4.06	2.39	1333
36.25	16.129	0.045	11.6501	Sand (9)	32.2		0.204	0.12	36.1	78	1.99	16.1	124	4.24	2.50	1342

**Classification by
Robertson 1986**



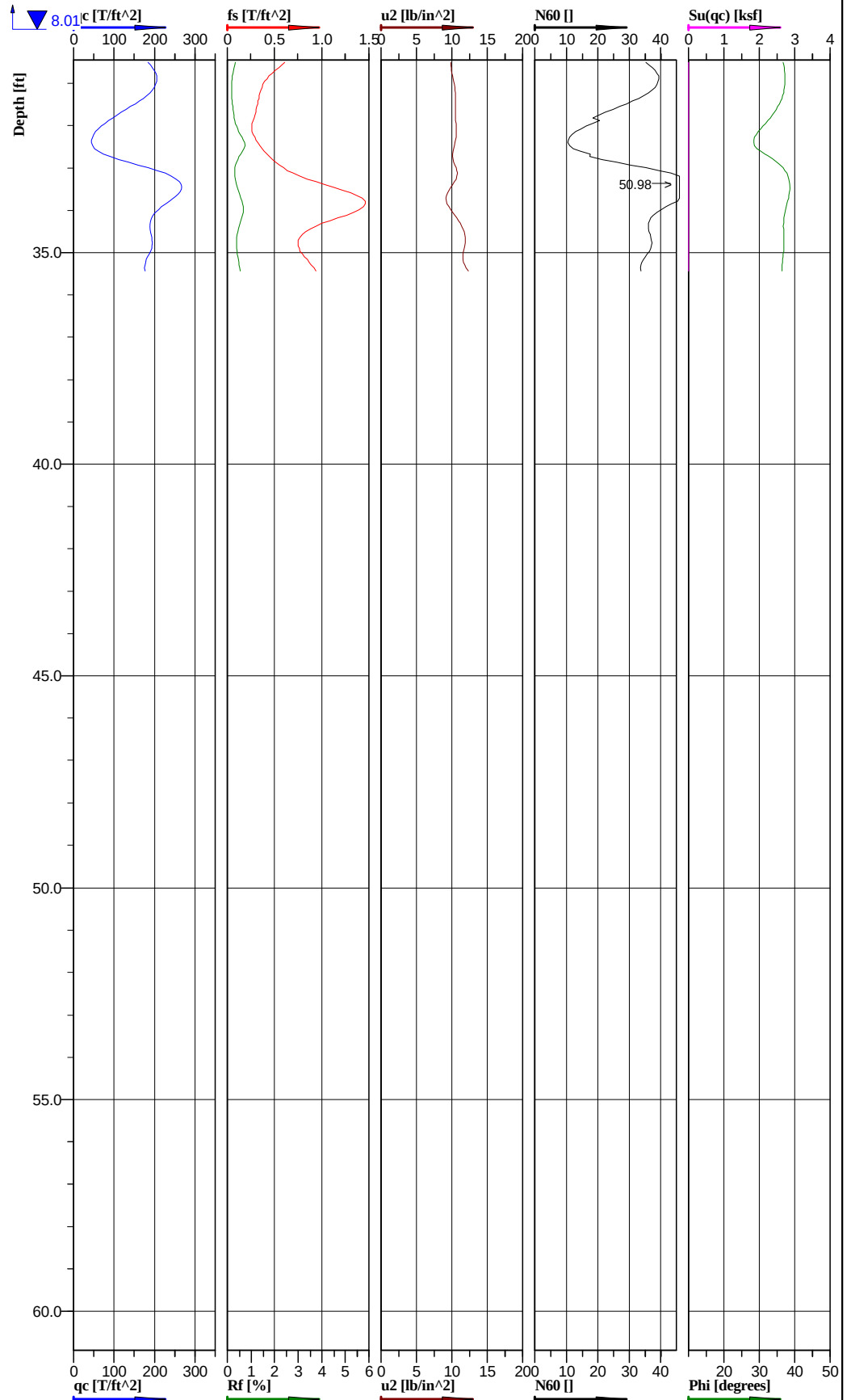
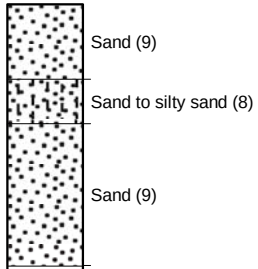
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728120.73 ft, Y: 994571.00 ft	Ground level:	466.99	Test no:	C-41
Project ID:	2008012455	Client:	Ameren Missouri	Date:	10/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-14
				File:	Labadie C-041.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



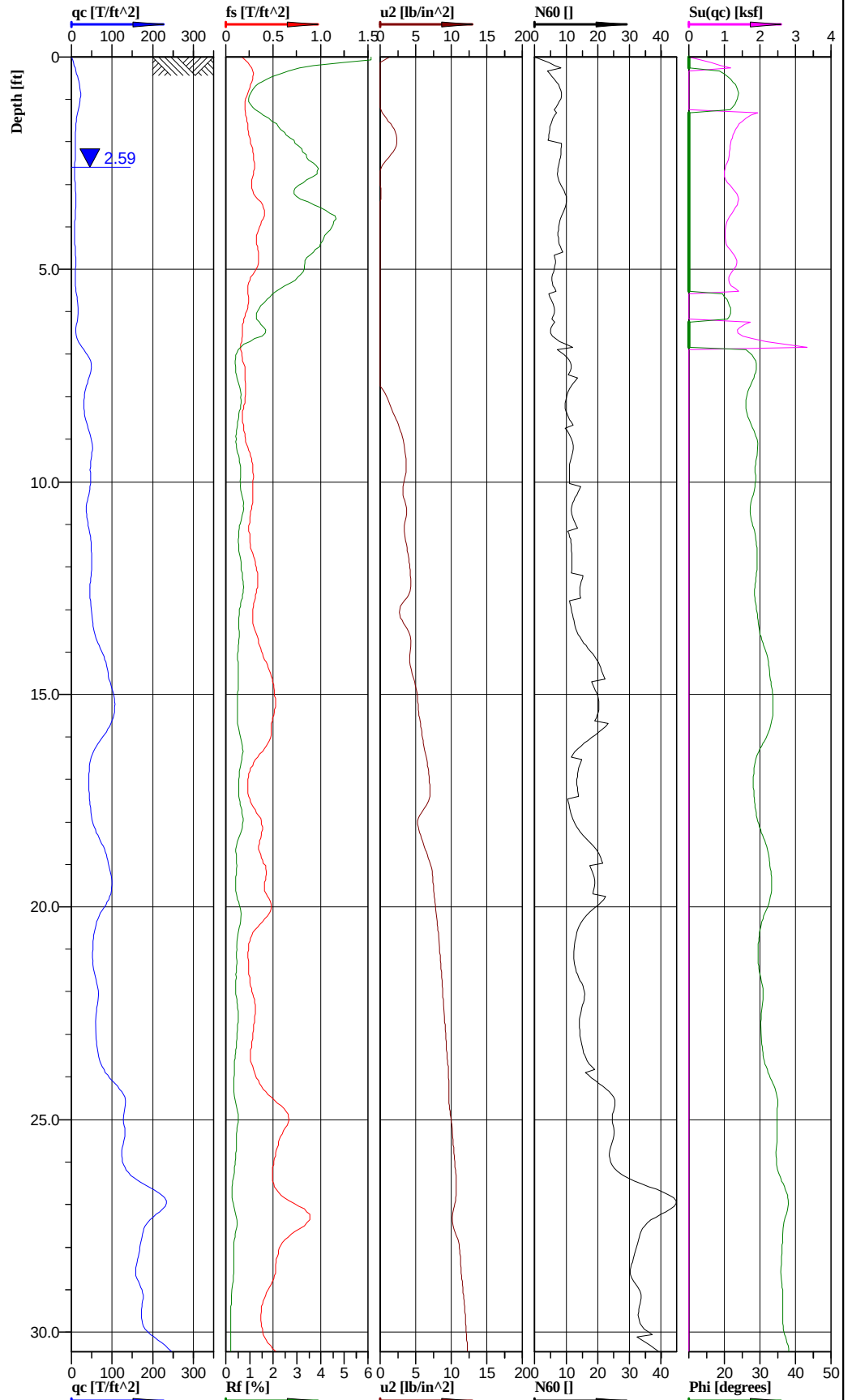
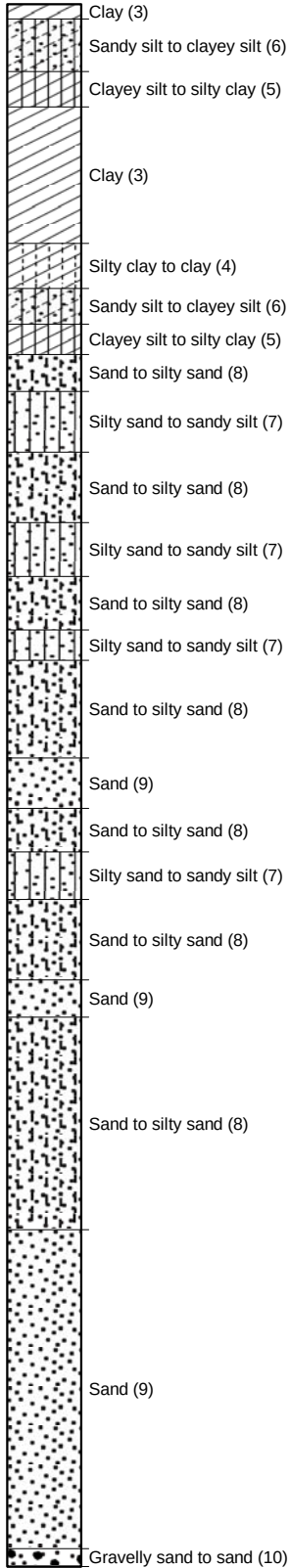
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728120.73 ft, Y: 994571.00 ft	Ground level: 466.99	Test no: C-41
Project ID: 2008012455	Client: Ameren Missouri	Date: 10/23/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-14
		File: Labadie C-041.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-41
 Test date: 10/23/2009
 Location: Labadie MO
 File name: Labadie C-041.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.466	0.021	-1.694	Clay (3)	6.6	1.714	0.007	0.007	23.7		1.84	6.6	115	0.15	0.15	514
3.75	1.274	0.055	-2.3654	Clay (3)	11.7	1.749	0.021	0.021			1.8	11.7	112	0.44	0.44	525
6.25	0.984	0.042	1.1243	Clayey silt to silty clay (5)	8.4	1.321	0.034	0.034			1.8	8.4	112	0.71	0.71	793
8.75	1.362	0.011	-2.61	Silty clay to clay (4)	5.5	0.949	0.048	0.045	21.5		1.85	5.5	115	1.00	0.94	475
11.25	2.818	0.015	0.0777	Sand to silty sand (8)	8.2	0.807	0.062	0.052	24.3	55	1.88	5.2	117	1.29	1.08	234
13.75	2.908	0.016	0.7916	Sandy silt to clayey silt (6)	9.8		0.076	0.058	25.8	53	1.88	9.8	117	1.58	1.21	242
16.25	5.826	0.026	5.0798	Sand (9)	14.3	1.761	0.09	0.065	30.3	72	1.92	7.1	120	1.87	1.35	485
18.75	11.88	0.035	5.0367	Sand (9)	23.8		0.104	0.072	34.5	76	1.99	11.9	124	2.16	1.50	988
21.25	12.463	0.041	6.0101	Sand (9)	24.9		0.119	0.079	34.5	75	1.98	12.5	124	2.48	1.64	1037
23.75	11.522	0.06	6.4915	Sand (9)	23.0		0.134	0.086	34.3	73	1.99	11.5	124	2.79	1.79	959
26.25	13.115	0.057	8.1494	Sand (9)	26.2		0.149	0.093	35.0	76	1.99	13.1	124	3.10	1.93	1091
28.75	15.598	0.052	9.2279	Sand (9)	31.2		0.164	0.101	36.0	79	1.99	15.6	124	3.41	2.10	1298
31.25	13.417	0.039	10.2563	Sand to silty sand (8)	27.6		0.179	0.108	34.4	71	1.97	17.7	123	3.72	2.25	1116
33.75	18.627	0.087	10.5791	Sand (9)	37.5		0.194	0.115	36.6	81	1.99	18.7	124	4.04	2.39	1550
36.25	17.188	0.083	11.7823	Sand (9)	34.4		0.202	0.119	36.5	80	1.99	17.2	124	4.20	2.48	1430

Classification by
Robertson 1986

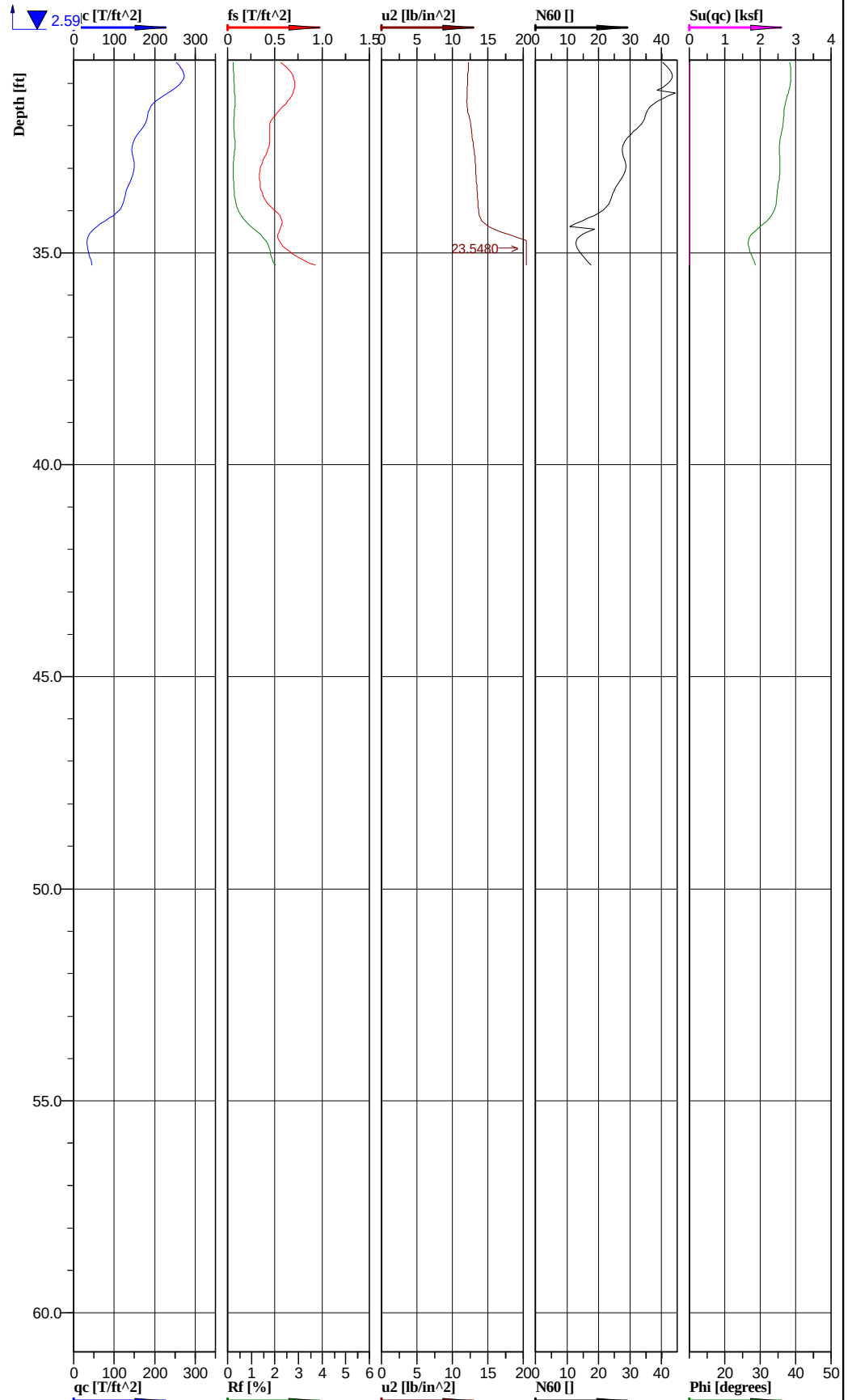
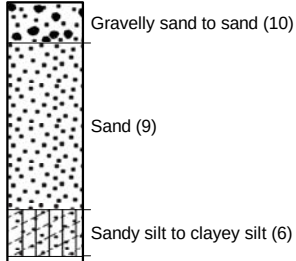


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 727235.79 ft, Y: 994339.90 ft	Ground level:	466.50	Test no:	C-44
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-15
				File:	Labadie C-044.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



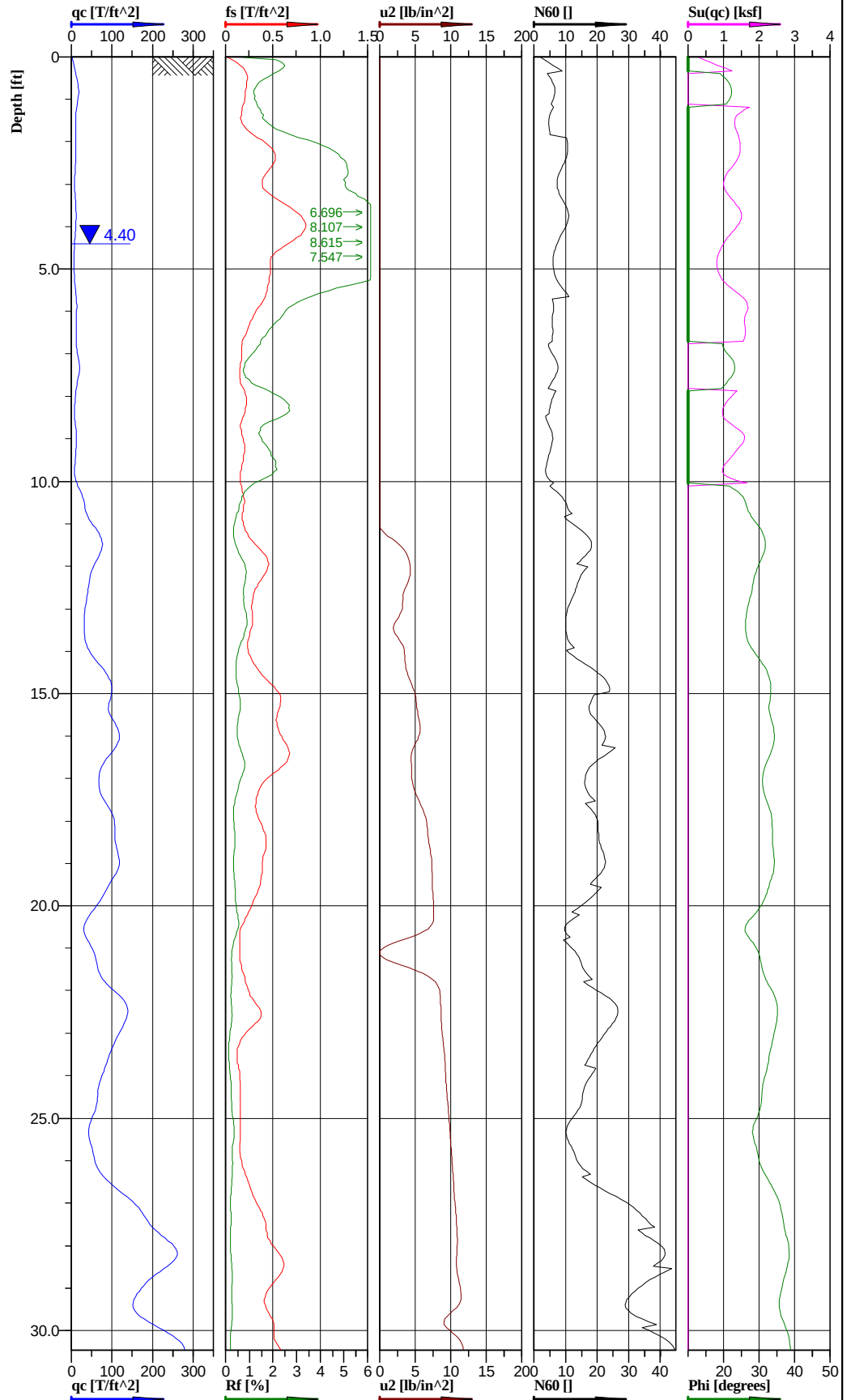
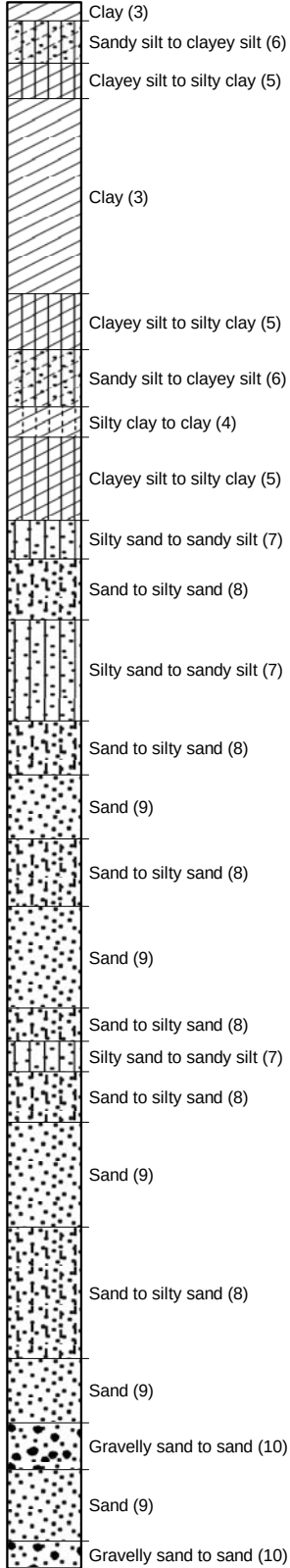
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 727235.79 ft, Y: 994339.90 ft	Ground level: 466.50	Test no: C-44
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/2/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-15
		File: Labadie C-044.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-44
Test date: 11/2/2009
Location: Labadie MO
File name: Labadie C-044.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.18	0.024	0.2853	Clay (3)	6.4	1.157	0.007	0.007	22.4		1.8	6.4	112	0.15	0.15	347
3.75	0.857	0.032	-1.4812	Silty clay to clay (4)	8.0	1.168	0.021	0.017			1.8	8.0	112	0.44	0.35	584
6.25	2.063	0.02	-3.2071	Silty sand to sandy silt (7)	7.4	1.586	0.034	0.023	24.8	61	1.86	4.8	116	0.71	0.48	172
8.75	3.96	0.021	2.2709	Sand to silty sand (8)	11.2		0.048	0.029	27.9	61	1.91	7.1	119	1.00	0.60	329
11.25	4.262	0.027	3.7265	Silty sand to sandy silt (7)	12.5		0.063	0.036	28.4	59	1.91	8.0	119	1.31	0.75	355
13.75	6.633	0.036	4.0381	Sand (9)	16.2		0.077	0.043	30.9	67	1.94	8.1	121	1.60	0.89	552
16.25	6.564	0.036	6.1911	Sand to silty sand (8)	16.4		0.091	0.05	30.6	69	1.93	10.5	120	1.89	1.04	546
18.75	7.334	0.037	6.6235	Sand to silty sand (8)	17.0		0.106	0.056	31.5	65	1.95	10.9	122	2.20	1.16	610
21.25	5.752	0.028	8.4539	Sand to silty sand (8)	14.4		0.12	0.063	30.3	58	1.94	9.2	121	2.50	1.31	479
23.75	8.548	0.036	9.47	Sand (9)	18.7		0.135	0.07	32.3	66	1.96	9.4	122	2.81	1.46	711
26.25	15.729	0.06	10.3871	Sand (9)	31.4		0.15	0.078	35.9	83	1.99	15.7	124	3.12	1.62	1309
28.75	16.368	0.047	11.4914	Sand (9)	32.7		0.165	0.085	36.3	83	1.99	16.4	124	3.43	1.77	1362
31.25	20.063	0.052	12.3276	Sand (9)	36.6		0.18	0.092	37.2	88	2.01	18.3	125	3.74	1.91	1669
33.75	9.879	0.044	15.4016	Sandy silt to clayey silt (6)	21.6		0.195	0.099	32.6	72	1.95	21.6	122	4.06	2.06	822
36.25	4.032	0.077	28.8202	Sandy silt to clayey silt (6)	16.1		0.202	0.103	28.1		1.84	16.1	115	4.20	2.14	335

Classification by
Robertson 1986

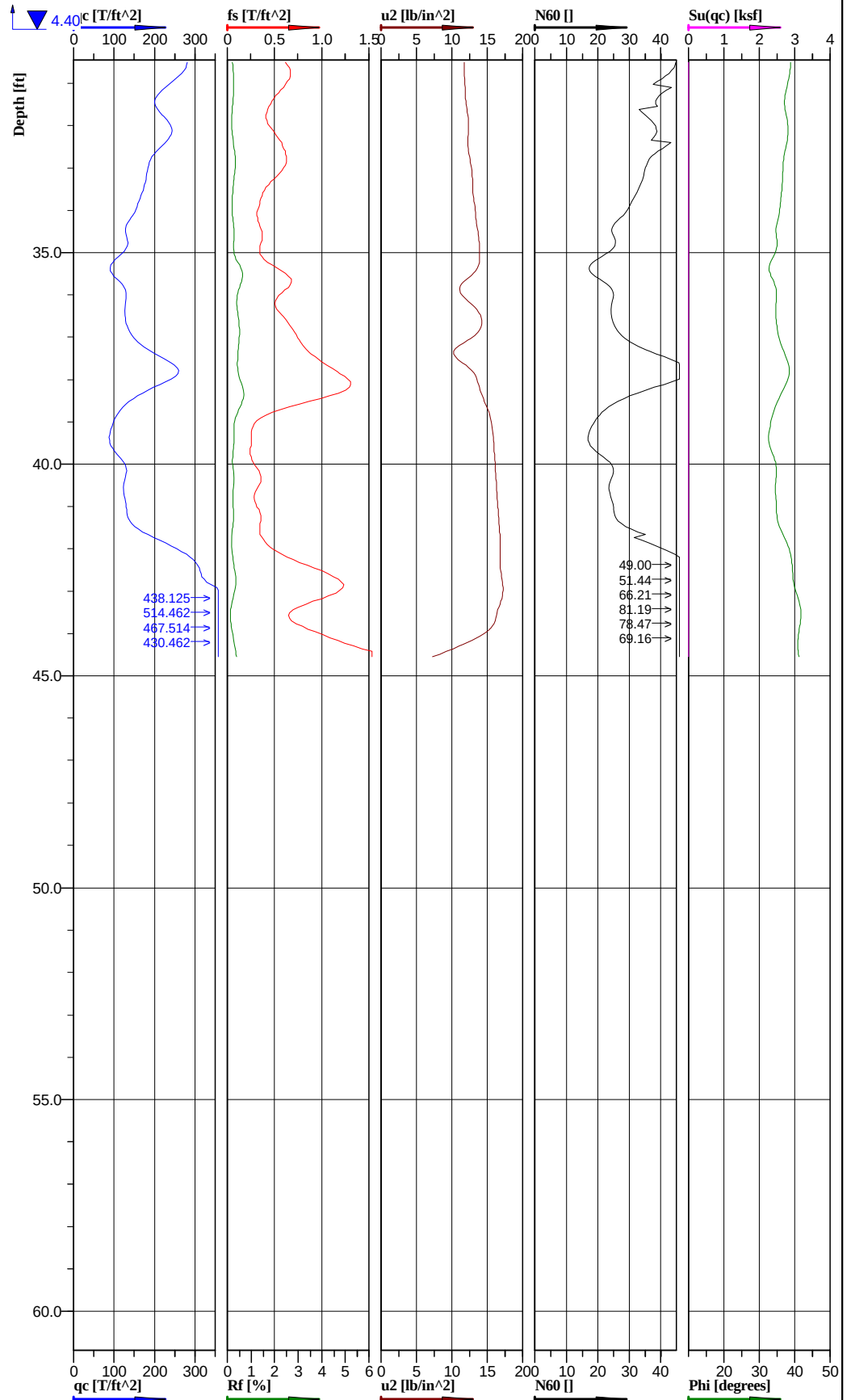
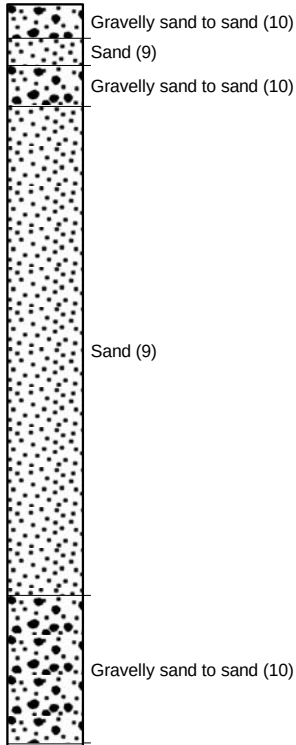


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 727828.31 ft, Y: 994335.17 ft	Ground level:	466.50	Test no:	C-46
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-16
				File:	Labadie C-046.cpd		

Classification by
Robertson 1986



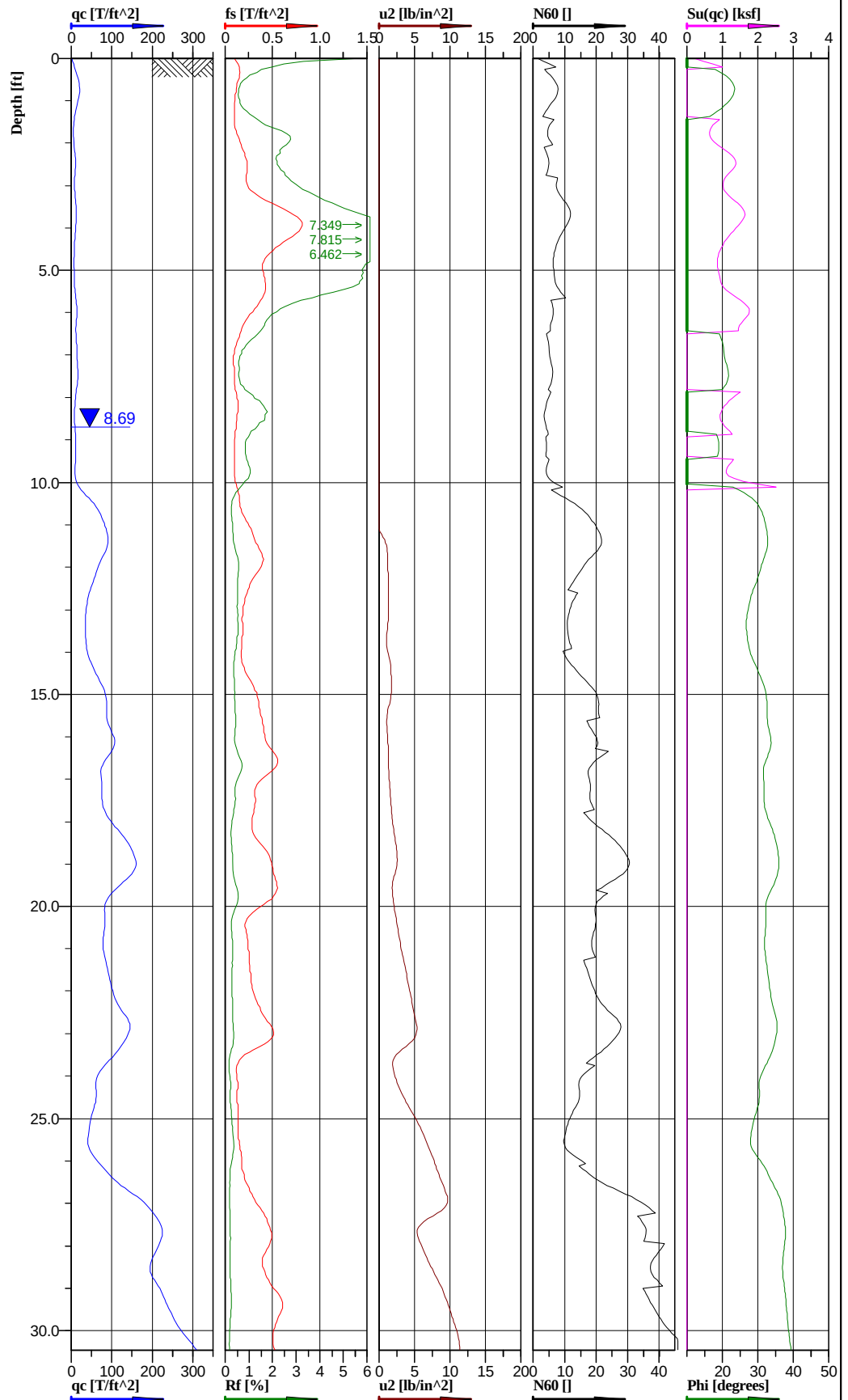
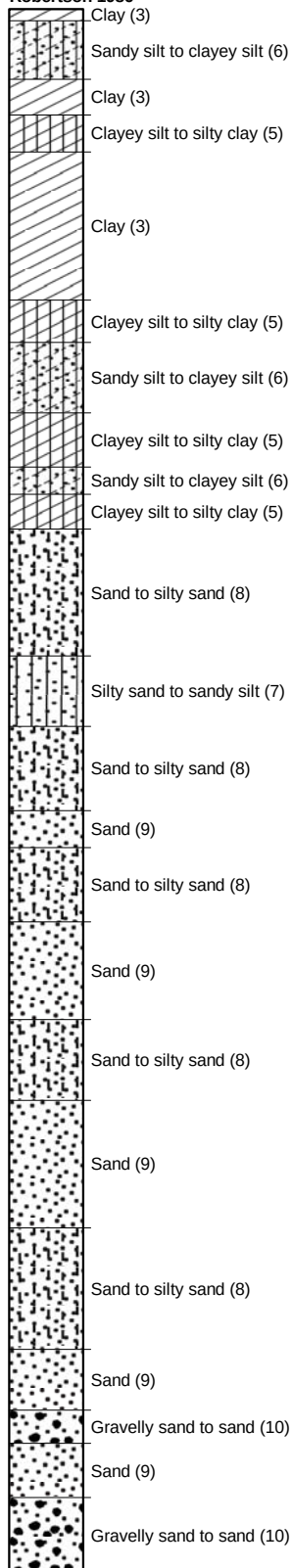
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 727828.31 ft, Y: 994335.17 ft	Ground level: 466.50	Test no: C-46
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/2/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-16
		File: Labadie C-046.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-46
 Test date: 11/2/2009
 Location: Labadie MO
 File name: Labadie C-046.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.084	0.025	-2.6394	Clay (3)	6.8	1.274	0.007	0.007	21.2		1.82	6.8	114	0.15	0.15	382
3.75	0.824	0.056	-5.0605	Clay (3)	8.2	1.127	0.021	0.02			1.78	8.2	111	0.44	0.42	338
6.25	1.23	0.027	-4.1147	Sandy silt to clayey silt (6)	6.7	1.426	0.034	0.028	21.8		1.82	6.7	114	0.71	0.58	102
8.75	0.985	0.017	-3.5146	Clayey silt to silty clay (5)	5.1	1.231	0.048	0.034	20.8		1.84	5.1	115	1.00	0.71	739
11.25	4.628	0.027	0.5309	Silty sand to sandy silt (7)	13.1	1.648	0.062	0.041	28.6	65	1.91	8.4	119	1.29	0.85	385
13.75	5.178	0.031	3.3395	Sand (9)	14.4		0.076	0.047	29.0	68	1.92	7.2	120	1.58	0.98	431
16.25	8.733	0.051	5.0036	Sand to silty sand (8)	19.4		0.09	0.054	32.7	71	1.95	12.4	122	1.87	1.12	727
18.75	9.533	0.035	6.9712	Sand to silty sand (8)	19.9		0.105	0.061	33.2	72	1.98	12.7	124	2.18	1.27	793
21.25	6.822	0.02	5.7914	Sand (9)	16.0		0.119	0.068	30.6	63	1.94	8.0	121	2.48	1.41	568
23.75	8.568	0.018	9.1748	Sand to silty sand (8)	18.7		0.134	0.075	32.4	65	1.97	11.9	123	2.79	1.56	713
26.25	9.261	0.023	10.2986	Sand (9)	19.8		0.149	0.082	32.2	63	1.96	9.9	122	3.10	1.71	771
28.75	19.65	0.048	10.6884	Gravelly sand to sand (10)	36.0		0.164	0.09	37.2	87	2.01	24.4	125	3.41	1.87	1635
31.25	22.878	0.051	11.9004	Sand (9)	40.0		0.179	0.097	38.0	91	2.03	20.0	127	3.72	2.02	1903
33.75	15.32	0.041	13.1708	Sand (9)	30.6		0.194	0.104	35.9	78	1.99	15.3	124	4.04	2.16	1275
36.25	12.843	0.061	12.612	Sand (9)	25.7		0.209	0.111	34.8	72	1.98	12.8	124	4.35	2.31	1069
38.75	14.309	0.064	14.6963	Sand (9)	28.6		0.224	0.119	35.1	73	1.99	14.3	124	4.66	2.48	1191
41.25	17.221	0.041	16.5616	Gravelly sand to sand (10)	31.6		0.238	0.126	36.2	77	2	21.5	125	4.95	2.62	1433
43.75	41.137	0.101	15.0084	Gravelly sand to sand (10)	68.5		0.252	0.133	40.8	103	2.04	46.6	127	5.24	2.77	3423

**Classification by
Robertson 1986**

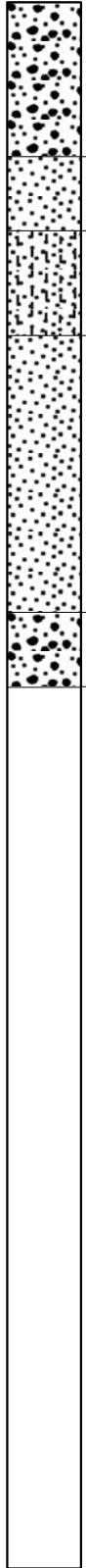


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 727834.35 ft, Y: 994335.47 ft	Ground level:	466.40	Test no:	C-46A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-17
Confirmation sounding for C-46				File:	Labadie C-046A.cpd		

Classification by
Robertson 1986



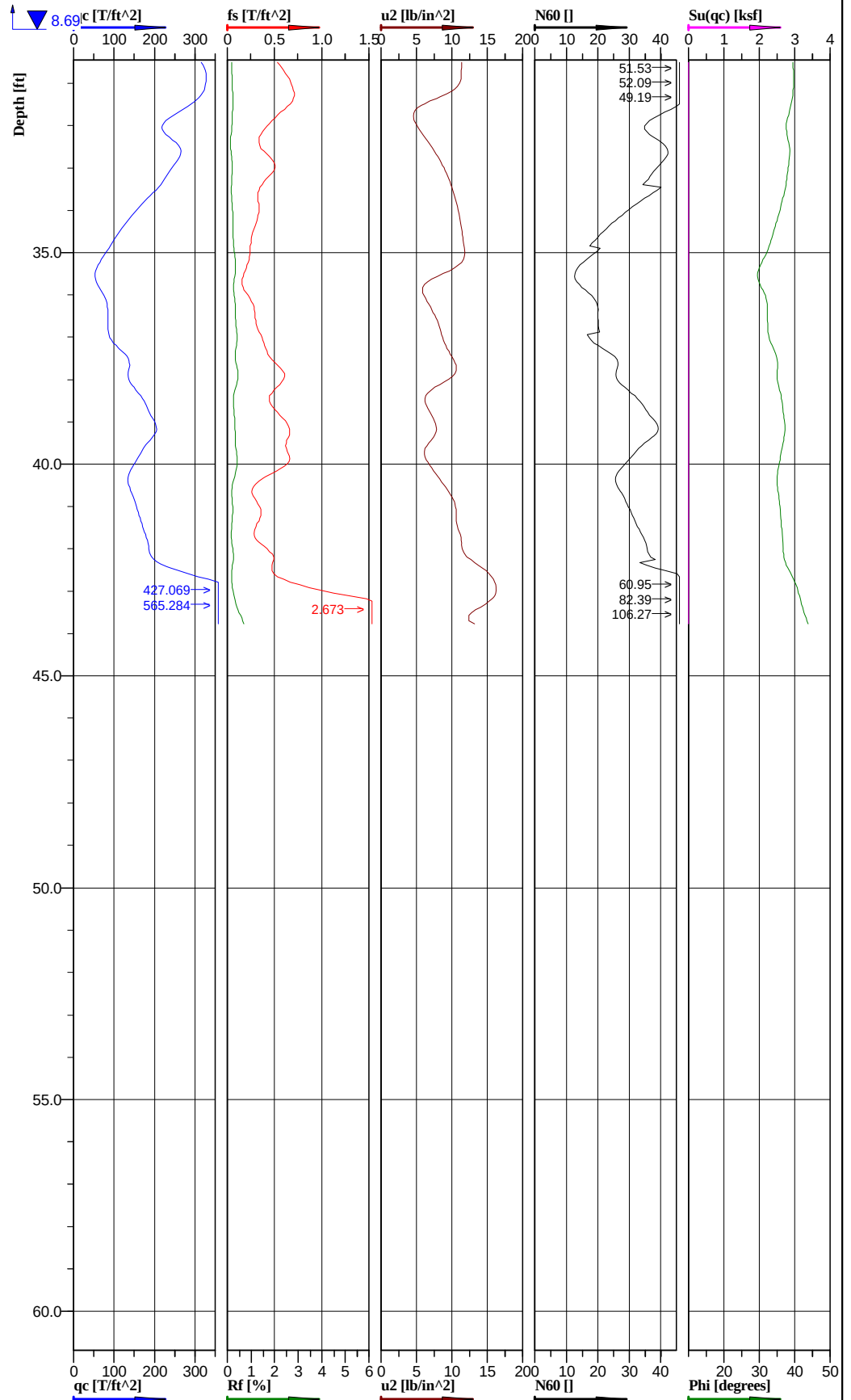
Gravelly sand to sand (10)

Sand (9)

Sand to silty sand (8)

Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



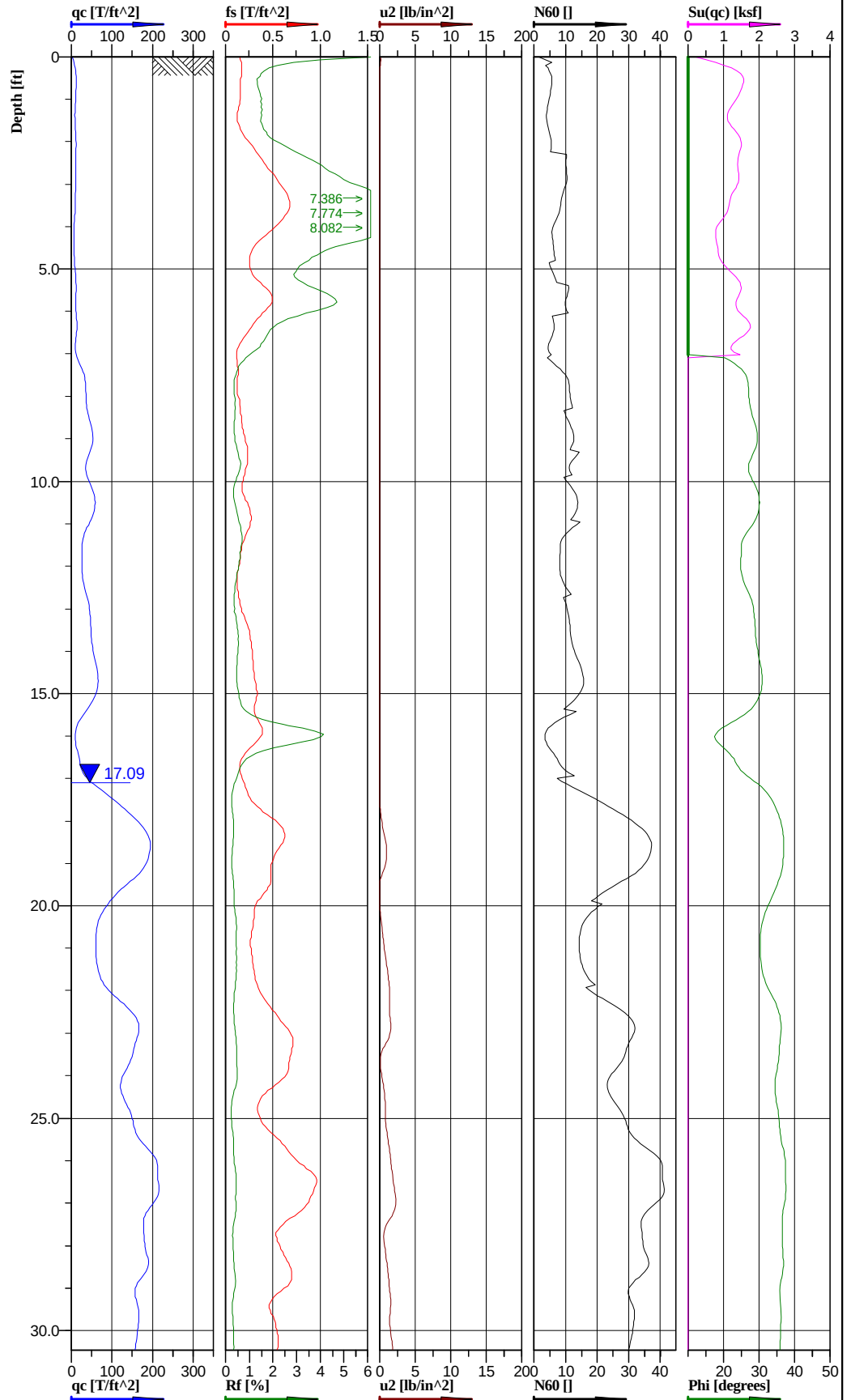
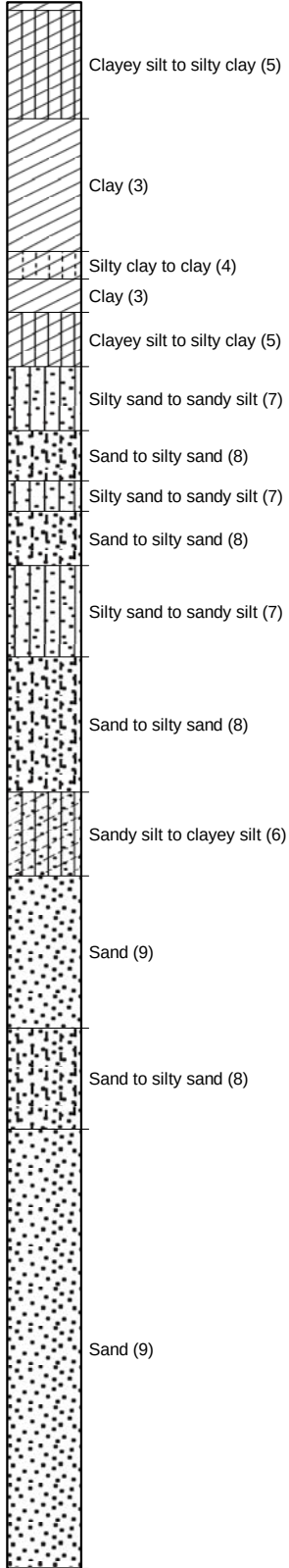
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727834.35 ft, Y: 994335.47 ft	Ground level:	466.40	Test no:	C-46A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-17
Confirmation sounding for C-46				File:	Labadie C-046A.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-46A
 Test date: 11/2/2009
 Location: Labadie MO
 File name: Labadie C-046A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.011	0.013	-2.1891	Clayey silt to silty clay (5)	5.3	0.894	0.007	0.007	20.9		1.82	5.3	114	0.15	0.15	536
3.75	0.866	0.047	-3.0625	Clay (3)	8.2	1.181	0.021	0.021			1.79	8.2	112	0.44	0.44	354
6.25	1.152	0.022	-2.2557	Sandy silt to clayey silt (6)	6.2	1.361	0.034	0.034	20.6		1.82	6.2	114	0.71	0.71	96
8.75	0.995	0.01	-1.1146	Clayey silt to silty clay (5)	4.6	1.198	0.048	0.047	19.5		1.84	4.6	115	1.00	0.98	719
11.25	6.208	0.025	0.2264	Sand to silty sand (8)	15.7	2.256	0.062	0.054	30.5	62	1.94	10.1	121	1.29	1.12	517
13.75	4.582	0.02	1.3805	Sand to silty sand (8)	13.0		0.076	0.061	28.6	57	1.91	8.3	119	1.58	1.27	381
16.25	8.306	0.039	1.3333	Sand to silty sand (8)	19.4		0.091	0.067	32.5	67	1.95	12.4	122	1.89	1.39	691
18.75	11.357	0.039	2.0832	Sand to silty sand (8)	23.8		0.105	0.075	34.1	74	1.98	15.2	124	2.18	1.56	945
21.25	8.759	0.026	3.4726	Sand (9)	19.4		0.12	0.082	32.8	66	1.97	9.7	123	2.50	1.71	729
23.75	8.903	0.024	3.6986	Sand to silty sand (8)	19.3		0.135	0.089	32.4	63	1.96	12.4	122	2.81	1.85	741
26.25	10.539	0.023	7.6136	Gravelly sand to sand (10)	21.2		0.149	0.096	32.6	64	1.97	14.4	123	3.10	2.00	877
28.75	21.523	0.047	8.1646	Gravelly sand to sand (10)	38.5		0.164	0.103	37.7	88	2.02	26.2	126	3.41	2.14	1791
31.25	27.118	0.051	8.4427	Gravelly sand to sand (10)	45.2		0.18	0.111	38.8	94	2.04	30.7	127	3.74	2.31	2256
33.75	16.852	0.033	10.2177	Sand to silty sand (8)	31.2		0.195	0.118	36.0	78	2.01	20.0	125	4.06	2.45	1402
36.25	7.848	0.027	8.4115	Sand (9)	18.2		0.209	0.125	32.0	56	1.95	9.1	122	4.35	2.60	653
38.75	16.061	0.055	7.6694	Sand (9)	32.1		0.224	0.132	36.1	76	1.99	16.1	124	4.66	2.75	1336
41.25	16.155	0.036	10.5307	Gravelly sand to sand (10)	31.5		0.239	0.14	36.1	76	1.99	21.4	124	4.97	2.91	1344
43.75	47.766	0.19	14.732	Gravelly sand to sand (10)	79.6		0.25	0.145	41.3	105	2.04	54.1	127	5.20	3.02	3974

Classification by
Robertson 1986

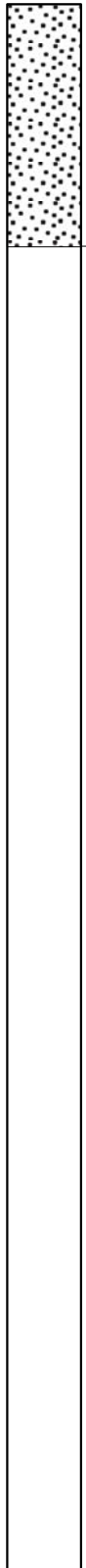


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

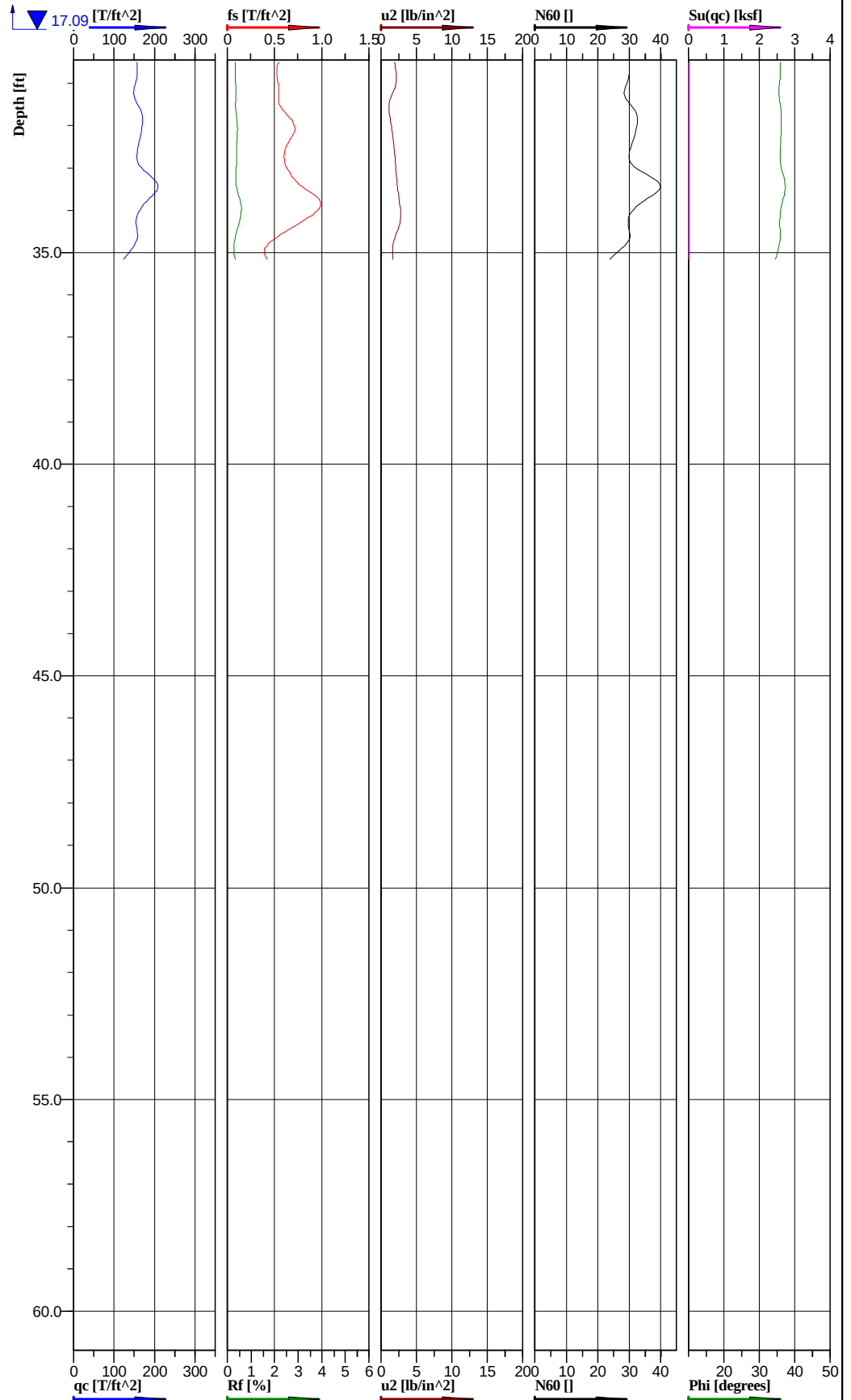


Location:	Labadie, MO	Position:	X: 728416.24 ft, Y: 994317.22 ft	Ground level:	466.70	Test no:	C-48
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-18
				File:	Labadie C-048.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



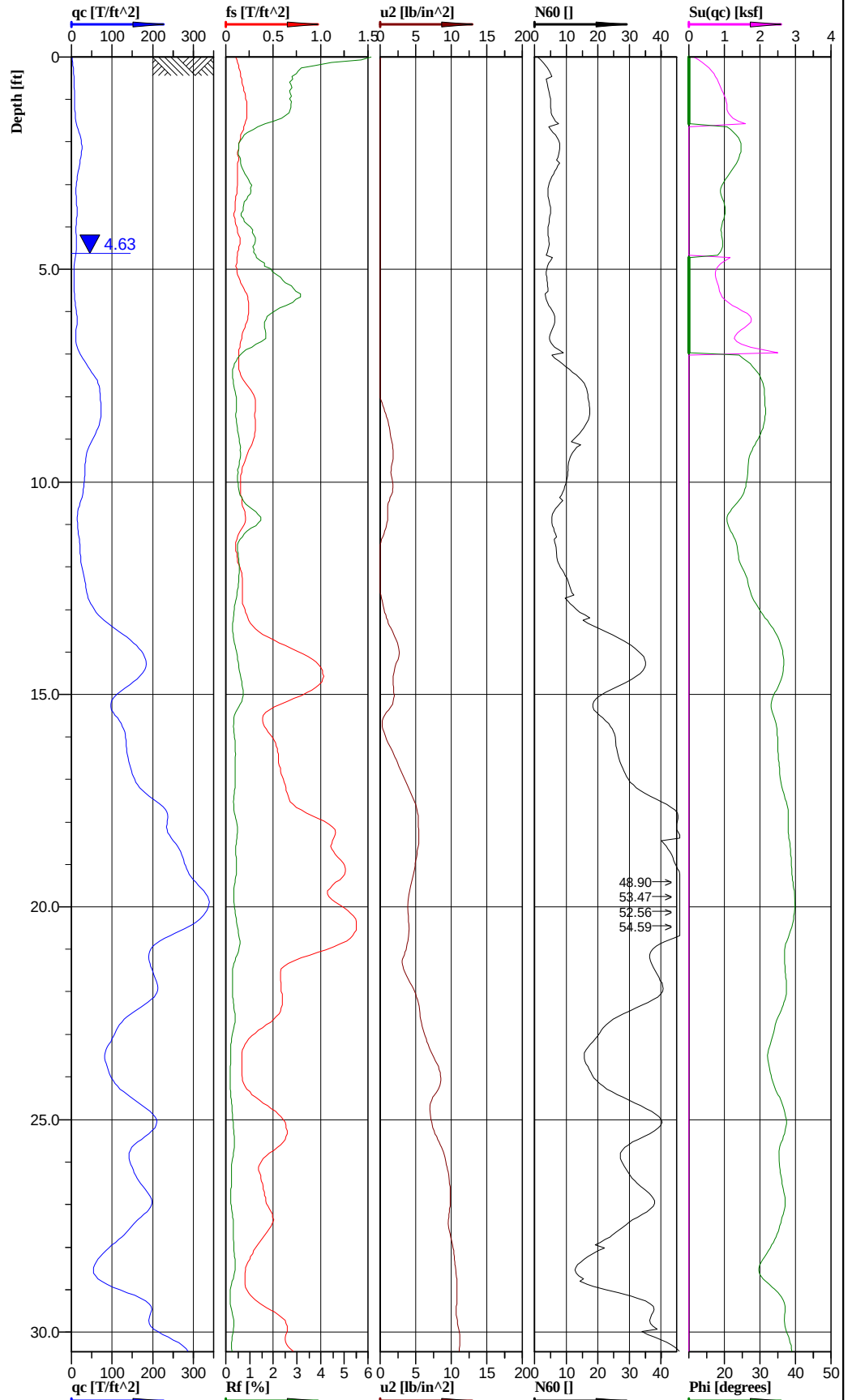
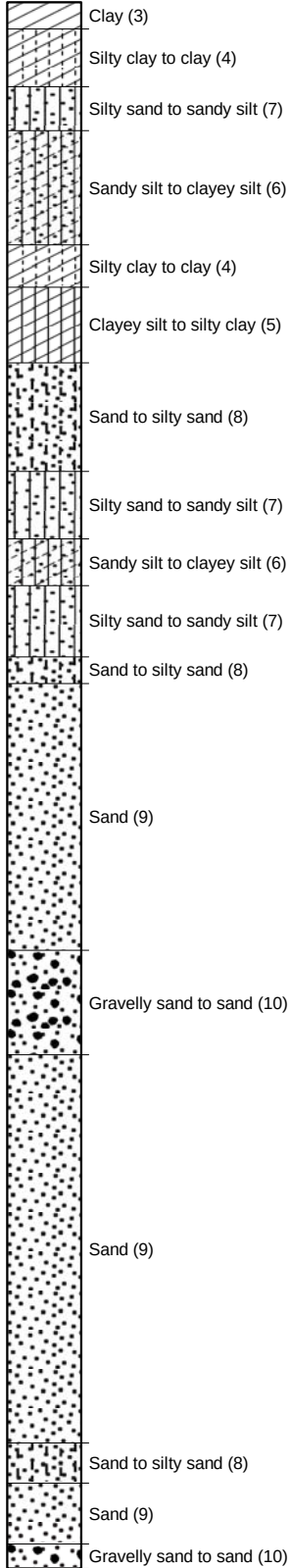
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728416.24 ft, Y: 994317.22 ft	Ground level:	466.70	Test no:	C-48
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-18
				File:	Labadie C-048.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-48
Test date: 11/2/2009
Location: Labadie MO
File name: Labadie C-048.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.934	0.019	-1.4399	Clay (3)	5.4	1.293	0.007	0.007			1.82	5.4	114	0.15	0.15	388
3.75	0.792	0.046	-2.3464	Silty clay to clay (4)	7.7	1.078	0.021	0.021			1.79	7.7	112	0.44	0.44	539
6.25	1.316	0.027	-2.1757	Silty sand to sandy silt (7)	7.5	1.448	0.034	0.034	24.0		1.83	4.8	114	0.71	0.71	109
8.75	3.974	0.017	-1.3254	Sand to silty sand (8)	11.5		0.048	0.048	28.0	54	1.91	7.4	119	1.00	1.00	331
11.25	3.657	0.018	-0.8916	Silty sand to sandy silt (7)	10.7		0.062	0.062	27.1	56	1.91	6.8	119	1.29	1.29	304
13.75	4.977	0.024	-0.6112	Sand to silty sand (8)	12.7		0.077	0.077	29.3	51	1.93	8.1	120	1.60	1.60	414
16.25	3.436	0.025	-0.3703	Sand (9)	9.4		0.091	0.091	25.2	53	1.88	4.7	117	1.89	1.89	286
18.75	14.8	0.045	0.3354	Sand to silty sand (8)	29.8		0.105	0.1	35.6	77	1.99	19.1	124	2.18	2.08	1231
21.25	7.633	0.031	0.8109	Sand (9)	17.6		0.12	0.107	31.8	57	1.95	8.8	122	2.50	2.23	635
23.75	13.837	0.054	0.738	Sand (9)	27.7		0.135	0.114	35.4	74	1.99	13.8	124	2.81	2.37	1151
26.25	18.256	0.069	1.5486	Sand (9)	36.5		0.15	0.122	36.8	81	1.99	18.3	124	3.12	2.54	1519
28.75	16.51	0.055	1.1429	Sand (9)	33.0		0.165	0.129	36.3	78	1.99	16.5	124	3.43	2.68	1374
31.25	15.309	0.056	1.6511	Sand (9)	30.6		0.179	0.136	35.9	75	1.99	15.3	124	3.72	2.83	1274
33.75	16.1	0.067	2.2126	Sand (9)	32.2		0.194	0.143	36.2	75	1.99	16.1	124	4.04	2.97	1340
36.25	12.34	0.039	1.5998	Sand (9)	24.7		0.202	0.147	34.8	67	1.99	12.3	124	4.20	3.06	1027

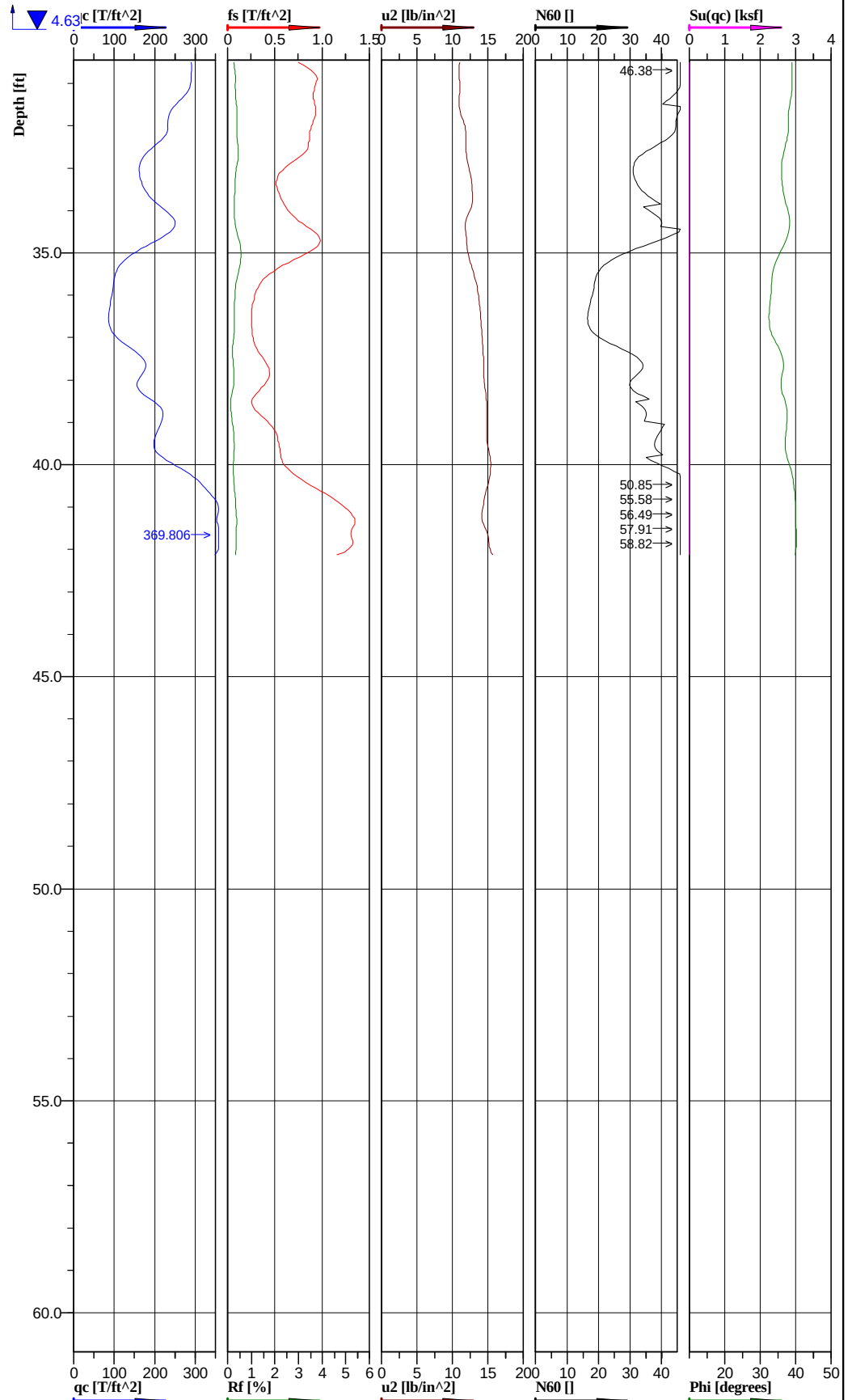
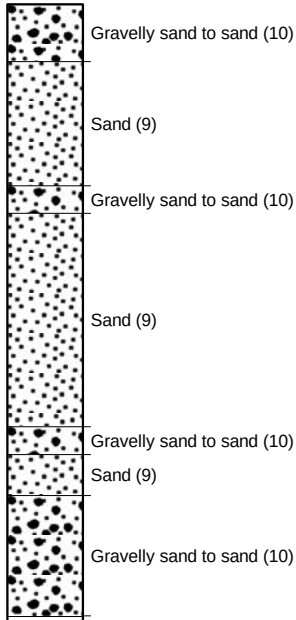
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729171.65 ft, Y: 994279.49 ft	Ground level: 467.59	Test no: C-50
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/2/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 1	Fig: C-19
Confirmation Sounding adjacent to B-50		File: Labadie C-050.cpd	

Classification by
Robertson 1986



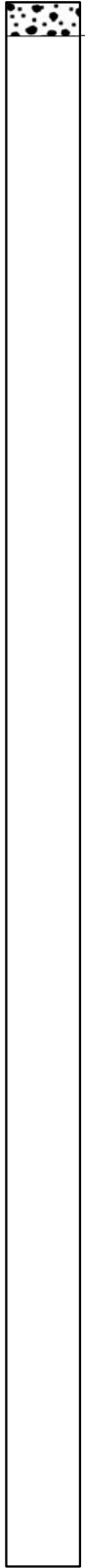
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 729171.65 ft, Y: 994279.49 ft	Ground level:	467.59	Test no:	C-50
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/2/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-19
Confirmation Sounding adjacent to B-50				File:	Labadie C-050.cpd		

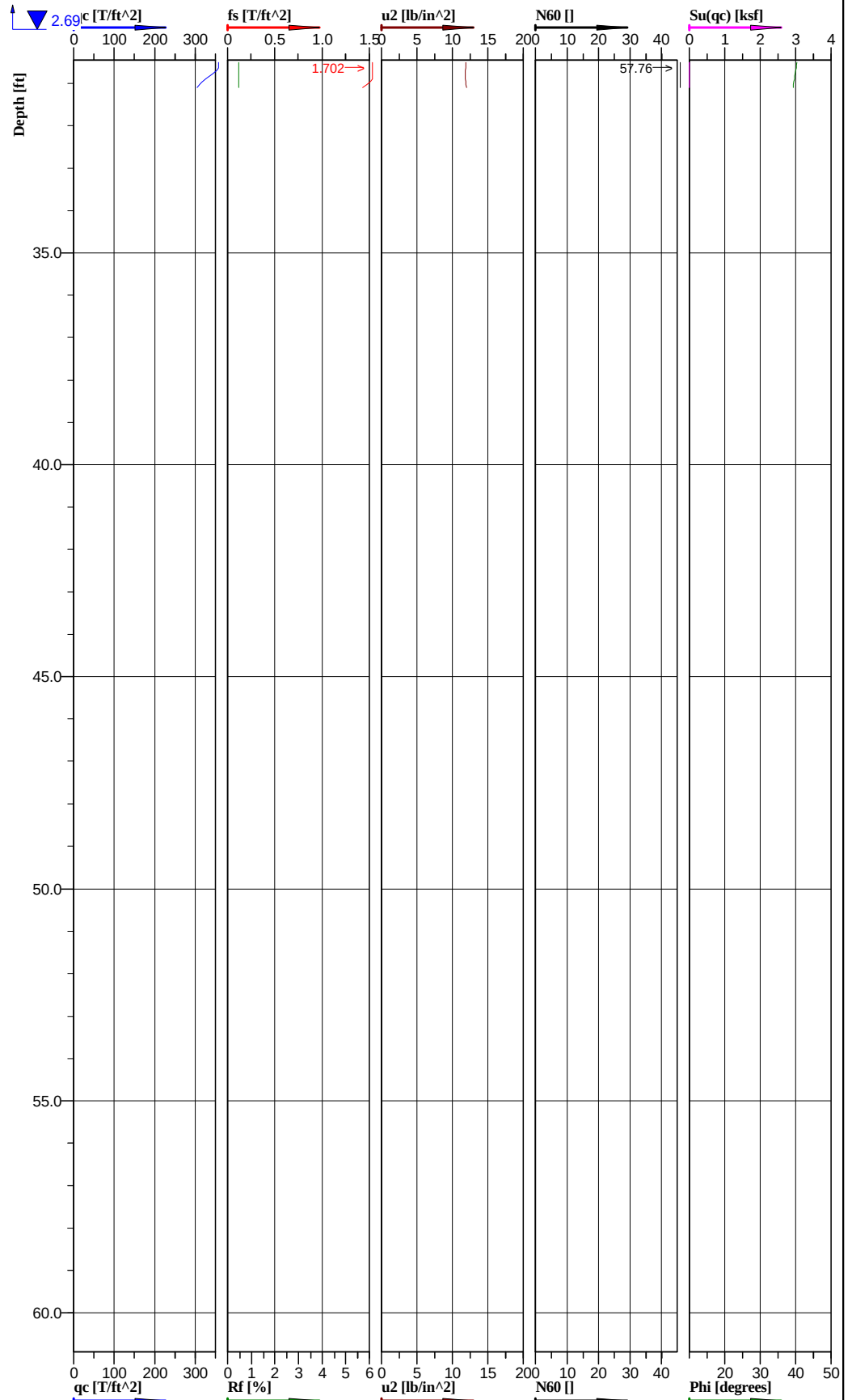
Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-50
 Test date: 11/2/2009
 Location: Labadie MO
 File name: Labadie C-050.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.166	0.016	-2.6133	Sandy silt to clayey silt (6)	5.5	0.879	0.007	0.007	23.6		1.81	5.5	113	0.15	0.15	97
3.75	1.121	0.011	-2.7684	Silty clay to clay (4)	4.8	0.905	0.021	0.021	19.8		1.84	4.8	115	0.44	0.44	453
6.25	1.647	0.017	-2.6078	Sand to silty sand (8)	6.2	1.299	0.034	0.029	27.6	55	1.85	3.9	115	0.71	0.60	137
8.75	5.212	0.024	0.9388	Silty sand to sandy silt (7)	14.1		0.049	0.036	29.4	69	1.92	9.0	120	1.02	0.75	434
11.25	2.224	0.015	0.5012	Silty sand to sandy silt (7)	7.8		0.063	0.042	23.9		1.87	5.0	117	1.31	0.87	185
13.75	11.407	0.056	1.5403	Sand (9)	23.7		0.077	0.049	33.5	80	1.97	11.9	123	1.60	1.02	949
16.25	13.232	0.053	2.1014	Sand (9)	26.5		0.092	0.056	35.0	83	1.98	13.2	124	1.91	1.16	1101
18.75	26.237	0.105	4.8657	Gravelly sand to sand (10)	46.4		0.107	0.063	38.7	101	2.02	31.5	126	2.23	1.31	2183
21.25	21.633	0.087	4.1347	Sand (9)	41.4		0.122	0.071	37.6	93	2	20.7	125	2.54	1.48	1800
23.75	11.734	0.03	7.1723	Sand (9)	23.5		0.136	0.078	34.2	74	1.99	11.7	124	2.83	1.62	976
26.25	16.458	0.046	9.0835	Sand (9)	32.9		0.151	0.085	36.3	83	1.99	16.5	124	3.14	1.77	1369
28.75	12.459	0.035	10.5824	Gravelly sand to sand (10)	25.5		0.166	0.093	34.2	71	1.97	17.3	123	3.45	1.93	1037
31.25	24.454	0.081	11.2739	Sand (9)	43.7		0.181	0.1	38.3	92	2.02	21.9	126	3.76	2.08	2035
33.75	18.58	0.068	12.2811	Sand (9)	35.6		0.196	0.107	36.9	83	2	17.8	125	4.08	2.23	1546
36.25	10.493	0.035	13.6545	Sand (9)	21.0		0.211	0.115	33.7	66	1.99	10.5	124	4.39	2.39	873
38.75	18.803	0.041	14.7885	Gravelly sand to sand (10)	35.4		0.226	0.122	37.0	82	2	24.1	125	4.70	2.54	1564
41.25	32.463	0.107	14.8471	Gravelly sand to sand (10)	54.1		0.24	0.129	39.7	97	2.04	36.8	127	4.99	2.68	2701

Classification by
Robertson 1986



Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



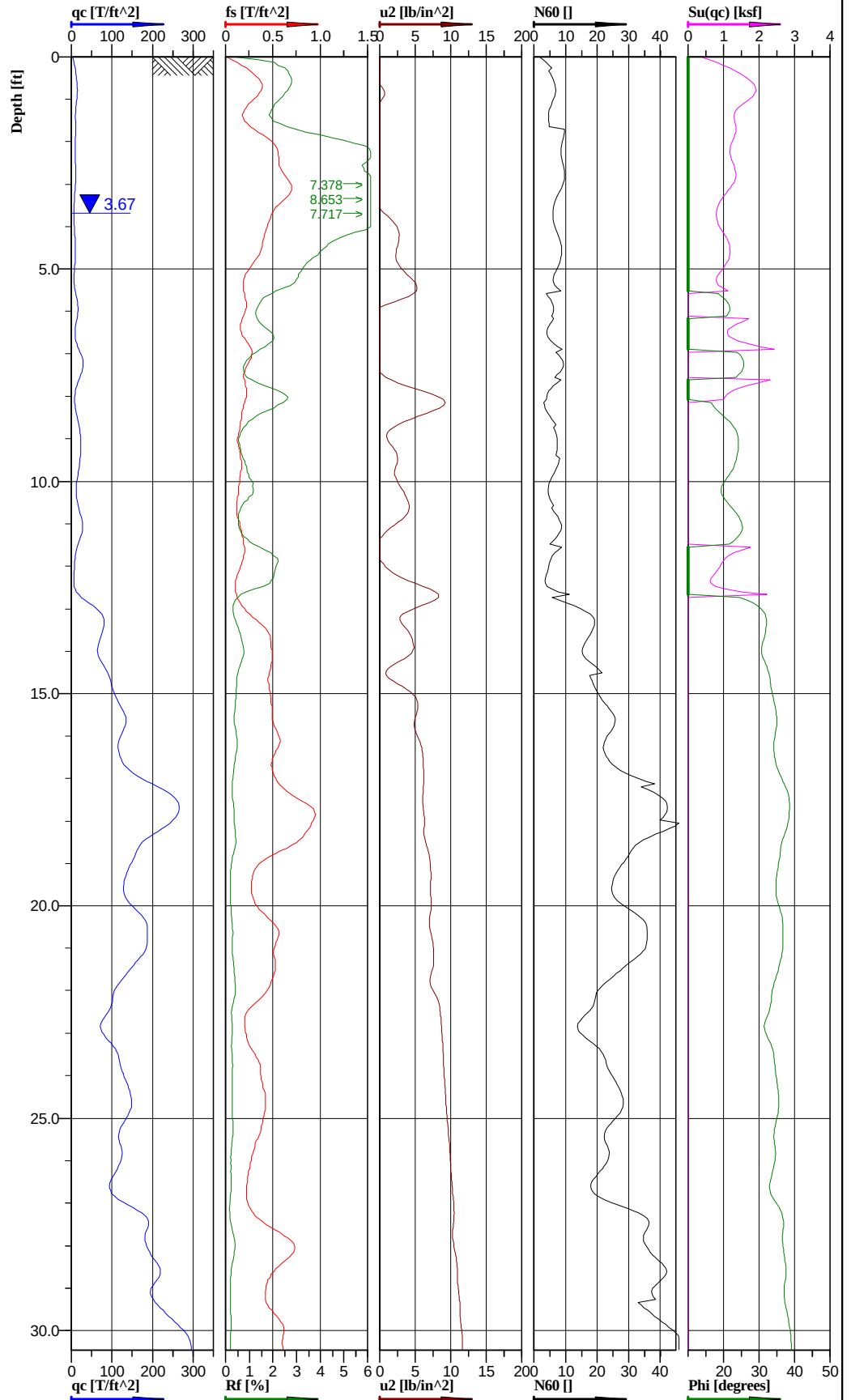
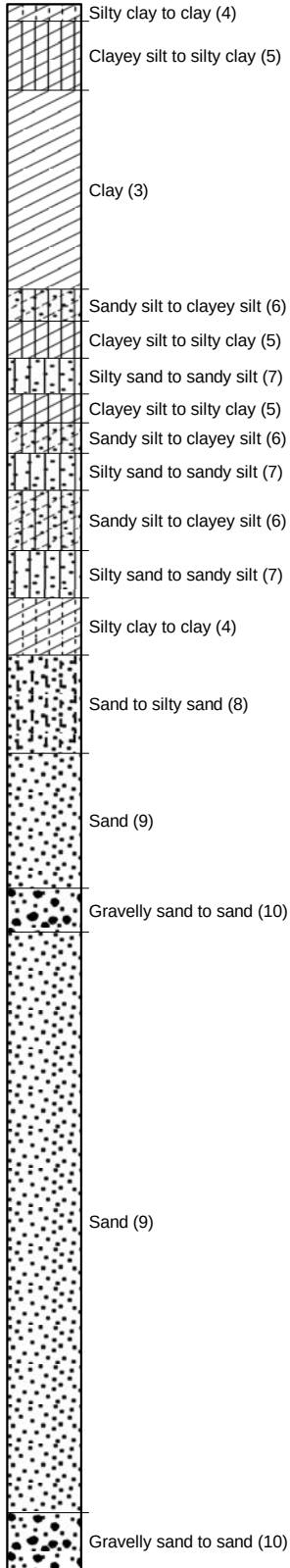
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727521.56 ft, Y: 994027.10 ft	Ground level:	466.40	Test no:	C-60
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/6/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-20
				File:	Labadie C-060.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-60
Test date: 11/6/2009
Location: Labadie MO
File name: Labadie C-060.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.981	0.038	1.6516	Clay (3)	7.2	1.354	0.007	0.007			1.8	7.2	112	0.15	0.15	406
3.75	0.675	0.065	6.3283	Clay (3)	6.8	0.903	0.02	0.017			1.71	6.8	107	0.42	0.35	271
6.25	0.879	0.044	5.8558	Clay (3)	7.0	1.17	0.033	0.022			1.78	7.0	111	0.69	0.46	351
8.75	2.611	0.035	5.4847	Sand to silty sand (8)	9.4	0.813	0.047	0.028	27.7	65	1.85	6.0	115	0.98	0.58	217
11.25	6.015	0.038	4.3284	Sand to silty sand (8)	15.0		0.061	0.035	30.6	68	1.94	9.6	121	1.27	0.73	500
13.75	7.544	0.042	4.9939	Sand (9)	17.4		0.075	0.041	31.7	70	1.95	8.7	122	1.56	0.85	628
16.25	11.043	0.06	5.9695	Sand (9)	22.1		0.09	0.049	34.1	80	1.99	11.0	124	1.87	1.02	919
18.75	11.097	0.052	6.9366	Sand (9)	22.2		0.105	0.056	34.1	78	1.99	11.1	124	2.18	1.16	923
21.25	13.312	0.06	7.7761	Sand (9)	26.6		0.12	0.063	35.1	82	1.99	13.3	124	2.50	1.31	1108
23.75	16.617	0.072	8.9517	Sand (9)	33.2		0.134	0.07	36.2	86	1.99	16.6	124	2.79	1.46	1383
26.25	13.321	0.058	9.8292	Sand to silty sand (8)	26.7		0.149	0.078	35.1	79	1.99	17.1	124	3.10	1.62	1108
28.75	25.063	0.102	11.645	Gravelly sand to sand (10)	44.3		0.164	0.085	37.4	90	2	30.1	125	3.41	1.77	2085
31.25	35.438	0.162	11.9855	Gravelly sand to sand (10)	59.0		0.175	0.09	40.2	105	2.04	40.1	127	3.64	1.87	2948

Classification by
Robertson 1986

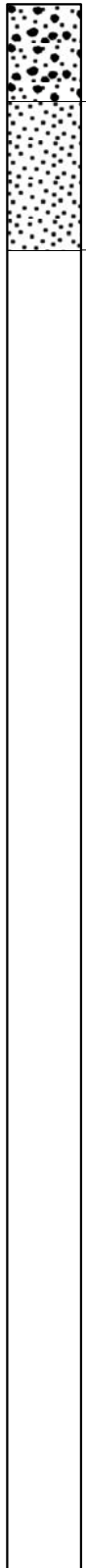


Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150



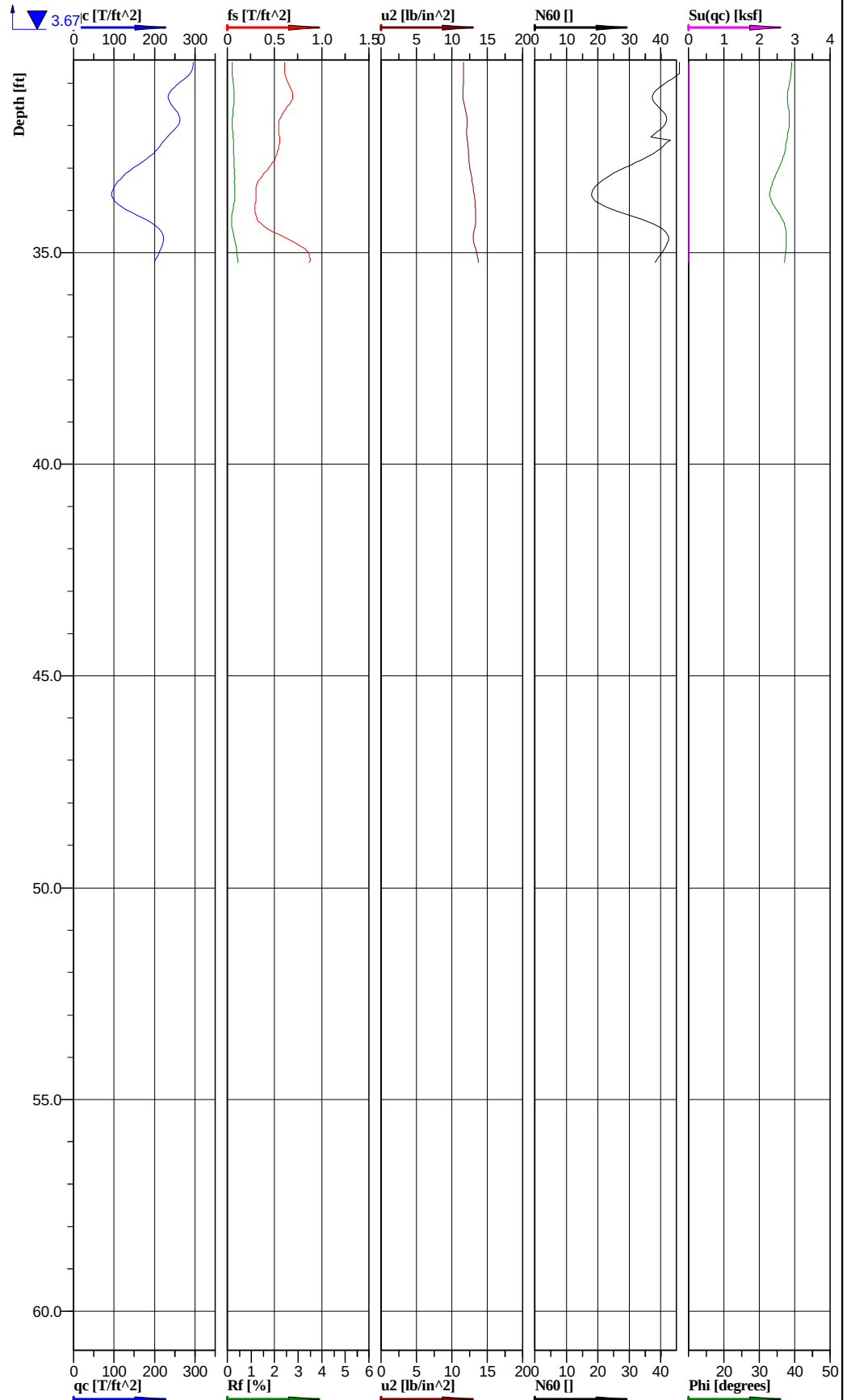
Location:	Labadie, MO	Position:	X: 728113.06 ft, Y: 994016.40 ft	Ground level:	466.21	Test no:	C-62
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/6/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-21
				File:	Labadie C-062.cpd		

Classification by
Robertson 1986



Gravelly sand to sand (10)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



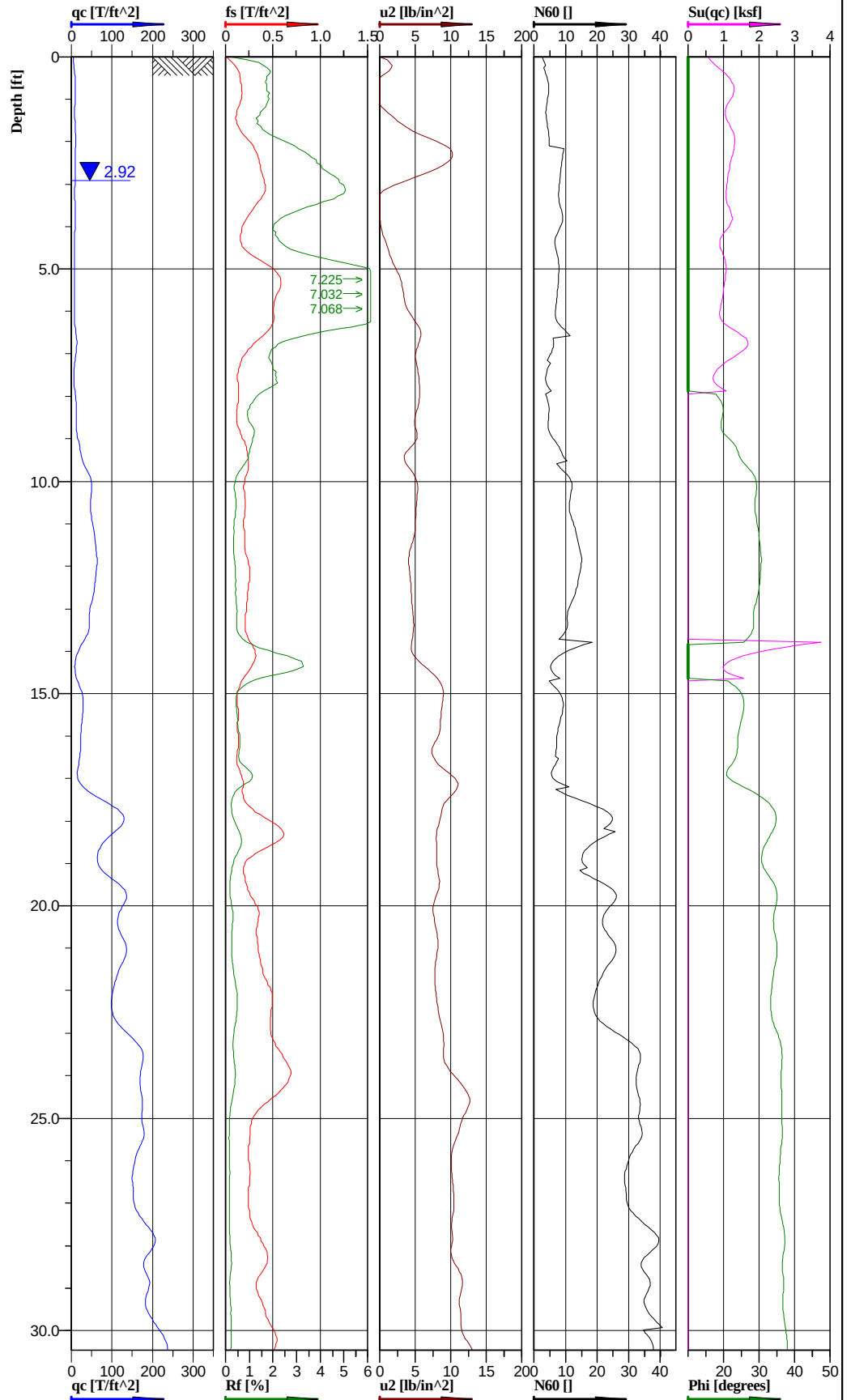
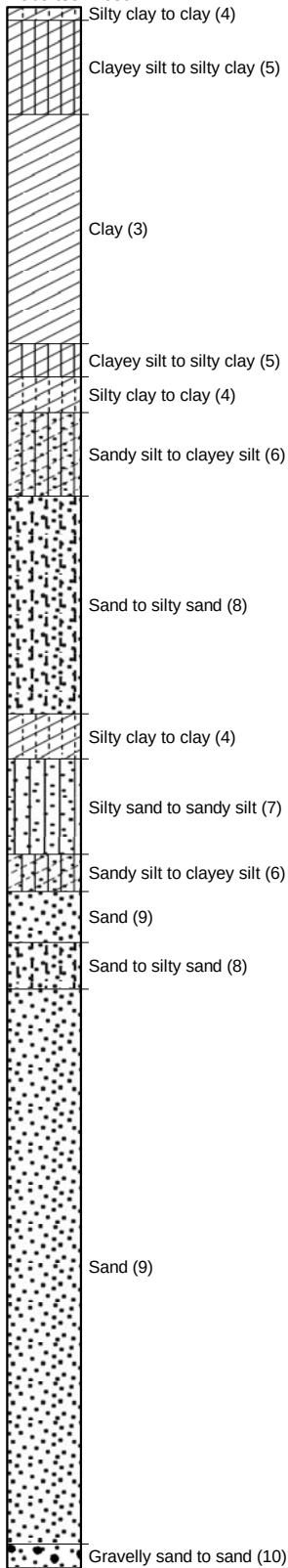
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728113.06 ft, Y: 994016.40 ft	Ground level:	466.21	Test no:	C-62
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/6/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-21
				File:	Labadie C-062.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-62
Test date: 11/6/2009
Location: Labadie MO
File name: Labadie C-062.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.978	0.032	-2.0851	Clay (3)	6.6	1.355	0.007	0.007			1.82	6.6	114	0.15	0.15	407
3.75	0.785	0.047	0.2974	Clay (3)	7.9	1.064	0.021	0.019			1.78	7.9	111	0.44	0.40	319
6.25	1.43	0.02	0.2889	Silty sand to sandy silt (7)	6.5	1.26	0.034	0.026	22.9		1.84	4.1	115	0.71	0.54	119
8.75	1.573	0.016	3.6272	Sandy silt to clayey silt (6)	6.1	1.471	0.048	0.032	22.0		1.85	6.1	115	1.00	0.67	131
11.25	1.387	0.014	2.265	Silty clay to clay (4)	5.9	0.978	0.062	0.038	22.4		1.85	5.9	115	1.29	0.79	489
13.75	6.771	0.036	4.0663	Sand (9)	16.3	1.599	0.076	0.045	31.4	68	1.94	8.2	121	1.58	0.94	563
16.25	14.186	0.052	5.6595	Gravelly sand to sand (10)	27.2		0.09	0.052	35.3	85	2	18.5	125	1.87	1.08	1180
18.75	17.269	0.055	6.7436	Sand (9)	32.8		0.105	0.059	36.4	89	2	16.4	125	2.18	1.23	1437
21.25	14.24	0.044	7.4891	Sand (9)	28.5		0.12	0.067	35.4	82	1.99	14.2	124	2.50	1.39	1185
23.75	11.125	0.031	9.0131	Sand (9)	22.2		0.135	0.074	34.0	74	1.98	11.1	124	2.81	1.54	926
26.25	12.27	0.028	10.0492	Sand (9)	24.5		0.15	0.081	34.6	75	1.99	12.3	124	3.12	1.68	1021
28.75	20.356	0.053	10.9434	Gravelly sand to sand (10)	38.3		0.165	0.088	37.4	89	2	26.0	125	3.43	1.83	1694
31.25	24.894	0.058	11.8145	Sand (9)	42.2		0.18	0.096	38.4	94	2.04	21.1	127	3.74	2.00	2071
33.75	15.539	0.043	12.9894	Sand (9)	31.1		0.195	0.103	35.7	78	1.99	15.5	124	4.06	2.14	1293
36.25	19.573	0.083	13.63	Sand (9)	39.1		0.203	0.107	37.2	85	1.99	19.6	124	4.22	2.23	1628

Classification by
Robertson 1986



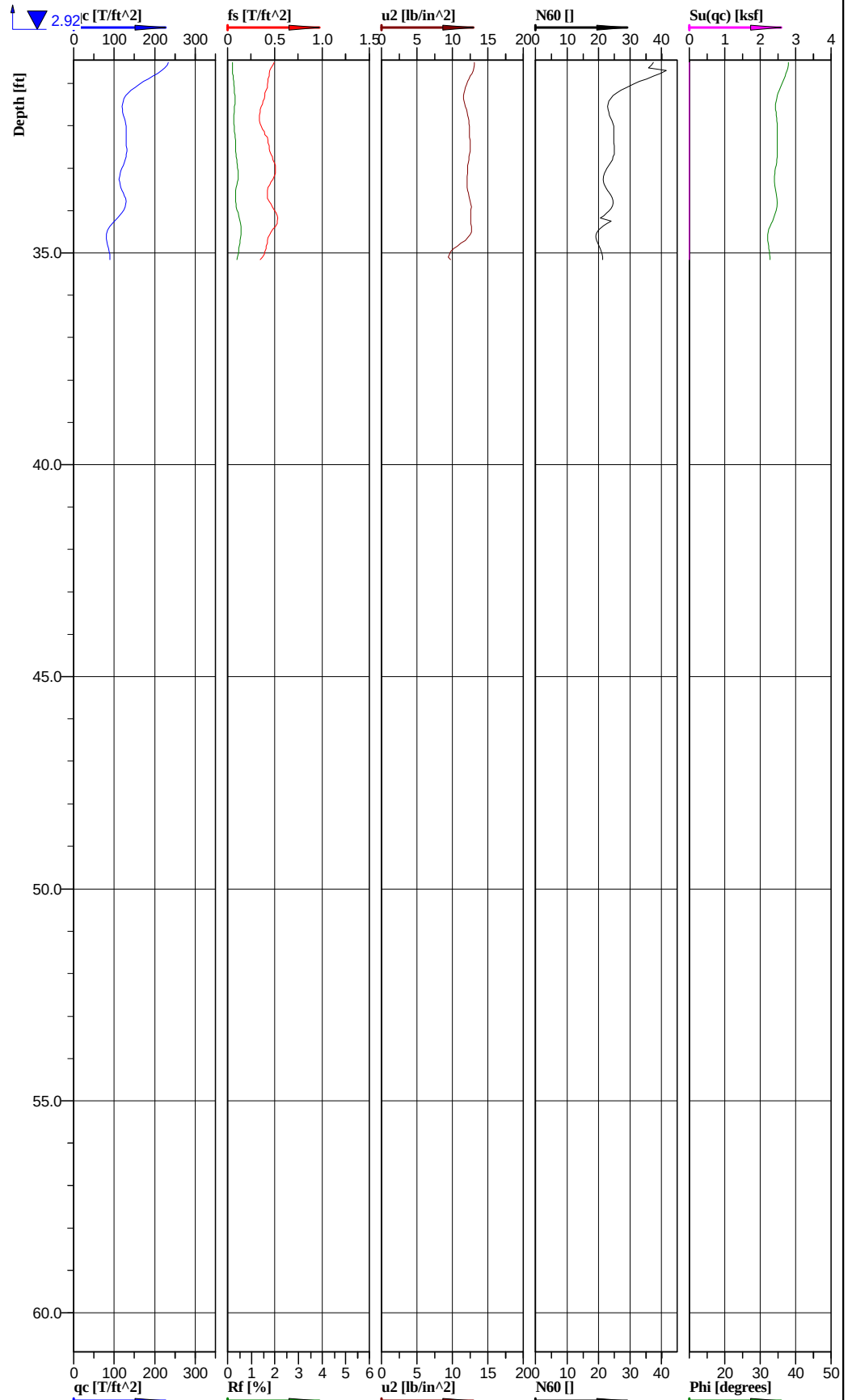
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 728865.98 ft, Y: 993995.34 ft	Ground level:	466.60	Test no:	C-64
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/6/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-22
				File:	Labadie C-064.cpd		

Classification by
Robertson 1986

Gravelly sand to sand (10)
Sand (9)
Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



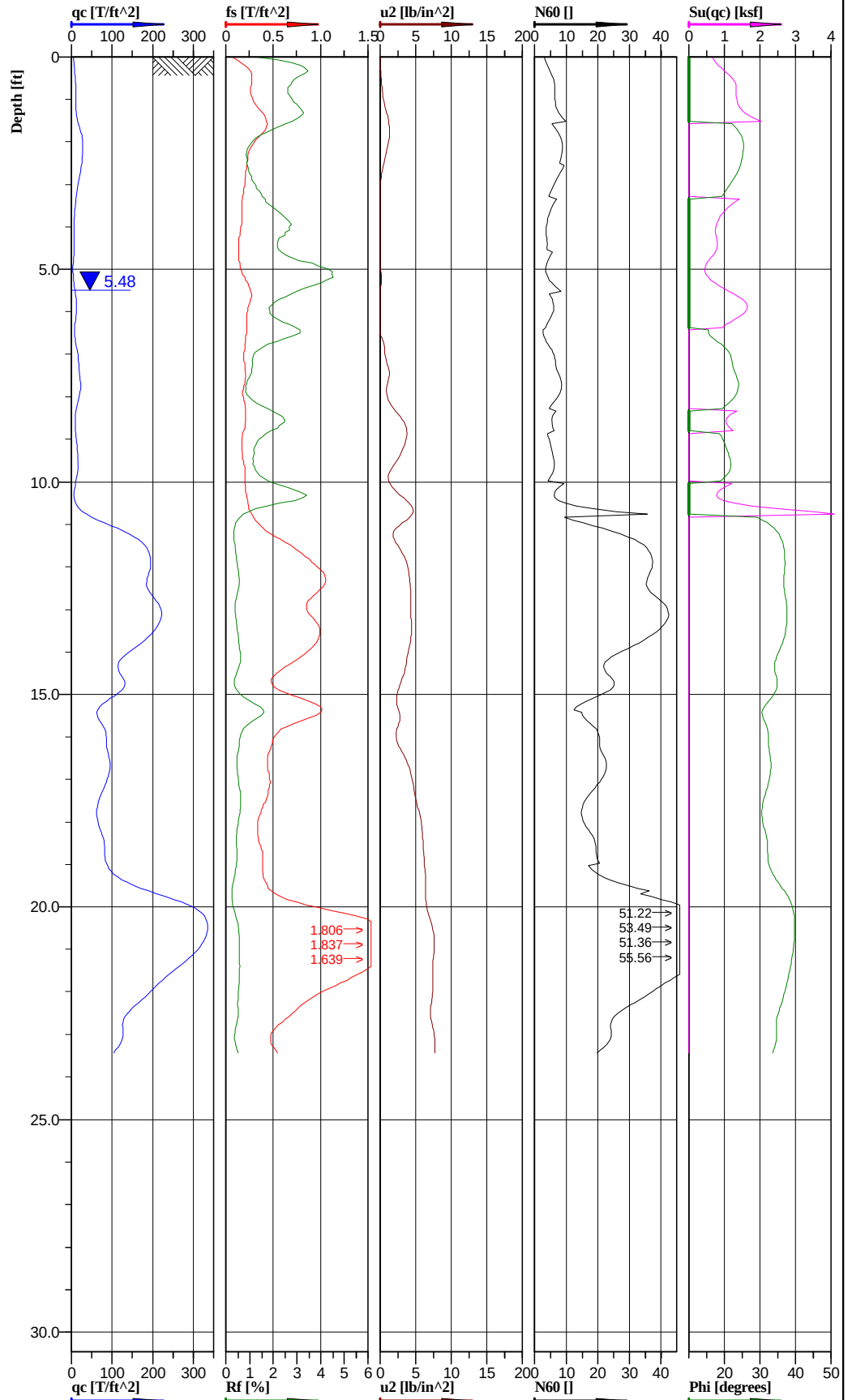
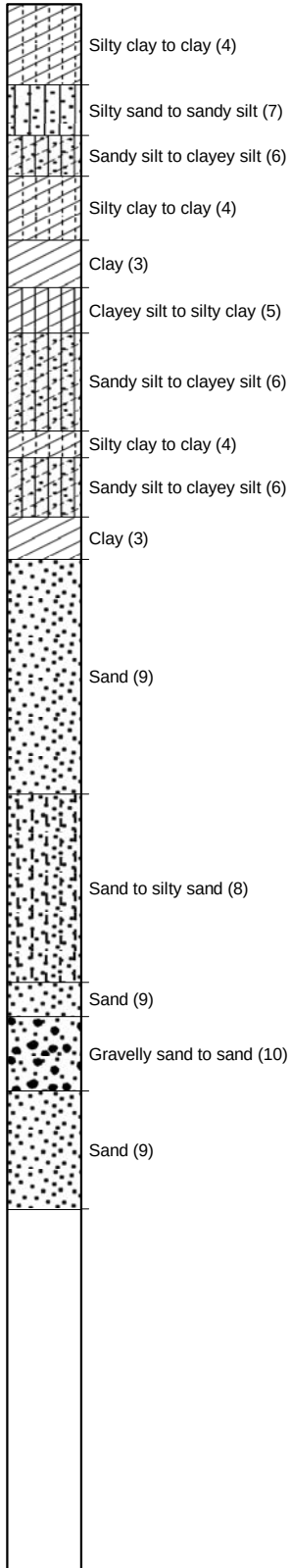
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728865.98 ft, Y: 993995.34 ft	Ground level:	466.60	Test no:	C-64
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/6/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-22
				File:	Labadie C-064.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-64
Test date: 11/6/2009
Location: Labadie MO
File name: Labadie C-064.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.824	0.017	3.2295	Clay (3)	5.0	1.133	0.007	0.007			1.83	5.0	114	0.15	0.15	340
3.75	0.796	0.03	1.6508	Clay (3)	8.0	1.078	0.021	0.018			1.8	8.0	112	0.44	0.37	323
6.25	0.837	0.038	4.4757	Silty clay to clay (4)	6.8	1.112	0.034	0.024			1.81	6.8	113	0.71	0.50	556
8.75	1.857	0.016	4.9066	Sand to silty sand (8)	6.5	0.836	0.048	0.03	22.6	56	1.86	4.1	116	1.00	0.62	155
11.25	5.279	0.02	4.7203	Sand to silty sand (8)	13.2		0.062	0.036	29.8	63	1.94	8.4	121	1.29	0.75	439
13.75	2.944	0.022	5.6554	Silty sand to sandy silt (7)	9.6	1.759	0.076	0.043	27.3	56	1.88	6.2	117	1.58	0.89	245
16.25	2.621	0.014	8.8933	Sand (9)	8.1		0.09	0.049	24.7	58	1.88	4.1	117	1.87	1.02	218
18.75	9.712	0.032	8.2185	Sand (9)	20.7		0.105	0.056	33.2	73	1.97	10.4	123	2.18	1.16	808
21.25	11.111	0.038	7.9044	Sand (9)	22.2		0.119	0.063	34.1	76	1.99	11.1	124	2.48	1.31	924
23.75	15.201	0.05	10.2113	Sand (9)	30.4		0.134	0.071	35.8	84	1.99	15.2	124	2.79	1.48	1265
26.25	15.669	0.024	10.4552	Sand (9)	31.3		0.149	0.078	36.0	83	1.99	15.7	124	3.10	1.62	1304
28.75	18.505	0.038	10.9549	Gravelly sand to sand (10)	36.6		0.164	0.085	36.9	87	1.99	24.9	124	3.41	1.77	1540
31.25	15.729	0.041	12.2759	Sand (9)	29.5		0.179	0.093	35.9	80	2	14.8	125	3.72	1.93	1309
33.75	10.513	0.044	12.0874	Sand to silty sand (8)	22.4		0.194	0.1	33.8	68	1.97	14.3	123	4.04	2.08	875
36.25	8.537	0.035	9.541	Sand to silty sand (8)	21.3		0.202	0.103	32.7	62	1.97	13.6	123	4.20	2.14	710

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



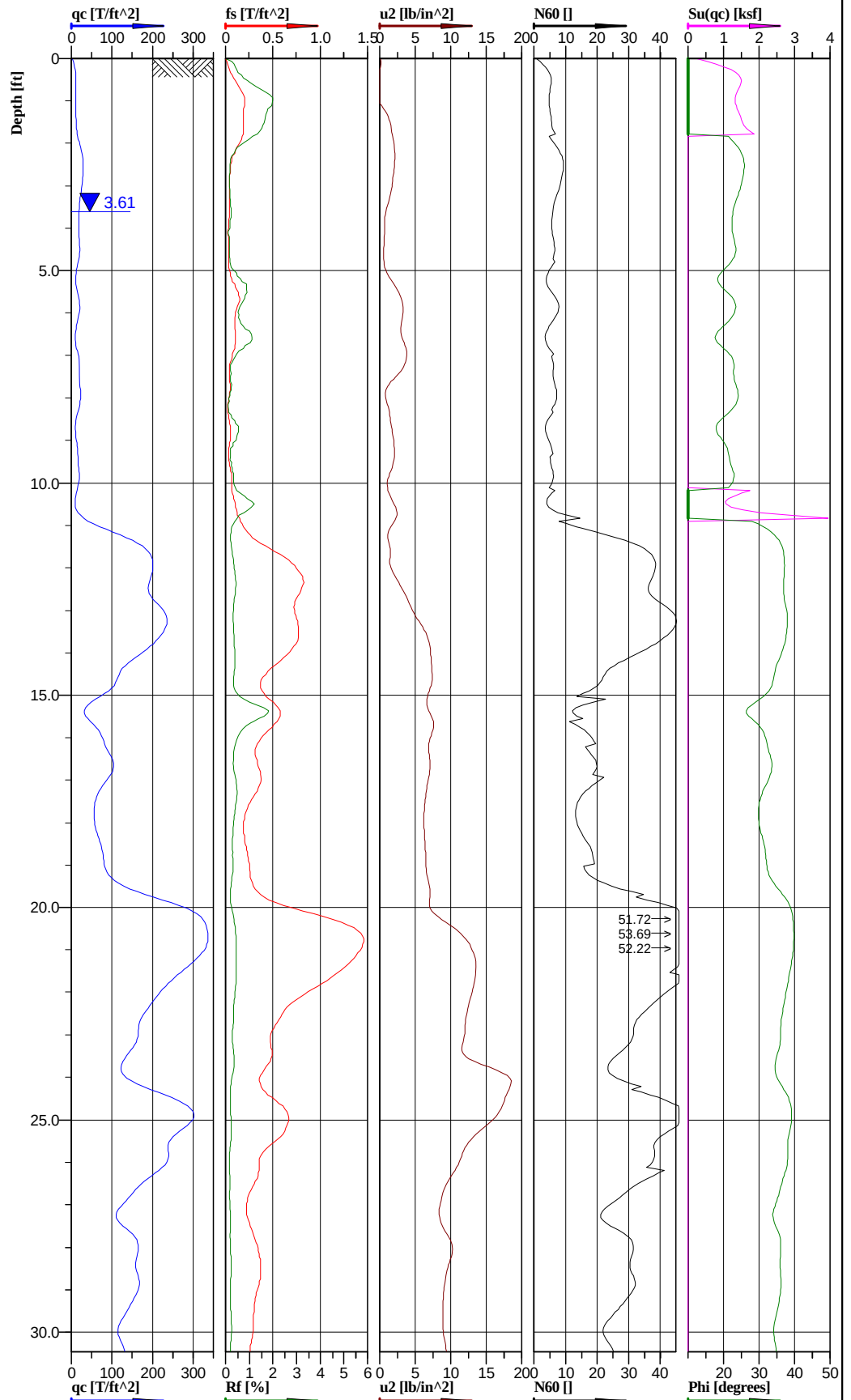
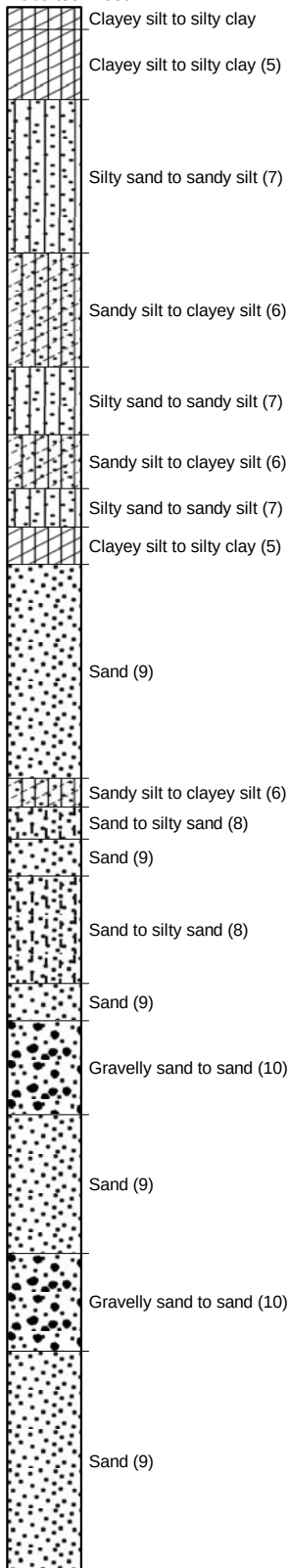
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729457.51 ft, Y: 993980.15 ft	Ground level:	467.68	Test no:	C-66
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/7/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-23
				File:	Labadie C-066.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-66
Test date: 11/7/2009
Location: Labadie MO
File name: Labadie C-066.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.499	0.028	0.6329	Sandy silt to clayey silt (6)	6.9	1.267	0.007	0.007	24.6		1.84	6.9	115	0.15	0.15	125
3.75	0.936	0.016	-0.2127	Clay (3)	5.1	0.802	0.021	0.021	22.1		1.82	5.1	114	0.44	0.44	241
6.25	1.086	0.021	0.2446	Sandy silt to clayey silt (6)	5.4	1.134	0.034	0.032	20.3		1.82	5.4	114	0.71	0.67	90
8.75	1.377	0.018	2.1824	Clay (3)	6.1	1.159	0.048	0.038	21.4		1.84	6.1	115	1.00	0.79	348
11.25	11.16	0.056	3.2573	Sand (9)	25.5	1.703	0.062	0.044	35.7	89	1.94	12.7	121	1.29	0.92	929
13.75	16.016	0.077	3.838	Sand (9)	32.0		0.077	0.052	36.0	89	1.99	16.0	124	1.60	1.08	1333
16.25	7.874	0.056	3.3577	Sand to silty sand (8)	19.1		0.091	0.059	32.1	68	1.94	12.2	121	1.89	1.23	655
18.75	11.061	0.041	6.0524	Gravelly sand to sand (10)	22.9		0.106	0.065	33.3	72	1.96	15.6	122	2.20	1.35	920
21.25	25.134	0.132	7.3069	Sand (9)	45.8		0.121	0.073	38.3	97	2.01	22.9	125	2.52	1.52	2091
23.75	11.817	0.052	7.4588	Sand (9)	23.6		0.131	0.078	34.5	75	1.99	11.8	124	2.72	1.62	983

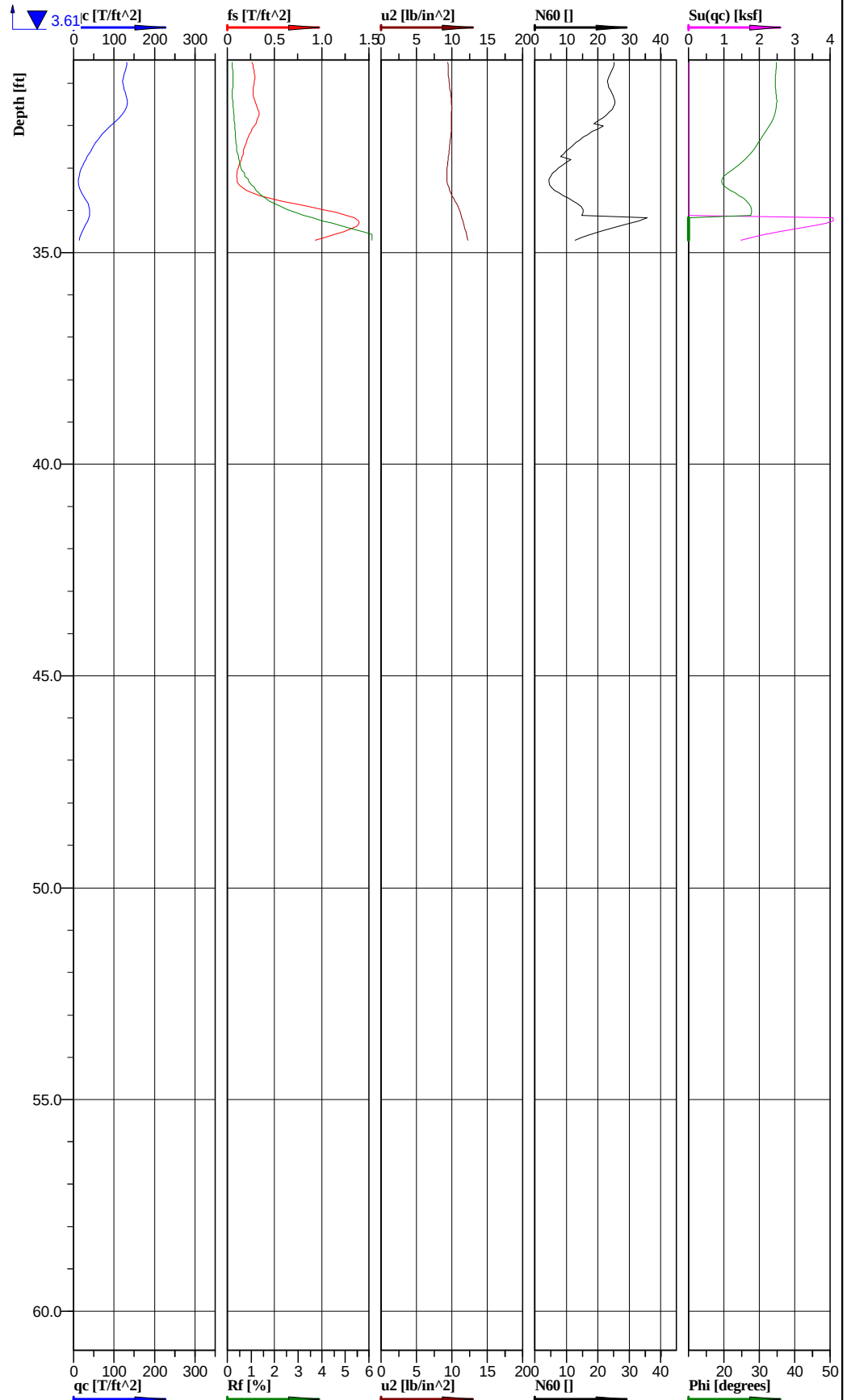
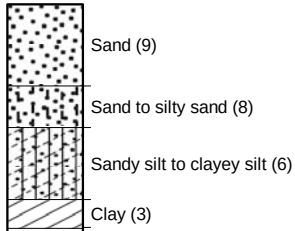
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729455.31 ft, Y: 993983.56 ft	Ground level:	467.59	Test no:	C-66A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-24
Confirmation Sounding adjacent to C-66				File:	Labadie C-066A.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



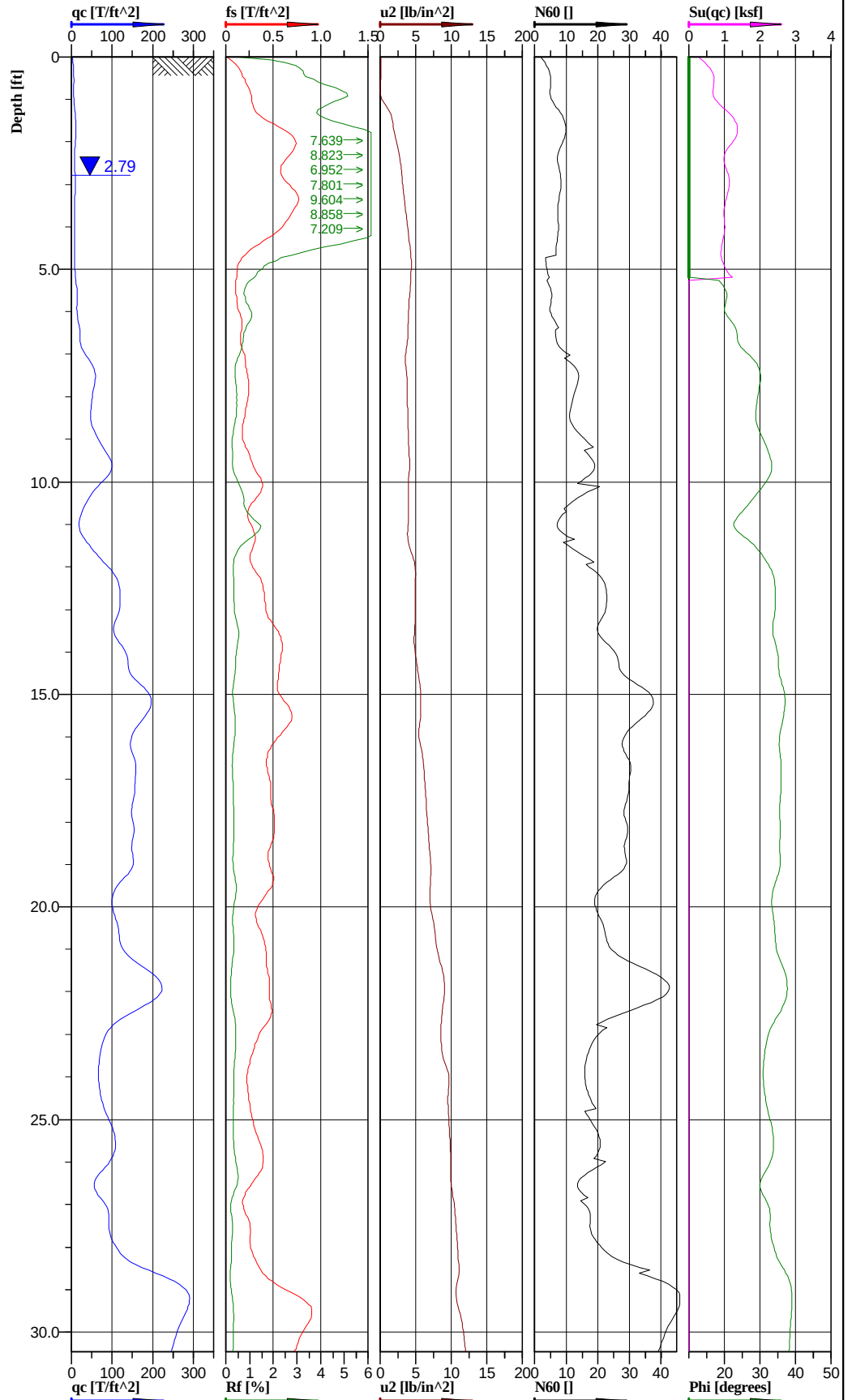
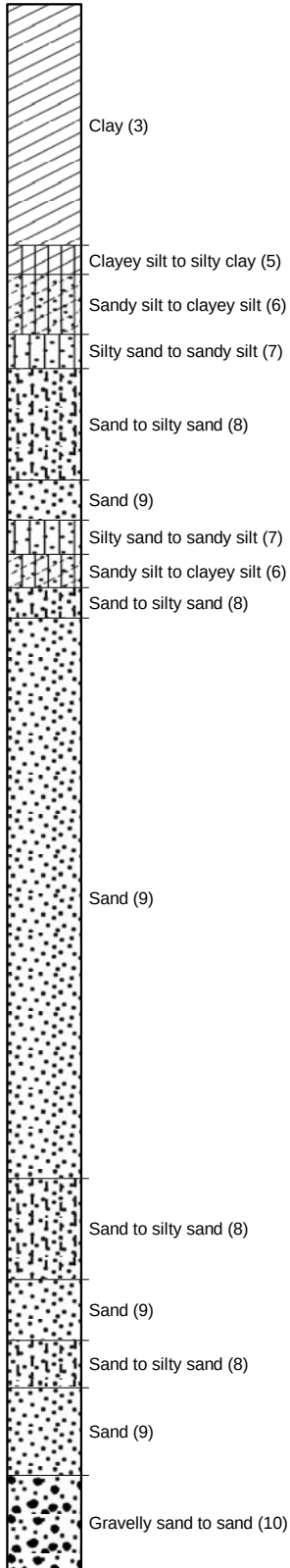
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729455.31 ft, Y: 993983.56 ft	Ground level:	467.59	Test no:	C-66A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-24
Confirmation Sounding adjacent to C-66				File:	Labadie C-066A.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-66A
Test date: 12/28/2009
Location: Labadie MO
File name: Labadie C-066A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.374	0.012	0.6123	Silty sand to sandy silt (7)	5.7	1.341	0.007	0.007	24.3		1.84	3.7	115	0.15	0.15	114
3.75	1.976	0.004	1.0421	Sandy silt to clayey silt (6)	6.7		0.021	0.02	23.2		1.88	6.7	117	0.44	0.42	164
6.25	1.455	0.009	2.9152	Silty sand to sandy silt (7)	5.5		0.035	0.027	21.0		1.85	3.5	115	0.73	0.56	121
8.75	1.583	0.004	1.4991	Silty sand to sandy silt (7)	5.6		0.049	0.033	21.6		1.86	3.6	116	1.02	0.69	132
11.25	10.809	0.038	1.7712	Sand (9)	22.8	1.758	0.063	0.04	34.6	90	1.94	11.4	121	1.31	0.83	899
13.75	16.699	0.06	6.1681	Sand (9)	33.4		0.078	0.047	36.1	91	1.99	16.7	124	1.62	0.98	1389
16.25	6.884	0.038	6.9332	Sand to silty sand (8)	17.0		0.092	0.054	31.0	67	1.94	10.9	121	1.91	1.12	573
18.75	9.85	0.027	6.5447	Gravelly sand to sand (10)	20.5		0.107	0.061	32.6	70	1.96	14.0	122	2.23	1.27	820
21.25	26.582	0.106	11.967	Sand (9)	46.9		0.122	0.068	38.7	100	2.02	23.5	126	2.54	1.41	2212
23.75	17.888	0.047	14.8164	Gravelly sand to sand (10)	33.1		0.137	0.075	36.5	86	2	22.5	125	2.85	1.56	1488
26.25	18.655	0.035	10.7376	Sand (9)	33.7		0.152	0.083	36.7	86	2.01	16.8	125	3.16	1.73	1552
28.75	14.337	0.031	9.3339	Sand (9)	28.7		0.167	0.09	35.5	79	1.99	14.3	124	3.47	1.87	1193
31.25	10.6	0.026	9.6596	Sand to silty sand (8)	21.9		0.182	0.097	33.7	68	1.98	14.0	124	3.79	2.02	882
33.75	2.507	0.056	10.3875	Sandy silt to clayey silt (6)	13.2	3.036	0.195	0.104	24.4	39	1.84	13.2	115	4.06	2.16	209

Classification by
Robertson 1986



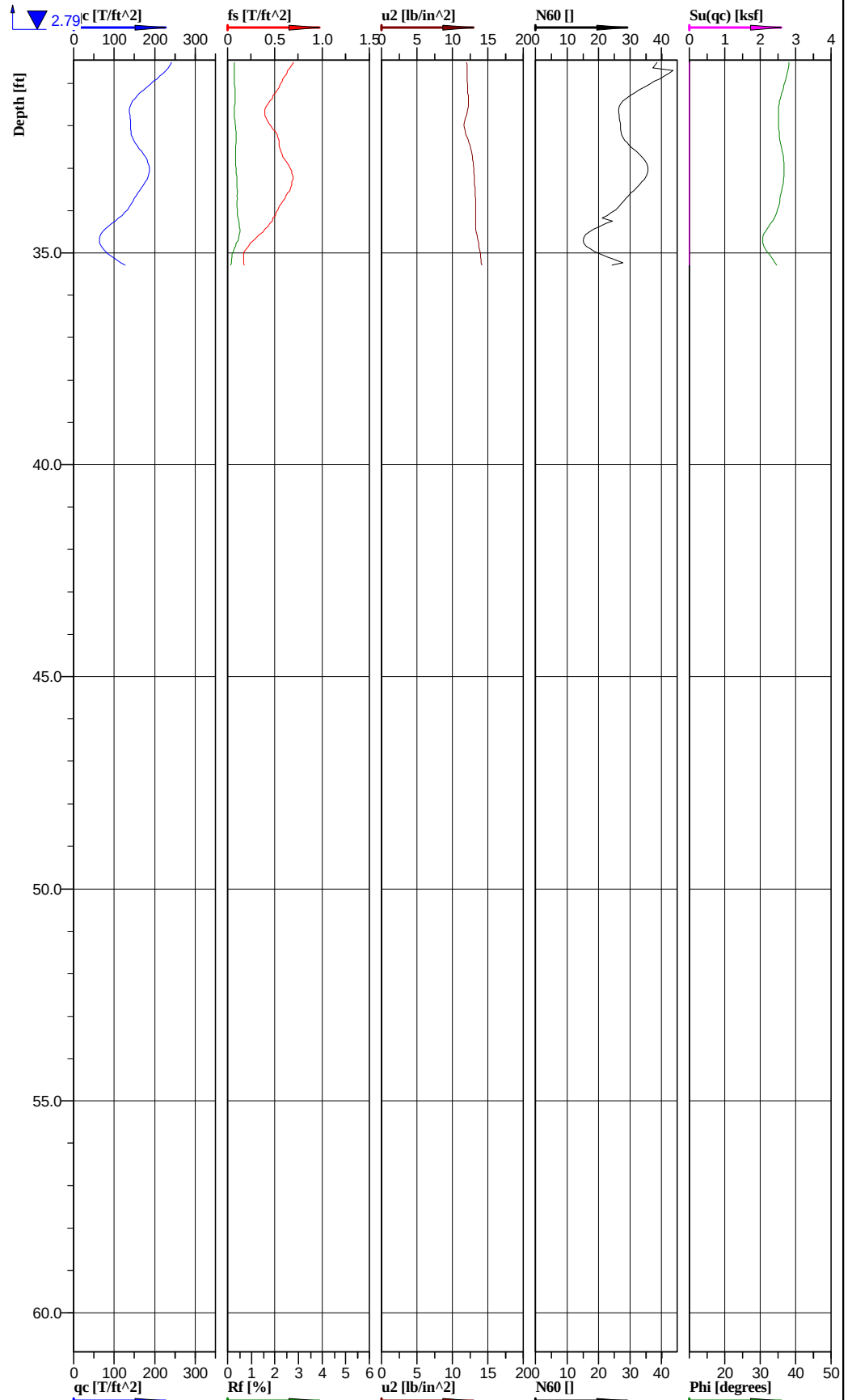
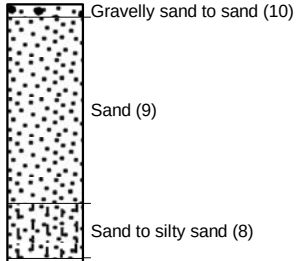
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730078.54 ft, Y: 993969.55 ft	Ground level:	466.11	Test no:	C-68
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/7/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-25
				File:	Labadie C-068.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



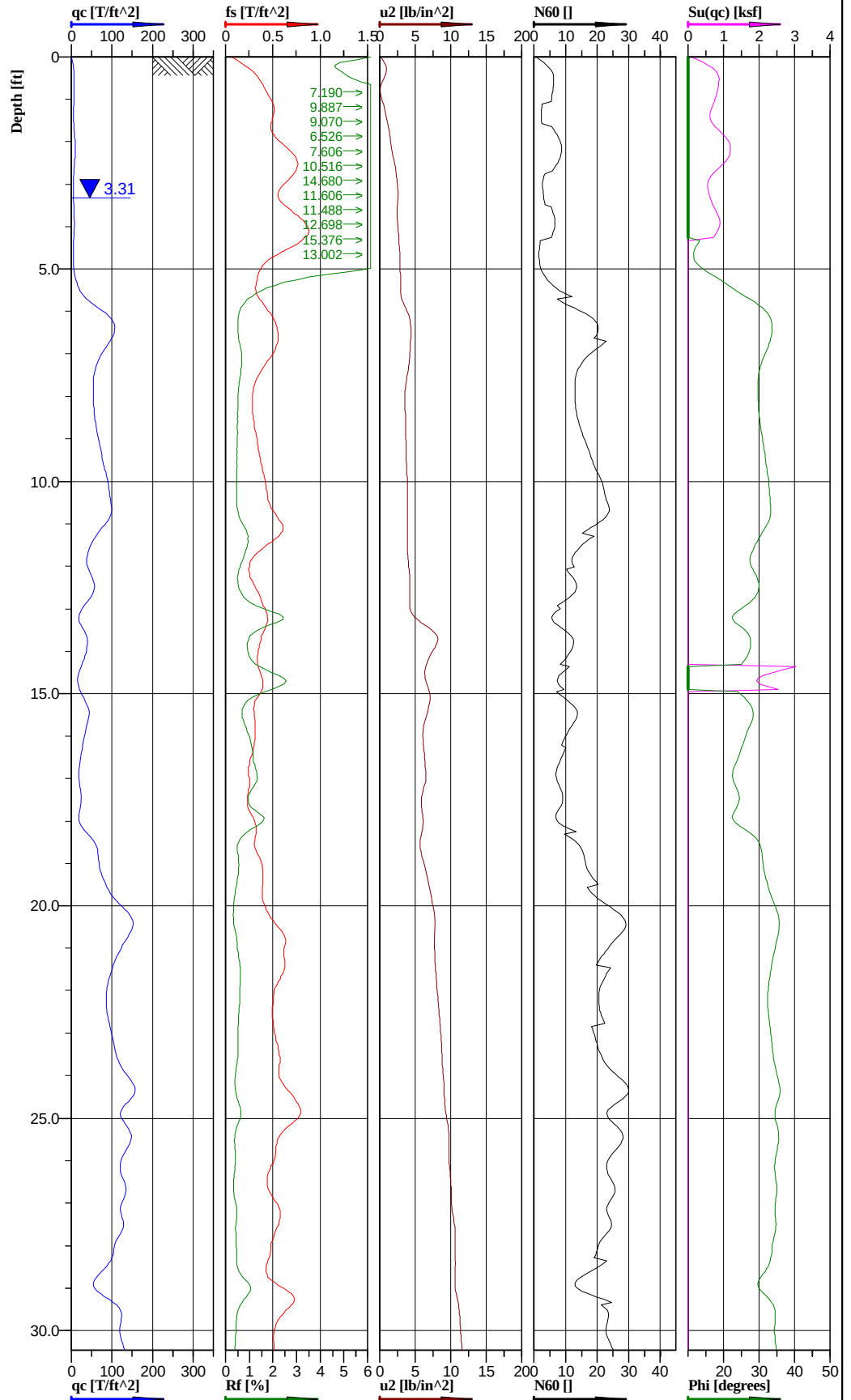
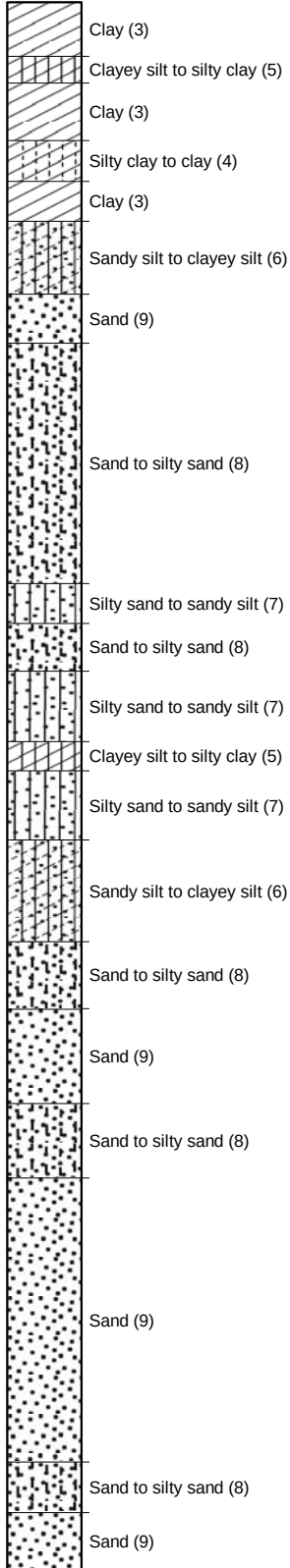
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730078.54 ft, Y: 993969.55 ft	Ground level:	466.11	Test no:	C-68
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/7/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-25
				File:	Labadie C-068.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-68
Test date: 11/7/2009
Location: Labadie MO
File name: Labadie C-068.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.674	0.038	1.2031	Clay (3)	6.7	0.927	0.007	0.007			1.78	6.7	111	0.15	0.15	278
3.75	0.753	0.049	3.7116	Clayey silt to silty clay (5)	7.0	1.016	0.02	0.017			1.79	7.0	112	0.42	0.35	610
6.25	2.32	0.015	3.9221	Sand to silty sand (8)	7.4	1.152	0.034	0.023	23.6	66	1.87	4.7	117	0.71	0.48	193
8.75	6.392	0.023	3.9262	Sand (9)	14.5		0.048	0.03	30.7	70	1.95	7.3	122	1.00	0.62	532
11.25	5.521	0.029	4.276	Sand (9)	14.2		0.063	0.037	28.8	73	1.91	7.1	119	1.31	0.77	459
13.75	12.646	0.05	5.0668	Sand (9)	25.3		0.077	0.044	34.8	85	1.99	12.6	124	1.60	0.92	1052
16.25	15.623	0.051	5.9034	Sand (9)	31.2		0.092	0.051	36.0	89	1.99	15.6	124	1.91	1.06	1300
18.75	13.143	0.045	6.8734	Sand (9)	26.3		0.107	0.058	35.0	82	1.99	13.1	124	2.23	1.21	1093
21.25	14.972	0.04	8.2709	Sand (9)	29.9		0.122	0.065	35.6	84	2	15.0	125	2.54	1.35	1246
23.75	7.779	0.028	9.1298	Sand (9)	18.3		0.136	0.072	32.0	64	1.95	9.1	122	2.83	1.50	647
26.25	8.349	0.028	10.0583	Sand (9)	17.8		0.151	0.08	32.4	65	1.97	8.9	123	3.14	1.66	695
28.75	20.041	0.053	11.0155	Gravelly sand to sand (10)	35.0		0.166	0.087	36.9	87	2.02	23.8	126	3.45	1.81	1667
31.25	17.529	0.054	12.0443	Sand (9)	33.0		0.181	0.094	36.5	83	2	16.5	125	3.76	1.96	1458
33.75	12.766	0.049	13.2359	Sand to silty sand (8)	26.7		0.196	0.102	34.5	72	1.97	17.1	123	4.08	2.12	1062
36.25	10.168	0.016	14.0302	Sand to silty sand (8)	24.2		0.204	0.105	33.6	66	1.99	15.5	124	4.24	2.18	846

Classification by
Robertson 1986



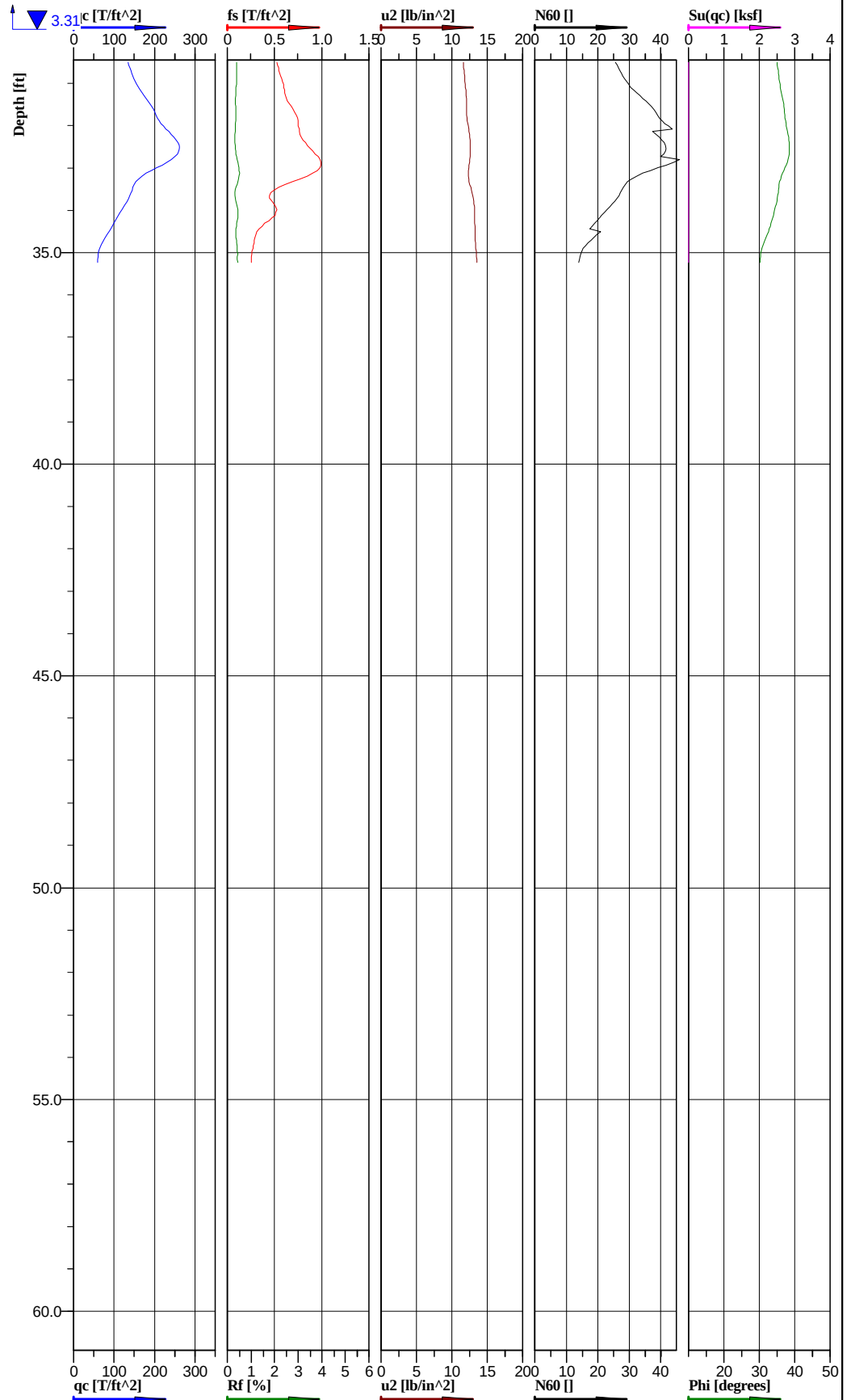
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 730636.68 ft, Y: 993949.84 ft	Ground level:	466.01	Test no:	C-70
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/7/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-26
				File:	Labadie C-070.cpd		

Classification by
Robertson 1986

Sand (9)
Gravelly sand to sand (10)
Sand (9)
Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



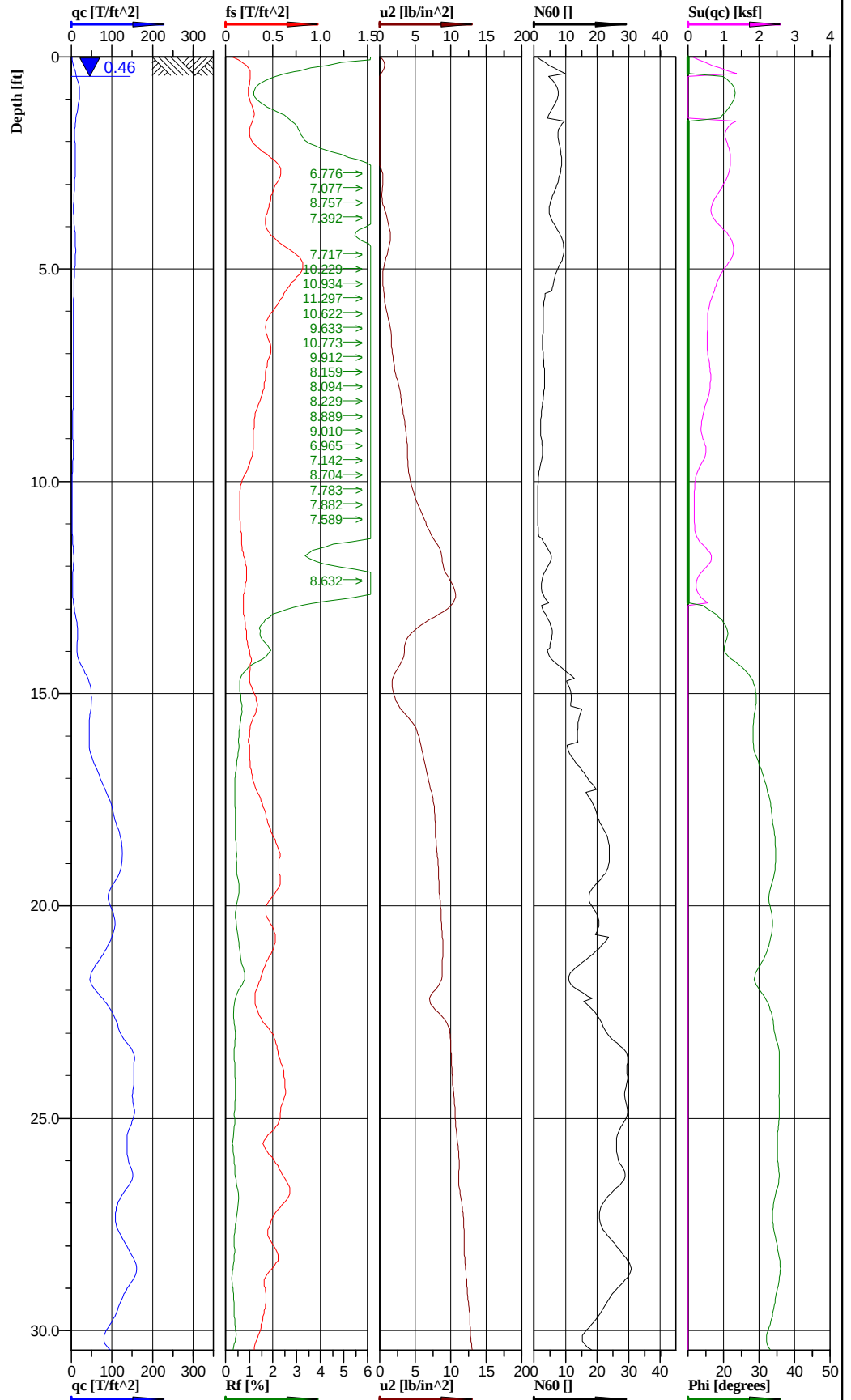
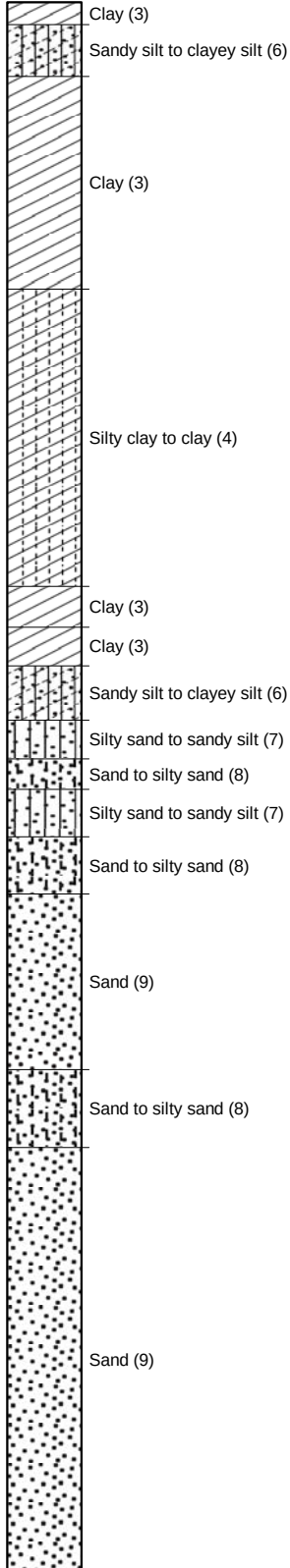
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730636.68 ft, Y: 993949.84 ft	Ground level:	466.01	Test no:	C-70
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/7/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-26
				File:	Labadie C-070.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-70
Test date: 11/7/2009
Location: Labadie MO
File name: Labadie C-070.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.599	0.045	0.9682	Clay (3)	5.5	0.824	0.006	0.006			1.68	5.5	105	0.12	0.12	247
3.75	0.52	0.063	2.5758	Sandy silt to clayey silt (6)	3.9	0.732	0.018	0.016	12.6		1.46	3.9	91	0.37	0.33	43
6.25	5.975	0.042	3.7826	Sand to silty sand (8)	14.0		0.03	0.021	28.9	80	1.79	8.9	112	0.62	0.44	497
8.75	6.336	0.032	3.6707	Sand to silty sand (8)	15.8		0.044	0.028	30.8	72	1.94	10.1	121	0.92	0.58	527
11.25	6.535	0.04	3.957	Sand to silty sand (8)	17.4		0.059	0.034	30.7	73	1.93	11.2	120	1.23	0.71	544
13.75	2.842	0.036	6.2067	Silty sand to sandy silt (7)	9.5	2.32	0.073	0.041	26.2	56	1.89	6.1	118	1.52	0.85	236
16.25	2.727	0.027	6.3726	Sandy silt to clayey silt (6)	9.8		0.087	0.047	25.3		1.86	9.8	116	1.81	0.98	227
18.75	5.809	0.033	6.3261	Sand (9)	14.5		0.101	0.054	29.2	66	1.92	7.2	120	2.10	1.12	483
21.25	10.865	0.053	7.8798	Sand to silty sand (8)	23.6		0.115	0.061	33.9	76	1.97	15.1	123	2.39	1.27	904
23.75	11.507	0.058	8.855	Sand (9)	23.6		0.13	0.068	34.3	76	1.98	11.8	124	2.70	1.41	957
26.25	12.476	0.052	9.9387	Sand (9)	24.9		0.145	0.075	34.8	77	1.99	12.5	124	3.02	1.56	1038
28.75	9.488	0.052	10.827	Sand (9)	20.4		0.16	0.082	33.1	67	1.97	10.2	123	3.33	1.71	789
31.25	17.258	0.062	11.9882	Gravelly sand to sand (10)	33.1		0.175	0.09	36.4	83	2	22.5	125	3.64	1.87	1436
33.75	13.544	0.055	12.9228	Sand to silty sand (8)	27.0		0.19	0.097	34.7	74	1.98	17.3	124	3.95	2.02	1127
36.25	5.703	0.024	13.5068	Sand to silty sand (8)	14.2		0.198	0.101	30.3	51	1.94	9.1	121	4.12	2.10	474

Classification by
Robertson 1986



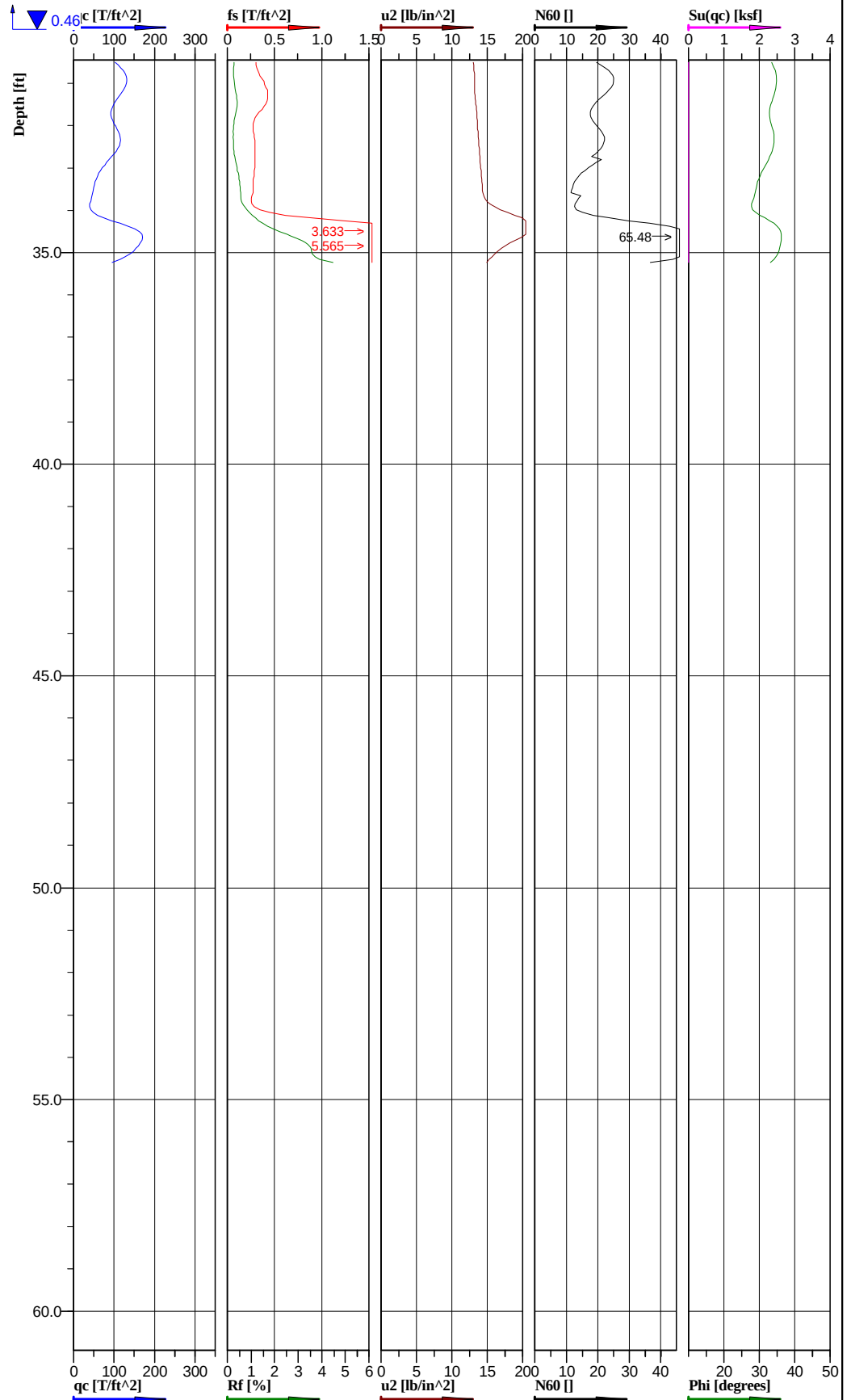
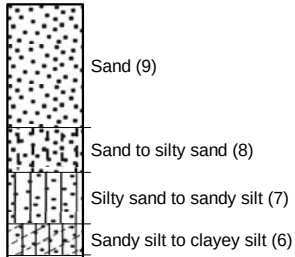
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727218.57 ft, Y: 993741.14 ft	Ground level:	464.60	Test no:	C-74
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-27
				File:	Labadie C-074.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



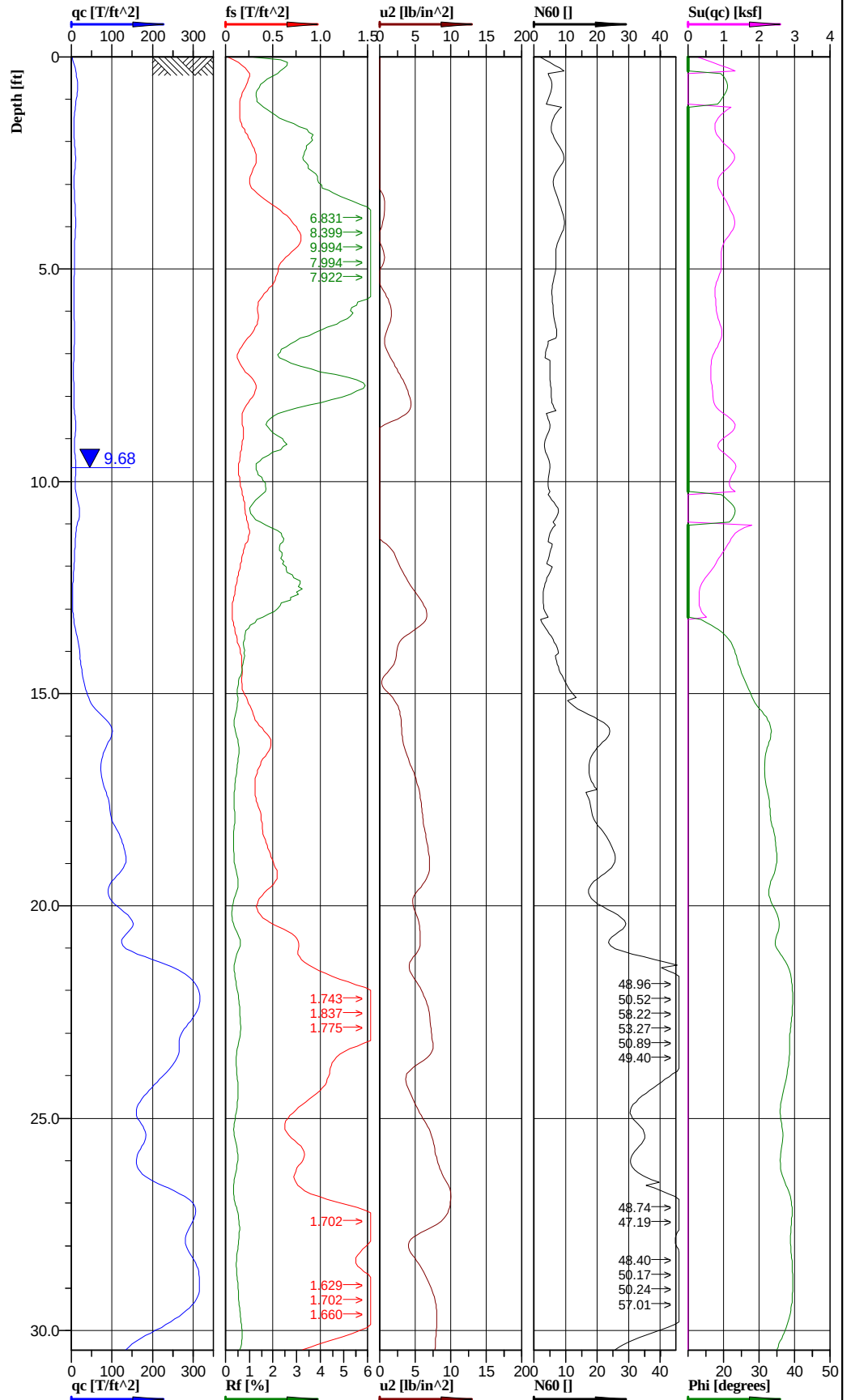
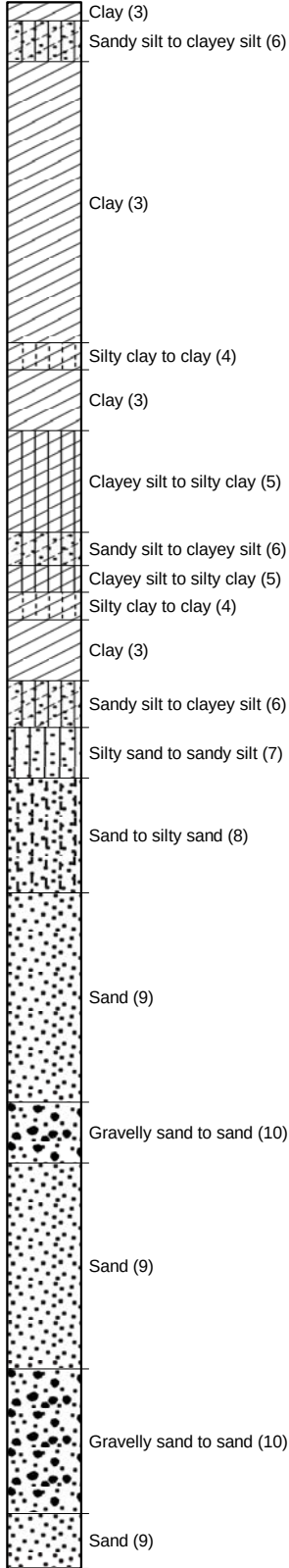
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727218.57 ft, Y: 993741.14 ft	Ground level:	464.60	Test no:	C-74
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-27
				File:	Labadie C-074.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-74
 Test date: 11/3/2009
 Location: Labadie MO
 File name: Labadie C-074.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	1.07	0.028	-0.6326	Clay (3)	6.9	1.018	0.007	0.004	21.6		1.79	6.9	112	0.15	0.08	305
3.75	0.739	0.054	0.7696	Clay (3)	7.4	1	0.02	0.01			1.72	7.4	107	0.42	0.21	300
6.25	0.488	0.05	1.2734	Silty clay to clay (4)	3.7	0.633	0.032	0.014			1.39	3.7	87	0.67	0.29	317
8.75	0.361	0.029	3.5105	Silty clay to clay (4)	2.4	0.44	0.042	0.016			1.34	2.4	84	0.87	0.33	220
11.25	0.276	0.017	7.3389	Clay (3)	2.4	0.302	0.052	0.019			1.43	2.4	89	1.08	0.40	91
13.75	1.873	0.022	5.1653	Sand to silty sand (8)	6.3	0.363	0.064	0.024	22.6	63	1.81	4.1	113	1.33	0.50	156
16.25	5.465	0.028	5.4159	Sand (9)	14.4		0.078	0.03	29.8	69	1.92	7.2	120	1.62	0.62	455
18.75	10.558	0.048	8.072	Sand (9)	21.1		0.093	0.037	33.9	83	1.98	10.6	124	1.93	0.77	878
21.25	7.764	0.04	8.4275	Sand (9)	17.4		0.108	0.044	31.9	70	1.95	8.7	122	2.25	0.92	646
23.75	13.584	0.053	10.0533	Sand (9)	27.2		0.122	0.051	35.2	85	1.99	13.6	124	2.54	1.06	1130
26.25	12.735	0.052	11.2107	Sand (9)	25.5		0.137	0.059	34.9	81	1.99	12.7	124	2.85	1.23	1060
28.75	12.333	0.043	12.2506	Sand (9)	24.6		0.152	0.066	34.7	79	1.99	12.3	124	3.16	1.37	1026
31.25	10.198	0.032	13.3244	Sand (9)	20.4		0.167	0.073	33.6	72	1.98	10.2	124	3.47	1.52	848
33.75	8.807	0.151	16.417	Sandy silt to clayey silt (6)	28.1		0.182	0.08	32.0	59	1.92	28.1	120	3.79	1.66	733
36.25	11.41	0.442	15.4751	Sandy silt to clayey silt (6)	45.6		0.189	0.084	34.3		1.9	45.6	119	3.93	1.75	949

Classification by
Robertson 1986



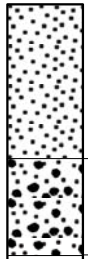
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

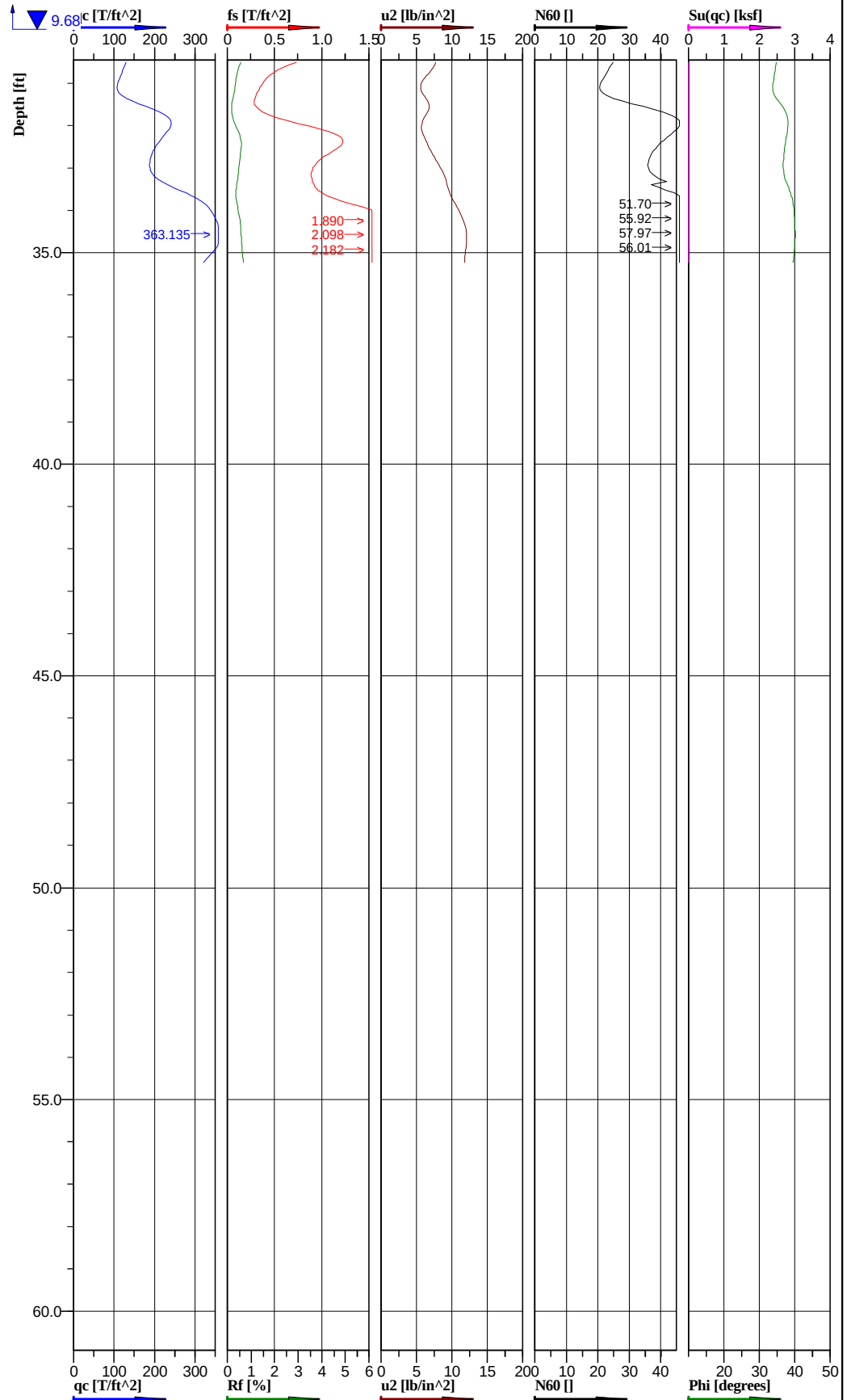
Location:	Labadie, MO	Position:	X: 727809.68 ft, Y: 993720.41 ft	Ground level:	465.72	Test no:	C-76
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-28
				File:	Labadie C-076.cpd		

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



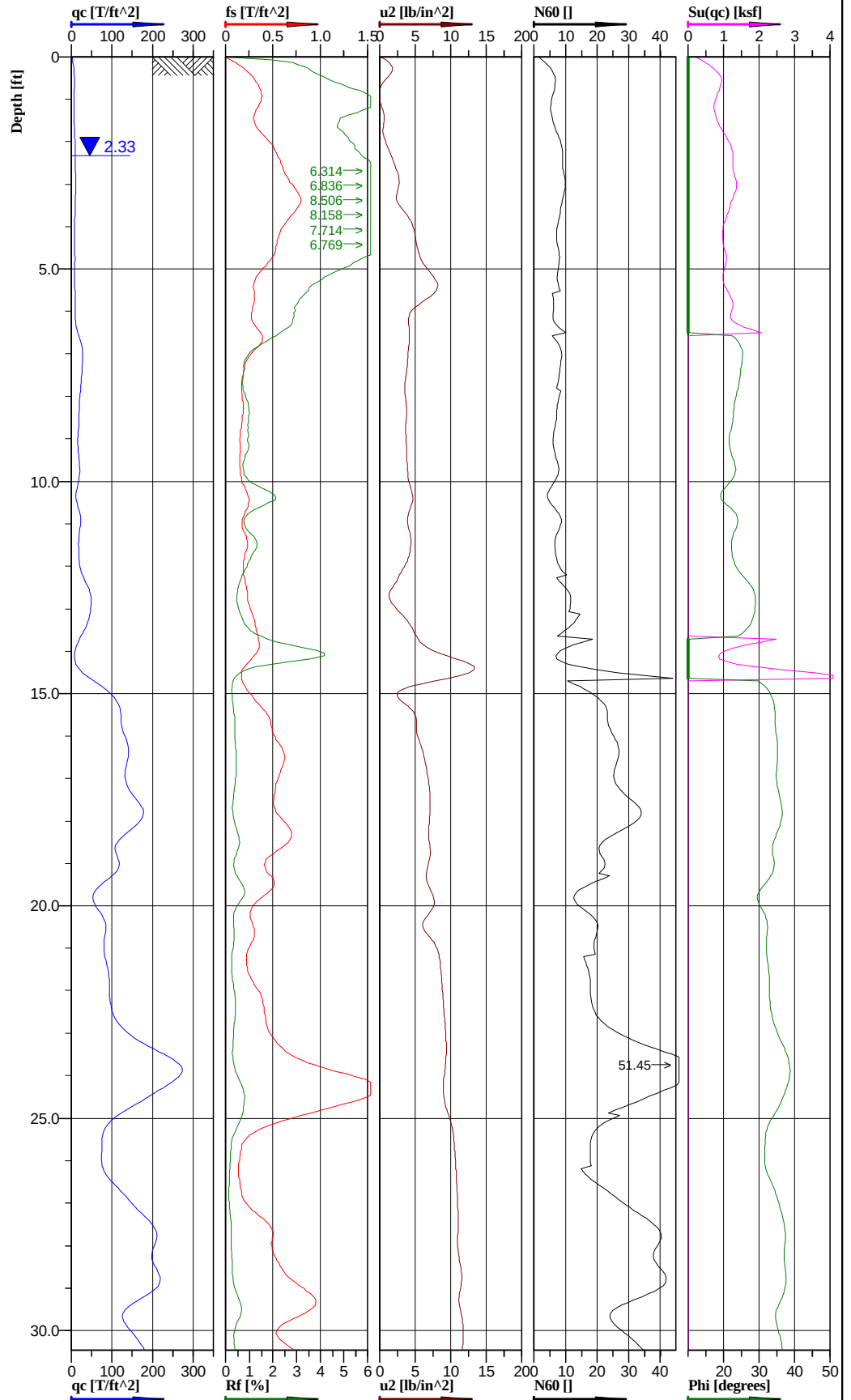
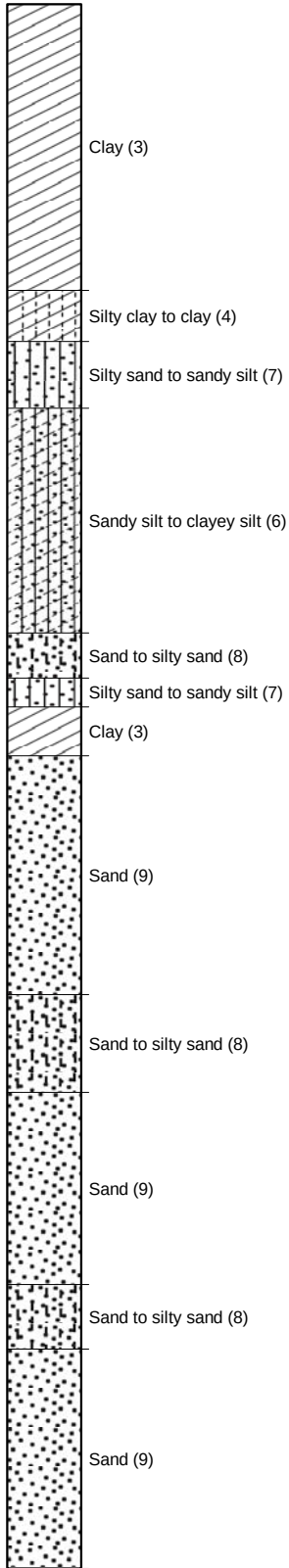
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727809.68 ft, Y: 993720.41 ft	Ground level:	465.72	Test no:	C-76
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-28
				File:	Labadie C-076.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-76
Test date: 11/3/2009
Location: Labadie MO
File name: Labadie C-076.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.866	0.02	-1.6791	Clay (3)	6.4	0.971	0.007	0.007	20.1		1.82	6.4	114	0.15	0.15	291
3.75	0.77	0.052	-0.0171	Clay (3)	7.7	1.044	0.021	0.021			1.78	7.7	111	0.44	0.44	313
6.25	0.604	0.03	1.147	Clay (3)	5.7	0.792	0.034	0.034			1.8	5.7	112	0.71	0.71	238
8.75	0.767	0.019	0.6506	Clayey silt to silty clay (5)	4.8	1.001	0.047	0.047			1.82	4.8	114	0.98	0.98	601
11.25	0.996	0.018	-0.0186	Clay (3)	5.3	0.955	0.061	0.056	21.9		1.83	5.3	114	1.27	1.16	287
13.75	1.584	0.012	3.4581	Silty sand to sandy silt (7)	6.2	0.348	0.075	0.062	22.8		1.84	4.0	115	1.56	1.29	132
16.25	7.445	0.033	3.7975	Sand (9)	18.3		0.089	0.069	31.7	64	1.95	9.2	122	1.85	1.44	619
18.75	10.563	0.041	6.1614	Sand (9)	21.1		0.103	0.076	33.8	72	1.98	10.6	124	2.14	1.58	879
21.25	20.717	0.096	5.4386	Gravelly sand to sand (10)	37.2		0.118	0.083	37.1	89	2.01	25.3	125	2.45	1.73	1724
23.75	22.375	0.118	5.8119	Sand (9)	44.5		0.133	0.09	37.8	91	2	22.2	125	2.77	1.87	1862
26.25	20.936	0.092	8.4346	Gravelly sand to sand (10)	38.2		0.148	0.098	37.4	88	2.01	26.0	125	3.08	2.04	1742
28.75	27.508	0.15	6.5306	Sand (9)	48.1		0.164	0.105	38.9	95	2.02	24.1	126	3.41	2.18	2289
31.25	16.221	0.068	6.5994	Sand (9)	32.4		0.178	0.113	36.0	78	2	16.2	125	3.70	2.35	1350
33.75	27.346	0.139	10.1217	Gravelly sand to sand (10)	47.6		0.193	0.12	38.7	92	2.02	32.4	126	4.01	2.50	2275
36.25	31.672	0.21	11.8248	Gravelly sand to sand (10)	52.8		0.202	0.124	39.6	97	2.03	35.9	127	4.20	2.58	2635

Classification by
Robertson 1986

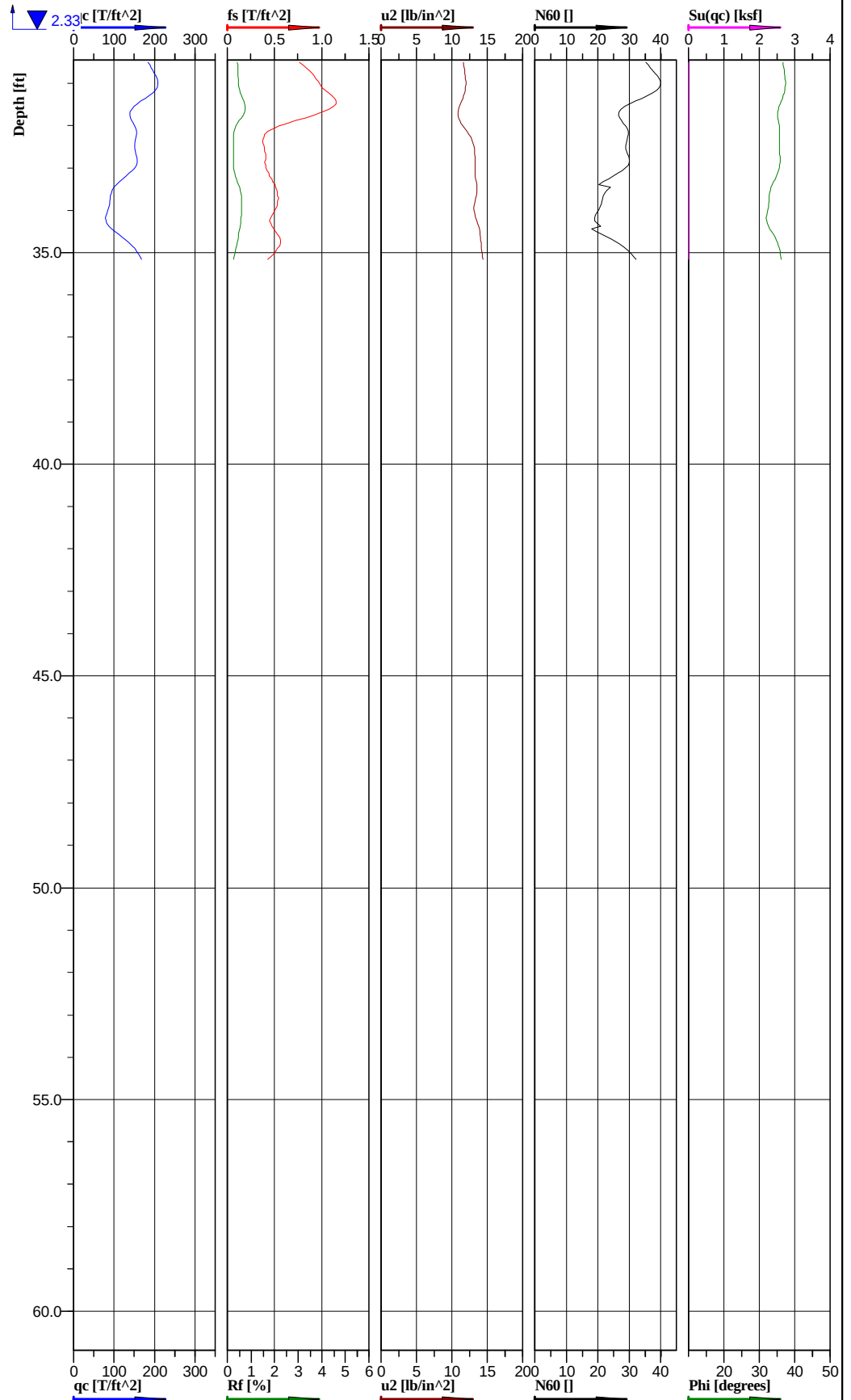
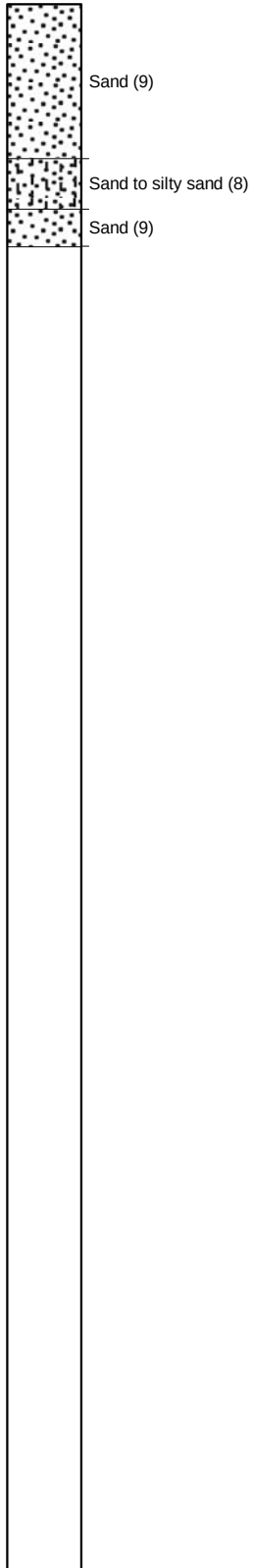


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 728399.77 ft, Y: 993707.28 ft	Ground level:	465.29	Test no:	C-78
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-29
				File:	Labadie C-078.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



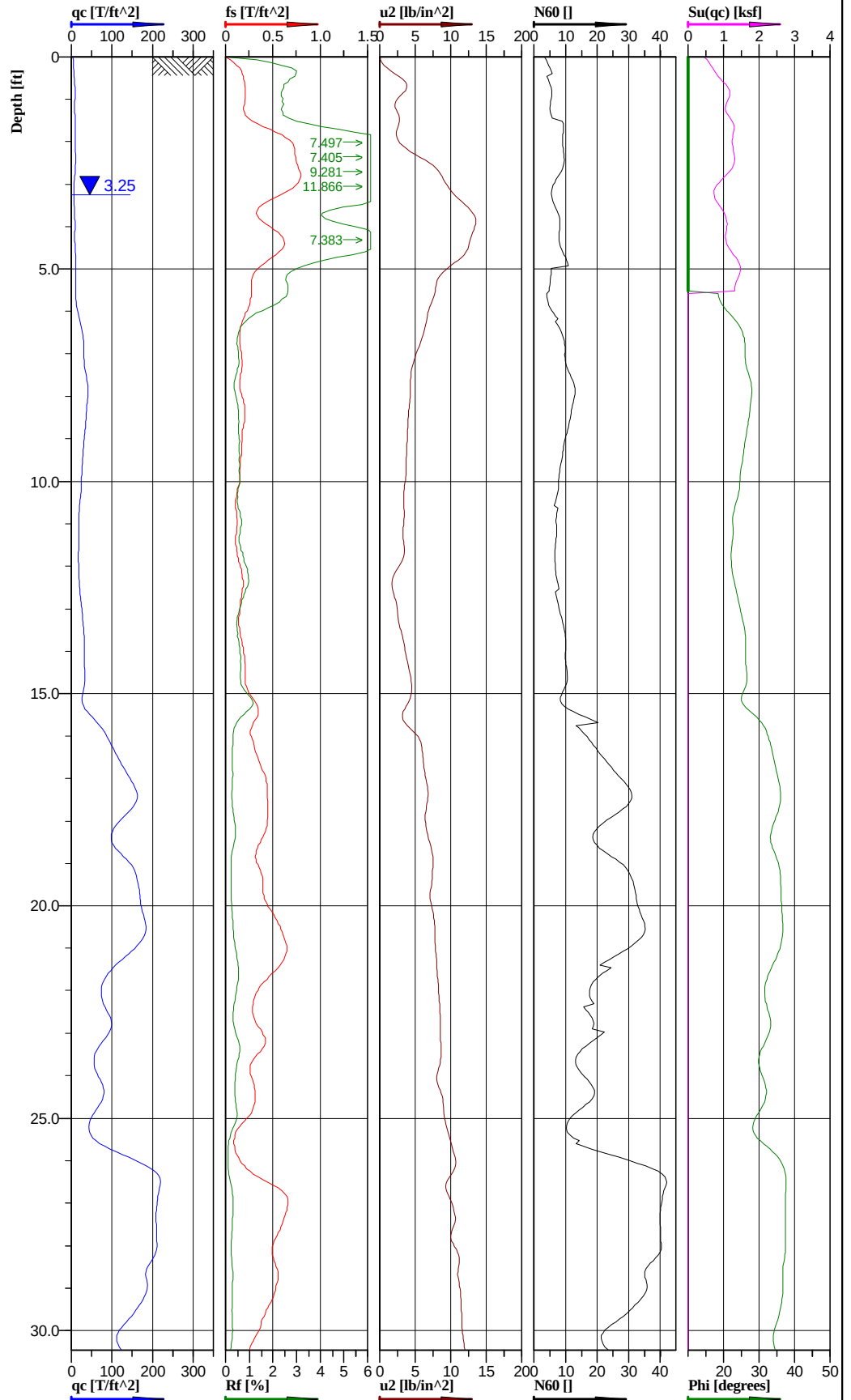
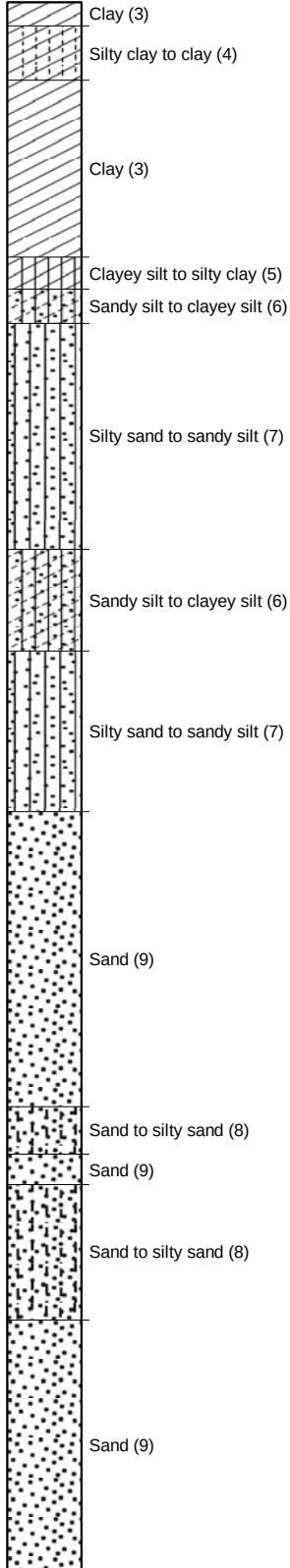
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728399.77 ft, Y: 993707.28 ft	Ground level: 465.29	Test no: C-78
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/3/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-29
		File: Labadie C-078.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-78
Test date: 11/3/2009
Location: Labadie MO
File name: Labadie C-078.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.656	0.034	0.8073	Clay (3)	6.6	0.903	0.007	0.007			1.78	6.6	111	0.15	0.15	271
3.75	0.84	0.059	4.0578	Clay (3)	8.4	1.135	0.02	0.016			1.78	8.4	111	0.42	0.33	341
6.25	1.526	0.028	5.1349	Silty sand to sandy silt (7)	7.4	1.236	0.034	0.022	24.6		1.84	4.7	115	0.71	0.46	127
8.75	1.831	0.016	3.7406	Sandy silt to clayey silt (6)	7.1		0.048	0.028	22.8		1.84	7.1	115	1.00	0.58	152
11.25	1.969	0.02	3.8455	Sand to silty sand (8)	7.2		0.061	0.034	22.9	51	1.85	4.6	115	1.27	0.71	164
13.75	3.635	0.025	5.7628	Sand (9)	13.9	2.17	0.075	0.04	28.9	63	1.89	7.0	118	1.56	0.83	302
16.25	12.617	0.048	5.6557	Sand (9)	25.2		0.09	0.047	34.9	84	1.99	12.6	124	1.87	0.98	1050
18.75	11.111	0.049	7.0199	Sand to silty sand (8)	23.2		0.104	0.054	33.7	77	1.97	14.8	123	2.16	1.12	924
21.25	8.244	0.028	7.9813	Sand (9)	18.2		0.119	0.061	32.4	68	1.96	9.1	122	2.48	1.27	686
23.75	17.731	0.088	9.241	Sand to silty sand (8)	35.7		0.134	0.069	36.4	87	2	22.9	125	2.79	1.44	1475
26.25	10.715	0.024	10.6832	Sand (9)	23.1		0.149	0.076	33.6	71	1.96	11.6	122	3.10	1.58	891
28.75	17.596	0.063	11.3115	Sand (9)	35.2		0.164	0.083	36.6	85	1.99	17.6	124	3.41	1.73	1464
31.25	16.251	0.074	11.7807	Sand (9)	32.5		0.179	0.09	36.2	82	1.99	16.2	124	3.72	1.87	1352
33.75	11.323	0.046	13.5307	Sand (9)	24.2		0.193	0.097	34.1	70	1.97	12.1	123	4.01	2.02	942
36.25	15.74	0.044	14.3357	Sand (9)	31.5		0.201	0.101	36.1	80	1.99	15.7	124	4.18	2.10	1310

Classification by
Robertson 1986

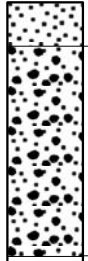


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



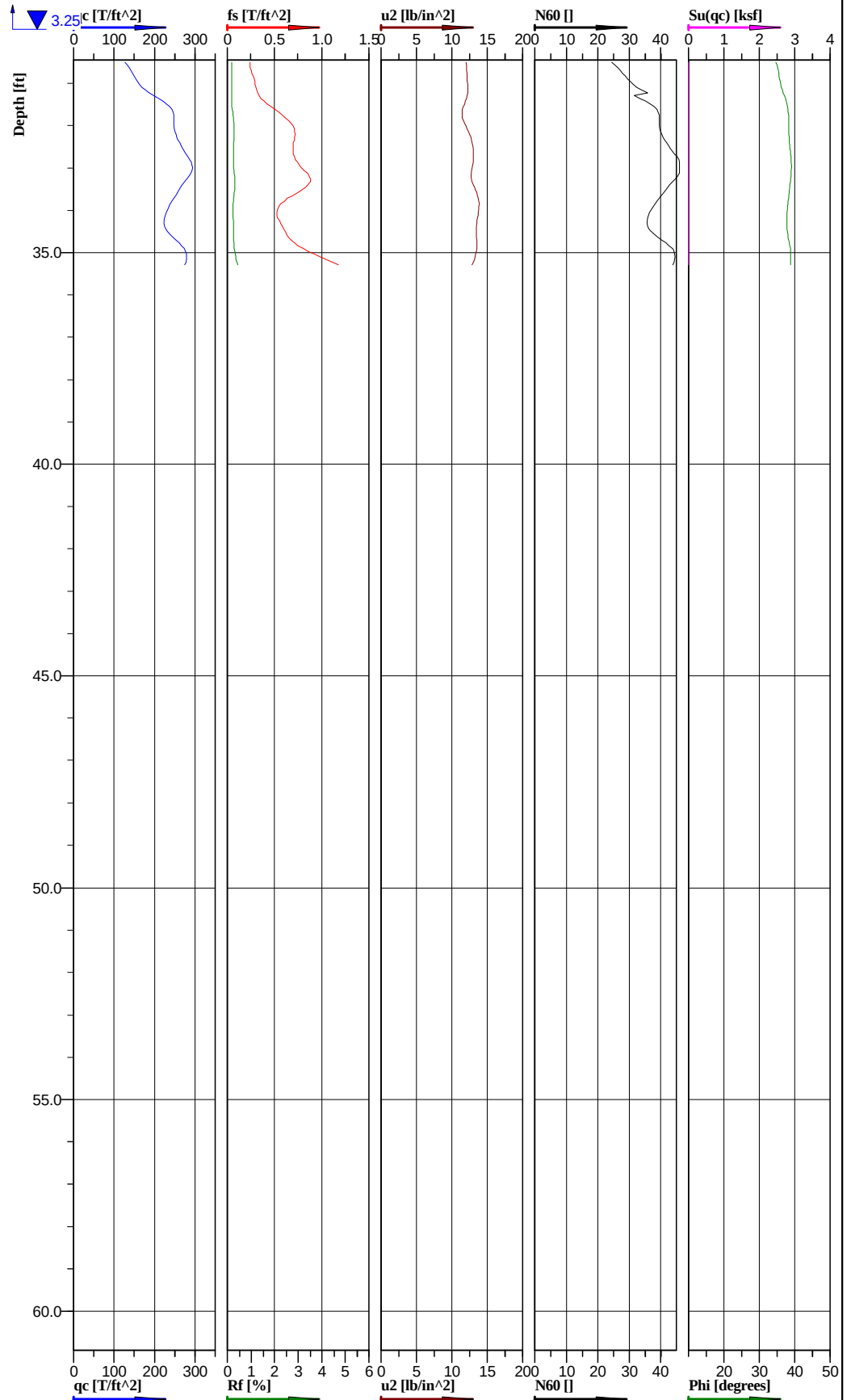
Location:	Labadie, MO	Position:	X: 728845.96 ft, Y: 993690.91 ft	Ground level:	466.70	Test no:	C-79
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-30
Confirmation sounding adjacent to P-79				File:	Labadie C-079.cpd		

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



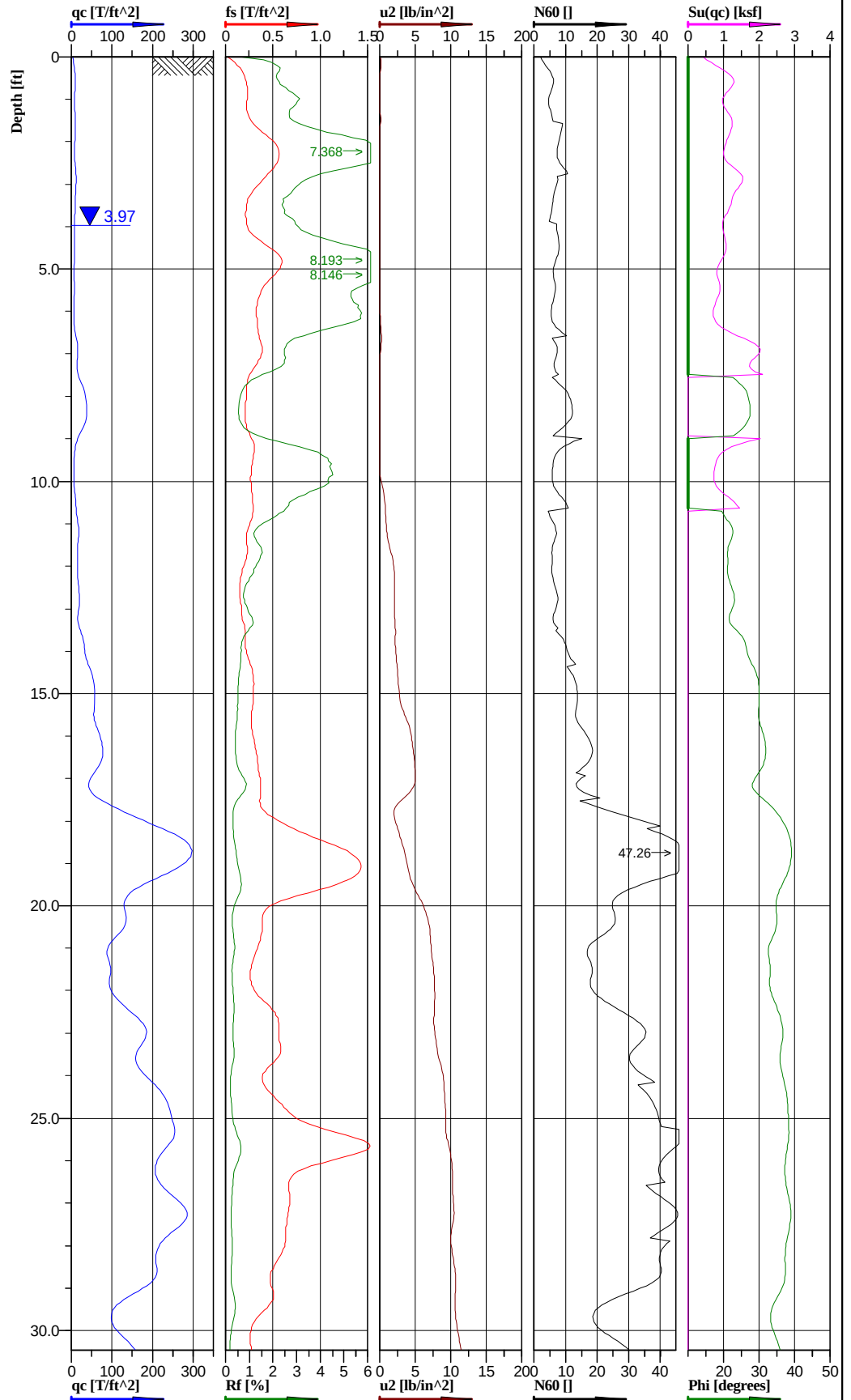
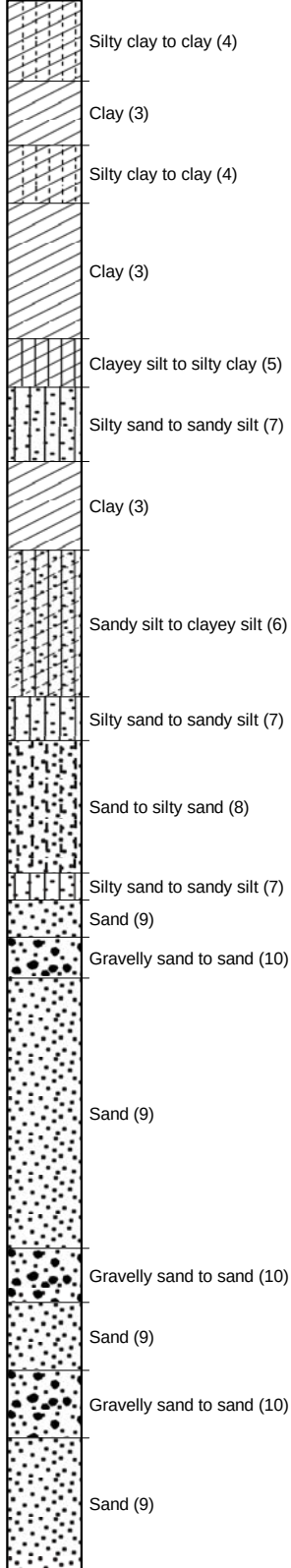
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728845.96 ft, Y: 993690.91 ft	Ground level:	466.70	Test no:	C-79
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-30
Confirmation sounding adjacent to P-79				File:	Labadie C-079.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-79
Test date: 11/5/2009
Location: Labadie MO
File name: Labadie C-079.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.788	0.035	2.937	Clay (3)	6.8	1.084	0.007	0.007			1.81	6.8	113	0.15	0.15	325
3.75	0.803	0.052	11.2245	Clayey silt to silty clay (5)	7.8	1.073	0.02	0.018			1.79	7.8	112	0.42	0.37	644
6.25	2.099	0.02	6.4142	Silty sand to sandy silt (7)	7.6	1.376	0.034	0.025	24.1		1.86	4.8	116	0.71	0.52	175
8.75	3.156	0.016	3.9581	Silty sand to sandy silt (7)	10.5		0.048	0.031	26.4		1.89	6.7	118	1.00	0.64	263
11.25	1.862	0.013	3.029	Sandy silt to clayey silt (6)	7.1		0.062	0.038	22.9		1.85	7.1	115	1.29	0.79	155
13.75	2.772	0.017	3.3041	Silty sand to sandy silt (7)	9.3		0.076	0.044	25.6		1.88	5.9	117	1.58	0.92	231
16.25	9.437	0.033	5.3561	Sand (9)	20.3		0.09	0.05	32.3	80	1.96	10.1	122	1.87	1.04	785
18.75	13.353	0.038	7.0232	Sand (9)	26.7		0.105	0.058	35.1	83	1.99	13.3	124	2.18	1.21	1111
21.25	12.231	0.047	7.9787	Sand (9)	25.8		0.12	0.065	34.3	77	1.97	12.9	123	2.50	1.35	1018
23.75	7.004	0.03	8.5669	Sand to silty sand (8)	16.7		0.134	0.072	31.4	61	1.95	10.7	122	2.79	1.50	583
26.25	14.894	0.034	10.0289	Sand (9)	30.3		0.149	0.079	34.8	77	1.98	15.1	124	3.10	1.64	1239
28.75	17.232	0.047	11.0761	Sand (9)	34.4		0.164	0.086	36.5	84	1.99	17.2	124	3.41	1.79	1434
31.25	18.509	0.042	12.0644	Gravelly sand to sand (10)	33.0		0.179	0.094	36.7	84	2.01	22.4	125	3.72	1.96	1540
33.75	24.791	0.067	13.3255	Gravelly sand to sand (10)	41.3		0.194	0.101	38.4	93	2.04	28.1	127	4.04	2.10	2063
36.25	26.593	0.1	13.1631	Gravelly sand to sand (10)	44.3		0.203	0.105	38.8	94	2.04	30.1	127	4.22	2.18	2213

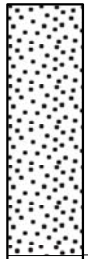
Classification by
Robertson 1986



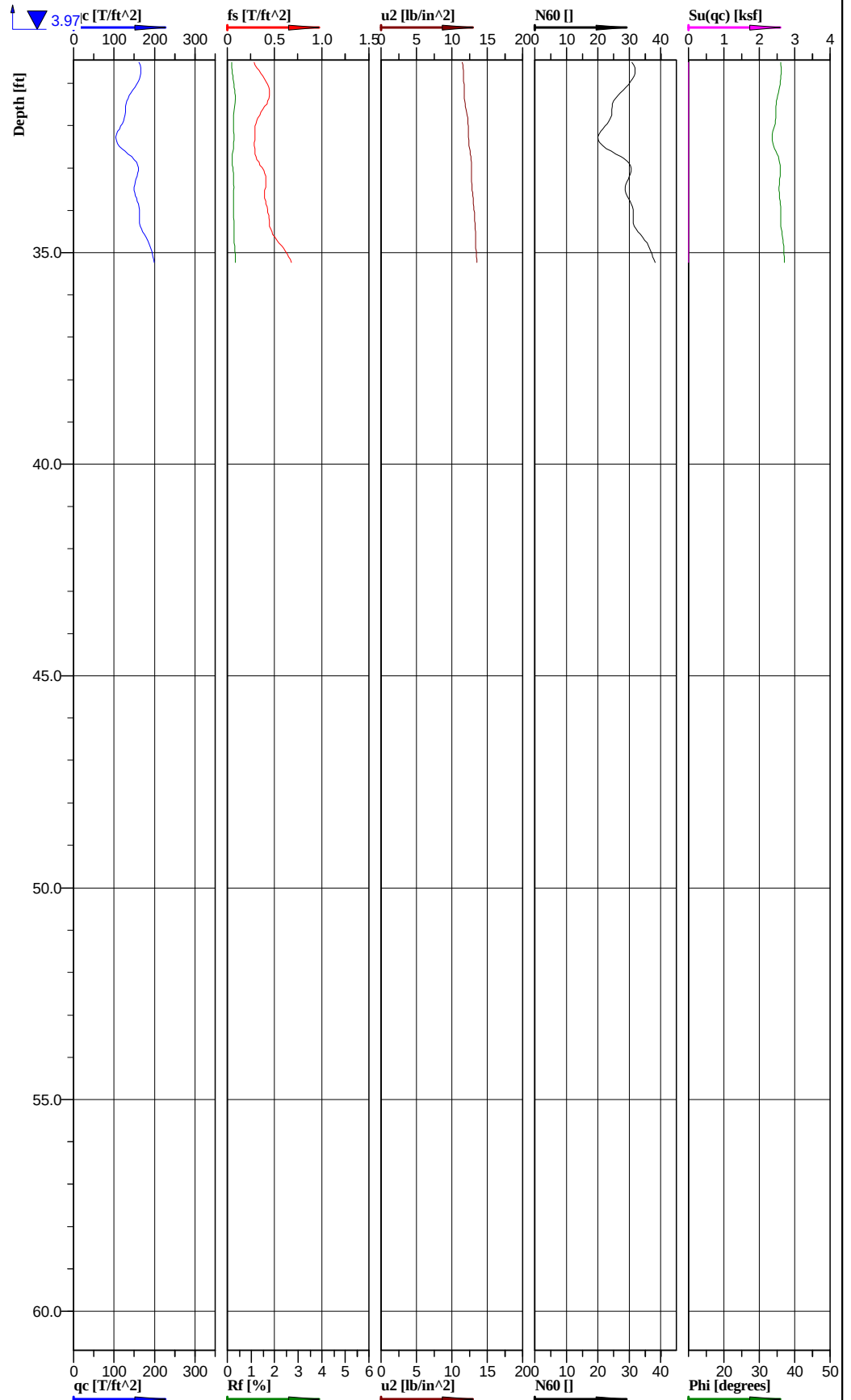
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729155.12 ft, Y: 993682.87 ft	Ground level:	466.60	Test no:	C-80
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-31
				File:	Labadie C-080.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



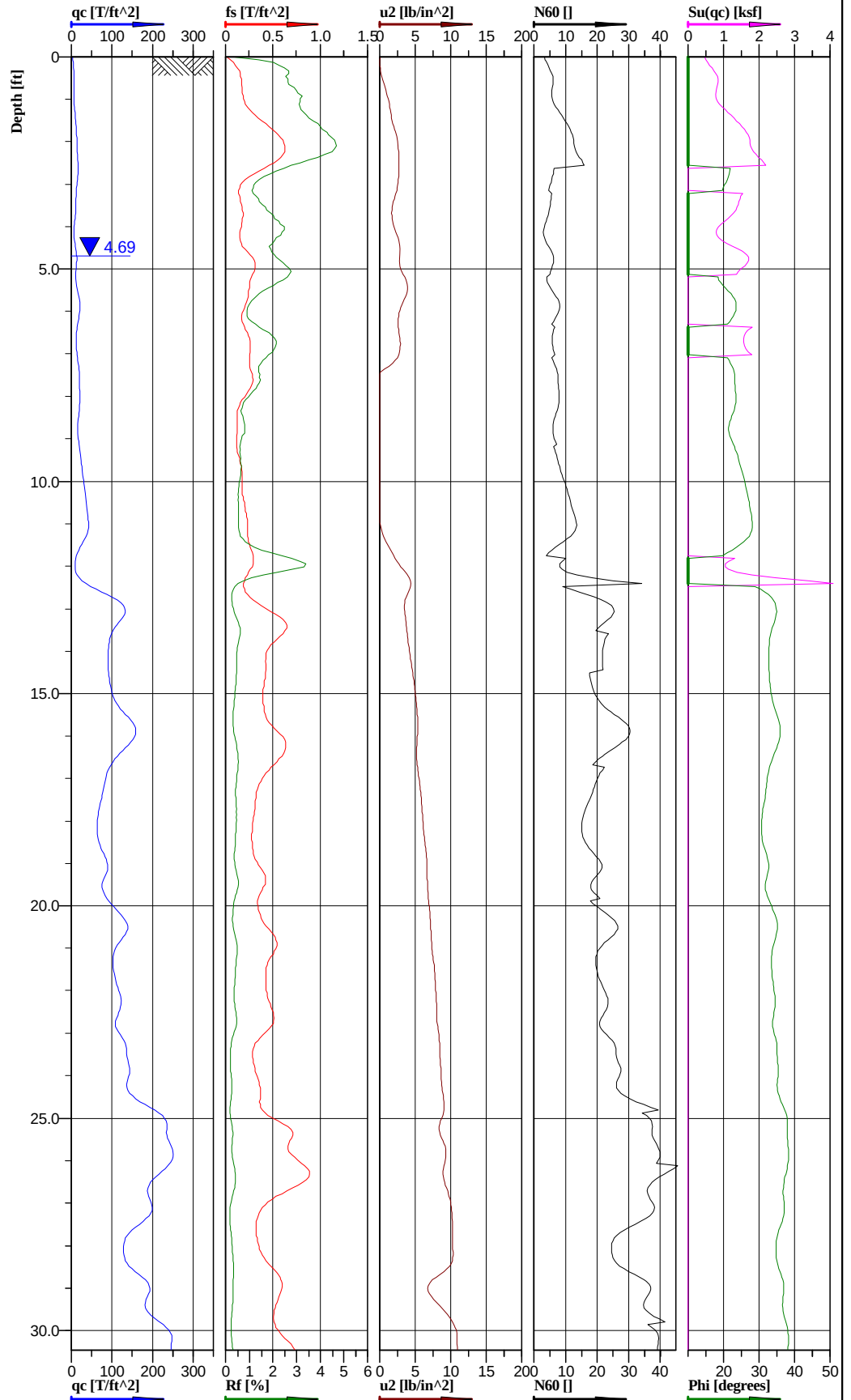
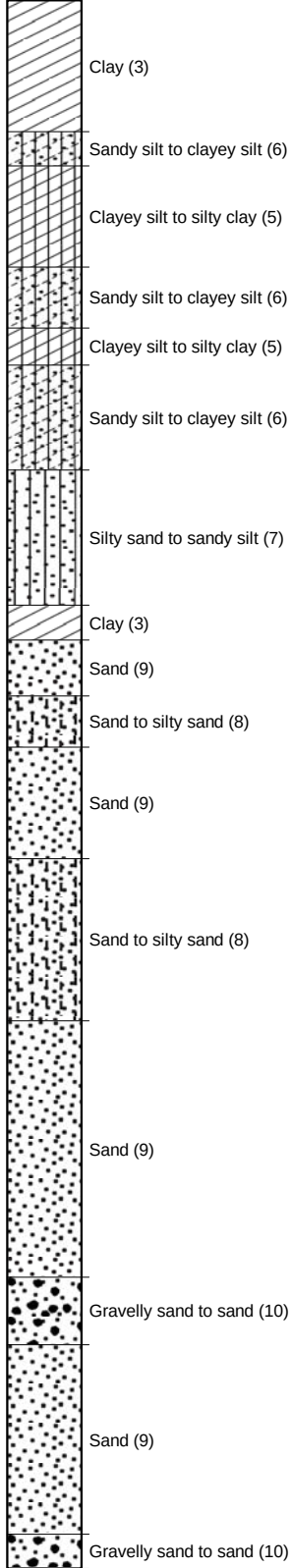
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729155.12 ft, Y: 993682.87 ft	Ground level:	466.60	Test no:	C-80
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-31
				File:	Labadie C-080.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-80
Test date: 11/5/2009
Location: Labadie MO
File name: Labadie C-080.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.77	0.03	-0.3643	Clay (3)	6.2	1.063	0.007	0.007			1.81	6.2	113	0.15	0.15	319
3.75	0.838	0.035	-0.4666	Clay (3)	7.0	1.139	0.021	0.02			1.81	7.0	113	0.44	0.42	342
6.25	0.94	0.035	-0.003	Silty sand to sandy silt (7)	6.6	1.232	0.034	0.027	22.6		1.81	4.2	113	0.71	0.56	78
8.75	2	0.024	-0.7164	Clay (3)	8.9	0.992	0.048	0.033	25.9		1.84	8.9	115	1.00	0.69	298
11.25	1.336	0.022	1.2425	Sandy silt to clayey silt (6)	6.6	1.09	0.061	0.039	21.4		1.83	6.6	114	1.27	0.81	111
13.75	3.118	0.021	2.2817	Sand to silty sand (8)	9.6		0.075	0.045	25.7	58	1.88	6.2	117	1.56	0.94	259
16.25	5.902	0.03	4.1753	Sand (9)	15.6		0.089	0.052	30.4	63	1.93	7.8	120	1.85	1.08	491
18.75	19.513	0.088	3.6428	Sand (9)	36.3		0.104	0.059	36.8	92	2	18.2	125	2.16	1.23	1623
21.25	10.55	0.034	7.3065	Sand (9)	21.1		0.119	0.066	33.8	74	1.99	10.5	124	2.48	1.37	878
23.75	18.421	0.051	8.5063	Gravelly sand to sand (10)	34.4		0.134	0.073	36.8	89	2	23.4	125	2.79	1.52	1533
26.25	23.301	0.087	10.0206	Gravelly sand to sand (10)	42.4		0.149	0.081	38.1	94	2.01	28.8	125	3.10	1.68	1939
28.75	16.744	0.047	10.5092	Sand (9)	32.5		0.164	0.088	36.1	82	2	16.2	125	3.41	1.83	1393
31.25	12.969	0.032	11.8394	Sand (9)	25.9		0.179	0.096	35.0	75	1.99	13.0	124	3.72	2.00	1079
33.75	15.448	0.041	13.0184	Sand (9)	30.9		0.194	0.103	36.0	79	1.99	15.4	124	4.04	2.14	1285
36.25	18.842	0.063	13.4886	Sand (9)	37.7		0.202	0.107	37.0	84	1.99	18.8	124	4.20	2.23	1568

Classification by
Robertson 1986



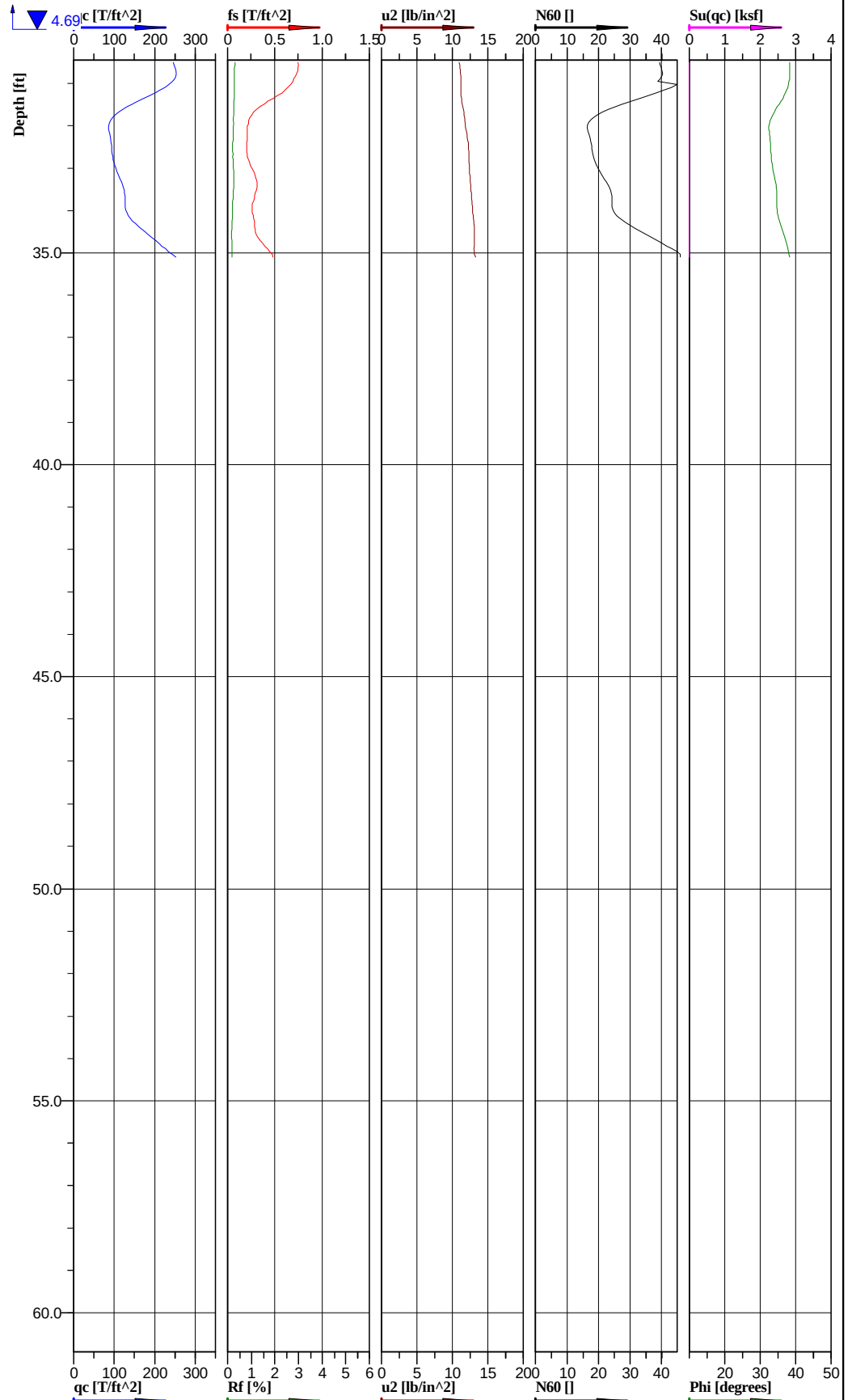
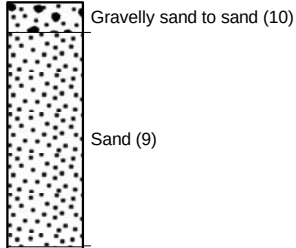
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729445.37 ft, Y: 993687.40 ft	Ground level:	467.29	Test no:	C-81
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-32
Confirmation sounding adjacent to P-81				File:	Labadie C-081.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



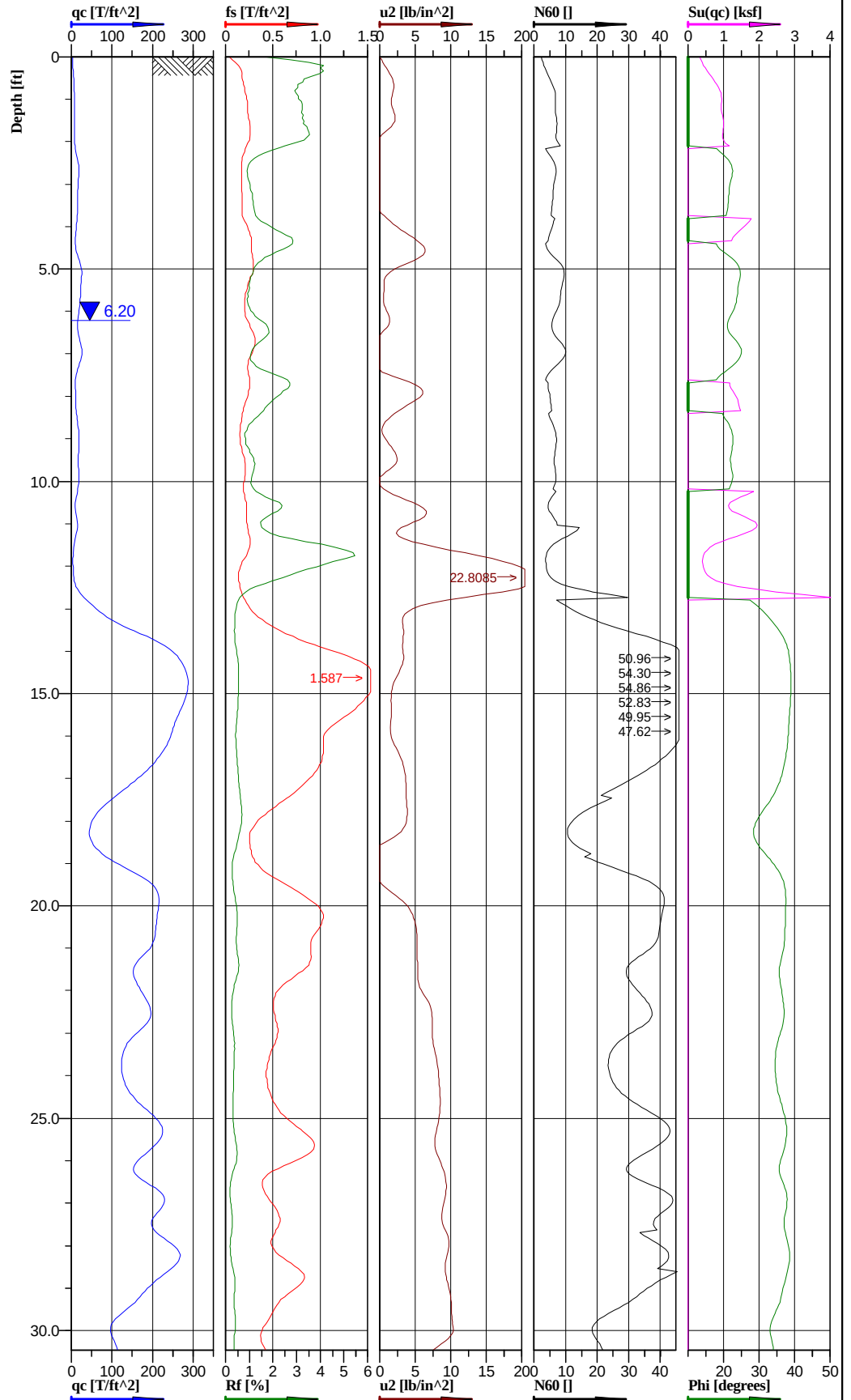
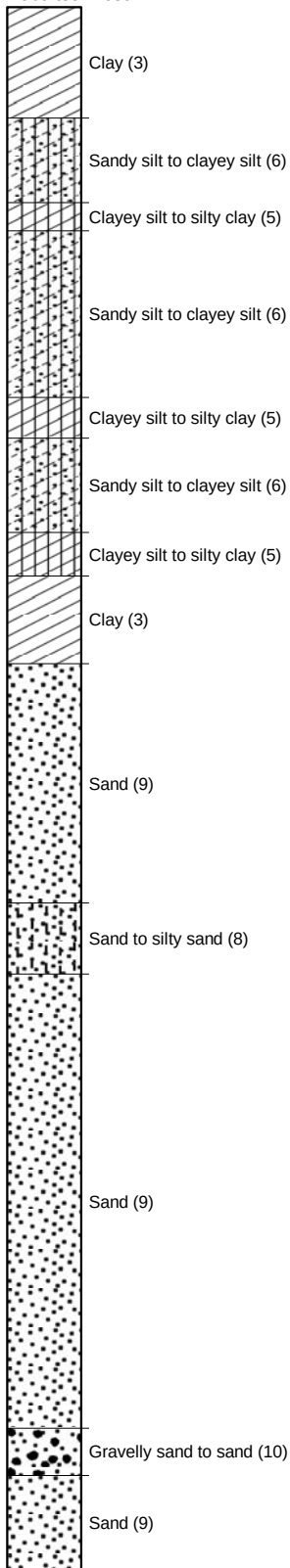
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729445.37 ft, Y: 993687.40 ft	Ground level: 467.29	Test no: C-81
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/5/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-32
Confirmation sounding adjacent to P-81		File: Labadie C-081.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-81
 Test date: 11/5/2009
 Location: Labadie MO
 File name: Labadie C-081.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.889	0.032	1.4536	Clay (3)	8.9	1.226	0.007	0.007			1.8	8.9	112	0.15	0.15	368
3.75	1.068	0.021	2.4037	Clayey silt to silty clay (5)	5.2	1.316	0.021	0.02	20.9		1.84	5.2	115	0.44	0.42	790
6.25	1.483	0.023	2.6241	Sandy silt to clayey silt (6)	6.3	1.61	0.034	0.029	21.9		1.84	6.3	115	0.71	0.60	123
8.75	2.001	0.016	-2.0832	Silty sand to sandy silt (7)	7.4		0.048	0.035	23.3		1.85	4.8	115	1.00	0.73	166
11.25	2.852	0.022	1.1734	Sand (9)	11.7	1.94	0.062	0.042	26.5	59	1.87	5.8	117	1.29	0.87	237
13.75	9.632	0.043	4.1407	Sand (9)	20.8		0.076	0.048	33.3	76	1.97	10.4	123	1.58	1.00	801
16.25	10.924	0.045	5.3587	Sand to silty sand (8)	23.1		0.091	0.056	33.9	77	1.97	14.8	123	1.89	1.16	909
18.75	7.327	0.031	6.4406	Sand (9)	17.9		0.105	0.063	31.7	65	1.95	9.0	122	2.18	1.31	610
21.25	11.173	0.043	7.5281	Sand (9)	22.3		0.12	0.07	34.2	75	1.99	11.2	124	2.50	1.46	930
23.75	13.842	0.036	8.5557	Gravelly sand to sand (10)	27.1		0.135	0.077	35.3	80	1.99	18.4	124	2.81	1.60	1152
26.25	20.621	0.059	9.3166	Sand (9)	38.0		0.15	0.084	37.5	90	2.01	19.0	125	3.12	1.75	1716
28.75	16.439	0.046	9.2614	Gravelly sand to sand (10)	32.1		0.165	0.092	36.2	82	1.99	21.8	124	3.43	1.91	1368
31.25	16.701	0.045	11.4163	Sand (9)	30.3		0.18	0.099	35.8	79	2.01	15.2	125	3.74	2.06	1390
33.75	13.539	0.028	12.7418	Sand (9)	27.1		0.195	0.106	35.0	74	1.99	13.5	124	4.06	2.20	1126
36.25	23.697	0.046	13.2022	Sand (9)	47.4		0.203	0.11	38.2	90	2.04	23.7	127	4.22	2.29	1972

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS

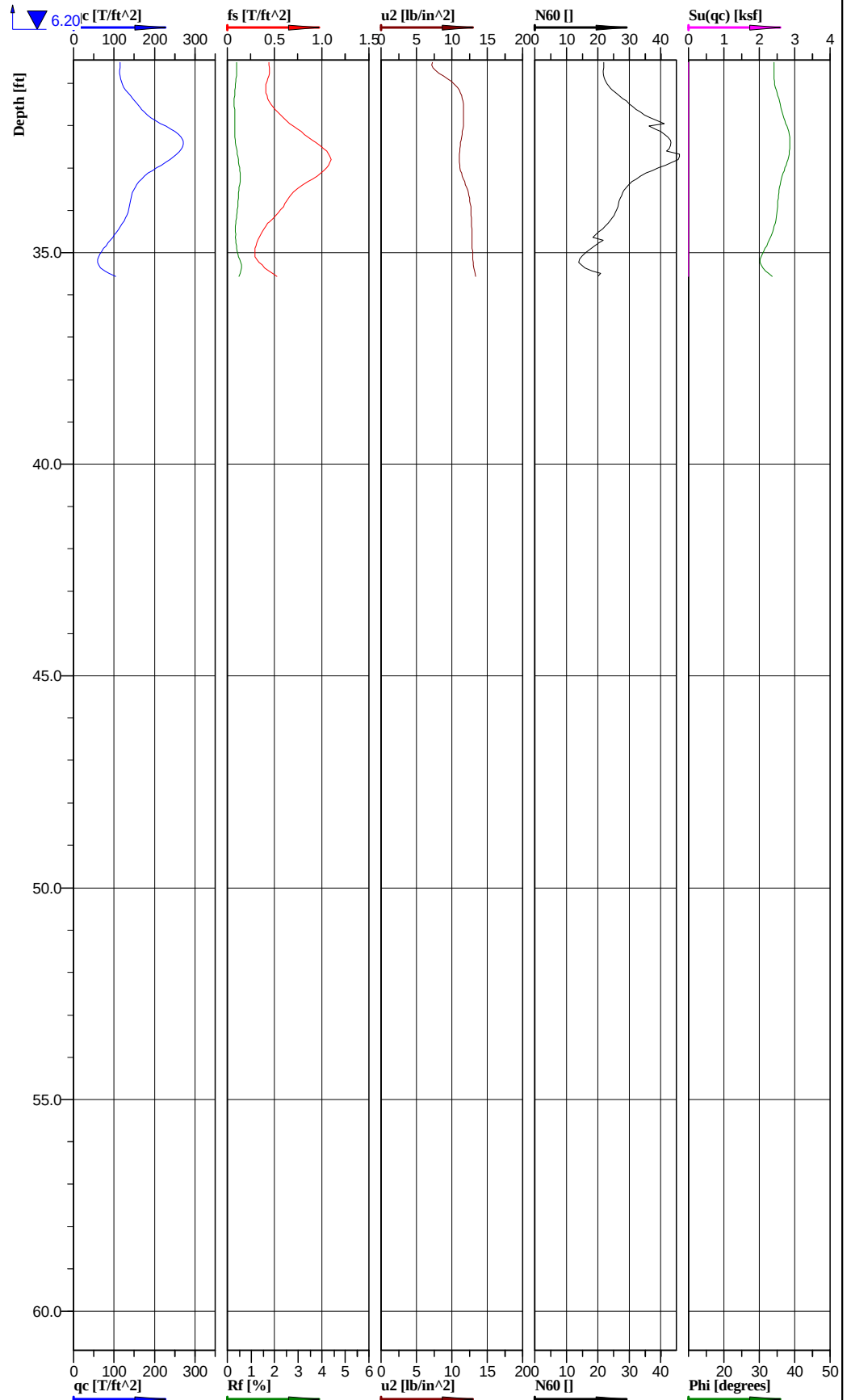


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729741.31 ft, Y: 993677.59 ft	Ground level:	467.49	Test no:	C-82
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-33
				File:	Labadie C-082.cpd		

Classification by
Robertson 1986

Sand (9)
Gravelly sand to sand (10)
Sand (9)
Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



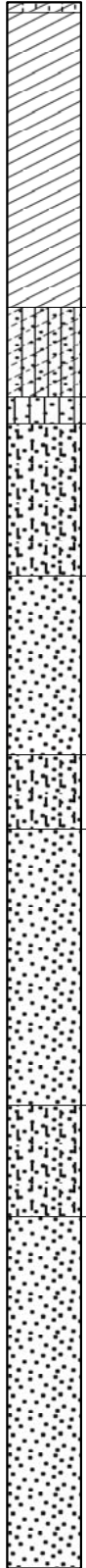
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729741.31 ft, Y: 993677.59 ft	Ground level:	467.49	Test no:	C-82
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-33
				File:	Labadie C-082.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-82
Test date: 11/5/2009
Location: Labadie MO
File name: Labadie C-082.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.729	0.019	0.8957	Sandy silt to clayey silt (6)	5.9	0.828	0.007	0.007	20.5		1.8	5.9	112	0.15	0.15	61
3.75	1.47	0.021	1.4693	Sandy silt to clayey silt (6)	6.1	1.491	0.021	0.021	21.6		1.84	6.1	115	0.44	0.44	122
6.25	1.92	0.024	0.0082	Sandy silt to clayey silt (6)	7.7		0.034	0.033	23.0		1.84	7.7	115	0.71	0.69	160
8.75	1.415	0.019	2.2624	Sandy silt to clayey silt (6)	5.9	1.327	0.048	0.04	21.7		1.84	5.9	115	1.00	0.83	118
11.25	0.928	0.019	9.5793	Clay (3)	6.6	1.113	0.062	0.046	21.9		1.82	6.6	114	1.29	0.96	334
13.75	17.398	0.086	4.6493	Sand (9)	36.6	2.891	0.076	0.053	36.2	90	1.97	18.3	123	1.58	1.10	1448
16.25	20.468	0.101	2.5122	Sand to silty sand (8)	41.2		0.09	0.06	37.2	94	1.99	26.3	124	1.87	1.25	1703
18.75	10.991	0.045	1.3437	Sand (9)	23.5		0.105	0.067	33.0	71	1.96	11.7	122	2.18	1.39	914
21.25	17.846	0.077	5.481	Sand (9)	35.7		0.12	0.074	36.7	88	1.99	17.8	124	2.50	1.54	1485
23.75	14.741	0.048	7.9795	Sand (9)	29.5		0.135	0.081	35.6	81	1.99	14.7	124	2.81	1.68	1226
26.25	19.152	0.06	8.6275	Sand (9)	38.3		0.15	0.089	37.1	87	2	19.1	125	3.12	1.85	1593
28.75	18.345	0.056	9.7217	Sand (9)	33.8		0.165	0.096	36.6	83	2.01	16.9	125	3.43	2.00	1526
31.25	15.665	0.052	10.3158	Gravelly sand to sand (10)	29.4		0.18	0.103	35.7	78	2	20.0	125	3.74	2.14	1303
33.75	14.451	0.064	12.1752	Sand to silty sand (8)	29.0		0.195	0.111	35.2	74	1.99	18.6	124	4.06	2.31	1202
36.25	6.826	0.037	13.079	Sand to silty sand (8)	16.5		0.204	0.115	31.2	54	1.94	10.5	121	4.24	2.39	568

Classification by
Robertson 1986



Clay (3)

Sandy silt to clayey silt (6)

Silty sand to sandy silt (7)

Sand to silty sand (8)

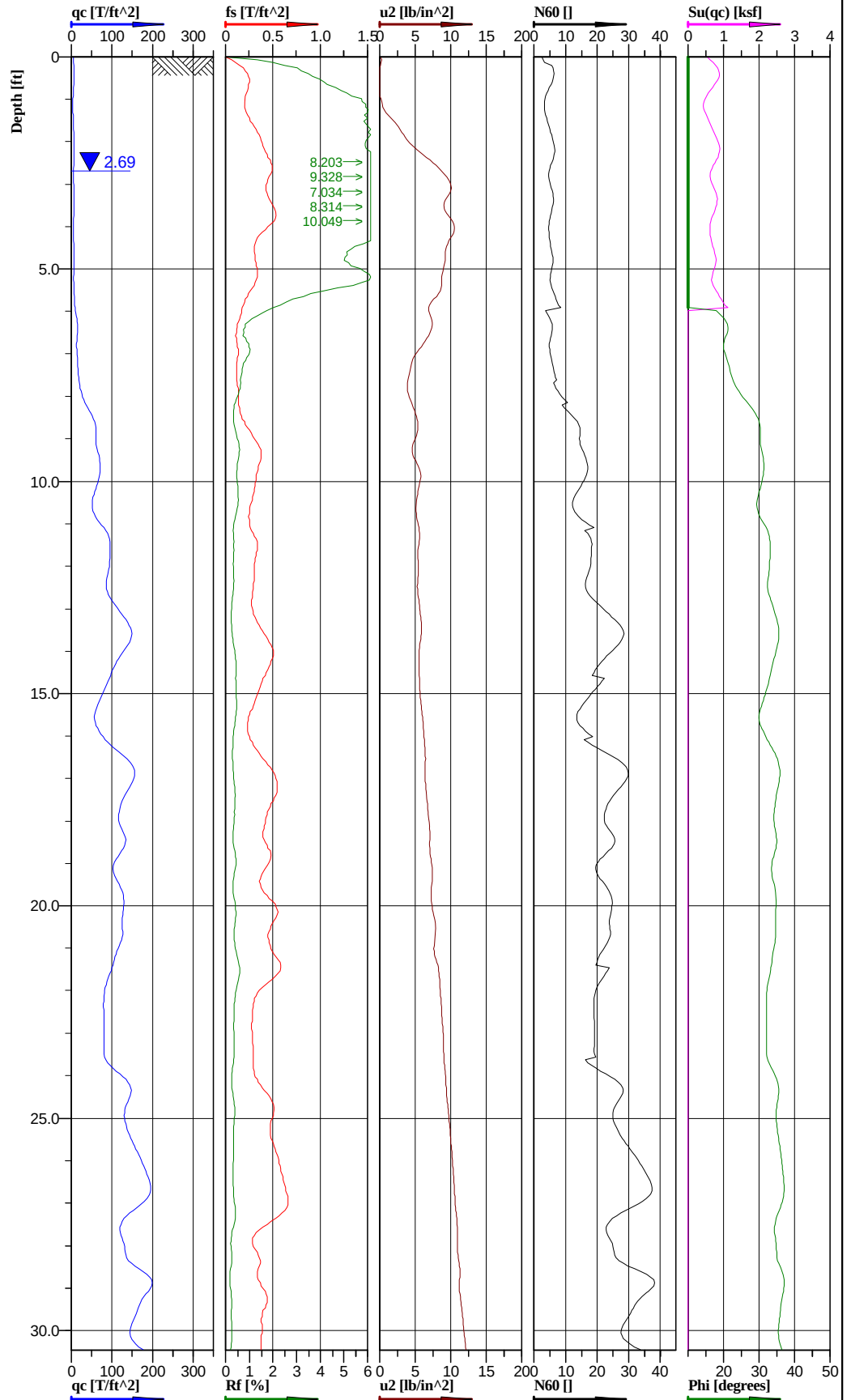
Sand (9)

Sand to silty sand (8)

Sand (9)

Sand to silty sand (8)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS

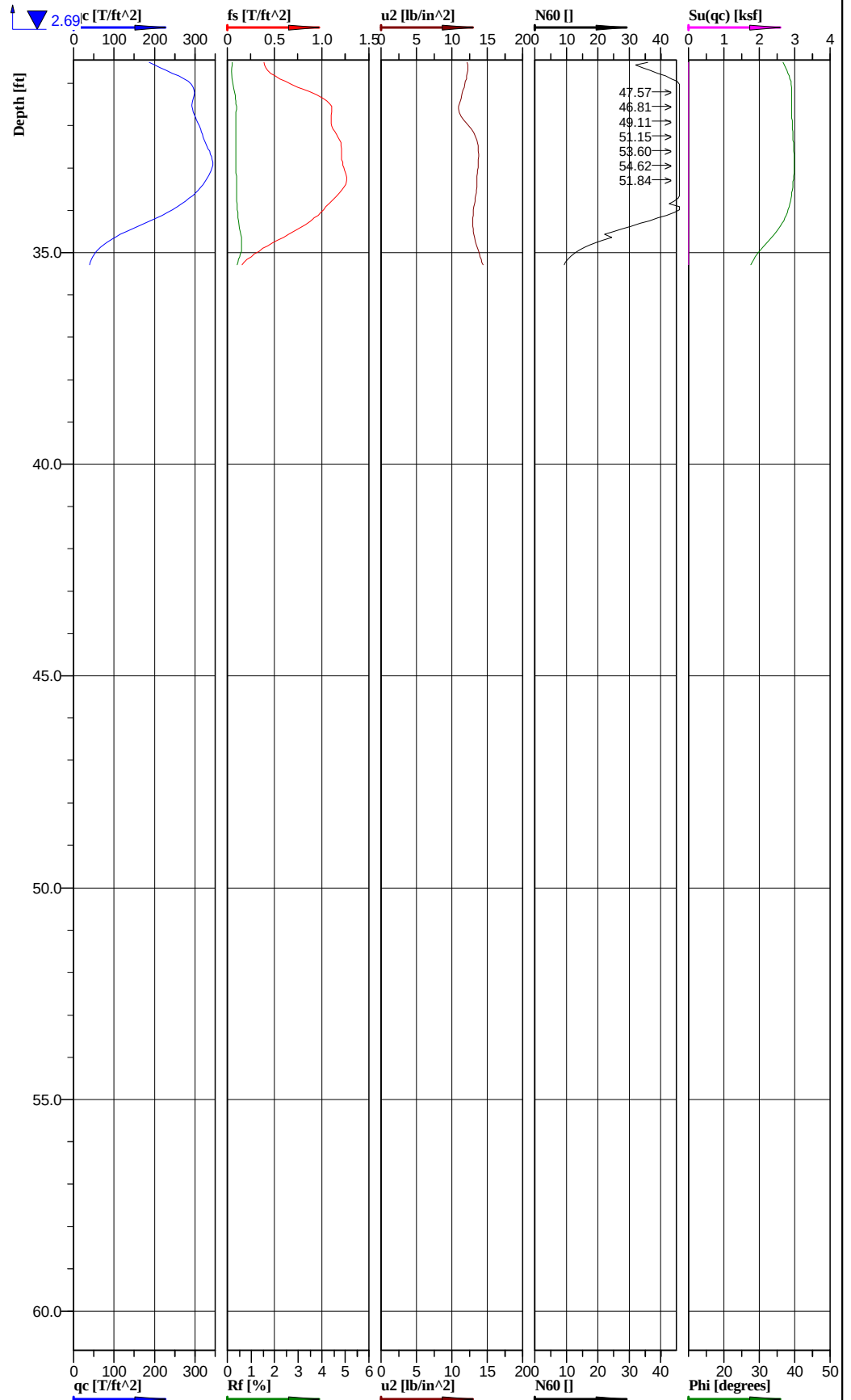


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730332.48 ft, Y: 993657.32 ft	Ground level:	465.09	Test no:	C-84
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-34
				File:	Labadie C-084.cpd		

Classification by
Robertson 1986

Sand (9)
Gravelly sand to sand (10)
Sand (9)
Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



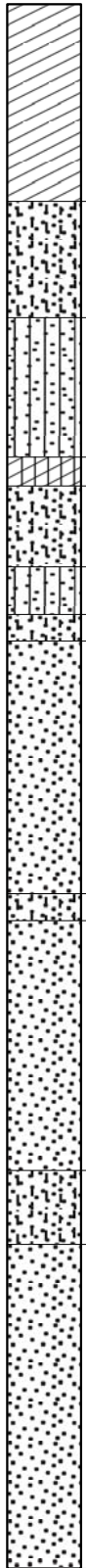
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Labadie, MO	Position: X: 730332.48 ft, Y: 993657.32 ft	Ground level: 465.09	Test no: C-84
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/5/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-34
		File: Labadie C-084.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-84
Test date: 11/5/2009
Location: Labadie MO
File name: Labadie C-084.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.507	0.027	1.8792	Clay (3)	5.0	0.693	0.007	0.007			1.79	5.0	112	0.15	0.15	208
3.75	0.537	0.04	9.5001	Clay (3)	5.4	0.708	0.02	0.016			1.63	5.4	102	0.42	0.33	212
6.25	1.096	0.017	6.7146	Sandy silt to clayey silt (6)	5.7	0.816	0.033	0.022	20.7		1.82	5.7	114	0.69	0.46	91
8.75	4.928	0.023	4.8634	Sand to silty sand (8)	12.9		0.046	0.028	28.8	69	1.92	8.2	120	0.96	0.58	410
11.25	7.421	0.028	5.3691	Sand (9)	16.1		0.061	0.035	31.7	73	1.96	8.0	122	1.27	0.73	617
13.75	10.89	0.037	5.6122	Sand to silty sand (8)	22.5		0.076	0.042	33.9	81	1.98	14.4	124	1.58	0.87	906
16.25	10.027	0.036	6.238	Sand (9)	21.3		0.09	0.049	33.2	75	1.97	10.7	123	1.87	1.02	834
18.75	11.494	0.041	7.118	Sand (9)	23.0		0.105	0.056	34.4	79	1.99	11.5	124	2.18	1.16	956
21.25	10.039	0.044	8.0754	Sand to silty sand (8)	21.8		0.12	0.063	33.5	73	1.97	14.0	123	2.50	1.31	835
23.75	10.244	0.033	9.1752	Sand (9)	22.1		0.134	0.07	33.5	72	1.97	11.1	123	2.79	1.46	852
26.25	15.462	0.053	10.3421	Sand (9)	30.9		0.149	0.078	35.9	83	1.99	15.5	124	3.10	1.62	1286
28.75	14.949	0.035	11.2866	Sand (9)	29.9		0.164	0.085	35.7	81	1.99	14.9	124	3.41	1.77	1244
31.25	25.384	0.078	12.0874	Gravelly sand to sand (10)	43.3		0.179	0.092	38.4	94	2.03	29.5	127	3.72	1.91	2112
33.75	22.934	0.093	13.3976	Sand to silty sand (8)	40.9		0.195	0.1	37.2	87	2.01	26.2	125	4.06	2.08	1908
36.25	4.26	0.021	14.1201	Sand to silty sand (8)	10.6		0.203	0.104	28.4	42	1.92	6.8	120	4.22	2.16	354

Classification by
Robertson 1986



Clay (3)

Sand to silty sand (8)

Silty sand to sandy silt (7)

Clayey silt to silty clay (5)

Sand to silty sand (8)

Silty sand to sandy silt (7)

Sand to silty sand (8)

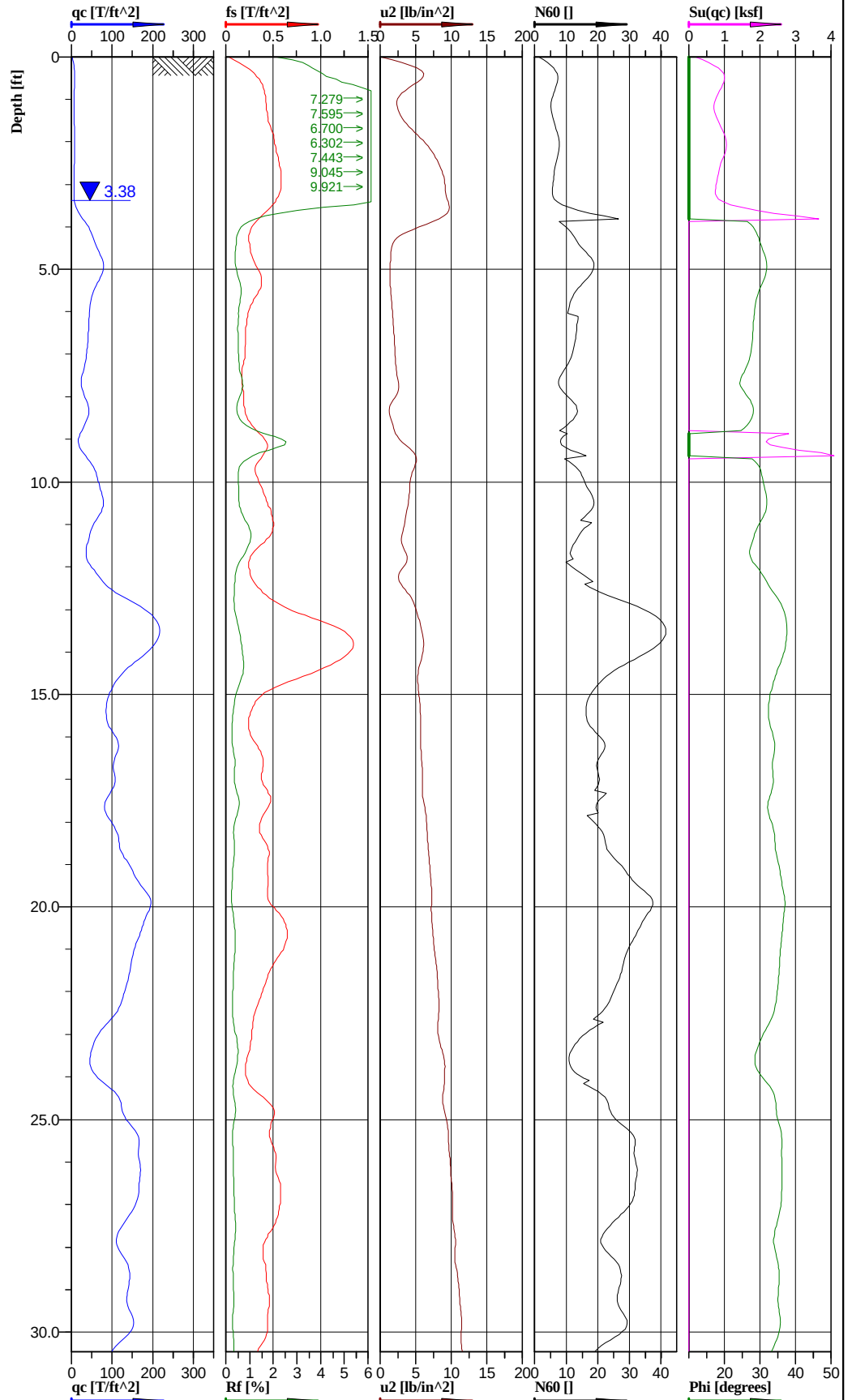
Sand (9)

Sand to silty sand (8)

Sand (9)

Sand to silty sand (8)

Sand (9)



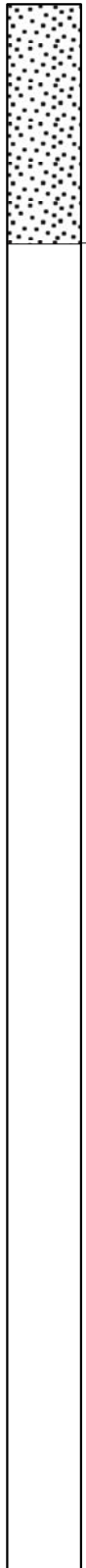
REITZ & JENS, INC.
CONSULTING ENGINEERS



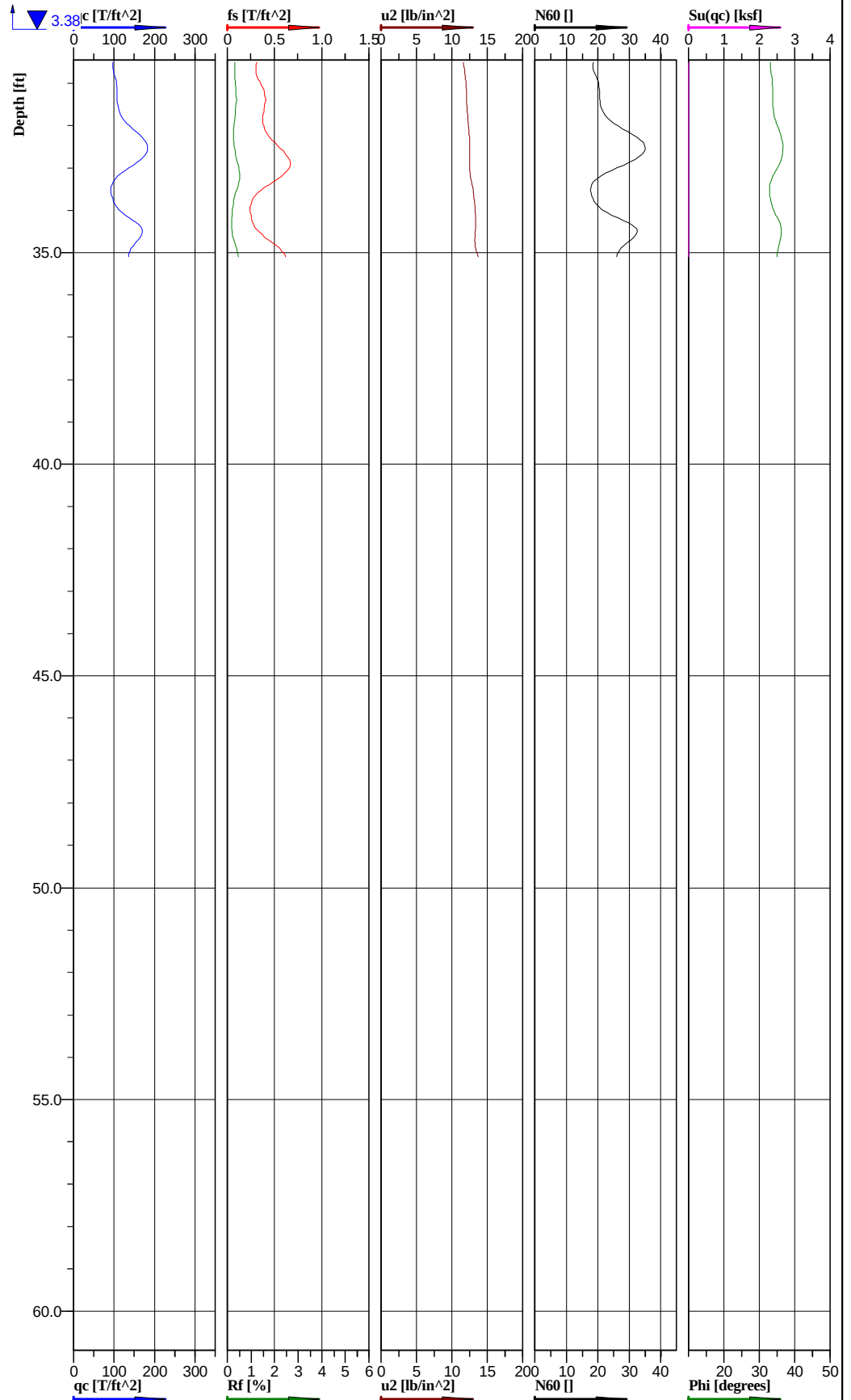
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730924.61 ft, Y: 993650.66 ft	Ground level:	465.72	Test no:	C-86
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-35
				File:	Labadie C-086.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



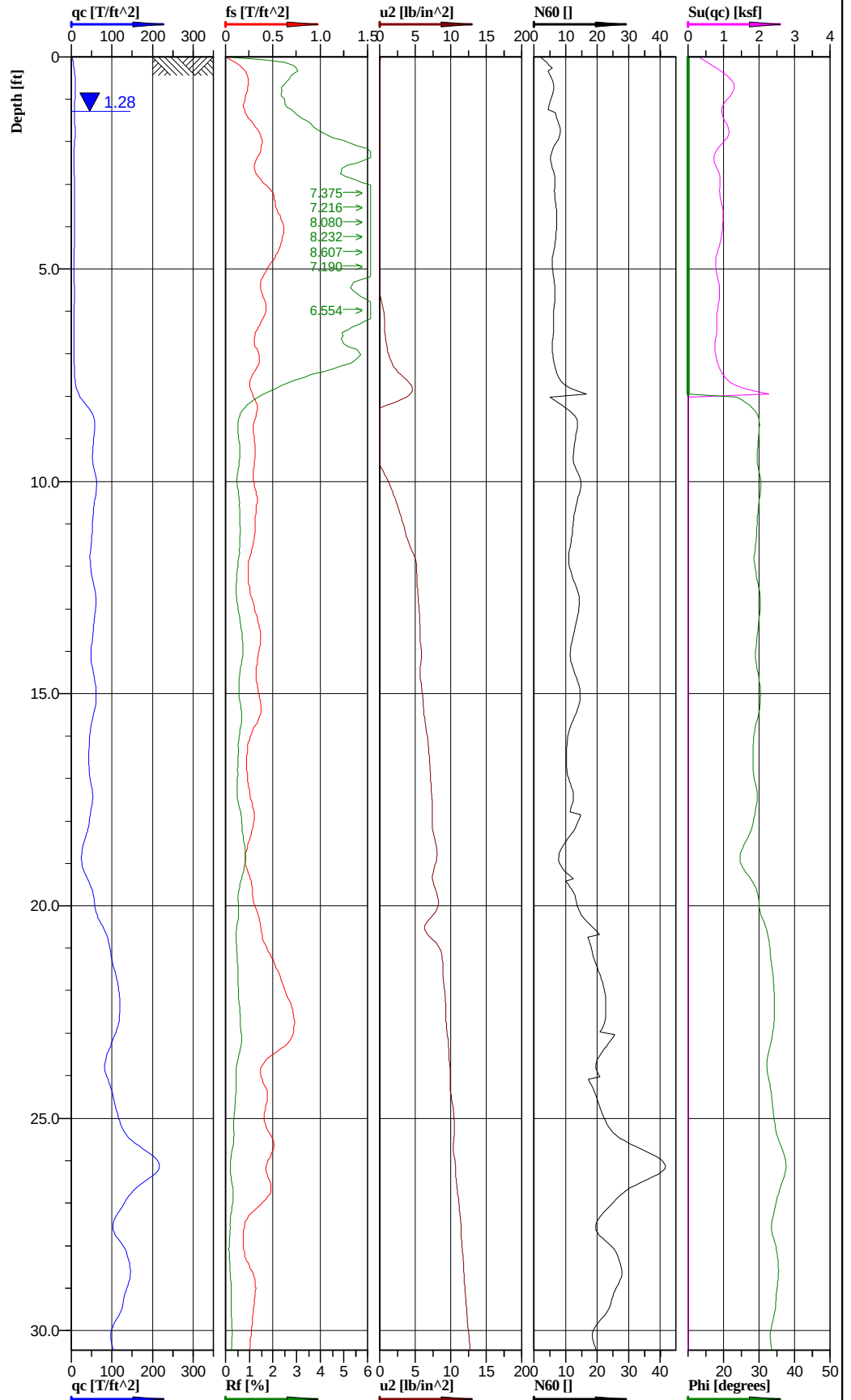
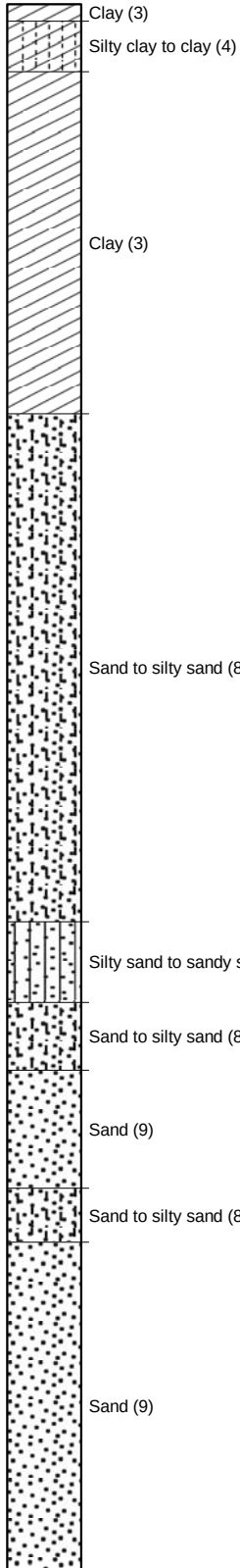
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730924.61 ft, Y: 993650.66 ft	Ground level:	465.72	Test no:	C-86
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/5/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-35
				File:	Labadie C-086.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-86
Test date: 11/5/2009
Location: Labadie MO
File name: Labadie C-086.cpd

Depth [ft]	Corrected point resistance [MPa]	Corrected local friction [MPa]	Pore pressure behind cone [lb/in^2]	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60 [bpf]	Undrained shear strength [ksf]	Total overburden stress [MPa]	Effective total overburden str [MPa]	R&J Phi Angle [degrees]	Relative density [%]	Unit weight [g/cm^3]	Corrected N60 [bpf]	Unit Weight [pcf]	Total Overburden [ksf]	Effective Overburden [ksf]	Es (OCR=4) (ksf)
1.25	0.627	0.039	4.6643	Clay (3)	6.3	0.856	0.007	0.007			1.78	6.3	111	0.15	0.15	257
3.75	3.299	0.039	5.971	Sand to silty sand (8)	11.8	1.248	0.02	0.019	30.2	73	1.86	7.5	116	0.42	0.40	274
6.25	4.312	0.024	1.8251	Silty sand to sandy silt (7)	12.5		0.035	0.026	28.3	69	1.91	8.0	119	0.73	0.54	359
8.75	3.503	0.027	2.9837	Sand to silty sand (8)	11.3	2.874	0.049	0.032	27.5	64	1.89	7.2	118	1.02	0.67	291
11.25	5.78	0.036	3.4555	Sand (9)	15.3		0.063	0.039	30.1	69	1.92	7.7	120	1.31	0.81	481
13.75	15.378	0.086	5.3672	Sand (9)	30.8		0.078	0.046	35.7	89	1.99	15.4	124	1.62	0.96	1279
16.25	9.482	0.033	5.7758	Sand to silty sand (8)	19.4		0.092	0.053	33.2	74	1.98	12.4	124	1.91	1.10	789
18.75	12.868	0.041	6.8098	Sand (9)	26.2		0.107	0.06	34.8	80	1.98	13.1	124	2.23	1.25	1071
21.25	14.418	0.048	7.7664	Sand (9)	28.8		0.122	0.067	35.5	83	1.99	14.4	124	2.54	1.39	1200
23.75	7.914	0.029	8.739	Sand (9)	17.4		0.137	0.074	31.8	63	1.96	8.7	122	2.85	1.54	658
26.25	15.055	0.05	9.9079	Sand (9)	30.1		0.152	0.082	35.8	82	1.99	15.0	124	3.16	1.71	1253
28.75	12.913	0.041	10.9412	Sand (9)	25.8		0.167	0.089	35.0	76	1.99	12.9	124	3.47	1.85	1074
31.25	11.806	0.037	12.0146	Sand (9)	23.6		0.181	0.096	34.4	72	1.99	11.8	124	3.76	2.00	982
33.75	12.931	0.042	13.0098	Sand (9)	25.8		0.196	0.103	34.9	73	1.99	12.9	124	4.08	2.14	1076
36.25	13.054	0.058	13.6663	Sand (9)	26.1		0.204	0.107	35.1	74	1.99	13.0	124	4.24	2.23	1086

Classification by
Robertson 1986

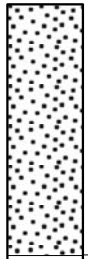


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

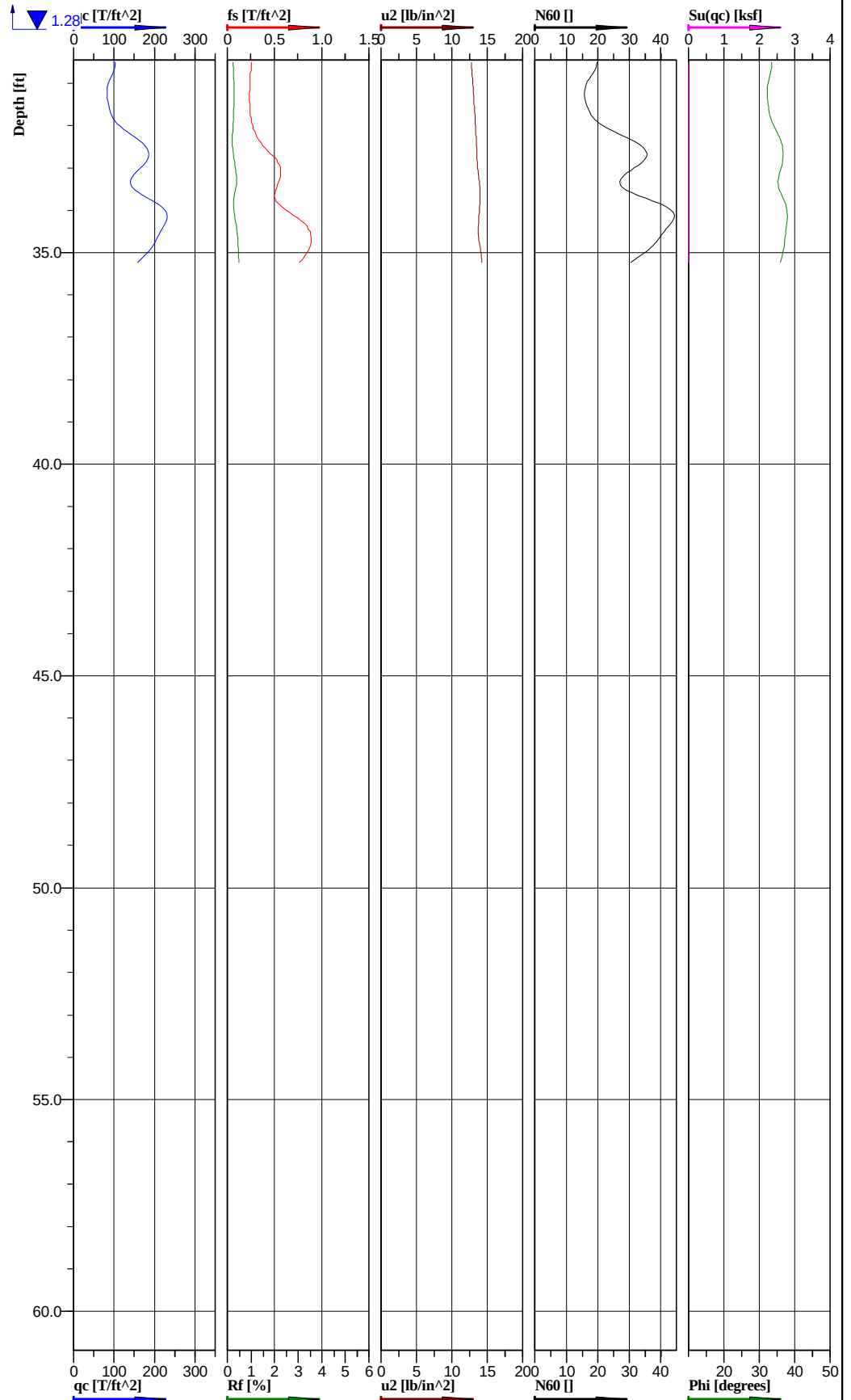


Location:	Labadie, MO	Position:	X: 727504.04 ft, Y: 993438.19 ft	Ground level:	465.09	Test no:	C-89
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-36
				File:	Labadie C-089.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



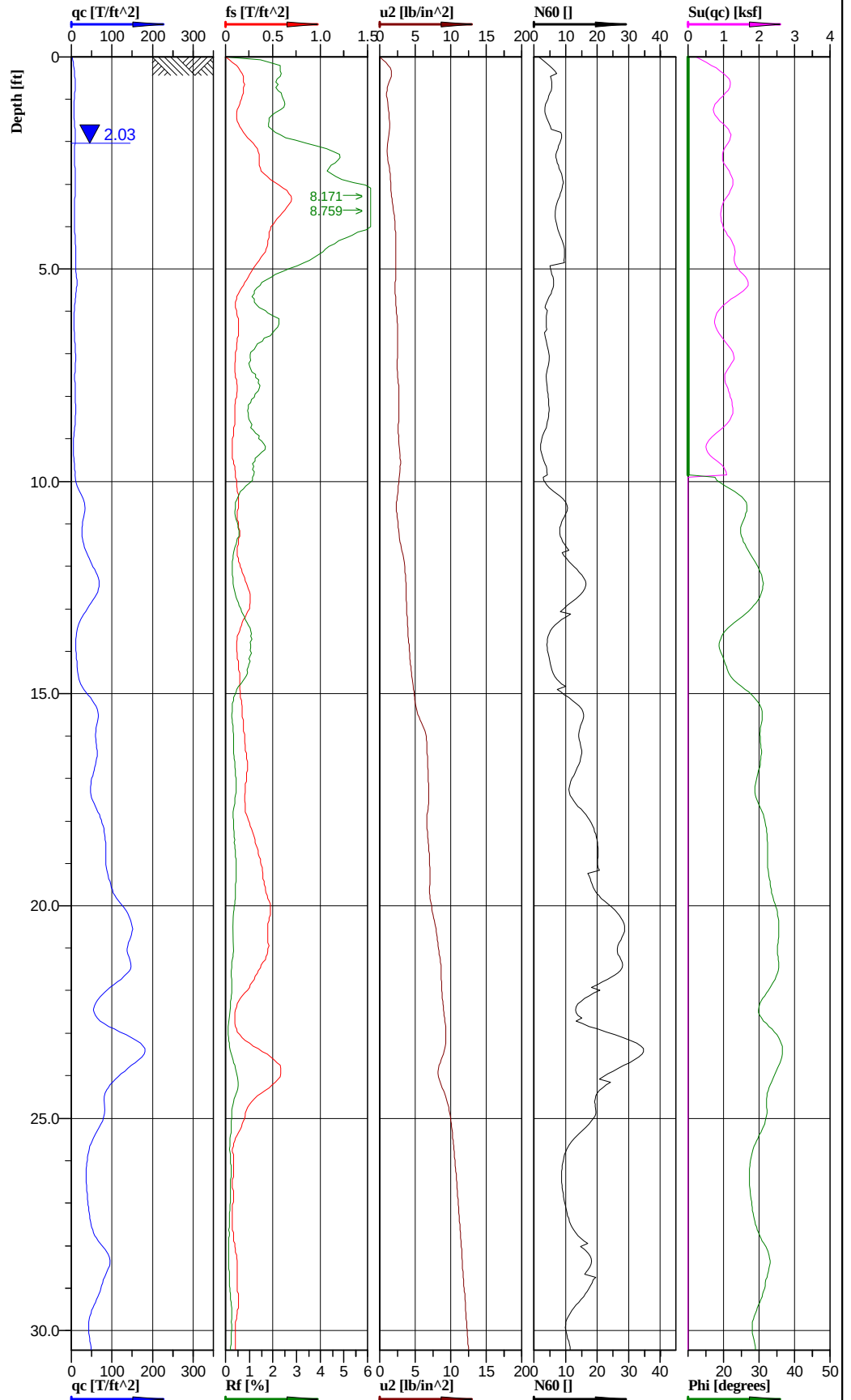
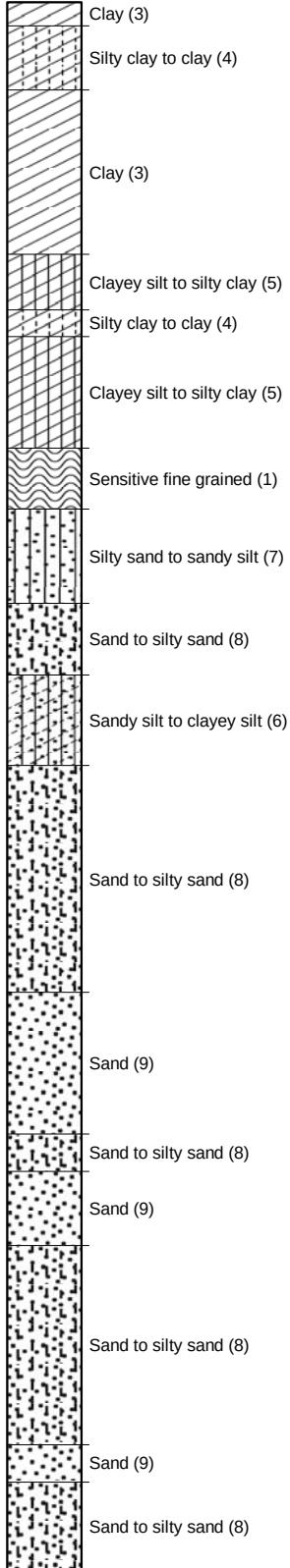
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727504.04 ft, Y: 993438.19 ft	Ground level:	465.09	Test no:	C-89
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-36
				File:	Labadie C-089.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-89
Test date: 11/3/2009
Location: Labadie MO
File name: Labadie C-089.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.694	0.024	-3.1316	Clay (3)	5.9	0.961	0.007	0.006			1.8	5.9	112	0.15	0.12	288
3.75	0.656	0.048	-2.5962	Clay (3)	6.6	0.889	0.02	0.013			1.78	6.6	111	0.42	0.27	267
6.25	0.634	0.035	0.7347	Clay (3)	6.3	0.835	0.034	0.018			1.78	6.3	111	0.71	0.37	251
8.75	4.247	0.029	0.3231	Sand to silty sand (8)	12.1	1.485	0.047	0.025	29.2	66	1.91	7.8	119	0.98	0.52	353
11.25	5.032	0.028	3.7232	Sand to silty sand (8)	12.6		0.062	0.031	29.5	64	1.94	8.0	121	1.29	0.64	419
13.75	5.279	0.032	5.6784	Sand to silty sand (8)	13.2		0.076	0.038	29.8	62	1.93	8.4	120	1.58	0.79	439
16.25	4.708	0.027	6.7641	Sand to silty sand (8)	11.8		0.091	0.045	29.0	57	1.93	7.5	120	1.89	0.94	392
18.75	3.878	0.025	7.7203	Sand to silty sand (8)	11.3		0.105	0.052	27.6	56	1.91	7.3	119	2.18	1.08	323
21.25	9.287	0.048	8.3171	Sand (9)	19.5		0.119	0.059	33.0	72	1.97	9.8	123	2.48	1.23	773
23.75	9.673	0.05	9.8195	Sand (9)	21.1		0.134	0.066	33.3	72	1.97	10.6	123	2.79	1.37	805
26.25	14.707	0.04	10.7934	Sand (9)	29.4		0.149	0.073	35.5	82	1.99	14.7	124	3.10	1.52	1224
28.75	12.027	0.025	11.9331	Sand (9)	24.0		0.164	0.08	34.6	75	1.99	12.0	124	3.41	1.66	1001
31.25	10.198	0.025	13.0444	Sand (9)	20.4		0.179	0.087	33.5	69	1.98	10.2	124	3.72	1.81	848
33.75	18.072	0.062	13.8114	Sand (9)	36.1		0.194	0.095	36.7	84	1.99	18.1	124	4.04	1.98	1504
36.25	16.195	0.077	14.1882	Sand (9)	32.4		0.202	0.099	36.2	81	1.99	16.2	124	4.20	2.06	1347

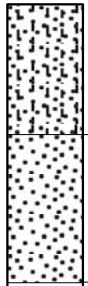
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

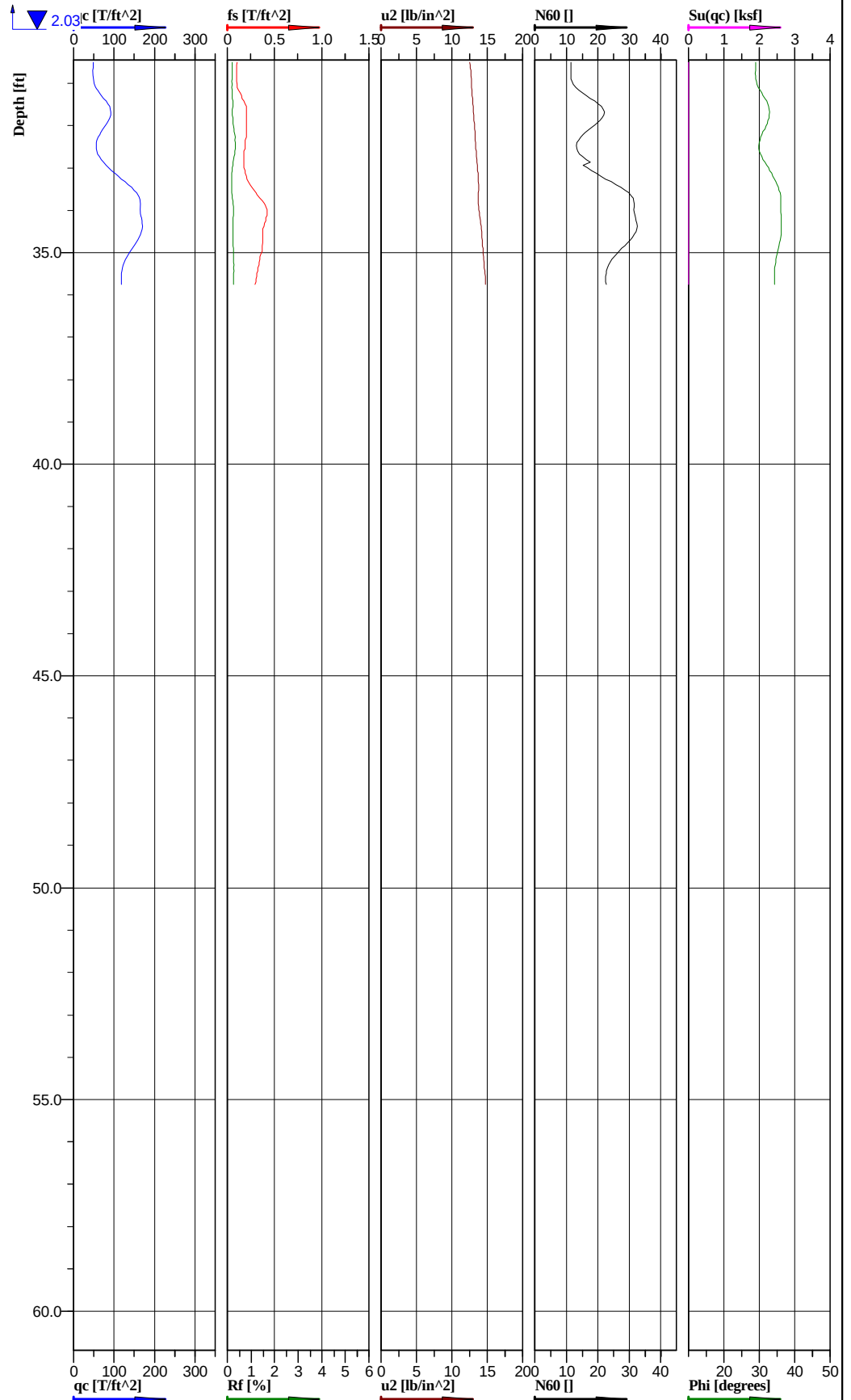
Location:	Labadie, MO	Position:	X: 728094.55 ft, Y: 993413.85 ft	Ground level:	465.09	Test no:	C-91
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-37
				File:	Labadie C-091.cpd		

Classification by
Robertson 1986



Sand to silty sand (8)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



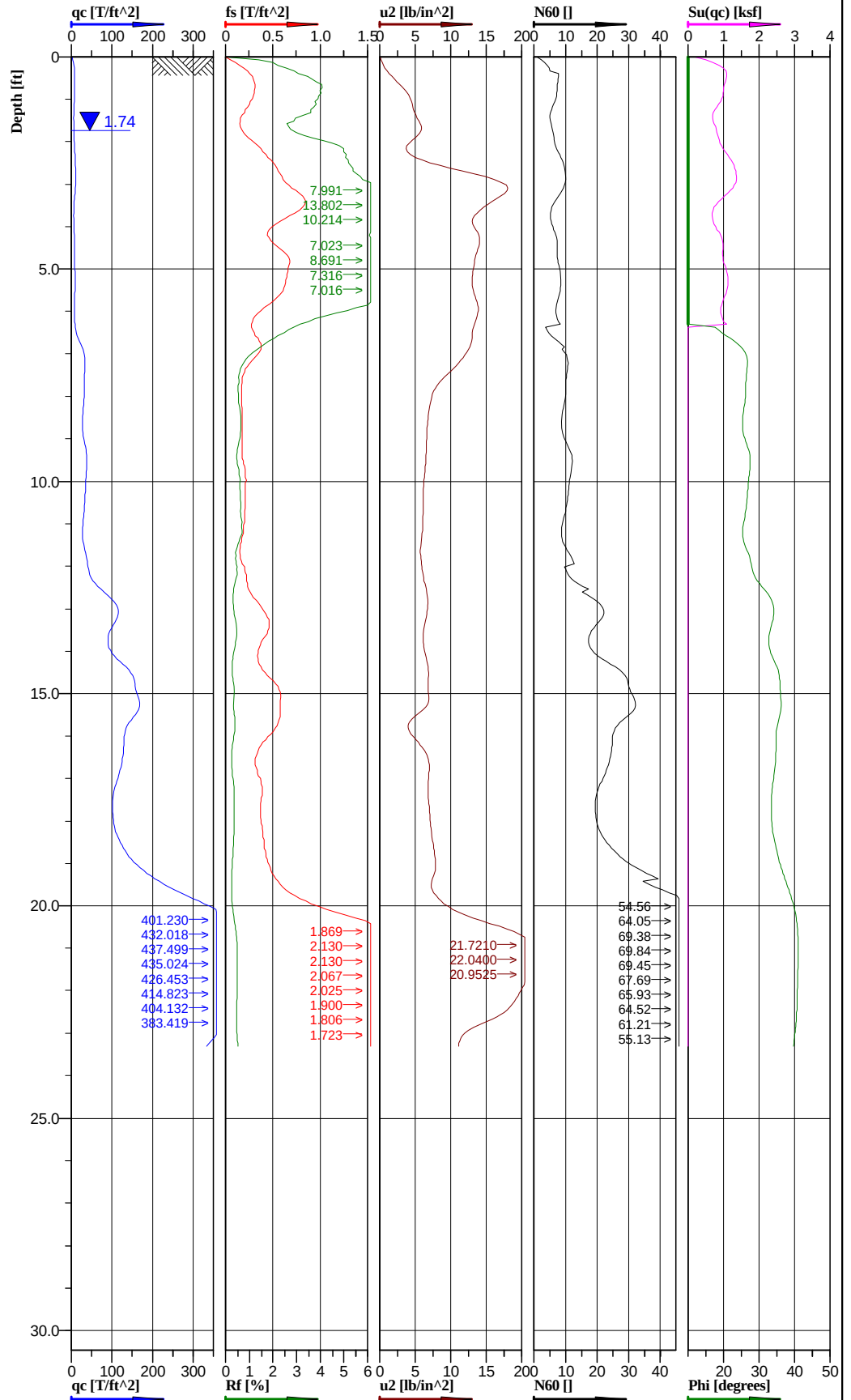
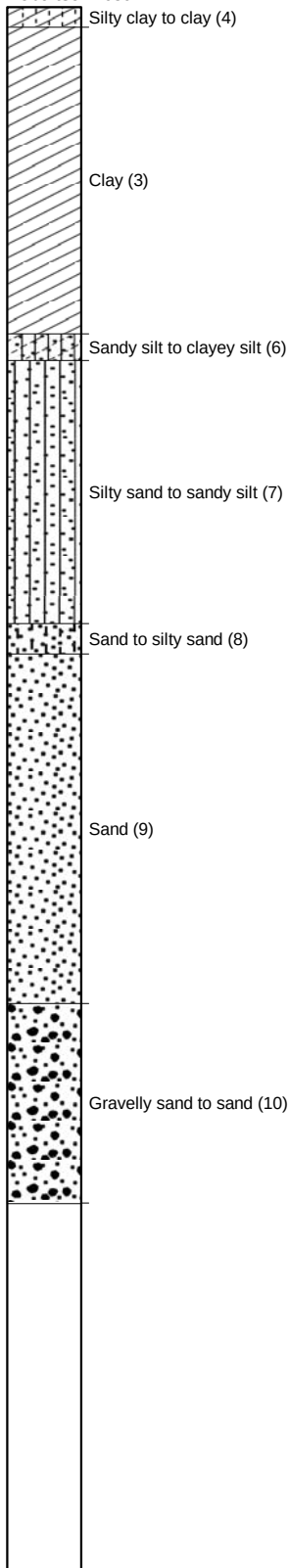
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728094.55 ft, Y: 993413.85 ft	Ground level:	465.09	Test no:	C-91
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-37
				File:	Labadie C-091.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-91
Test date: 11/3/2009
Location: Labadie MO
File name: Labadie C-091.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.684	0.019	1.1763	Clay (3)	5.7	0.941	0.007	0.007			1.82	5.7	114	0.15	0.15	282
3.75	0.849	0.047	1.9296	Clayey silt to silty clay (5)	8.1	1.15	0.021	0.015			1.79	8.1	112	0.44	0.31	690
6.25	0.868	0.013	2.3817	Clayey silt to silty clay (5)	4.6	1.158	0.034	0.021			1.84	4.6	115	0.71	0.44	695
8.75	0.763	0.009	2.7078	Silty sand to sandy silt (7)	3.7	0.968	0.048	0.027	18.3		1.82	2.4	114	1.00	0.56	63
11.25	3.59	0.014	2.9275	Sand to silty sand (8)	10.4		0.062	0.033	26.7	64	1.9	6.6	119	1.29	0.69	299
13.75	2.495	0.016	4.1399	Sand to silty sand (8)	7.9		0.076	0.04	23.6	58	1.87	5.0	117	1.58	0.83	208
16.25	5.451	0.019	6.2785	Sand to silty sand (8)	13.6		0.09	0.046	29.9	60	1.94	8.7	121	1.87	0.96	454
18.75	8.242	0.032	6.9139	Sand (9)	18.9		0.104	0.053	32.3	70	1.95	9.5	122	2.16	1.10	686
21.25	11.602	0.033	8.3312	Sand to silty sand (8)	23.9		0.119	0.06	34.1	77	1.98	15.3	124	2.48	1.25	965
23.75	10.863	0.031	9.0755	Sand to silty sand (8)	23.4		0.134	0.067	33.7	73	1.97	15.0	123	2.79	1.39	904
26.25	4.454	0.009	10.6988	Sand to silty sand (8)	11.1		0.148	0.074	28.5	47	1.94	7.1	121	3.08	1.54	371
28.75	6.421	0.011	11.8008	Sand to silty sand (8)	14.8		0.163	0.081	30.7	56	1.95	9.5	122	3.39	1.68	534
31.25	5.97	0.014	12.8723	Sand to silty sand (8)	14.9		0.178	0.088	30.3	53	1.95	9.5	122	3.70	1.83	497
33.75	12.801	0.029	13.8739	Sand (9)	26.0		0.192	0.095	34.6	73	1.98	13.0	124	3.99	1.98	1065
36.25	11.746	0.031	14.6136	Sand (9)	23.5		0.202	0.1	34.5	72	1.99	11.7	124	4.20	2.08	977

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

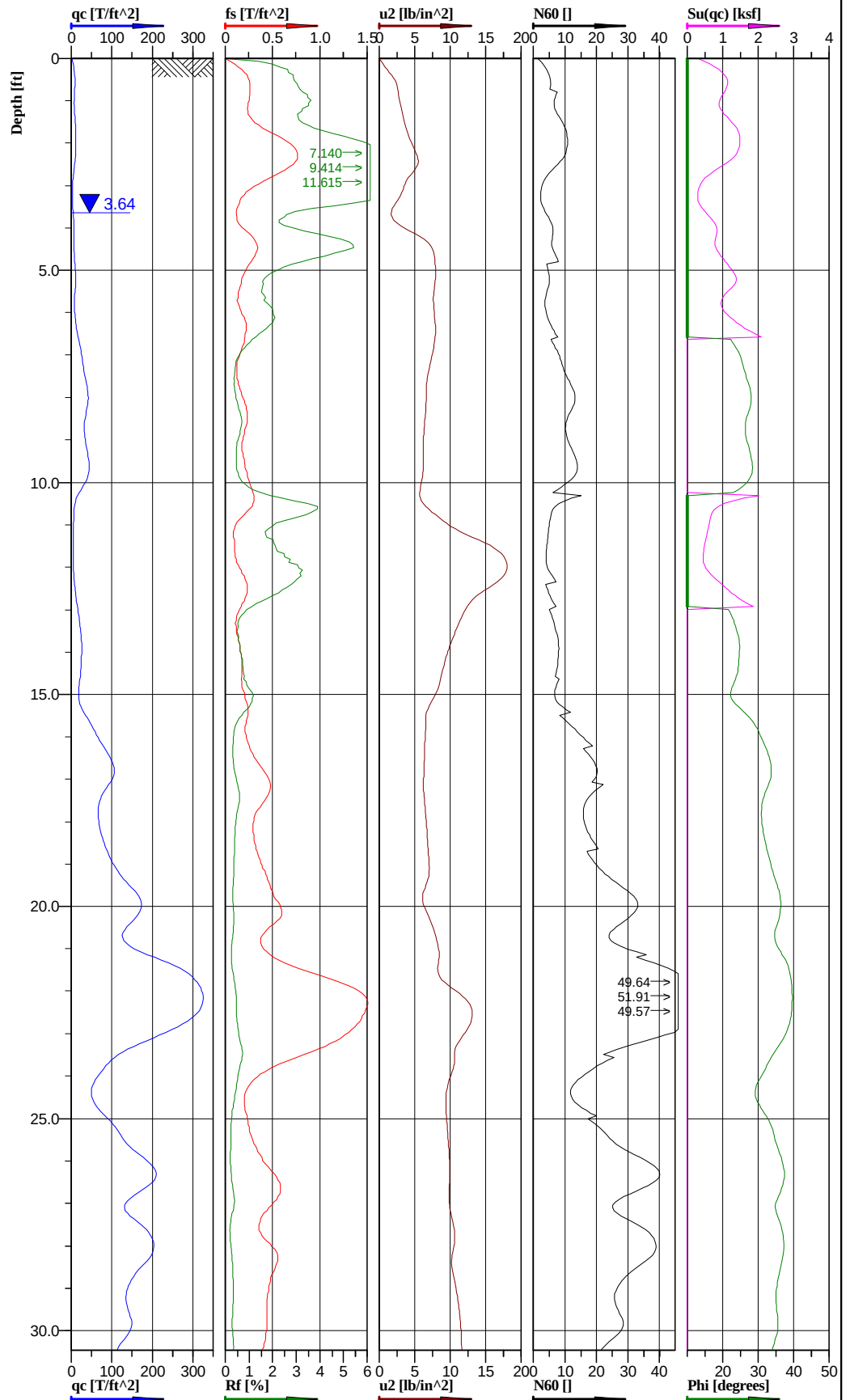
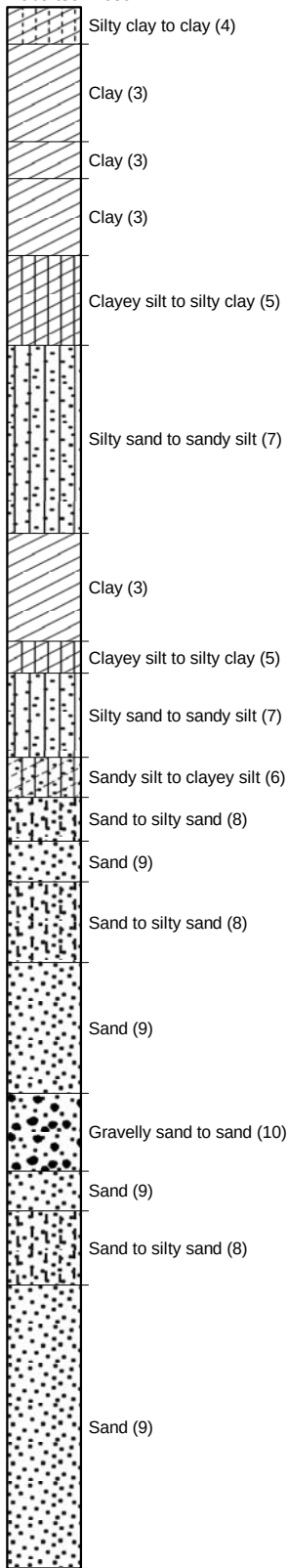


Location:	Labadie, MO	Position:	X: 728843.80 ft, Y: 993398.00 ft	Ground level:	465.62	Test no:	C-92
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/3/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-38
Confirmation sounding adjacent to B-92				File:	Labadie C-092.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-92
Test date: 11/3/2009
Location: Labadie MO
File name: Labadie C-092.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.661	0.025	3.8947	Clay (3)	6.4	0.905	0.007	0.006			1.79	6.4	112	0.15	0.12	272
3.75	0.754	0.061	14.2018	Clay (3)	7.5	1.001	0.02	0.014			1.76	7.5	110	0.42	0.29	300
6.25	1.598	0.038	12.618	Silty sand to sandy silt (7)	8.2	1.031	0.034	0.02	24.2		1.82	5.3	114	0.71	0.42	133
8.75	3.095	0.017	6.9124	Silty sand to sandy silt (7)	10.3		0.047	0.026	26.3		1.89	6.6	118	0.98	0.54	258
11.25	3.519	0.019	6.0394	Sand to silty sand (8)	10.8		0.061	0.032	27.0	62	1.9	6.9	119	1.27	0.67	293
13.75	11.088	0.039	6.5592	Sand (9)	22.3		0.076	0.039	34.0	83	1.98	11.1	124	1.58	0.81	923
16.25	12.619	0.042	6.0878	Sand (9)	25.2		0.091	0.046	34.8	84	1.99	12.6	124	1.89	0.96	1050
18.75	16.08	0.047	7.5631	Gravelly sand to sand (10)	29.9		0.106	0.054	35.7	87	2	20.3	125	2.20	1.12	1338
21.25	39.94	0.181	18.8299	Gravelly sand to sand (10)	66.5		0.121	0.061	40.7	114	2.04	45.2	127	2.52	1.27	3323
23.75	35.423	0.169	13.495	Gravelly sand to sand (10)	59.0		0.131	0.066	40.2	109	2.04	40.1	127	2.72	1.37	2947

Classification by
Robertson 1986



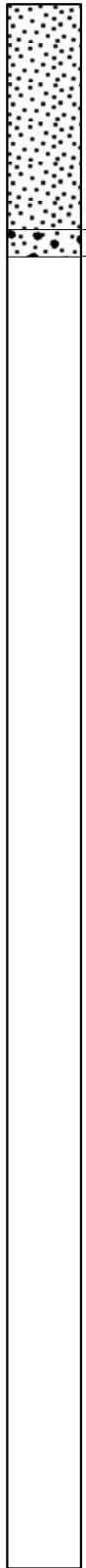
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

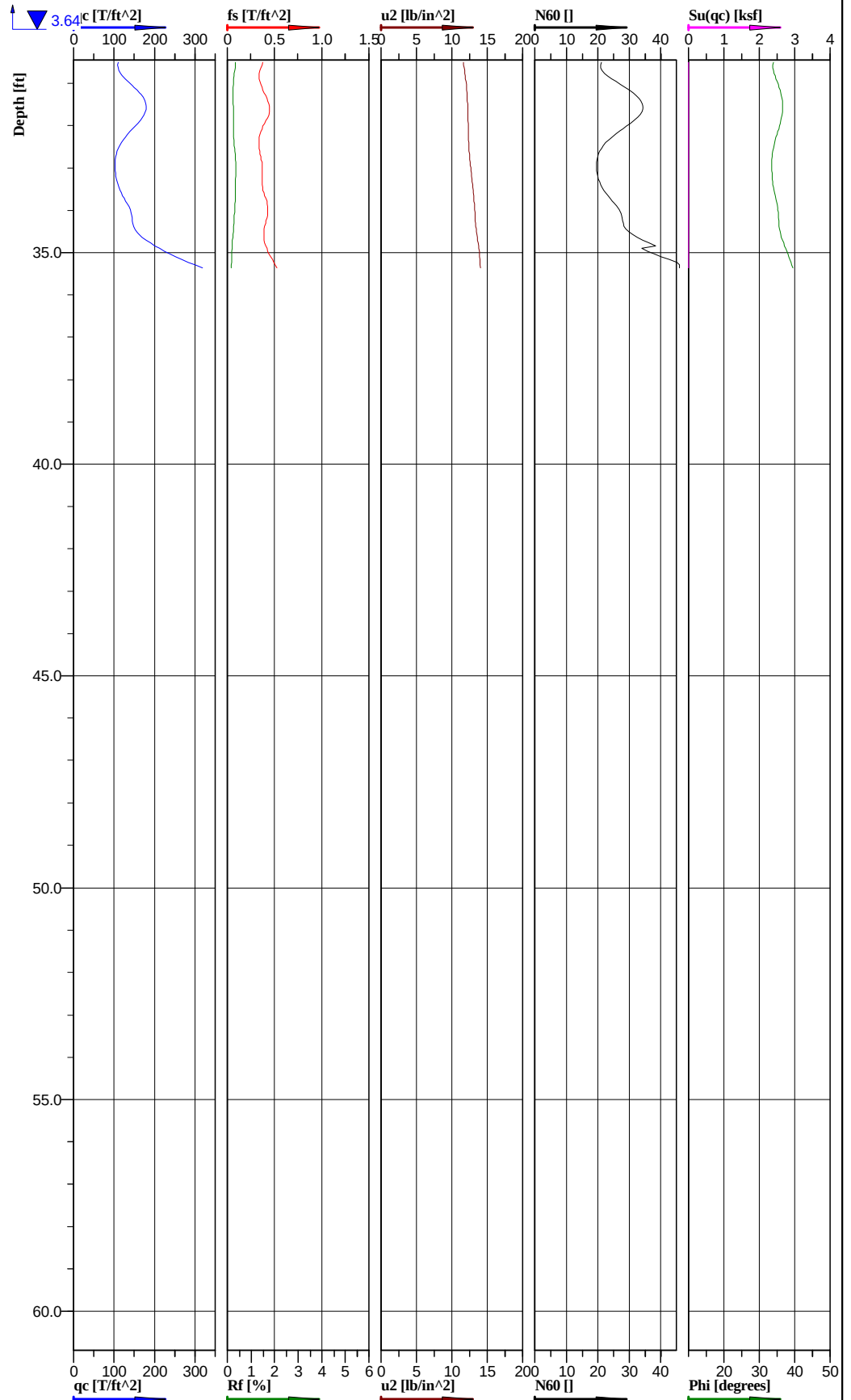
Location: Labadie, MO	Position: X: 729434.38 ft, Y: 993375.69 ft	Ground level: 466.50	Test no: C-94
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/4/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 1	Fig: C-39
		File: Labadie C-094.cpd	

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



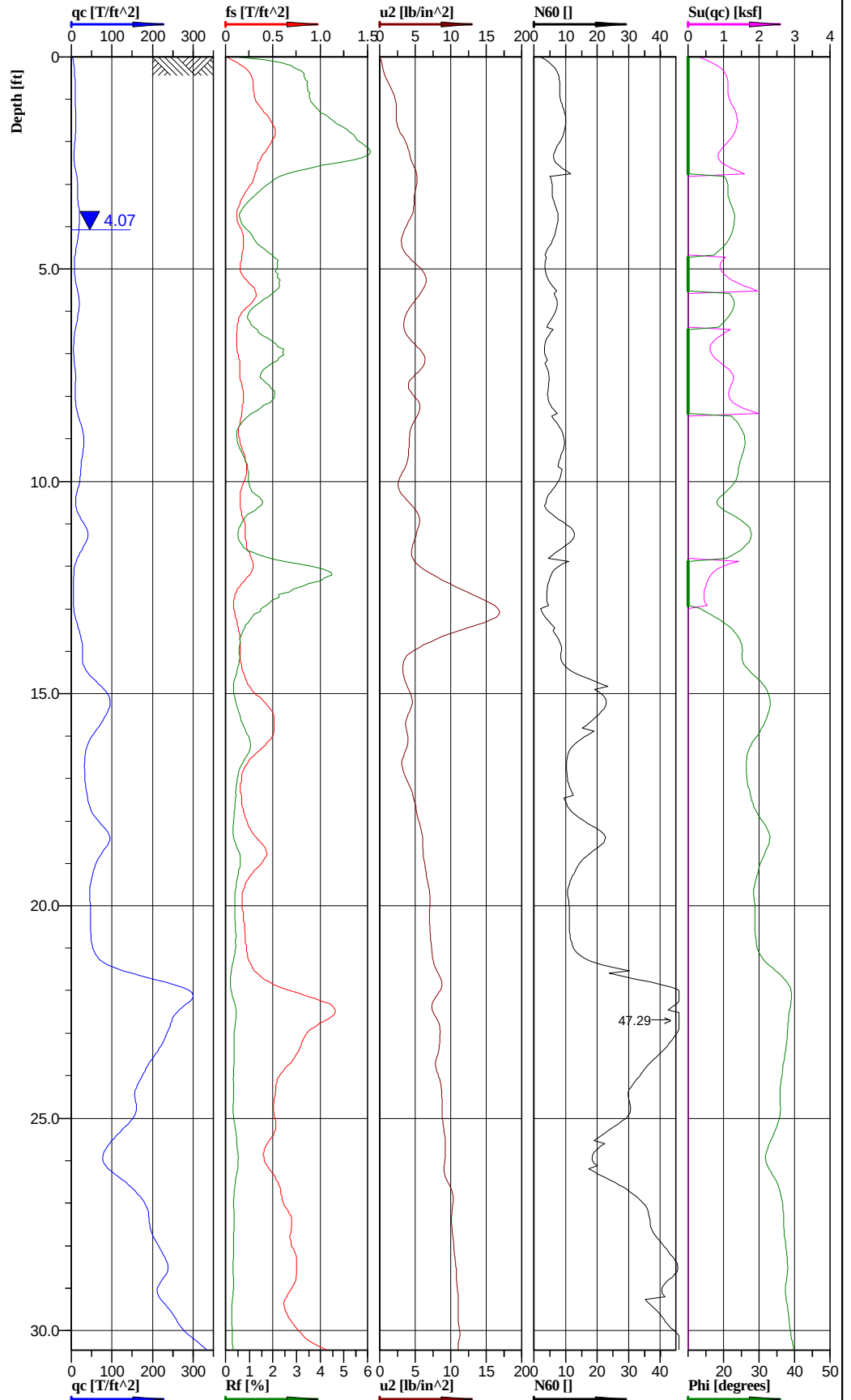
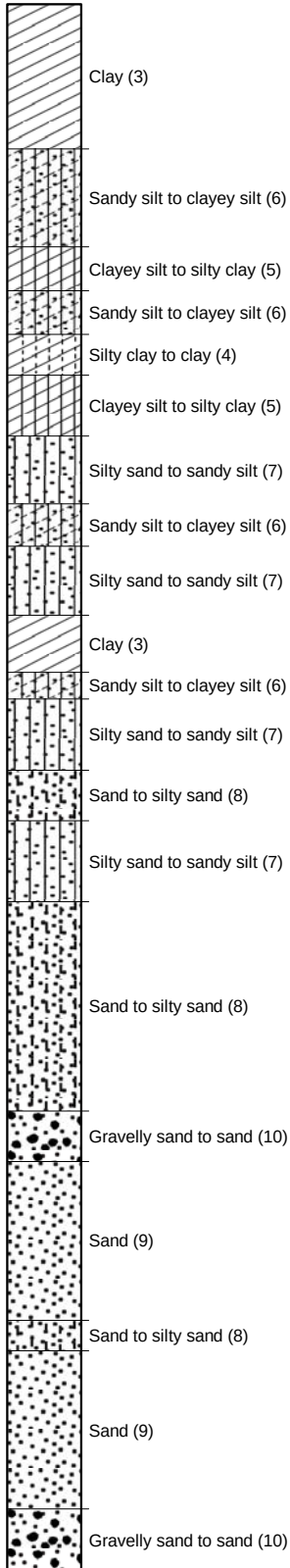
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729434.38 ft, Y: 993375.69 ft	Ground level:	466.50	Test no:	C-94
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-39
				File:	Labadie C-094.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-94
Test date: 11/4/2009
Location: Labadie MO
File name: Labadie C-094.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.81	0.037	3.2313	Clay (3)	7.5	1.114	0.007	0.007			1.8	7.5	112	0.15	0.15	334
3.75	0.529	0.027	4.7333	Clayey silt to silty clay (5)	4.8	0.703	0.02	0.018			1.65	4.8	103	0.42	0.37	422
6.25	1.575	0.016	7.6092	Silty sand to sandy silt (7)	6.2	1.304	0.033	0.025	24.9		1.85	4.0	115	0.69	0.52	131
8.75	3.624	0.019	6.3558	Silty sand to sandy silt (7)	12.1		0.047	0.031	27.4		1.9	7.7	119	0.98	0.64	302
11.25	0.794	0.017	12.2268	Clayey silt to silty clay (5)	5.9	0.736	0.061	0.037	24.7		1.81	5.9	113	1.27	0.77	442
13.75	1.92	0.016	10.4575	Sandy silt to clayey silt (6)	6.9	1.479	0.074	0.044	23.7		1.86	6.9	116	1.54	0.92	160
16.25	6.573	0.03	6.5213	Sand to silty sand (8)	15.4		0.089	0.05	30.3	67	1.94	9.9	121	1.85	1.04	547
18.75	10.007	0.037	6.6417	Sand (9)	21.6		0.103	0.057	33.2	73	1.97	10.8	123	2.14	1.19	833
21.25	21.863	0.081	9.0238	Gravelly sand to sand (10)	38.6		0.118	0.064	37.4	94	2.02	26.3	126	2.45	1.33	1819
23.75	12.556	0.067	10.6657	Sand (9)	26.2		0.133	0.072	33.6	73	1.97	13.1	123	2.77	1.50	1045
26.25	14.961	0.039	9.8716	Sand (9)	29.9		0.148	0.079	35.7	81	1.99	15.0	124	3.08	1.64	1245
28.75	15.648	0.044	10.8051	Sand (9)	31.3		0.163	0.086	36.0	82	1.99	15.6	124	3.39	1.79	1302
31.25	13.519	0.037	12.0398	Sand (9)	27.0		0.178	0.093	35.2	76	1.99	13.5	124	3.70	1.93	1125
33.75	13.159	0.037	13.1095	Gravelly sand to sand (10)	25.7		0.192	0.1	34.9	74	1.99	17.5	124	3.99	2.08	1095
36.25	26.499	0.046	13.9635	Gravelly sand to sand (10)	44.1		0.201	0.105	38.7	94	2.04	30.0	127	4.18	2.18	2205

Classification by
Robertson 1986

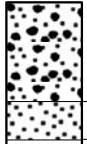


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



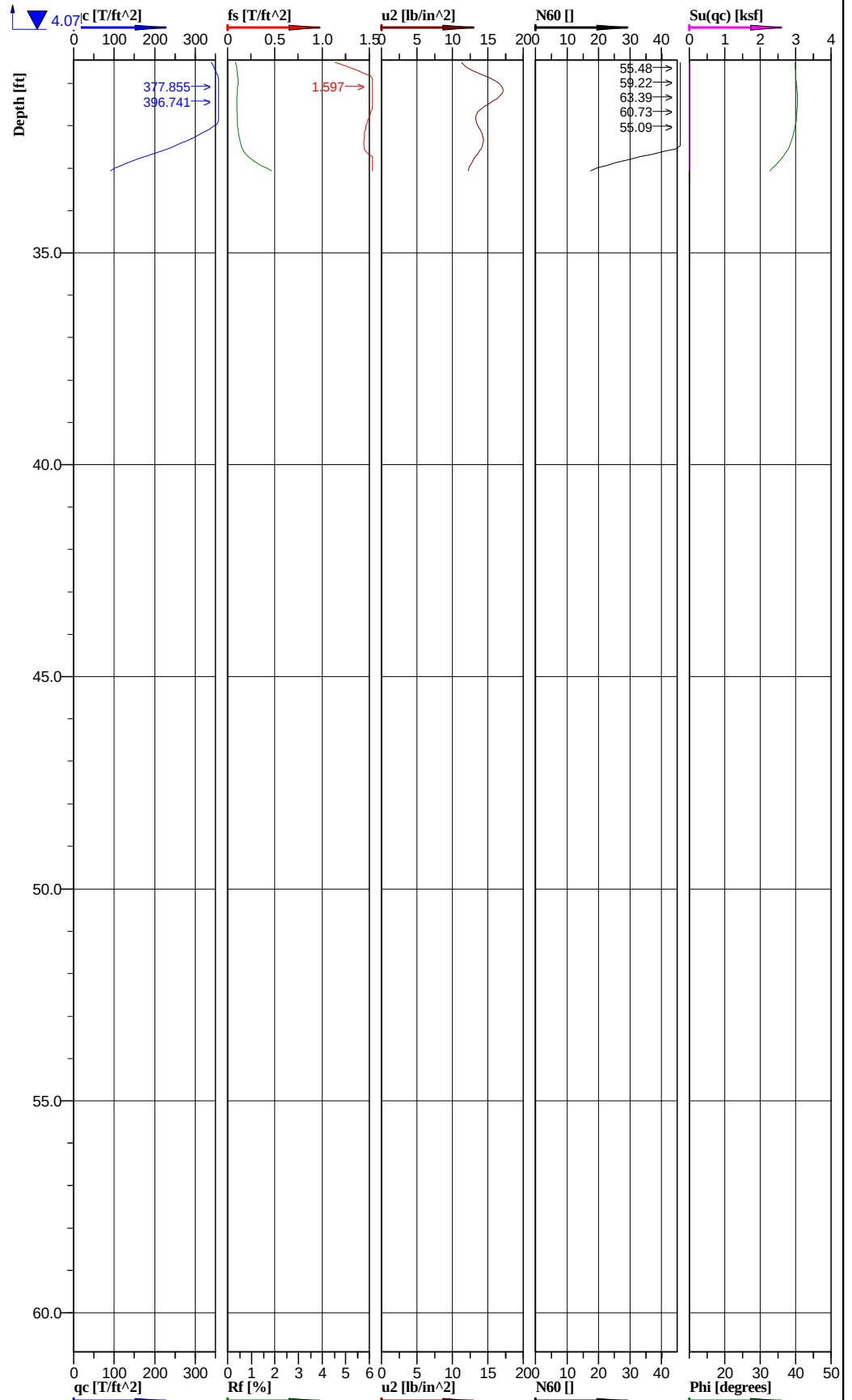
Location:	Labadie, MO	Position:	X: 730021.06 ft, Y: 993362.60 ft	Ground level:	467.91	Test no:	C-96
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-40
				File:	Labadie C-096.cpd		

Classification by
Robertson 1986



Gravelly sand to sand (10)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



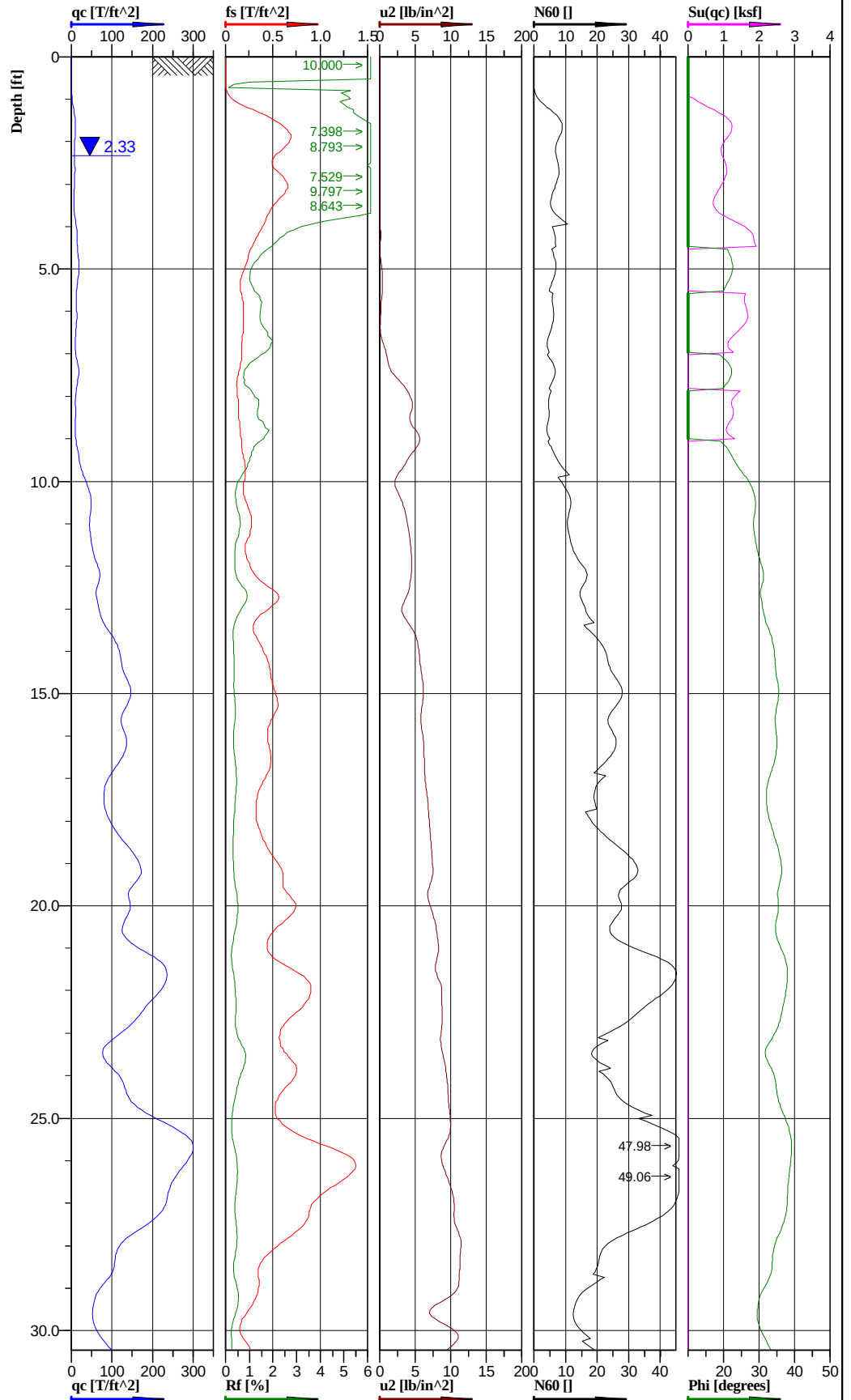
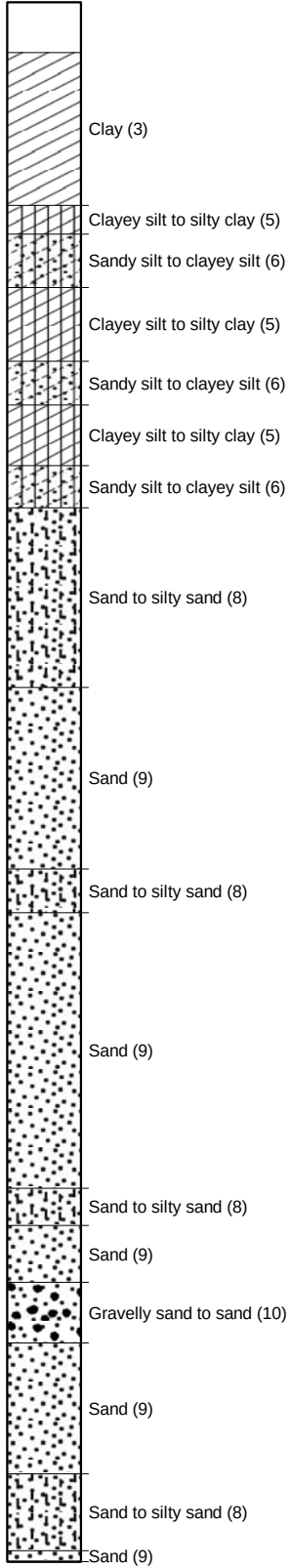
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730021.06 ft, Y: 993362.60 ft	Ground level:	467.91	Test no:	C-96
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-40
				File:	Labadie C-096.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-96
 Test date: 11/4/2009
 Location: Labadie MO
 File name: Labadie C-096.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.788	0.034	2.3233	Clay (3)	7.9	1.085	0.007	0.007			1.79	7.9	112	0.15	0.15	326
3.75	1.348	0.019	4.4359	Clayey silt to silty clay (5)	6.1	1.099	0.021	0.02	21.4		1.84	6.1	115	0.44	0.42	659
6.25	1.046	0.017	5.0928	Clayey silt to silty clay (5)	5.0	1.046	0.034	0.027	21.6		1.83	5.0	114	0.71	0.56	628
8.75	1.902	0.017	4.2686	Sandy silt to clayey silt (6)	7.2	1.337	0.048	0.034	24.6		1.86	7.2	116	1.00	0.71	158
11.25	1.75	0.02	5.4014	Clay (3)	7.2	0.759	0.062	0.04	23.3		1.84	7.2	115	1.29	0.83	228
13.75	2.727	0.015	8.7212	Sand to silty sand (8)	9.2	0.468	0.075	0.046	24.9	72	1.87	5.9	117	1.56	0.96	227
16.25	5.146	0.032	3.928	Sand to silty sand (8)	14.7		0.09	0.053	29.0	68	1.91	9.4	119	1.87	1.10	428
18.75	5.904	0.026	6.1525	Sand to silty sand (8)	14.7		0.104	0.059	30.2	58	1.94	9.4	121	2.16	1.23	491
21.25	12.944	0.041	7.5731	Sand (9)	24.7		0.119	0.066	33.1	72	1.98	12.3	124	2.48	1.37	1077
23.75	18.752	0.068	8.3817	Sand (9)	37.5		0.133	0.073	36.9	89	1.99	18.7	124	2.77	1.52	1560
26.25	12.903	0.052	9.5537	Sand (9)	26.7		0.148	0.081	34.7	76	1.98	13.3	124	3.08	1.68	1074
28.75	22.019	0.067	10.7731	Gravelly sand to sand (10)	41.3		0.163	0.088	37.8	91	2.01	28.1	125	3.39	1.83	1832
31.25	32.781	0.132	13.8501	Sand (9)	55.5		0.179	0.096	39.8	101	2.04	27.7	127	3.72	2.00	2727
33.75	15.062	0.151	13.0419	Sand (9)	30.1		0.188	0.1	35.6	77	1.95	15.1	122	3.91	2.08	1253

Classification by
Robertson 1986

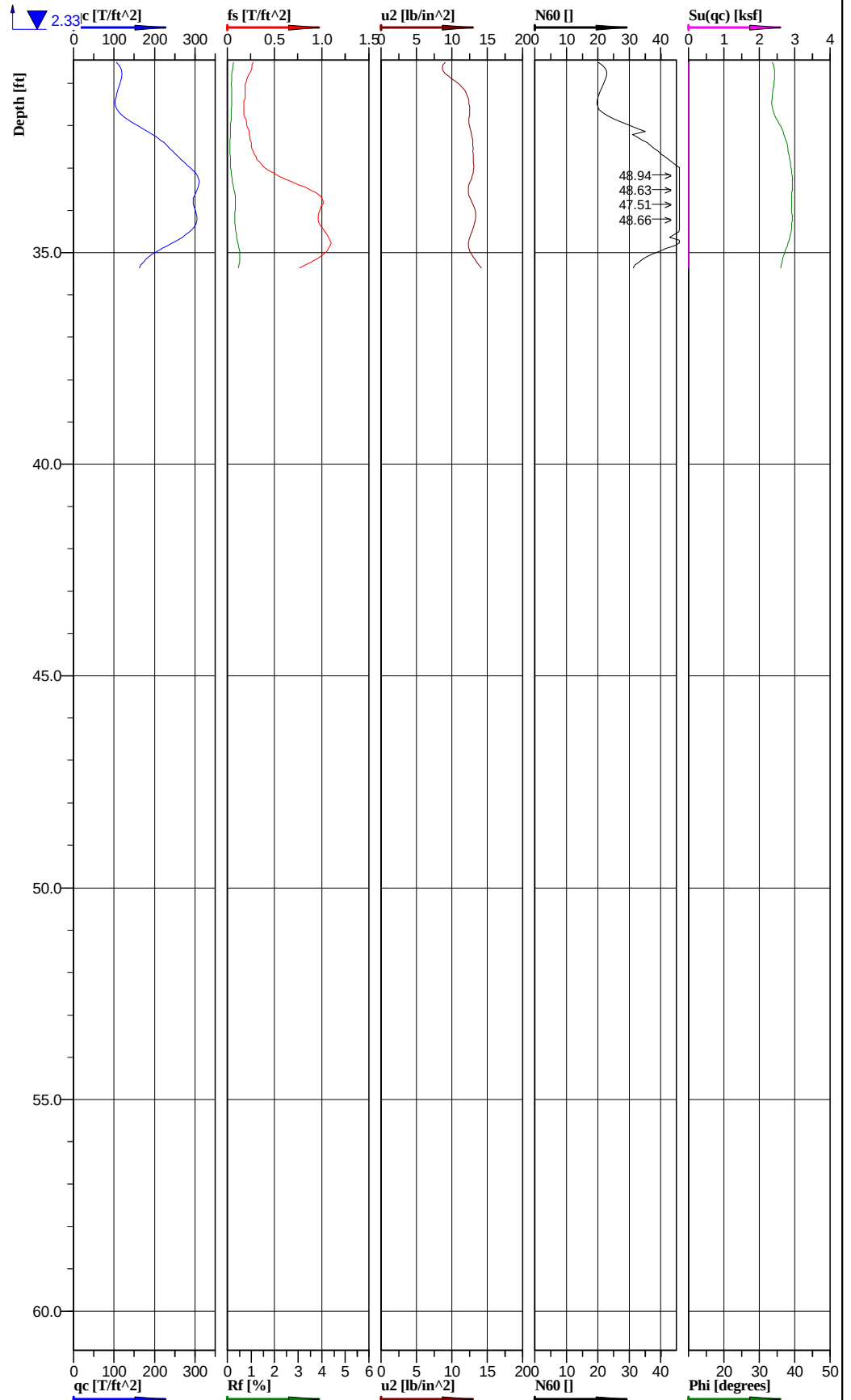
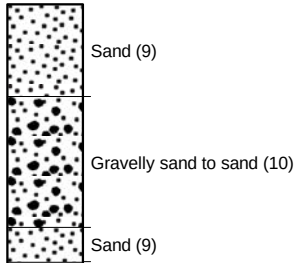


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 730622.83 ft, Y: 993346.95 ft	Ground level:	465.19	Test no:	C-98
Project ID:	20080124	Client:	Ameren Missouri	Date:	11/4/09	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-41
				File:	Labadie C-098.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



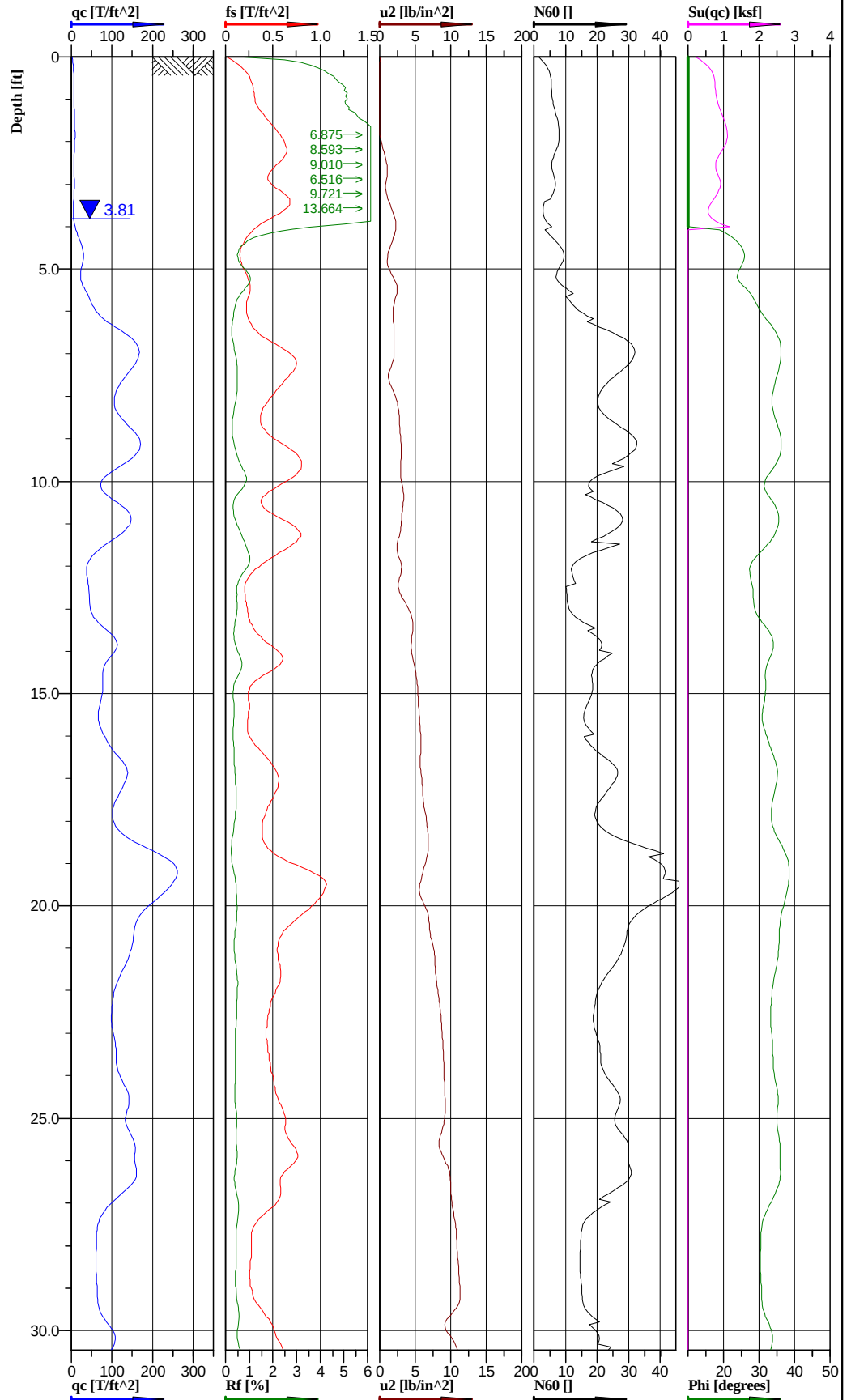
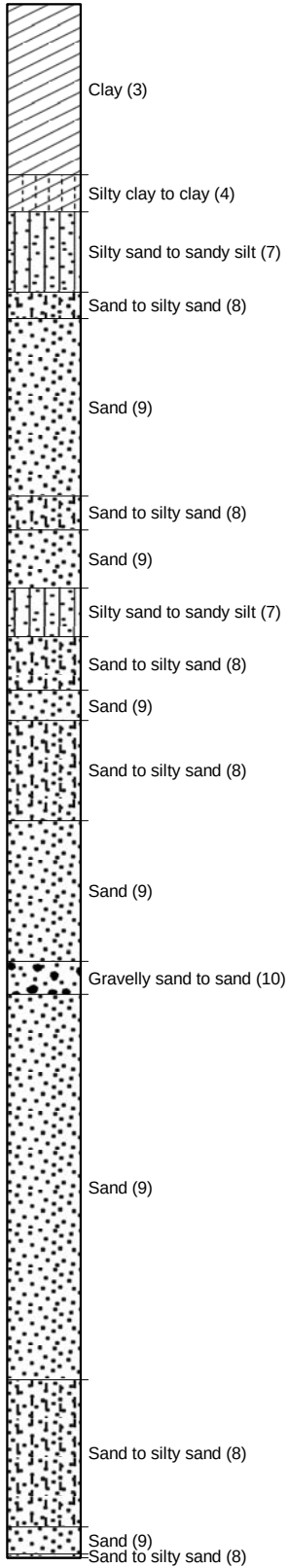
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 730622.83 ft, Y: 993346.95 ft	Ground level: 465.19	Test no: C-98
Project ID: 20080124	Client: Ameren Missouri	Date: 11/4/09	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-41
		File: Labadie C-098.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-98
Test date: 11/4/09
Location: Labadie MO
File name: Labadie C-098.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.427	0.029	-1.645	Clay (3)	4.3	0.585	0.006	0.006			1.62	4.3	101	0.12	0.12	176
3.75	1.044	0.041	-0.6417	Sandy silt to clayey silt (6)	6.8	1.184	0.019	0.015	22.1		1.81	6.8	113	0.40	0.31	87
6.25	1.254	0.016	0.5465	Sandy silt to clayey silt (6)	5.6	1.464	0.033	0.021	21.3		1.84	5.6	115	0.69	0.44	104
8.75	1.481	0.015	4.0462	Sand to silty sand (8)	6.0	1.231	0.046	0.027	22.8	53	1.84	3.8	115	0.96	0.56	123
11.25	5.037	0.025	3.8291	Sand to silty sand (8)	12.6		0.061	0.033	29.4	63	1.93	8.1	120	1.27	0.69	419
13.75	9.863	0.041	4.8869	Sand (9)	20.8		0.075	0.04	33.2	78	1.97	10.4	123	1.56	0.83	821
16.25	11.16	0.044	6.1904	Sand to silty sand (8)	23.3		0.09	0.047	34.1	80	1.98	14.9	124	1.87	0.98	929
18.75	12.622	0.047	7.1028	Sand (9)	25.6		0.105	0.054	34.7	82	1.98	12.8	124	2.18	1.12	1050
21.25	17.366	0.065	8.1609	Sand (9)	34.7		0.119	0.062	36.5	89	2	17.4	125	2.48	1.29	1445
23.75	12.317	0.06	9.1859	Sand (9)	25.6		0.134	0.069	34.5	77	1.97	12.8	123	2.79	1.44	1025
26.25	24.064	0.096	9.7661	Sand (9)	44.2		0.149	0.076	38.2	96	2.01	22.1	125	3.10	1.58	2002
28.75	8.689	0.037	10.2597	Sand to silty sand (8)	19.0		0.164	0.084	32.3	64	1.96	12.1	122	3.41	1.75	723
31.25	12.35	0.02	11.4241	Gravelly sand to sand (10)	23.9		0.179	0.091	34.4	73	1.99	16.2	124	3.72	1.89	1028
33.75	26.858	0.076	12.8306	Sand (9)	45.9		0.194	0.098	38.8	95	2.03	22.9	127	4.04	2.04	2235
36.25	16.915	0.086	13.4101	Sand (9)	33.8		0.202	0.102	36.5	82	1.99	16.9	124	4.20	2.12	1407

Classification by
Robertson 1986



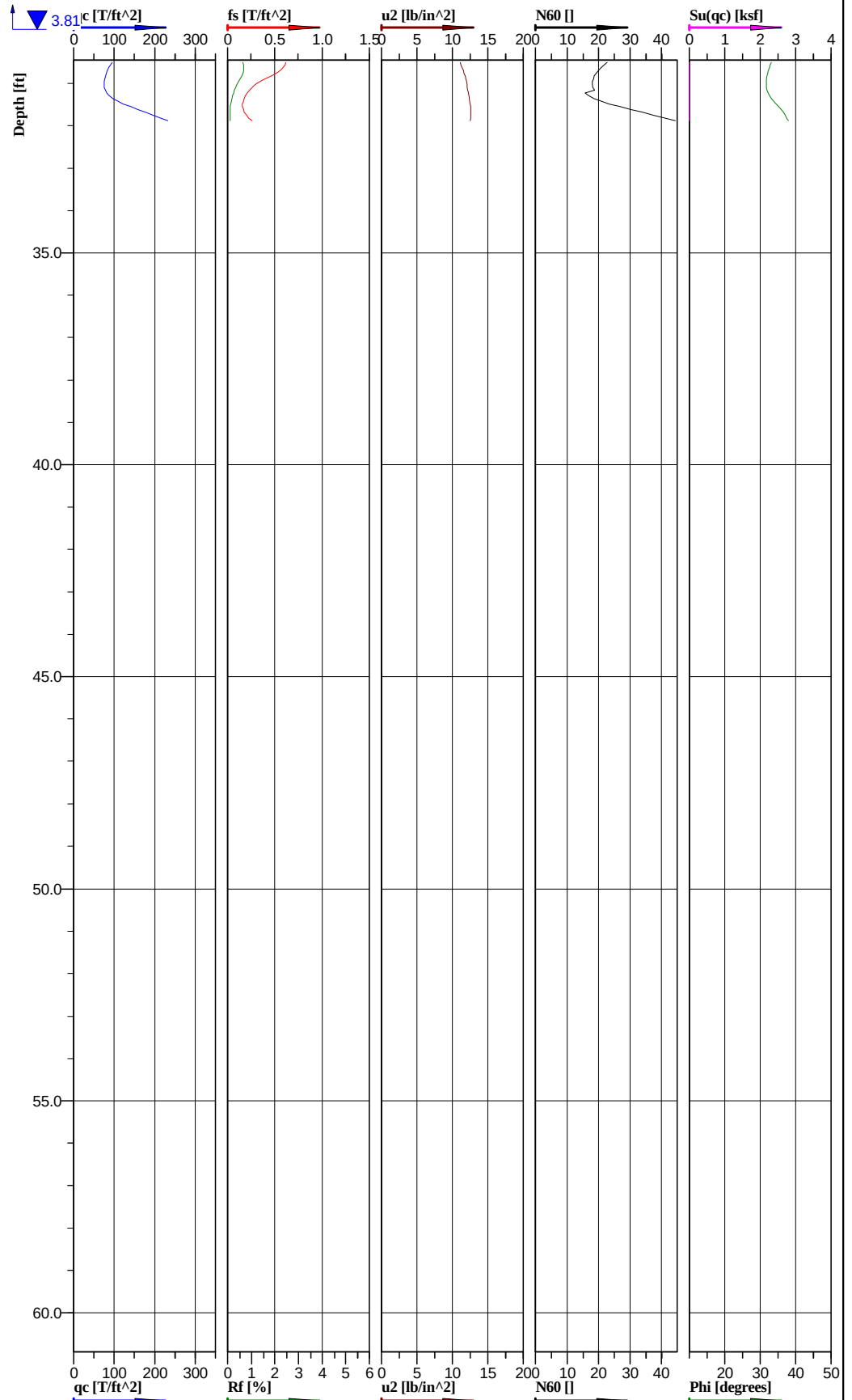
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 731205.45 ft, Y: 993325.30 ft	Ground level:	465.72	Test no:	C-100
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-42
Confirmation sounding adjacent to B-100				File:	Labadie C-100.cpd		

Classification by
Robertson 1986

Sand to silty sand (8)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



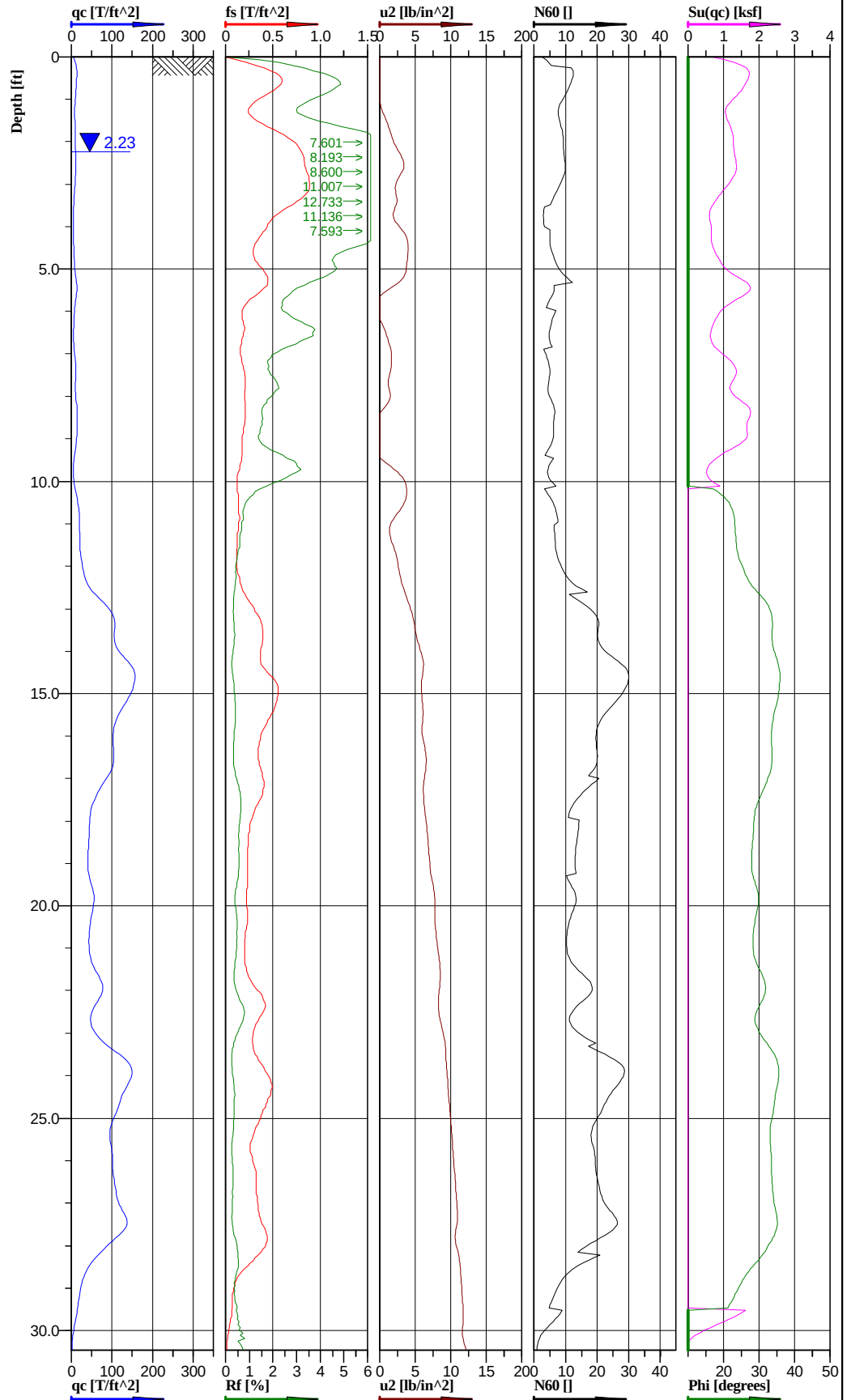
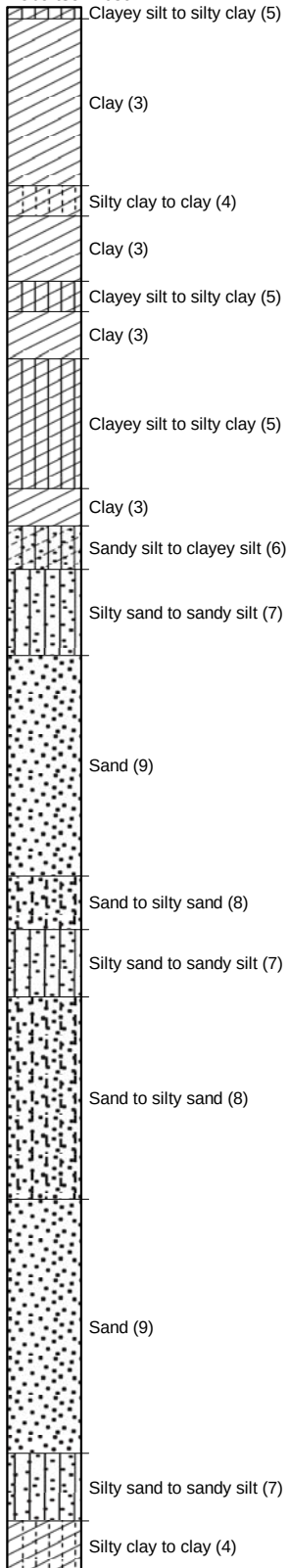
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 731205.45 ft, Y: 993325.30 ft	Ground level:	465.72	Test no:	C-100
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/4/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-42
Confirmation sounding adjacent to B-100				File:	Labadie C-100.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-100
 Test date: 11/4/2009
 Location: Labadie MO
 File name: Labadie C-100.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.607	0.038	-0.5206	Clay (3)	6.1	0.837	0.007	0.007			1.78	6.1	111	0.15	0.15	251
3.75	1.265	0.038	1.4214	Silty sand to sandy silt (7)	6.0	0.783	0.02	0.019	24.0		1.73	3.9	108	0.42	0.40	105
6.25	9.269	0.039	1.9278	Sand (9)	20.0		0.034	0.026	31.7	87	1.95	10.0	122	0.71	0.54	771
8.75	12.121	0.055	2.6085	Sand to silty sand (8)	25.0		0.048	0.033	34.5	88	1.98	16.0	124	1.00	0.69	1008
11.25	8.207	0.047	2.9249	Sand to silty sand (8)	19.3		0.063	0.04	31.7	80	1.94	12.3	121	1.31	0.83	683
13.75	7.235	0.033	4.4705	Sand to silty sand (8)	17.0		0.078	0.047	31.4	67	1.95	10.9	122	1.62	0.98	602
16.25	9.514	0.036	5.7413	Sand (9)	20.3		0.092	0.054	33.1	73	1.97	10.2	123	1.91	1.12	792
18.75	17.464	0.063	6.3205	Sand (9)	33.1		0.107	0.061	36.3	88	2	16.5	125	2.23	1.27	1453
21.25	12.946	0.057	7.6266	Sand (9)	25.9		0.122	0.069	34.9	79	1.99	12.9	124	2.54	1.44	1077
23.75	11.321	0.047	8.977	Sand (9)	22.6		0.137	0.076	34.2	74	1.99	11.3	124	2.85	1.58	942
26.25	12.407	0.056	9.5519	Sand to silty sand (8)	25.7		0.152	0.083	34.5	75	1.98	16.5	124	3.16	1.73	1032
28.75	6.529	0.031	10.7099	Sand (9)	15.8		0.166	0.09	31.0	56	1.94	7.9	121	3.45	1.87	543
31.25	10.729	0.036	11.675	Sand (9)	23.2		0.179	0.096	33.6	68	1.97	11.6	123	3.72	2.00	893

Classification by
Robertson 1986



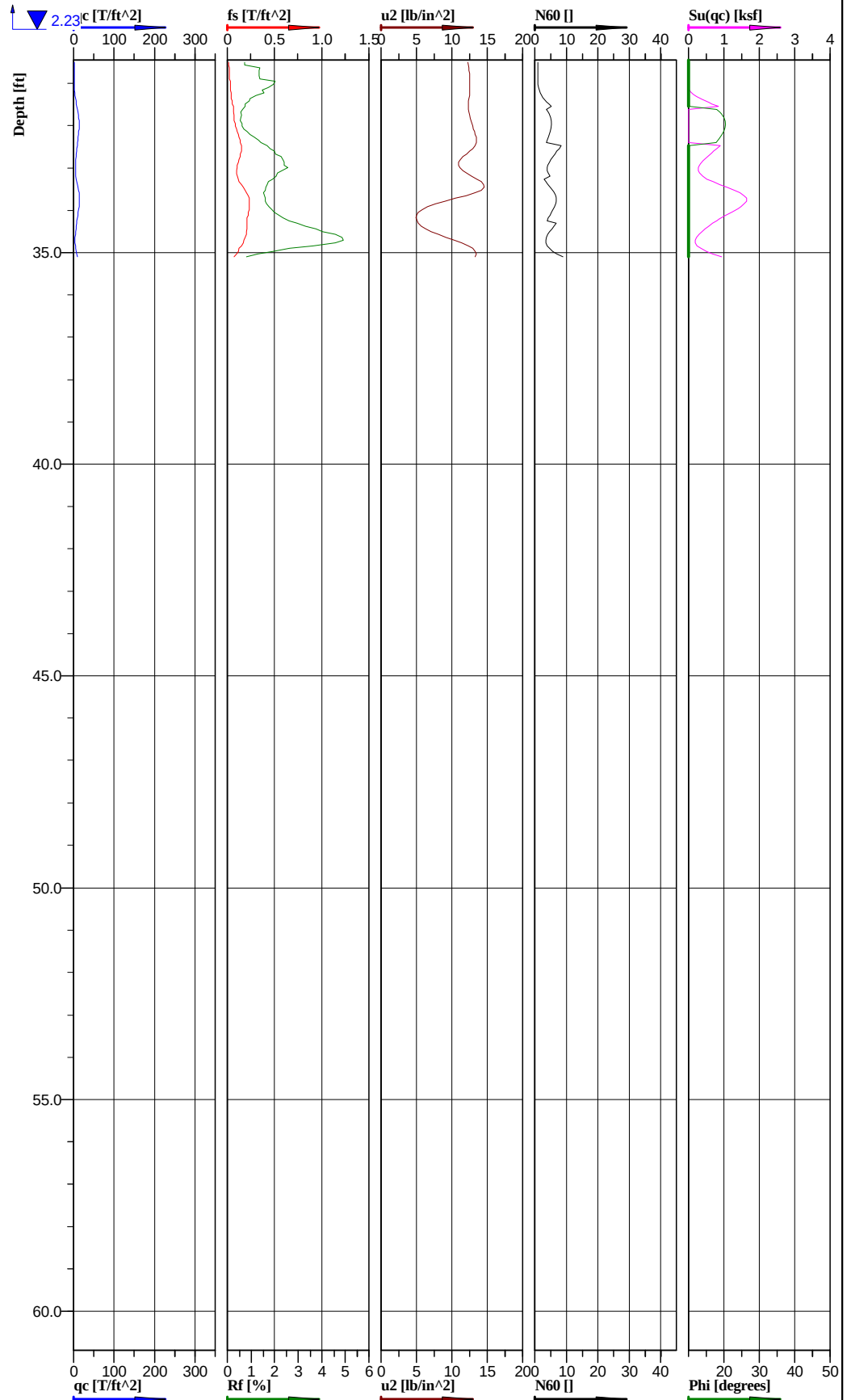
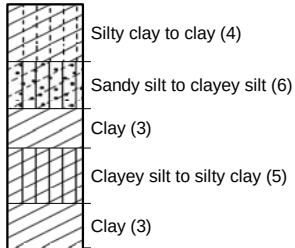
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 727785.53 ft, Y: 993136.61 ft	Ground level:	464.50	Test no:	C-103
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-43
				File:	Labadie C-103.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



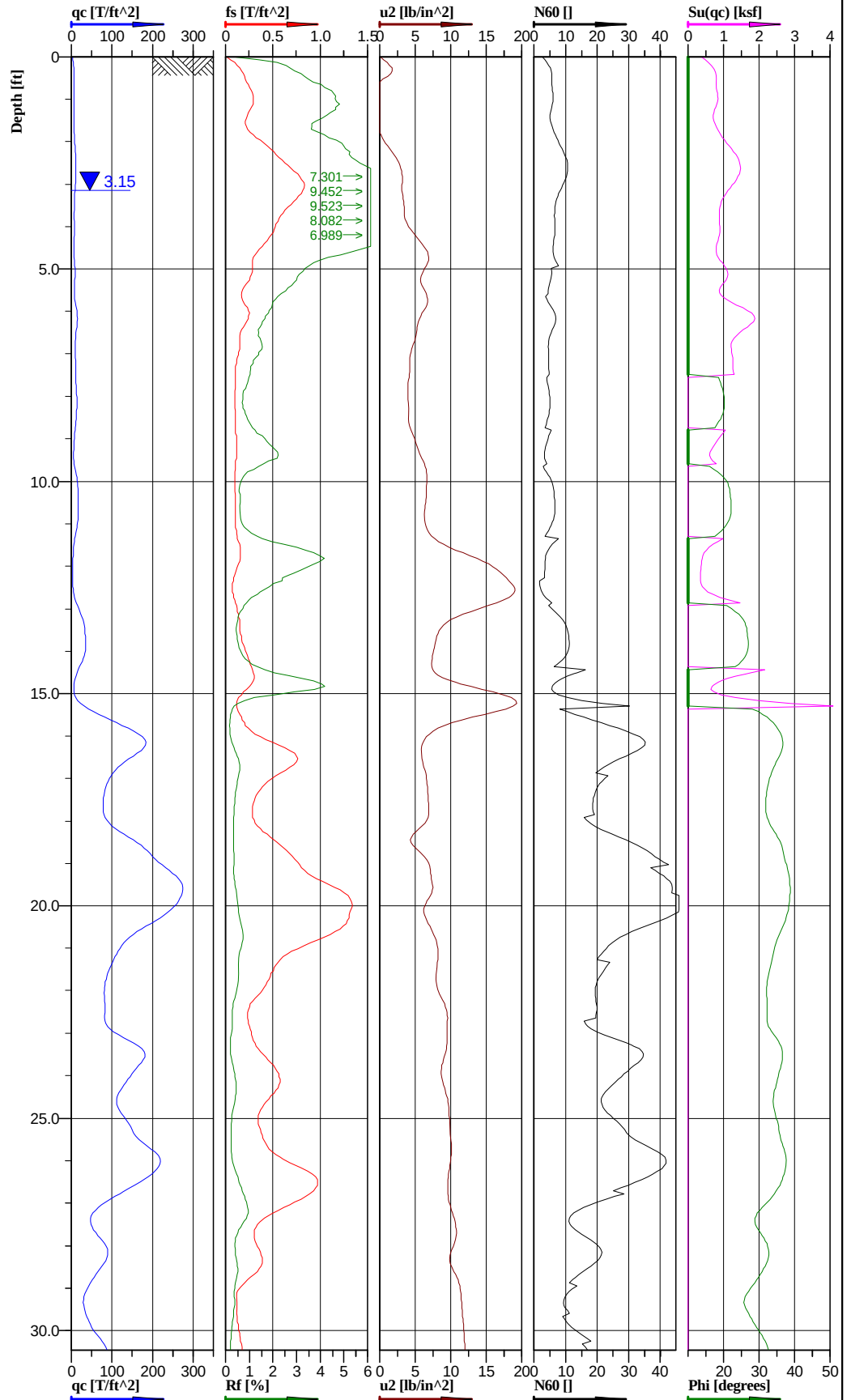
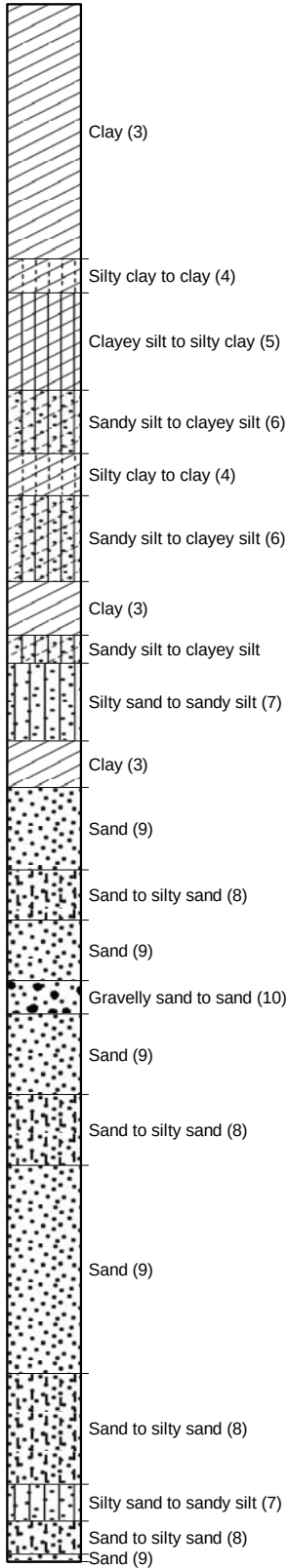
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 727785.53 ft, Y: 993136.61 ft	Ground level: 464.50	Test no: C-103
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/9/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-43
		File: Labadie C-103.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-103
Test date: 11/9/2009
Location: Labadie MO
File name: Labadie C-103.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.952	0.048	0.7453	Clay (3)	9.1	1.315	0.007	0.007			1.8	9.1	112	0.15	0.15	395
3.75	0.65	0.055	2.9866	Clay (3)	6.2	0.873	0.02	0.015			1.67	6.2	104	0.42	0.31	262
6.25	0.83	0.023	1.1273	Clayey silt to silty clay (5)	5.8	1.108	0.033	0.02			1.82	5.8	114	0.69	0.42	665
8.75	0.942	0.017	0.6016	Clay (3)	5.4	1.246	0.047	0.027			1.83	5.4	114	0.98	0.56	374
11.25	2.118	0.013	2.597	Silty sand to sandy silt (7)	7.6	0.818	0.06	0.033	23.6		1.87	4.9	117	1.25	0.69	176
13.75	11.061	0.036	5.1873	Sand (9)	22.4		0.075	0.039	33.9	83	1.98	11.2	124	1.56	0.81	920
16.25	9.692	0.039	6.1856	Sand to silty sand (8)	20.1		0.089	0.047	33.2	76	1.98	12.9	124	1.85	0.98	806
18.75	4.448	0.024	6.9801	Sand to silty sand (8)	12.8		0.104	0.053	28.7	55	1.91	8.2	119	2.16	1.10	370
21.25	5.283	0.025	8.1717	Sand to silty sand (8)	13.2		0.118	0.06	29.7	55	1.94	8.4	121	2.45	1.25	440
23.75	10.055	0.036	9.3231	Sand (9)	20.9		0.133	0.067	33.2	71	1.97	10.5	123	2.77	1.39	837
26.25	10.428	0.031	10.5241	Sand (9)	20.8		0.148	0.074	33.8	72	1.99	10.4	124	3.08	1.54	868
28.75	4.351	0.019	11.3364	Silty clay to clay (4)	11.7	0.985	0.162	0.081	28.2	70	1.89	11.7	118	3.37	1.68	493
31.25	0.584	0.005	12.531	Clay (3)	3.0	0.164	0.176	0.087	19.4		1.8	3.0	112	3.66	1.81	49
33.75	0.733	0.016	10.2809	Clay (3)	5.2	0.741	0.19	0.093			1.82	5.2	114	3.95	1.93	222
36.25	0.792	0.008	13.3617	Clay (3)	7.9	0.81	0.197	0.096			1.84	7.9	115	4.10	2.00	243

Classification by
Robertson 1986

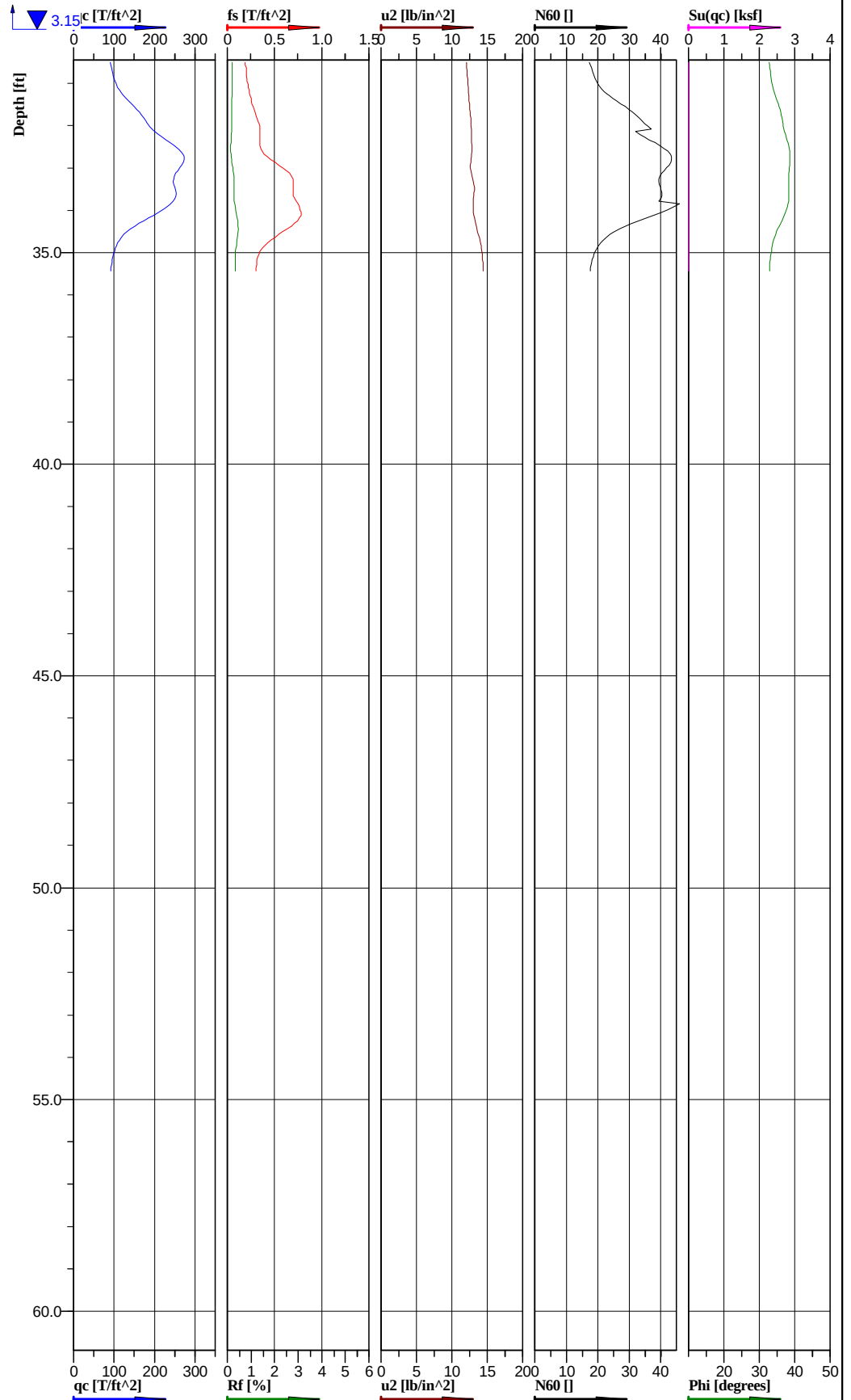
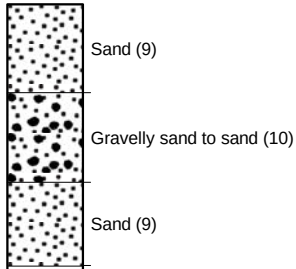


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 728390.06 ft, Y: 993135.14 ft	Ground level:	464.70	Test no:	C-105
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-44
				File:	Labadie C-105.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



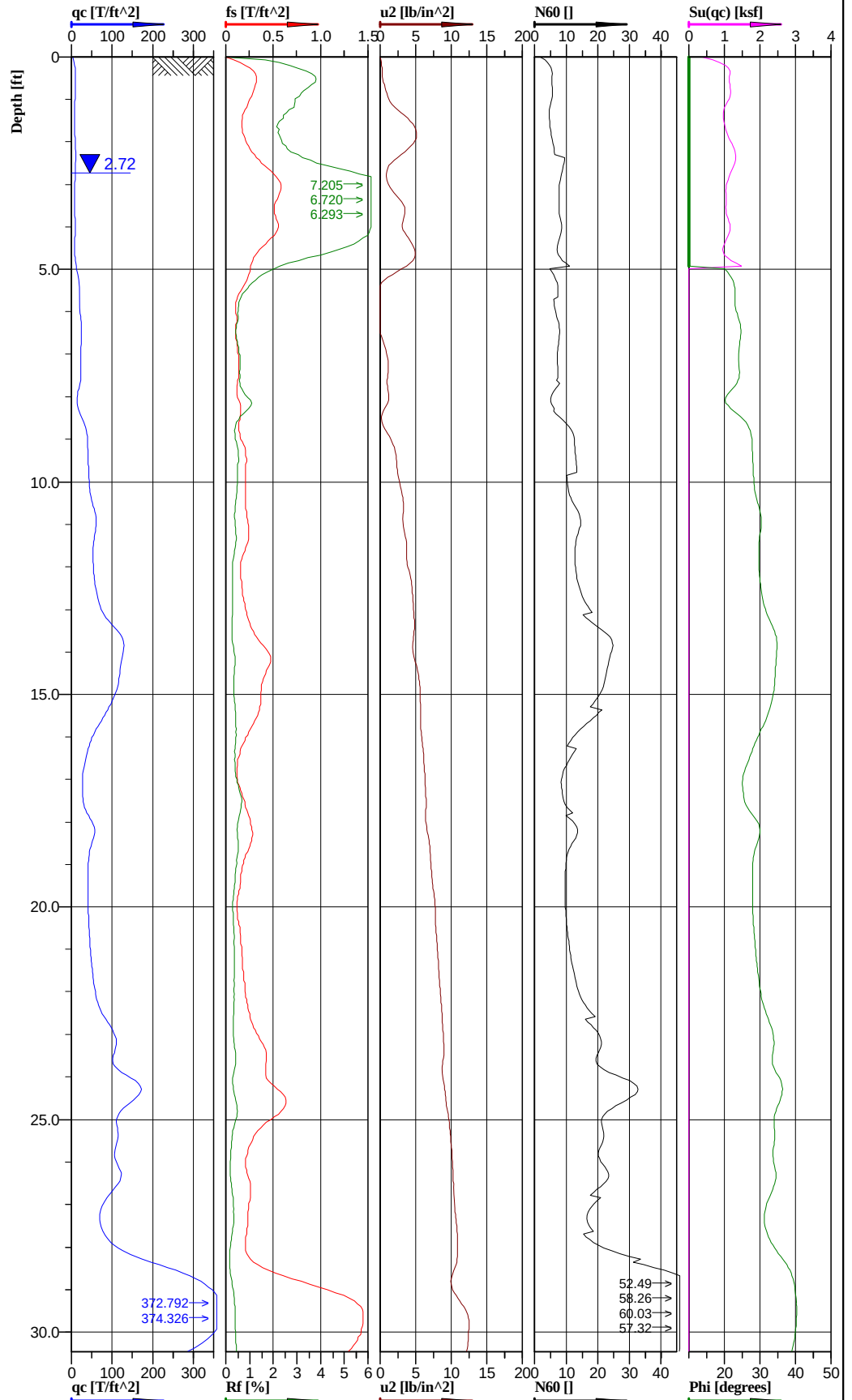
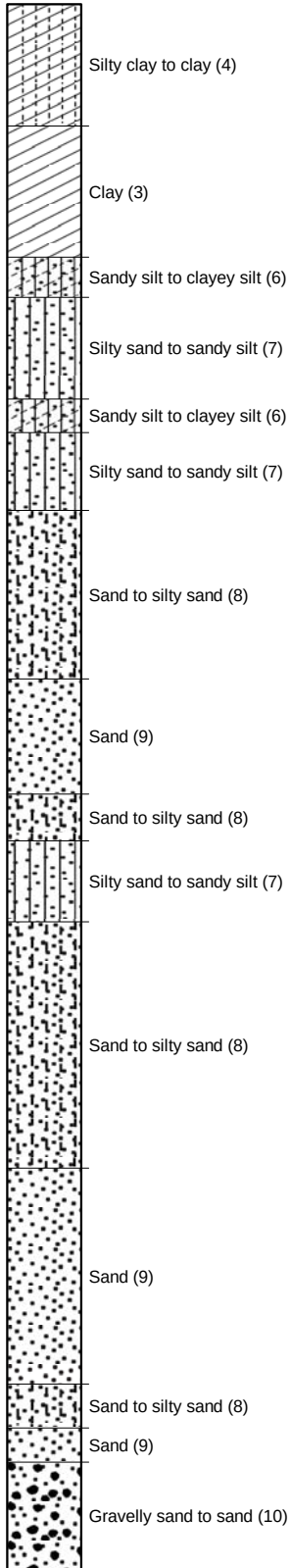
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728390.06 ft, Y: 993135.14 ft	Ground level: 464.70	Test no: C-105
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/9/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-44
		File: Labadie C-105.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-105
Test date: 11/9/2009
Location: Labadie MO
File name: Labadie C-105.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.646	0.028	-0.0279	Clay (3)	6.5	0.89	0.007	0.007			1.78	6.5	111	0.15	0.15	267
3.75	0.756	0.054	4.4281	Silty clay to clay (4)	7.4	1.018	0.02	0.018			1.79	7.4	112	0.42	0.37	509
6.25	0.975	0.017	5.3498	Clayey silt to silty clay (5)	5.1	1.303	0.034	0.024	18.6		1.84	5.1	115	0.71	0.50	782
8.75	0.955	0.01	4.9151	Sandy silt to clayey silt (6)	4.4	0.773	0.047	0.03	19.3		1.84	4.4	115	0.98	0.62	79
11.25	0.959	0.011	10.34	Sandy silt to clayey silt (6)	4.9	0.472	0.061	0.036	21.2		1.82	4.9	114	1.27	0.75	80
13.75	1.973	0.018	11.0944	Clay (3)	8.3	1.022	0.075	0.042	25.5		1.85	8.3	115	1.56	0.87	307
16.25	10.056	0.038	9.2644	Sand to silty sand (8)	22.9	2.242	0.089	0.049	33.9	79	1.96	14.7	122	1.85	1.02	837
18.75	17.56	0.069	6.4034	Sand (9)	33.6		0.104	0.056	36.1	89	1.99	16.8	124	2.16	1.16	1461
21.25	12.248	0.07	7.8713	Sand to silty sand (8)	26.5		0.118	0.063	34.2	77	1.97	17.0	123	2.45	1.31	1019
23.75	12.471	0.038	9.3016	Sand (9)	25.2		0.133	0.07	34.6	78	1.98	12.6	124	2.77	1.46	1038
26.25	13.593	0.058	9.943	Sand to silty sand (8)	28.2		0.148	0.078	34.6	76	1.97	18.1	123	3.08	1.62	1131
28.75	5.391	0.022	10.9746	Sand to silty sand (8)	14.2		0.163	0.085	29.5	55	1.92	9.1	120	3.39	1.77	449
31.25	13.329	0.024	12.3763	Gravelly sand to sand (10)	25.7		0.177	0.091	34.7	74	1.99	17.4	124	3.68	1.89	1109
33.75	19.8	0.057	13.2143	Sand (9)	35.4		0.192	0.099	37.0	85	2.02	17.7	126	3.99	2.06	1647
36.25	9.09	0.03	14.3591	Sand (9)	18.2		0.201	0.103	33.0	64	1.99	9.1	124	4.18	2.14	756

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



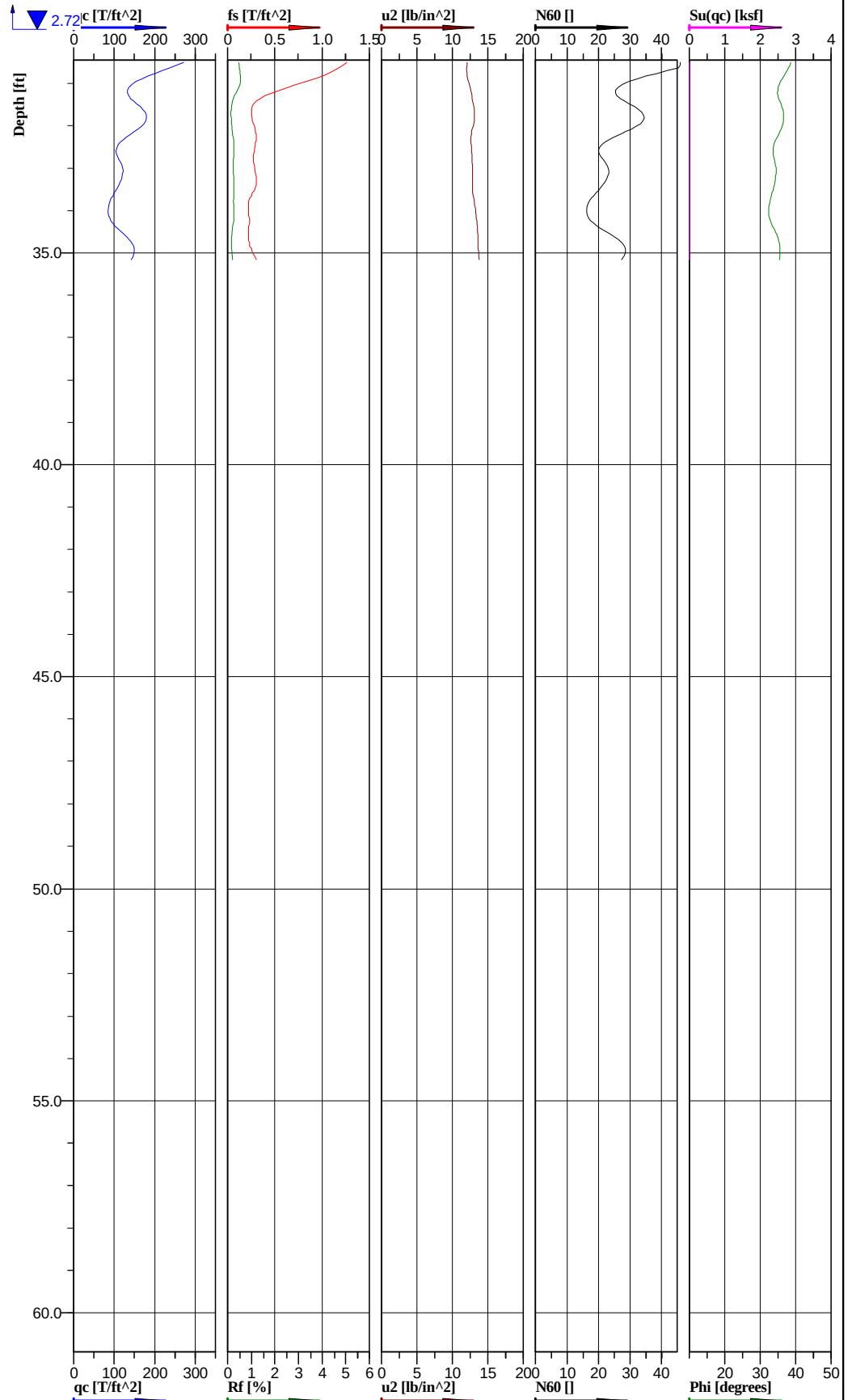
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728836.45 ft, Y: 993109.35 ft	Ground level:	464.90	Test no:	C-106
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-45
Confirmation sounding adjacent to P-106				File:	Labadie C-106.cpd		

Classification by
Robertson 1986

Gravelly sand to sand (10)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



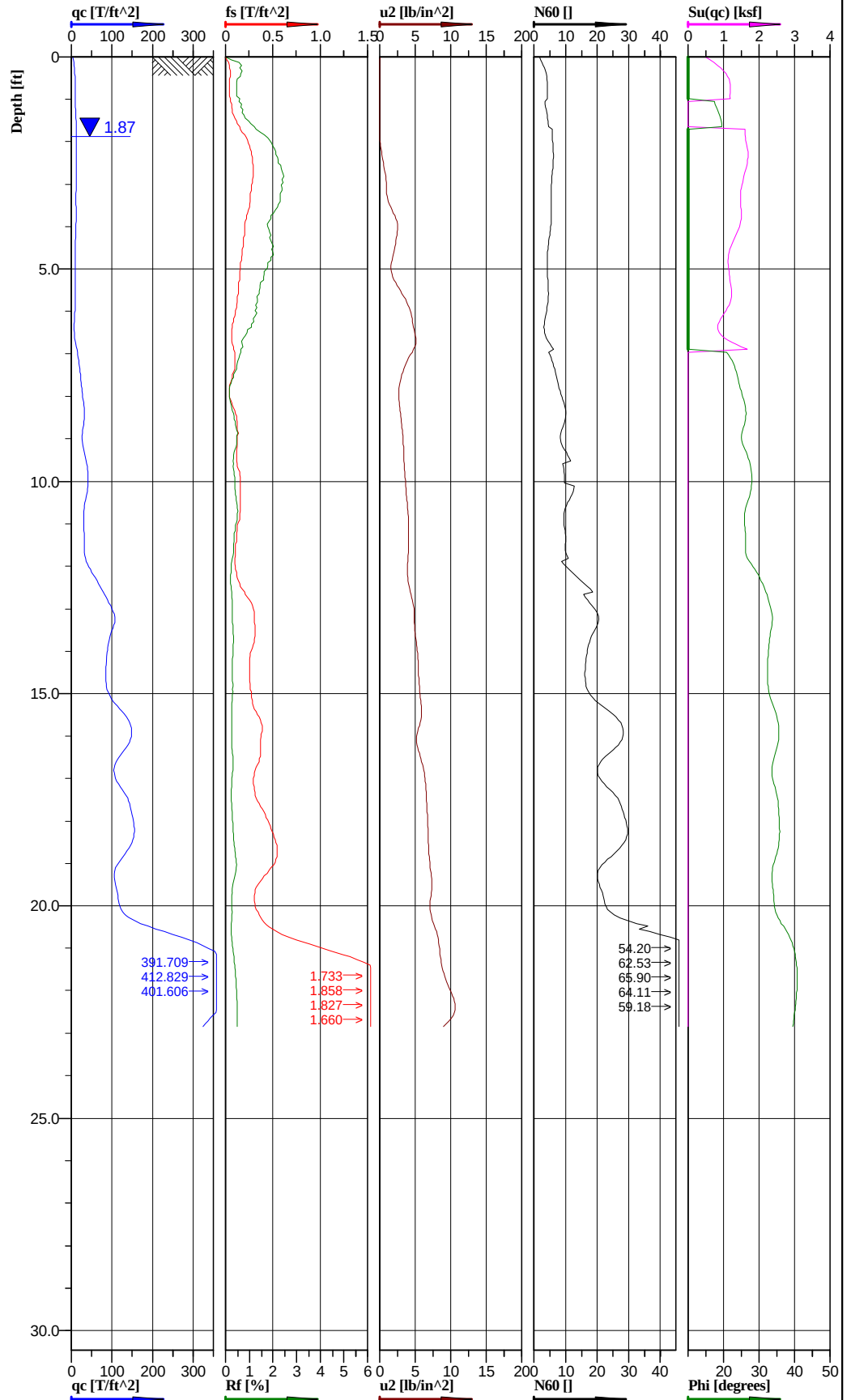
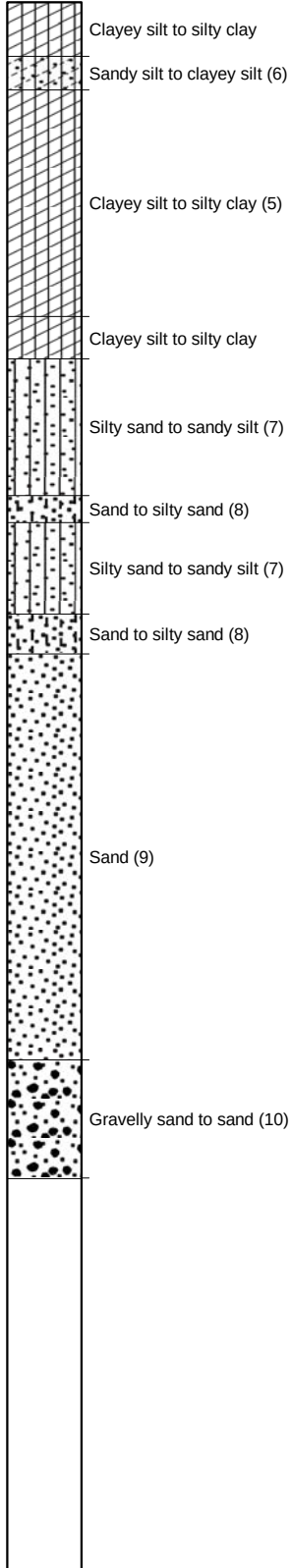
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728836.45 ft, Y: 993109.35 ft	Ground level: 464.90	Test no: C-106
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/9/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-45
Confirmation sounding adjacent to P-106		File: Labadie C-106.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-106
Test date: 11/9/2009
Location: Labadie MO
File name: Labadie C-106.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.793	0.023	2.2569	Clay (3)	5.6	1.091	0.007	0.007			1.82	5.6	114	0.15	0.15	327
3.75	0.839	0.044	2.9811	Sandy silt to clayey silt (6)	8.0	1.101	0.021	0.017	20.4		1.79	8.0	112	0.44	0.35	70
6.25	2.05	0.013	0.3658	Silty sand to sandy silt (7)	7.1		0.034	0.023	23.6		1.87	4.6	117	0.71	0.48	171
8.75	2.967	0.016	1.4273	Sand to silty sand (8)	9.8		0.048	0.03	25.5	58	1.88	6.3	117	1.00	0.62	247
11.25	5.205	0.019	3.5741	Sand to silty sand (8)	13.0		0.062	0.036	29.7	63	1.94	8.3	121	1.29	0.75	433
13.75	9.939	0.031	4.9096	Sand (9)	20.6		0.077	0.043	33.4	78	1.98	10.3	124	1.60	0.89	827
16.25	4.94	0.021	6.006	Silty sand to sandy silt (7)	13.0		0.092	0.05	28.6	66	1.92	8.3	120	1.91	1.04	411
18.75	4.163	0.019	7.0024	Sand to silty sand (8)	10.7		0.106	0.057	28.2	51	1.93	6.9	120	2.20	1.19	346
21.25	4.927	0.017	8.1572	Sand to silty sand (8)	12.3		0.12	0.064	29.3	53	1.94	7.9	121	2.50	1.33	410
23.75	11.537	0.042	8.9915	Sand (9)	23.3		0.135	0.071	34.2	75	1.99	11.6	124	2.81	1.48	960
26.25	9.618	0.025	10.2276	Sand to silty sand (8)	20.3		0.15	0.078	33.2	69	1.97	13.0	123	3.12	1.62	800
28.75	25.293	0.078	11.1029	Gravelly sand to sand (10)	43.4		0.165	0.085	37.8	92	2.02	29.5	126	3.43	1.77	2104
31.25	18.352	0.065	12.567	Sand (9)	34.9		0.18	0.093	36.5	84	2	17.4	125	3.74	1.93	1527
33.75	10.724	0.024	13.1422	Sand (9)	21.4		0.195	0.1	33.9	69	1.99	10.7	124	4.06	2.08	892
36.25	13.937	0.028	13.7412	Sand (9)	27.8		0.203	0.104	35.4	76	1.99	13.9	124	4.22	2.16	1160

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

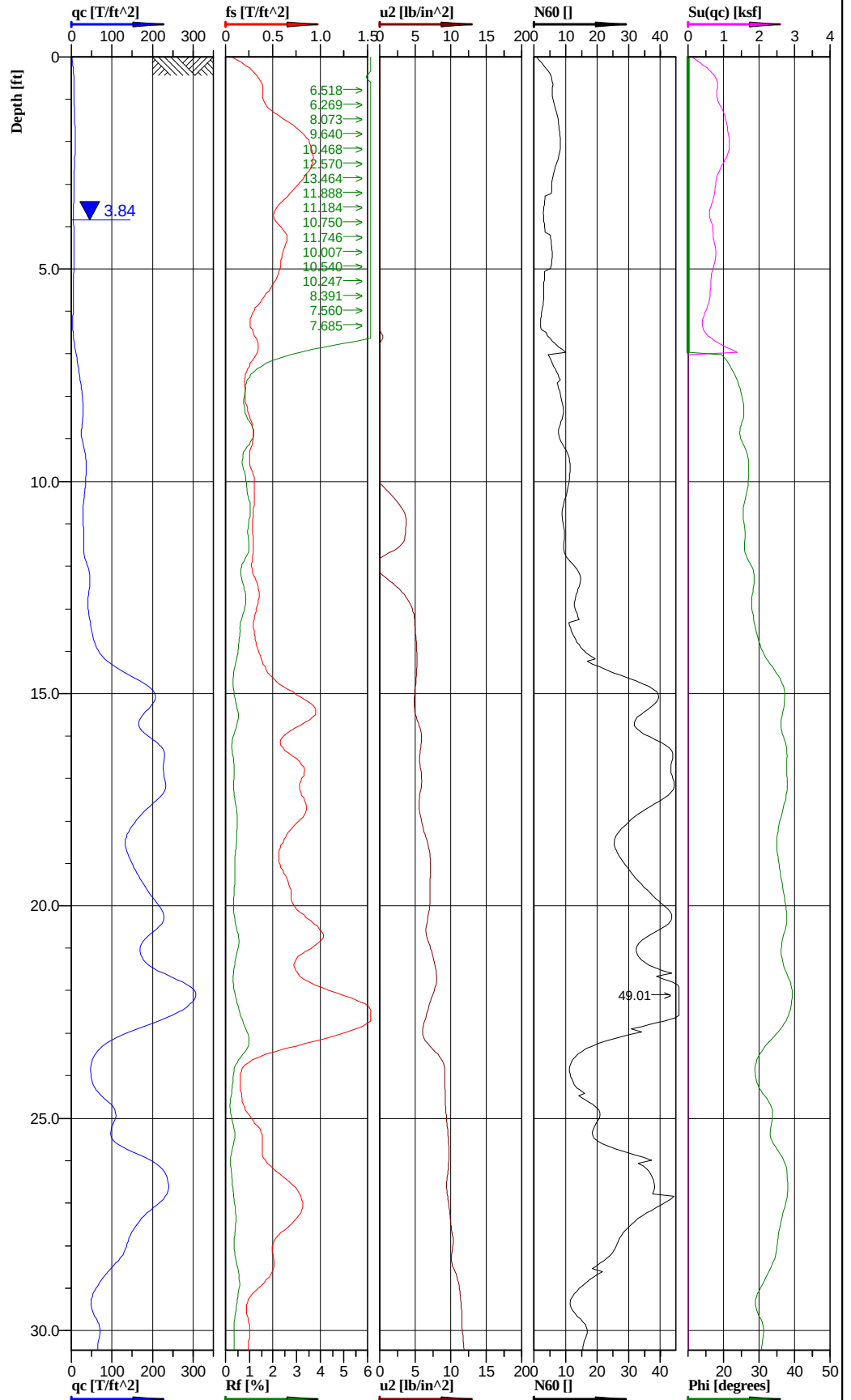
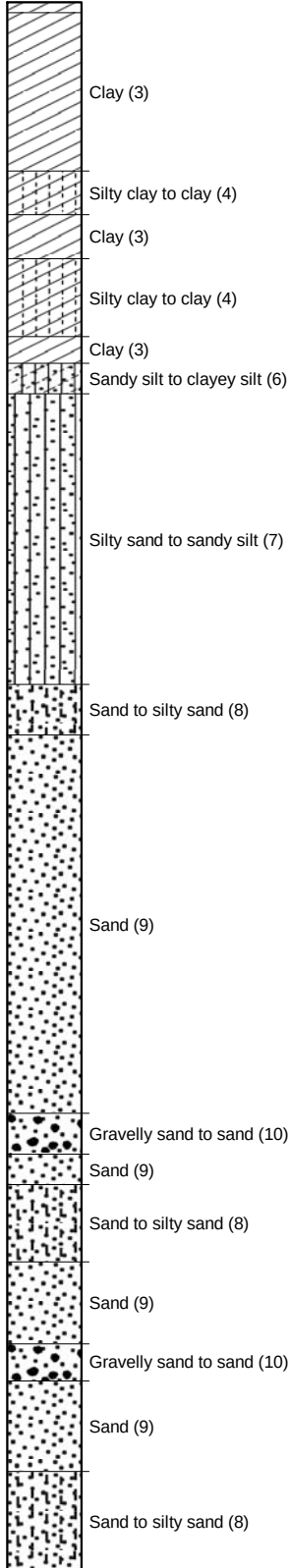


Location:	Labadie, MO	Position:	X: 729135.70 ft, Y: 993103.28 ft	Ground level:	464.99	Test no:	C-107
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-46
				File:	Labadie C-107.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-107
Test date: 11/9/2009
Location: Labadie MO
File name: Labadie C-107.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.963	0.012	-0.0069	Clayey silt to silty clay (5)	4.6	1.308	0.007	0.007	18.6		1.81	4.6	113	0.15	0.15	785
3.75	1.023	0.021	1.6062	Clayey silt to silty clay (5)	5.1	1.394	0.021	0.015			1.84	5.1	115	0.44	0.31	836
6.25	1.091	0.01	3.7849	Silty sand to sandy silt (7)	4.7	1.119	0.034	0.021	22.7		1.83	3.0	114	0.71	0.44	91
8.75	2.973	0.01	3.1253	Sand to silty sand (8)	9.3		0.048	0.027	26.0	57	1.9	5.9	119	1.00	0.56	247
11.25	3.75	0.013	3.9425	Sand to silty sand (8)	11.2		0.062	0.034	27.4	62	1.9	7.1	119	1.29	0.71	312
13.75	8.755	0.026	5.0958	Sand (9)	17.7		0.077	0.041	32.8	76	1.99	8.8	124	1.60	0.85	728
16.25	11.942	0.032	5.8744	Sand (9)	23.9		0.092	0.048	34.5	82	1.99	11.9	124	1.91	1.00	994
18.75	12.529	0.041	6.9567	Sand (9)	25.0		0.107	0.055	34.8	82	1.99	12.5	124	2.23	1.14	1042
21.25	30.397	0.116	8.7915	Gravelly sand to sand (10)	51.6		0.121	0.062	39.0	104	2.03	35.1	127	2.52	1.29	2529
23.75	32.514	0.16	9.8213	Gravelly sand to sand (10)	54.2		0.13	0.067	39.8	107	2.04	36.8	127	2.70	1.39	2705

Classification by
Robertson 1986



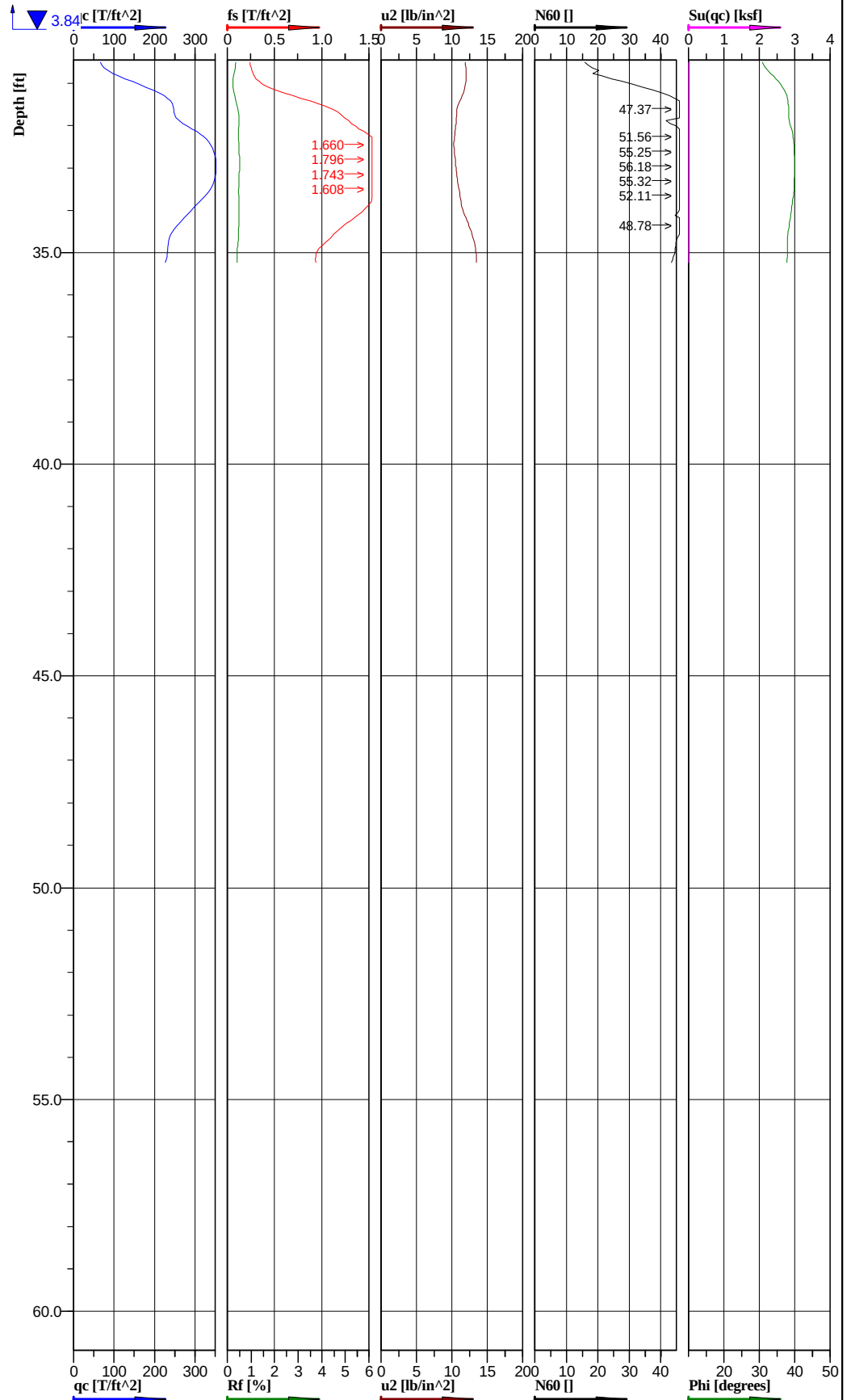
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location: Labadie, MO	Position: X: 729146.13 ft, Y: 993103.08 ft	Ground level: 464.90	Test no: C-107A
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/9/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 1	Fig: C-47
Confirmation sounding adjacent to C-107		File: Labadie C-107A.cpd	

Classification by
Robertson 1986

Sand to silty sand (8)
Sand (9)
Gravelly sand to sand (10)
Sand (9)



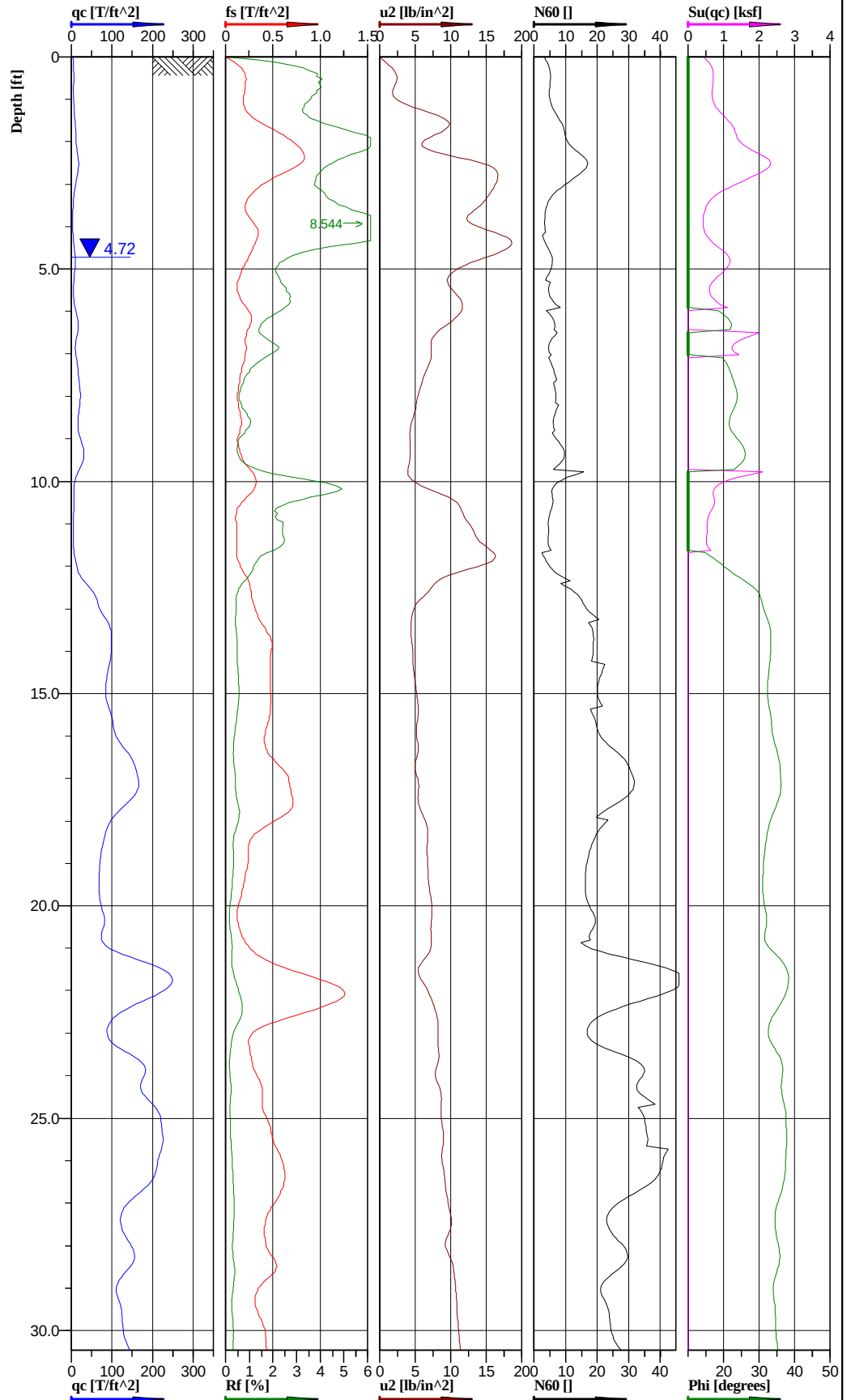
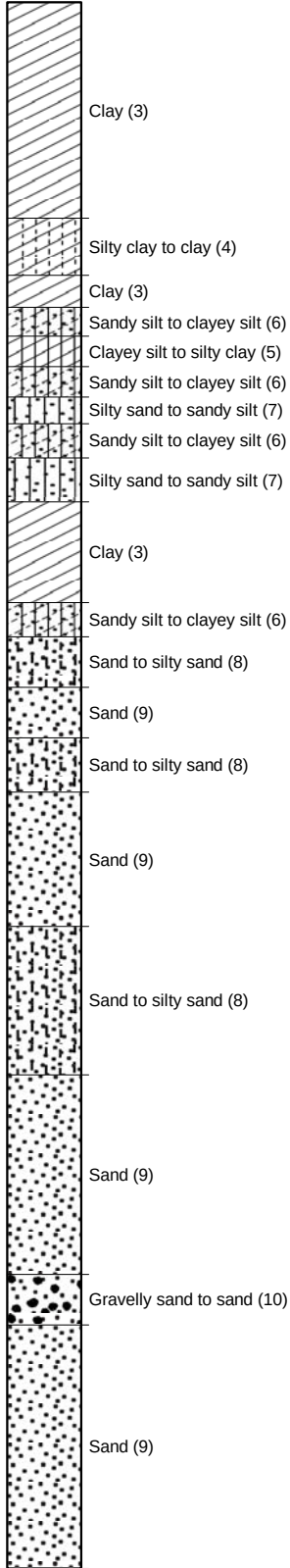
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729146.13 ft, Y: 993103.08 ft	Ground level:	464.90	Test no:	C-107A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-47
Confirmation sounding adjacent to C-107				File:	Labadie C-107A.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-107A
 Test date: 11/9/2009
 Location: Labadie MO
 File name: Labadie C-107A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.641	0.054	-5.4553	Clay (3)	6.4	0.891	0.007	0.007			1.73	6.4	108	0.15	0.15	267
3.75	0.541	0.062	-5.4929	Silty clay to clay (4)	4.8	0.734	0.019	0.018			1.6	4.8	100	0.40	0.37	367
6.25	0.734	0.033	-3.2131	Sandy silt to clayey silt (6)	4.4	0.638	0.03	0.023	21.7		1.5	4.4	94	0.62	0.48	61
8.75	2.78	0.024	-4.4389	Silty sand to sandy silt (7)	9.4		0.043	0.028	25.6		1.88	6.0	117	0.89	0.58	231
11.25	3.258	0.028	1.9434	Silty sand to sandy silt (7)	10.9		0.057	0.035	26.6		1.89	6.9	118	1.19	0.73	271
13.75	8.16	0.038	4.7928	Sand (9)	19.0		0.072	0.041	31.3	75	1.94	9.5	121	1.50	0.85	679
16.25	19.929	0.075	5.5323	Sand (9)	39.9		0.086	0.048	37.3	97	1.99	19.9	124	1.79	1.00	1658
18.75	15.91	0.065	6.6131	Sand (9)	31.8		0.101	0.056	36.1	88	1.99	15.9	124	2.10	1.16	1324
21.25	22.034	0.094	7.2121	Sand (9)	41.5		0.116	0.063	37.7	96	2	20.7	125	2.41	1.31	1833
23.75	9.692	0.056	8.1181	Sand (9)	21.3		0.131	0.07	32.5	67	1.96	10.6	122	2.72	1.46	806
26.25	16.881	0.054	9.6476	Sand (9)	31.5		0.146	0.077	36.2	84	2	15.8	125	3.04	1.60	1404
28.75	8.692	0.038	10.872	Sand to silty sand (8)	19.1		0.161	0.085	32.2	63	1.96	12.2	122	3.35	1.77	723
31.25	18.624	0.077	11.2286	Gravelly sand to sand (10)	35.4		0.175	0.092	36.0	81	1.99	24.1	124	3.64	1.91	1550
33.75	28.852	0.14	11.5922	Sand (9)	50.9		0.19	0.099	39.1	97	2.02	25.4	126	3.95	2.06	2400
36.25	21.968	0.09	13.4379	Sand (9)	43.9		0.199	0.103	37.8	89	1.99	22.0	124	4.14	2.14	1828

Classification by
Robertson 1986

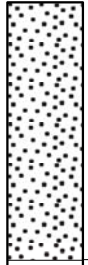


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

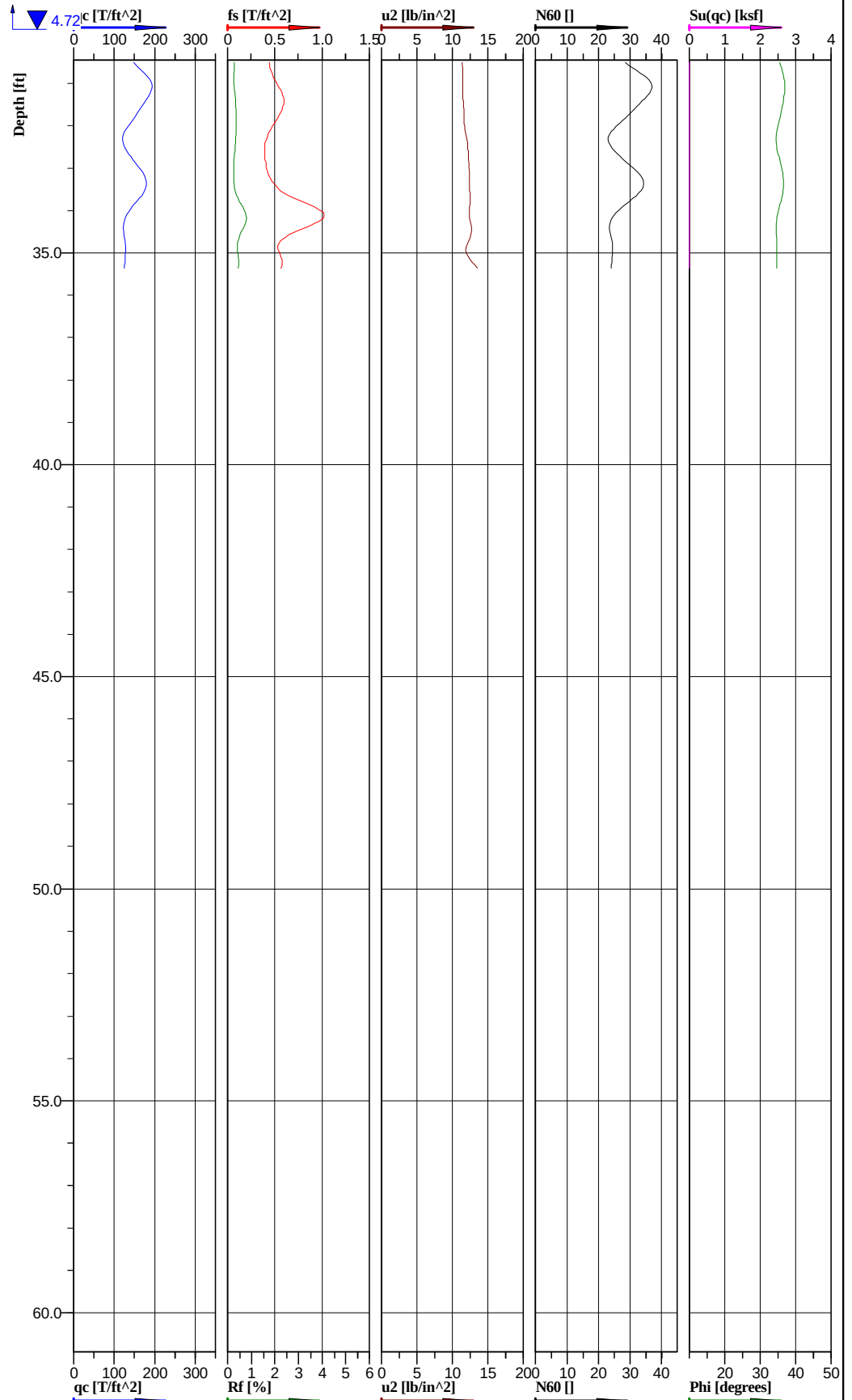


Location:	Labadie, MO	Position:	X: 729726.67 ft, Y: 993088.06 ft	Ground level:	466.31	Test no:	C-109
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-48
				File:	Labadie C-109.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



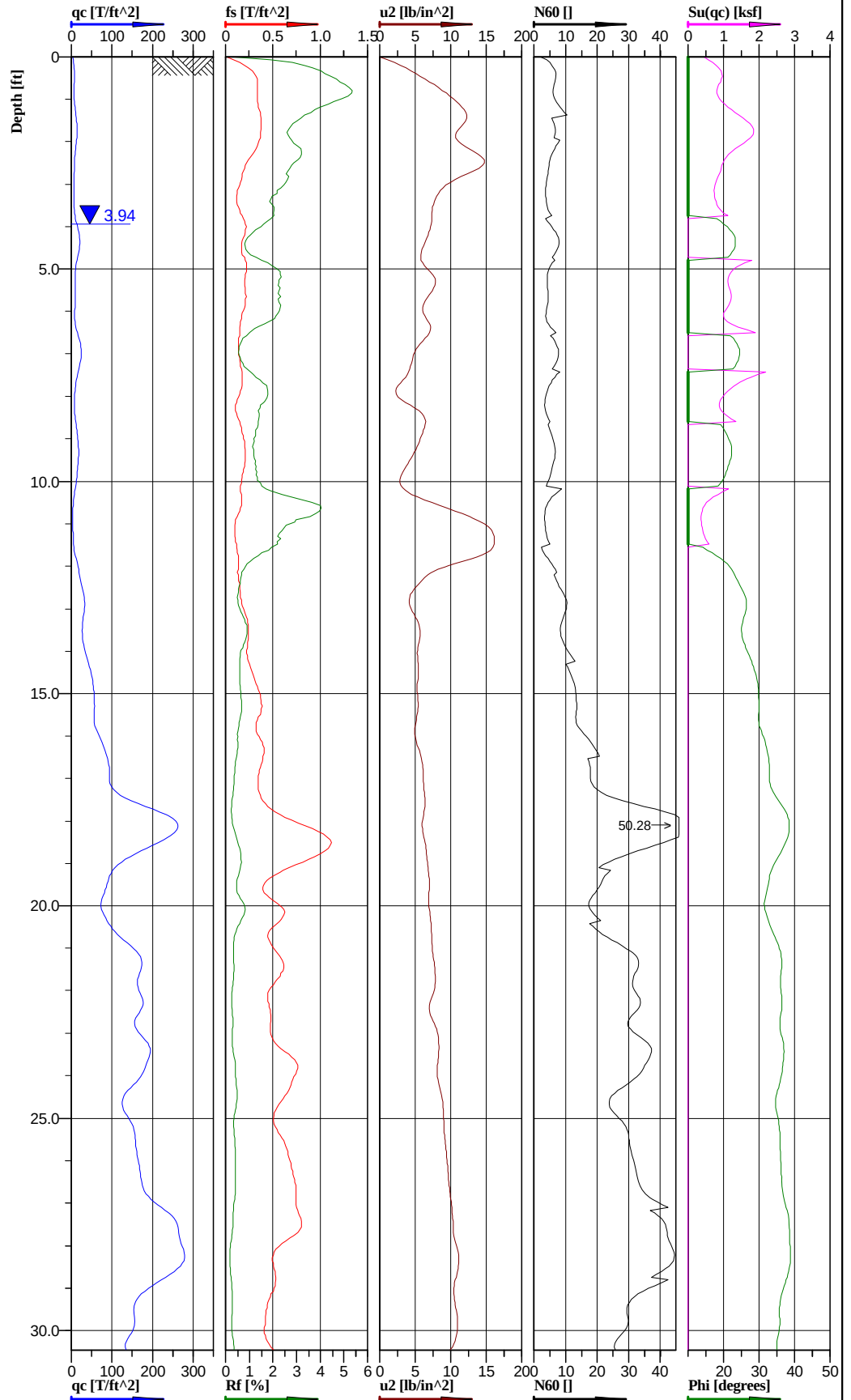
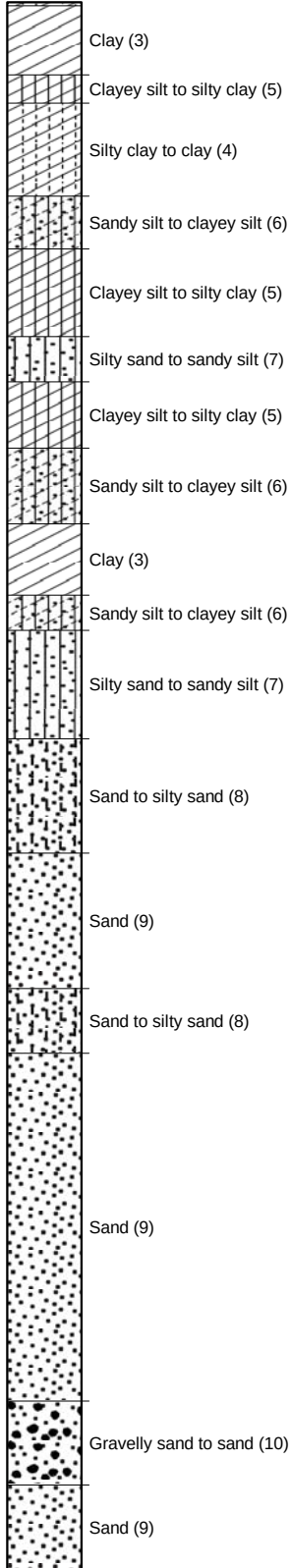
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729726.67 ft, Y: 993088.06 ft	Ground level:	466.31	Test no:	C-109
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/9/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-48
				File:	Labadie C-109.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-109
Test date: 11/9/2009
Location: Labadie MO
File name: Labadie C-109.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.817	0.037	5.6293	Clay (3)	8.2	1.12	0.007	0.007			1.78	8.2	111	0.15	0.15	336
3.75	0.733	0.031	15.0859	Silty clay to clay (4)	6.5	0.971	0.02	0.02			1.71	6.5	107	0.42	0.42	486
6.25	1.065	0.018	8.942	Sandy silt to clayey silt (6)	5.6	1.046	0.033	0.028	21.1		1.83	5.6	114	0.69	0.58	89
8.75	1.947	0.017	4.7266	Clay (3)	7.8	1.455	0.047	0.035	23.5		1.86	7.8	116	0.98	0.73	437
11.25	1.056	0.016	11.5881	Sand to silty sand (8)	5.8	0.632	0.061	0.041	22.0	53	1.82	3.7	114	1.27	0.85	88
13.75	8.121	0.04	4.9319	Sand to silty sand (8)	18.5		0.075	0.047	32.3	71	1.96	11.8	122	1.56	0.98	676
16.25	12.269	0.05	5.2862	Sand (9)	25.1		0.089	0.054	34.6	81	1.98	12.5	124	1.85	1.12	1021
18.75	7.989	0.031	6.6339	Sand to silty sand (8)	18.9		0.104	0.061	32.1	67	1.95	12.1	122	2.16	1.27	665
21.25	13.956	0.055	6.8518	Sand (9)	29.1		0.119	0.068	34.8	79	1.98	14.6	124	2.48	1.41	1161
23.75	14.609	0.036	8.2769	Gravelly sand to sand (10)	28.3		0.133	0.075	35.4	81	1.99	19.3	124	2.77	1.56	1215
26.25	17.891	0.051	9.2303	Sand (9)	33.8		0.149	0.083	36.6	86	2	16.9	125	3.10	1.73	1489
28.75	12.47	0.039	10.3827	Sand (9)	24.9		0.164	0.09	34.8	75	1.99	12.5	124	3.41	1.87	1038
31.25	14.733	0.046	11.5706	Sand (9)	29.4		0.178	0.097	35.7	78	1.99	14.7	124	3.70	2.02	1226
33.75	13.928	0.06	12.3797	Sand (9)	27.8		0.193	0.105	35.4	76	1.99	13.9	124	4.01	2.18	1159
36.25	12.119	0.054	12.7092	Sand (9)	24.2		0.202	0.109	34.7	71	1.99	12.1	124	4.20	2.27	1008

Classification by
Robertson 1986

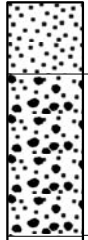


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



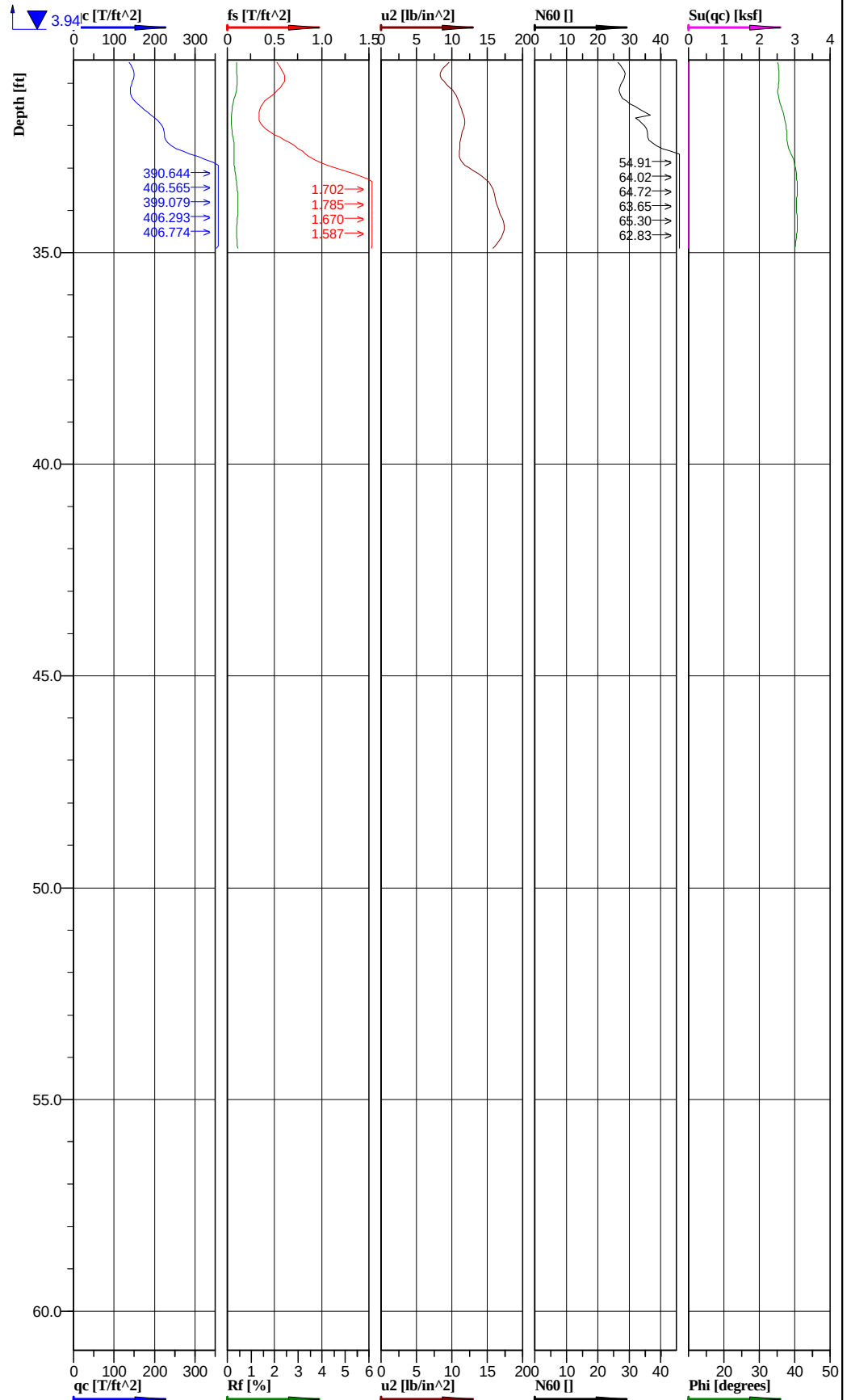
Location:	Labadie, MO	Position:	X: 730316.44 ft, Y: 993063.55 ft	Ground level:	466.31	Test no:	C-111
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-49
				File:	Labadie C-111.cpd		

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



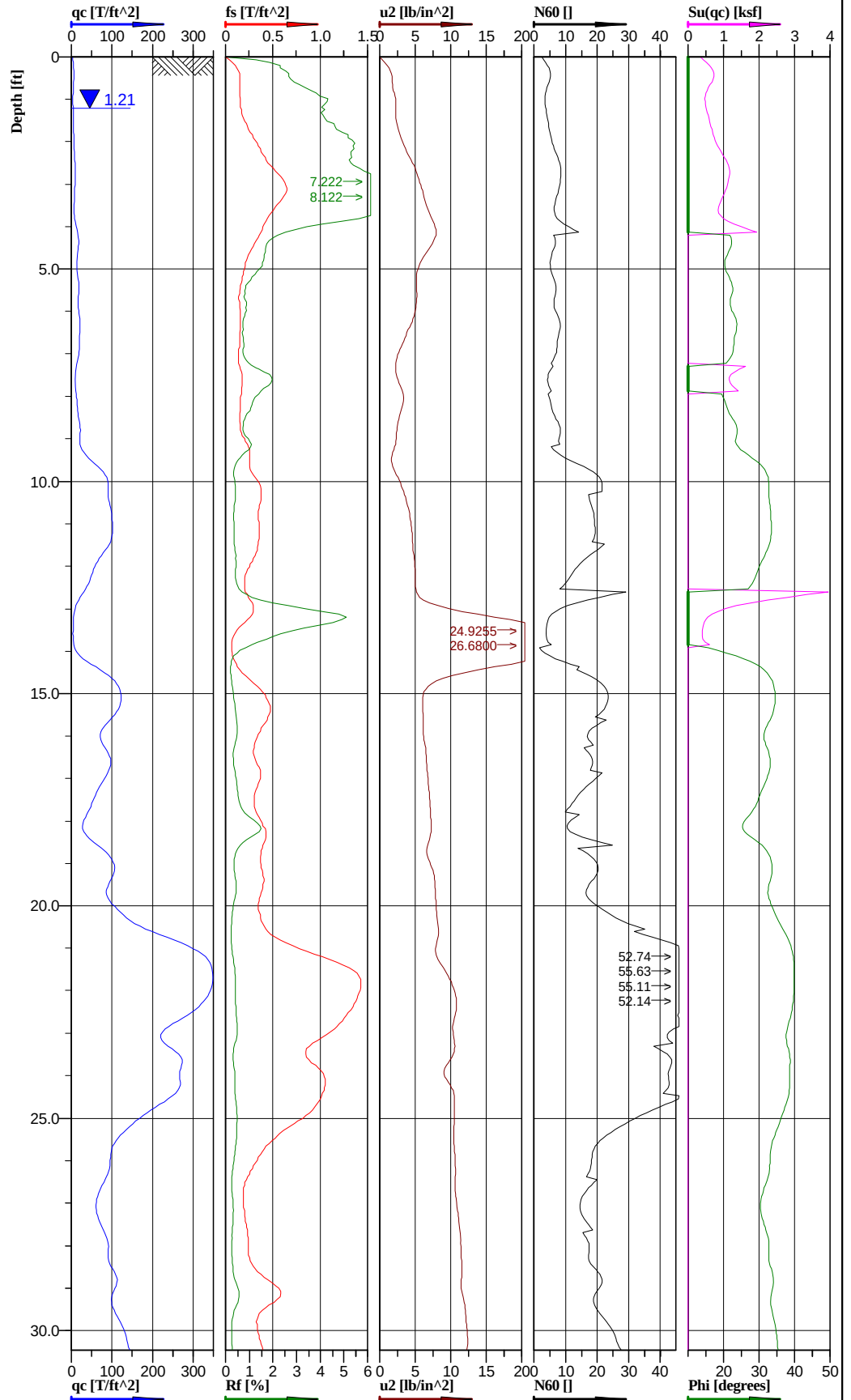
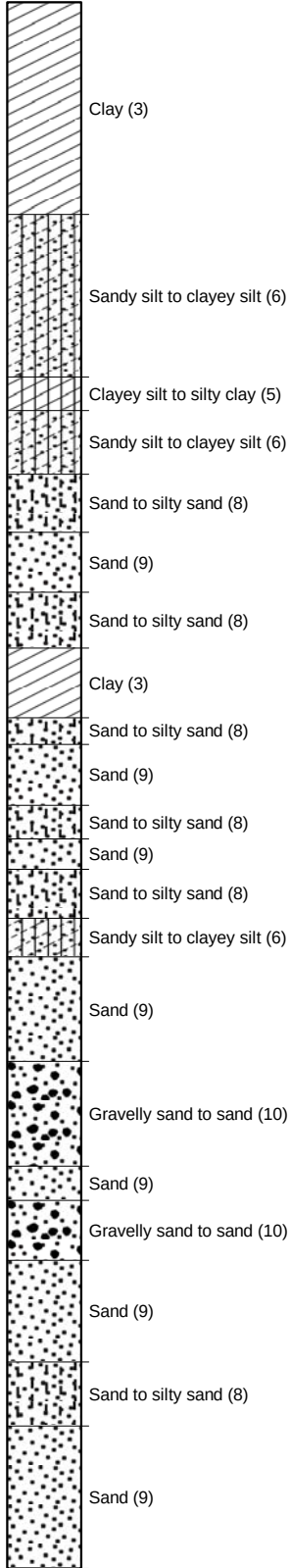
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730316.44 ft, Y: 993063.55 ft	Ground level:	466.31	Test no:	C-111
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-49
				File:	Labadie C-111.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-111
 Test date: 11/10/2009
 Location: Labadie MO
 File name: Labadie C-111.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.853	0.029	9.6356	Silty clay to clay (4)	6.5	1.165	0.007	0.007			1.81	6.5	113	0.15	0.15	583
3.75	1.072	0.017	8.0081	Clayey silt to silty clay (5)	5.3	0.977	0.021	0.02	21.8		1.84	5.3	115	0.44	0.42	586
6.25	1.334	0.017	6.1097	Clayey silt to silty clay (5)	5.5	1.29	0.034	0.027	23.6		1.85	5.5	115	0.71	0.56	774
8.75	1.19	0.016	4.3608	Sandy silt to clayey silt (6)	5.1	1.151	0.048	0.033	21.0		1.84	5.1	115	1.00	0.69	99
11.25	0.944	0.013	10.2344	Silty sand to sandy silt (7)	5.0	0.537	0.062	0.039	20.7		1.82	3.2	114	1.29	0.81	79
13.75	3.528	0.023	5.1601	Sand to silty sand (8)	10.5		0.076	0.046	27.0	57	1.9	6.7	119	1.58	0.96	294
16.25	7.708	0.035	5.6245	Sand (9)	17.2		0.09	0.052	31.8	68	1.96	8.6	122	1.87	1.08	641
18.75	15.086	0.066	6.5492	Sand to silty sand (8)	31.6		0.105	0.06	35.2	83	1.98	20.2	124	2.18	1.25	1255
21.25	13.674	0.05	7.3879	Sand (9)	27.9		0.119	0.067	35.1	81	1.98	14.0	124	2.48	1.39	1138
23.75	15.461	0.057	8.2743	Sand (9)	30.9		0.134	0.074	35.9	84	1.99	15.5	124	2.79	1.54	1286
26.25	17.603	0.066	9.6338	Gravelly sand to sand (10)	33.8		0.149	0.081	36.6	86	2	23.0	125	3.10	1.68	1465
28.75	20.656	0.05	10.7553	Sand (9)	37.2		0.164	0.089	37.3	89	2.02	18.6	126	3.41	1.85	1719
31.25	16.458	0.047	10.5002	Gravelly sand to sand (10)	30.7		0.179	0.096	36.2	81	2	20.9	125	3.72	2.00	1369
33.75	36.395	0.141	15.1176	Gravelly sand to sand (10)	60.6		0.194	0.103	40.3	103	2.04	41.2	127	4.04	2.14	3028

Classification by
Robertson 1986

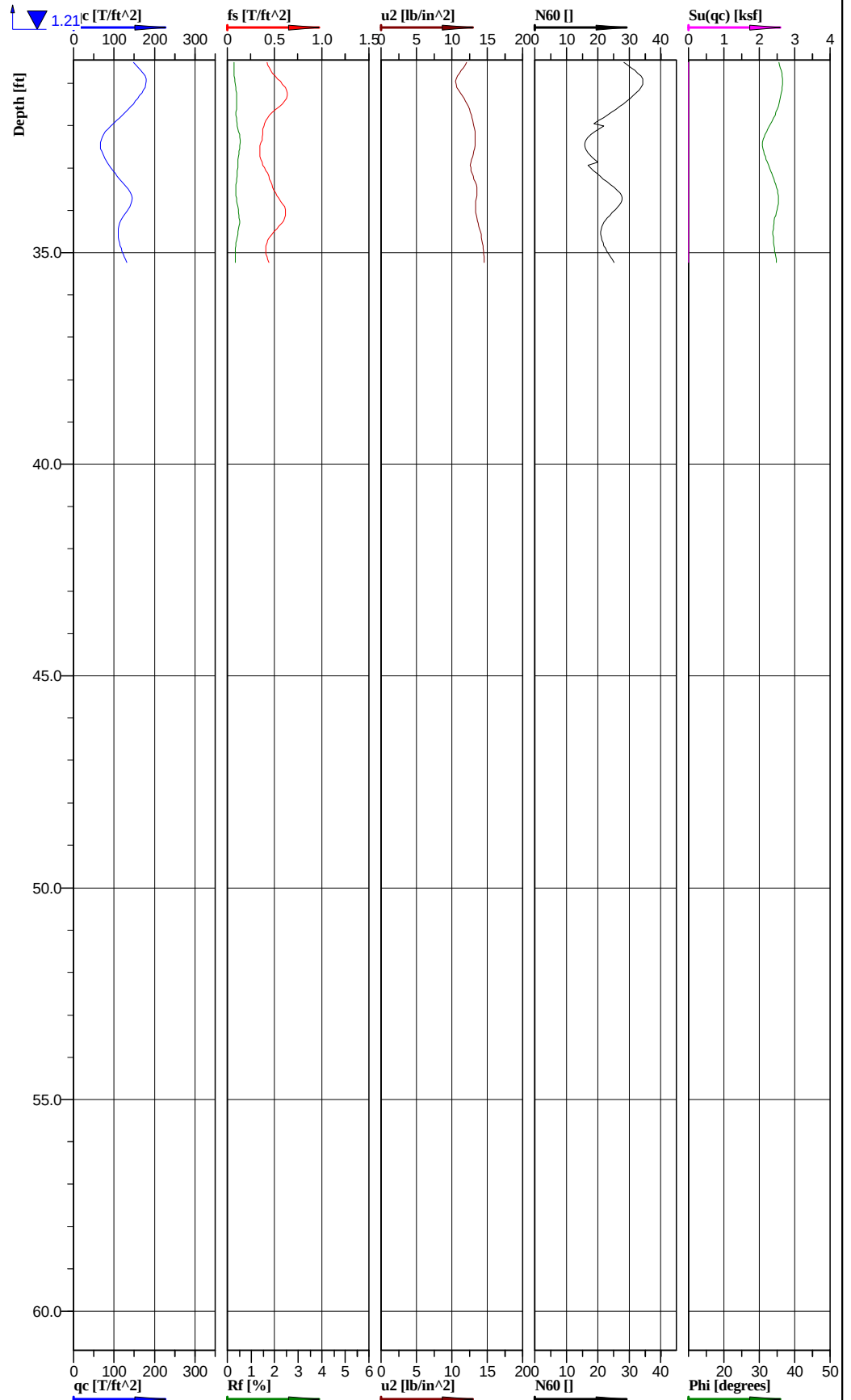
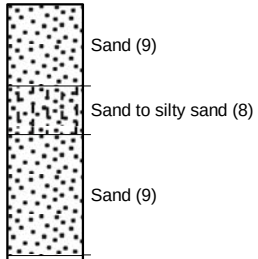


Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150



Location:	Labadie, MO	Position:	X: 730901.31 ft, Y: 993054.99 ft	Ground level:	463.48	Test no:	C-113
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-50
				File:	Labadie C-113.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



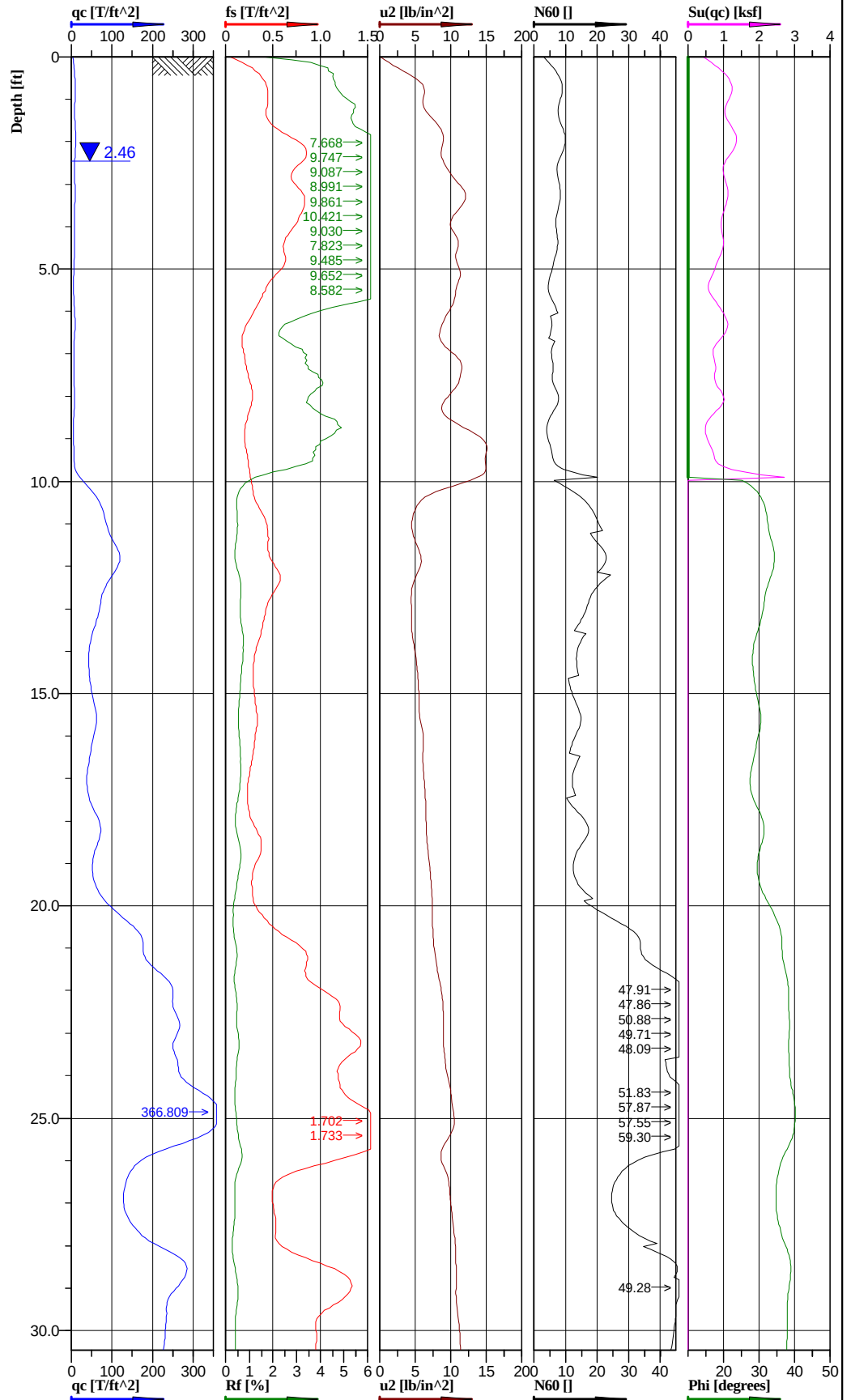
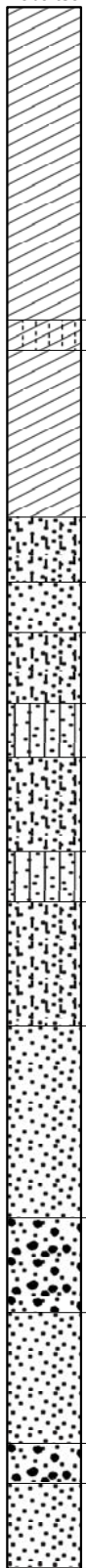
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730901.31 ft, Y: 993054.99 ft	Ground level:	463.48	Test no:	C-113
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-50
				File:	Labadie C-113.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-113
Test date: 11/10/2009
Location: Labadie MO
File name: Labadie C-113.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.496	0.021	2.4219	Clay (3)	5.0	0.678	0.007	0.006			1.78	5.0	111	0.15	0.12	203
3.75	1.059	0.041	6.4387	Sandy silt to clayey silt (6)	7.4	1.122	0.02	0.012	21.2		1.81	7.4	113	0.42	0.25	88
6.25	1.647	0.015	4.0042	Clayey silt to silty clay (5)	6.7	1.346	0.034	0.018	22.4		1.84	6.7	115	0.71	0.37	808
8.75	3.013	0.02	2.5144	Sand to silty sand (8)	9.1	1.247	0.048	0.025	25.3	67	1.87	5.8	117	1.00	0.52	251
11.25	7.724	0.03	4.3853	Sand to silty sand (8)	17.1		0.062	0.031	31.8	75	1.96	11.0	122	1.29	0.64	643
13.75	3.686	0.019	15.4276	Sand (9)	11.5	1.154	0.076	0.038	29.1	60	1.87	5.7	117	1.58	0.79	307
16.25	8.439	0.035	6.4354	Sand to silty sand (8)	18.8		0.091	0.045	32.5	73	1.96	12.0	122	1.89	0.94	702
18.75	6.85	0.036	7.3035	Sand (9)	16.2		0.105	0.052	30.7	70	1.94	8.1	121	2.18	1.08	570
21.25	26.283	0.092	9.0406	Gravelly sand to sand (10)	44.8		0.12	0.059	38.4	101	2.03	30.5	127	2.50	1.23	2187
23.75	23.53	0.097	10.1831	Sand (9)	42.7		0.135	0.066	38.1	97	2.02	21.3	126	2.81	1.37	1958
26.25	8.861	0.033	10.6807	Sand to silty sand (8)	19.2		0.15	0.074	32.6	67	1.97	12.3	123	3.12	1.54	737
28.75	9.771	0.034	11.6851	Sand (9)	19.7		0.165	0.081	33.4	69	1.99	9.9	124	3.43	1.68	813
31.25	12.594	0.044	12.1819	Sand to silty sand (8)	26.0		0.18	0.088	34.6	74	1.98	16.6	124	3.74	1.83	1048
33.75	10.821	0.045	13.4924	Sand (9)	22.2		0.194	0.095	33.9	69	1.98	11.1	124	4.04	1.98	900
36.25	12.203	0.041	14.5435	Sand (9)	24.4		0.202	0.099	34.7	73	1.99	12.2	124	4.20	2.06	1015

Classification by
Robertson 1986



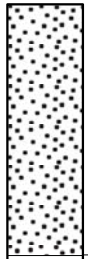
REITZ & JENS, INC.
CONSULTING ENGINEERS



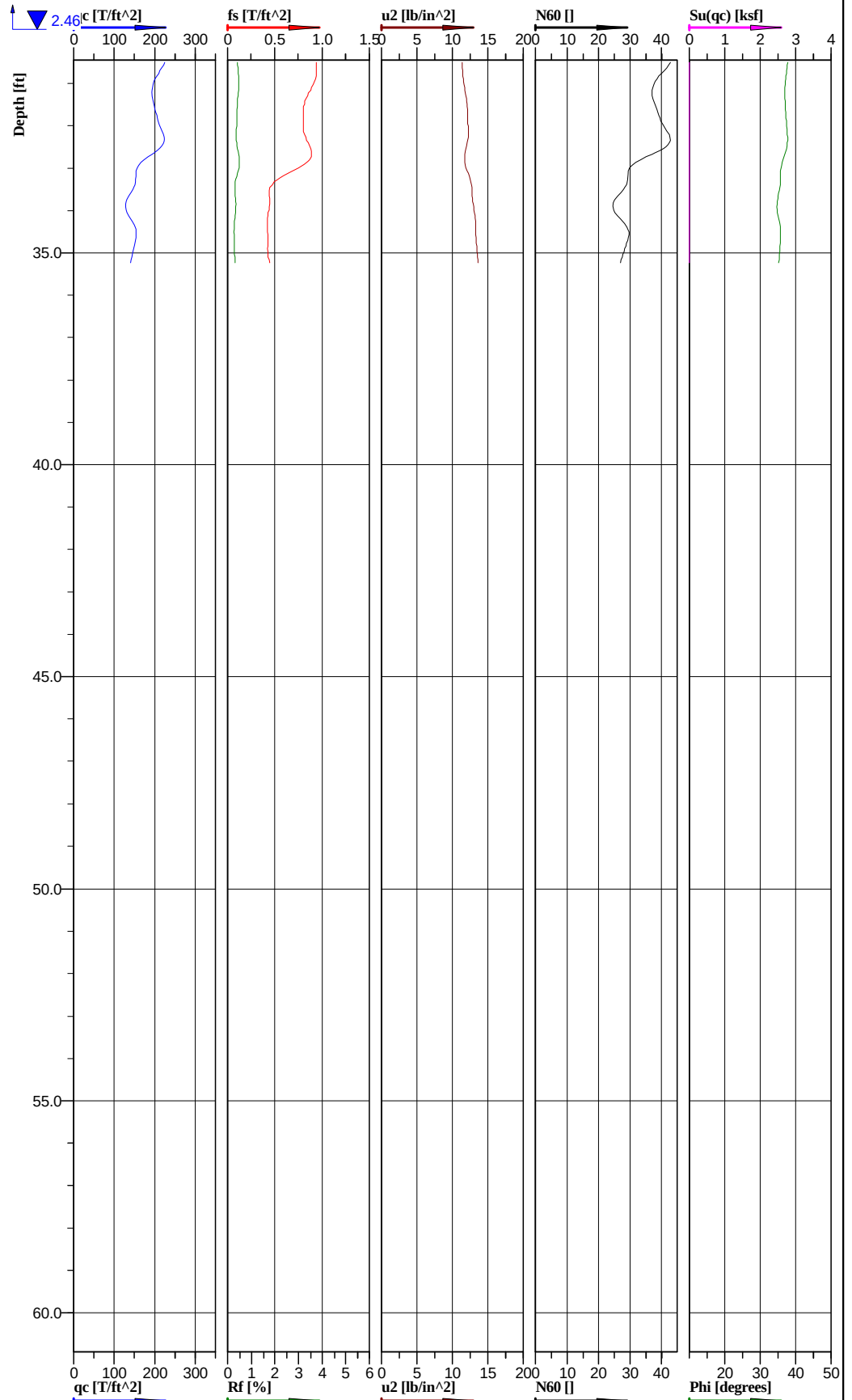
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728076.08 ft, Y: 992838.22 ft	Ground level:	465.29	Test no:	C-117
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-51
				File:	Labadie C-117.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



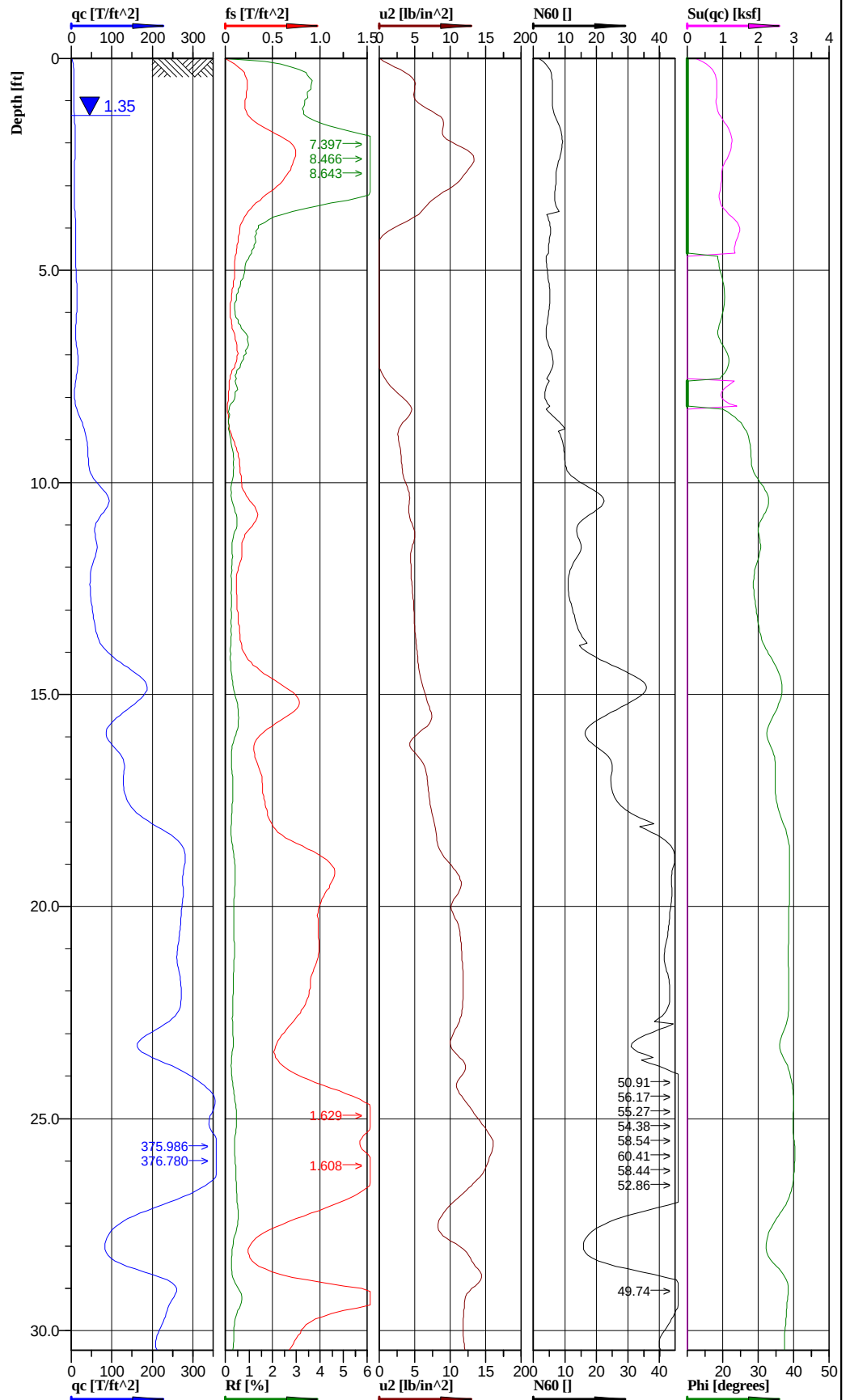
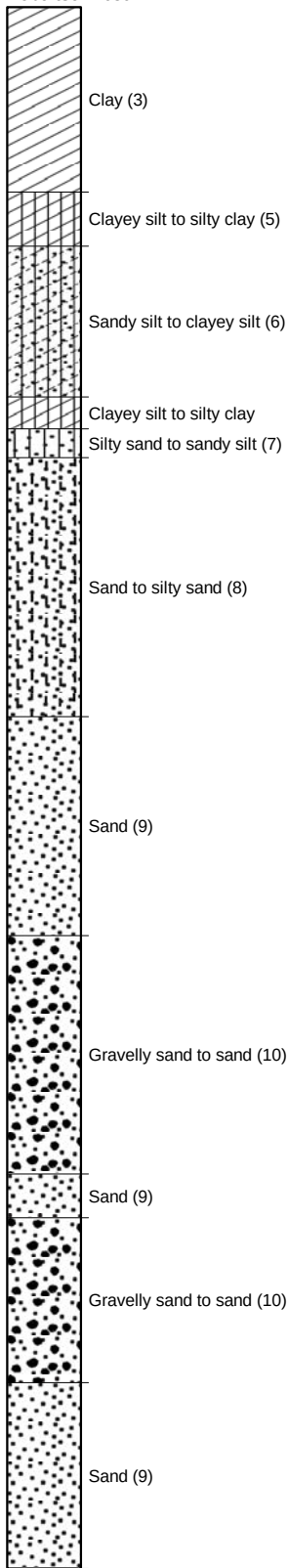
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 728076.08 ft, Y: 992838.22 ft	Ground level:	465.29	Test no:	C-117
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-51
				File:	Labadie C-117.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-117
Test date: 11/11/2009
Location: Labadie MO
File name: Labadie C-117.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.806	0.049	6.4964	Clay (3)	8.1	1.104	0.007	0.007			1.78	8.1	111	0.15	0.15	331
3.75	0.732	0.068	10.8151	Clay (3)	7.3	0.975	0.02	0.016			1.78	7.3	111	0.42	0.33	293
6.25	0.624	0.028	10.1779	Clay (3)	5.6	0.809	0.033	0.021			1.72	5.6	107	0.69	0.44	243
8.75	0.789	0.023	12.2164	Sand to silty sand (8)	6.8	0.861	0.046	0.027	25.8	48	1.8	4.3	112	0.96	0.56	66
11.25	8.452	0.042	5.6621	Sand to silty sand (8)	19.1		0.06	0.033	32.3	77	1.95	12.2	122	1.25	0.69	703
13.75	5.24	0.035	4.8508	Sand to silty sand (8)	14.6		0.075	0.04	29.6	65	1.92	9.3	120	1.56	0.83	436
16.25	4.719	0.027	6.0023	Sand to silty sand (8)	13.0		0.089	0.047	29.0	59	1.92	8.3	120	1.85	0.98	393
18.75	6.025	0.029	6.8741	Sand (9)	14.7		0.104	0.054	30.5	61	1.94	7.4	121	2.16	1.12	501
21.25	18.578	0.077	8.0241	Sand (9)	37.1		0.118	0.061	36.8	91	1.99	18.6	124	2.45	1.27	1546
23.75	27.65	0.126	9.4808	Gravelly sand to sand (10)	49.7		0.133	0.068	38.9	101	2.02	33.8	126	2.77	1.41	2300
26.25	18.95	0.095	9.7059	Sand (9)	35.9		0.148	0.076	36.6	87	2	18.0	125	3.08	1.58	1577
28.75	22.769	0.093	10.7969	Sand (9)	42.9		0.163	0.083	37.9	93	2	21.5	125	3.39	1.73	1894
31.25	20.279	0.084	11.7974	Sand (9)	40.5		0.178	0.09	37.4	89	1.99	20.3	124	3.70	1.87	1687
33.75	14.607	0.051	12.7567	Sand (9)	29.2		0.193	0.098	35.6	78	1.99	14.6	124	4.01	2.04	1215
36.25	13.698	0.042	13.5793	Sand (9)	27.4		0.201	0.102	35.3	76	1.99	13.7	124	4.18	2.12	1140

Classification by
Robertson 1986



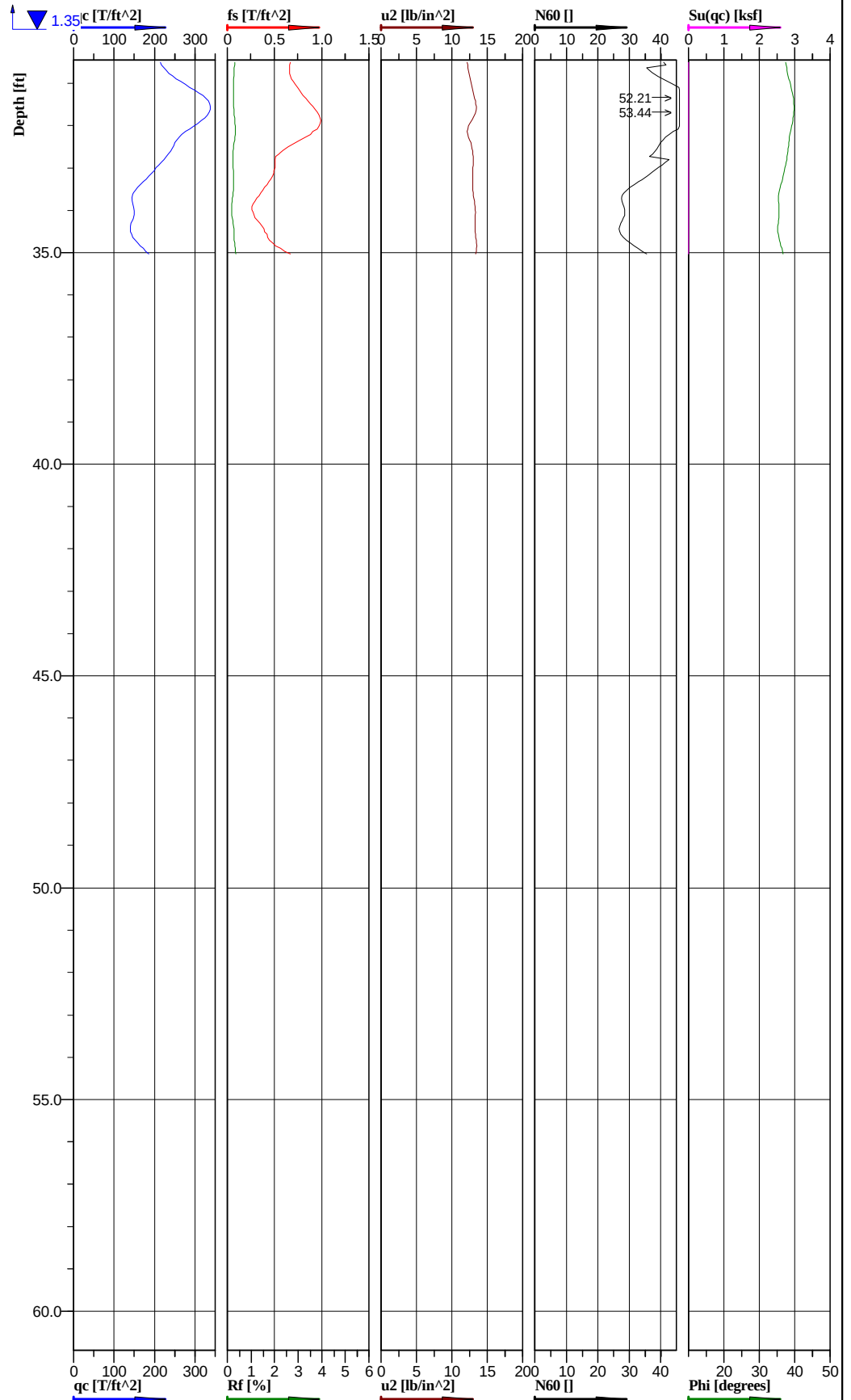
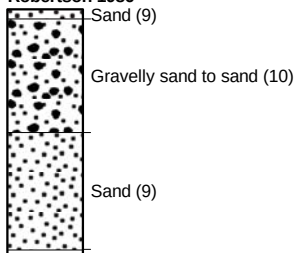
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728831.40 ft, Y: 992807.05 ft	Ground level:	465.09	Test no:	C-119
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-52
				File:	Labadie C-119.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



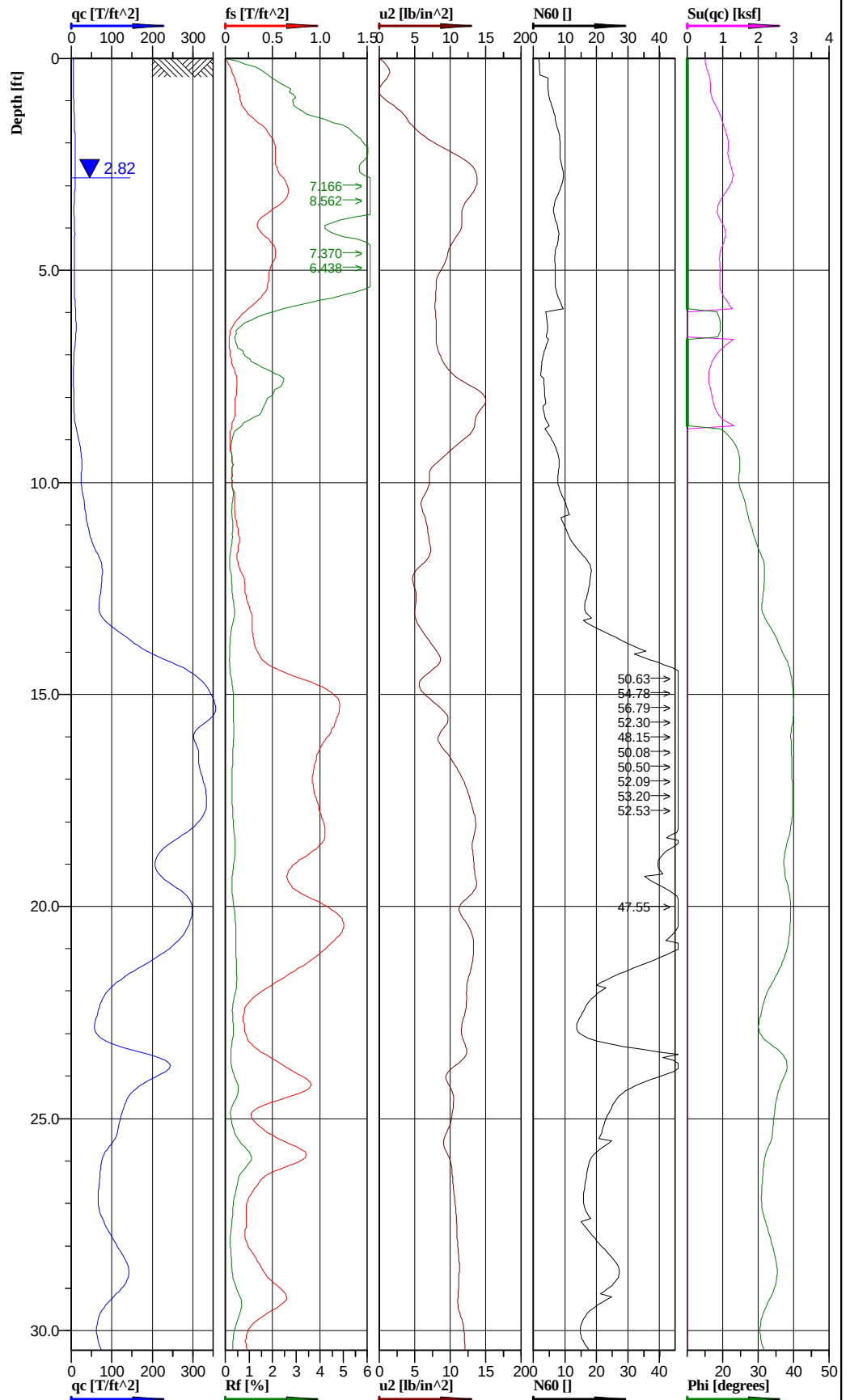
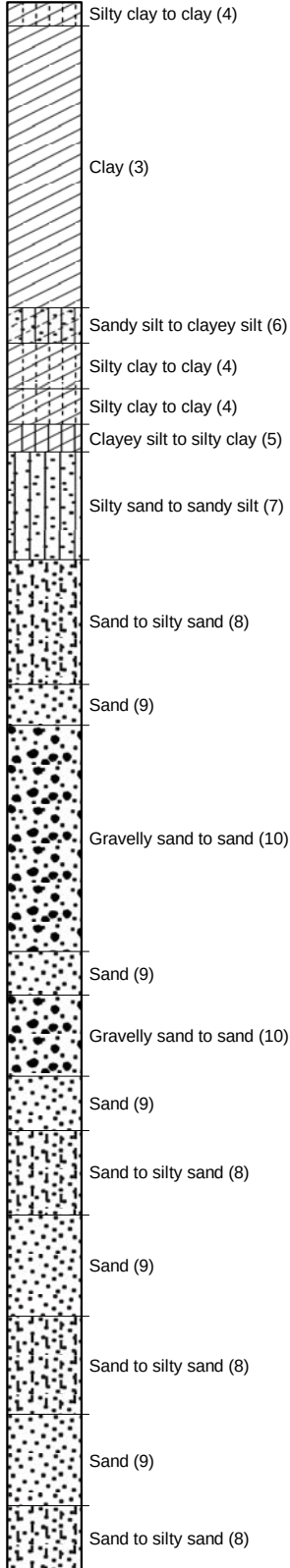
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728831.40 ft, Y: 992807.05 ft	Ground level:	465.09	Test no:	C-119
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-52
				File:	Labadie C-119.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-119
 Test date: 11/10/2009
 Location: Labadie MO
 File name: Labadie C-119.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.687	0.036	7.4468	Clay (3)	6.9	0.937	0.007	0.006			1.78	6.9	111	0.15	0.12	281
3.75	0.889	0.028	4.7902	Sandy silt to clayey silt (6)	5.8	1.153	0.02	0.013	18.9		1.82	5.8	114	0.42	0.27	74
6.25	1.252	0.008	-0.0993	Sandy silt to clayey silt (6)	5.0		0.034	0.019	20.1		1.84	5.0	115	0.71	0.40	104
8.75	2.844	0.008	3.071	Sand to silty sand (8)	8.1	1.117	0.048	0.025	26.7	61	1.88	5.2	117	1.00	0.52	237
11.25	6.147	0.02	4.4608	Sand to silty sand (8)	15.4		0.062	0.032	30.6	69	1.95	9.8	122	1.29	0.67	511
13.75	9.361	0.026	5.3141	Sand (9)	20.1		0.077	0.039	32.3	75	1.96	10.0	122	1.60	0.81	779
16.25	11.812	0.044	6.3075	Sand (9)	23.6		0.091	0.046	34.4	82	1.98	11.8	124	1.89	0.96	983
18.75	23.428	0.08	9.2175	Gravelly sand to sand (10)	40.2		0.106	0.053	38.0	100	2.03	27.4	127	2.20	1.10	1949
21.25	25.599	0.09	11.452	Gravelly sand to sand (10)	42.6		0.122	0.061	38.6	101	2.04	29.0	127	2.54	1.27	2130
23.75	25.527	0.087	11.4784	Gravelly sand to sand (10)	44.5		0.137	0.068	38.4	98	2.02	30.3	126	2.85	1.41	2124
26.25	29.037	0.129	13.0986	Sand (9)	50.1		0.152	0.076	38.9	100	2.03	25.1	127	3.16	1.58	2416
28.75	17.167	0.078	12.0201	Sand (9)	34.3		0.167	0.083	36.0	83	1.98	17.2	124	3.47	1.73	1428
31.25	25.821	0.076	12.5867	Gravelly sand to sand (10)	44.6		0.182	0.091	38.6	95	2.03	30.3	127	3.79	1.89	2148
33.75	16.418	0.041	13.1552	Sand (9)	32.0		0.197	0.098	36.2	81	2	16.0	125	4.10	2.04	1366

Classification by
Robertson 1986



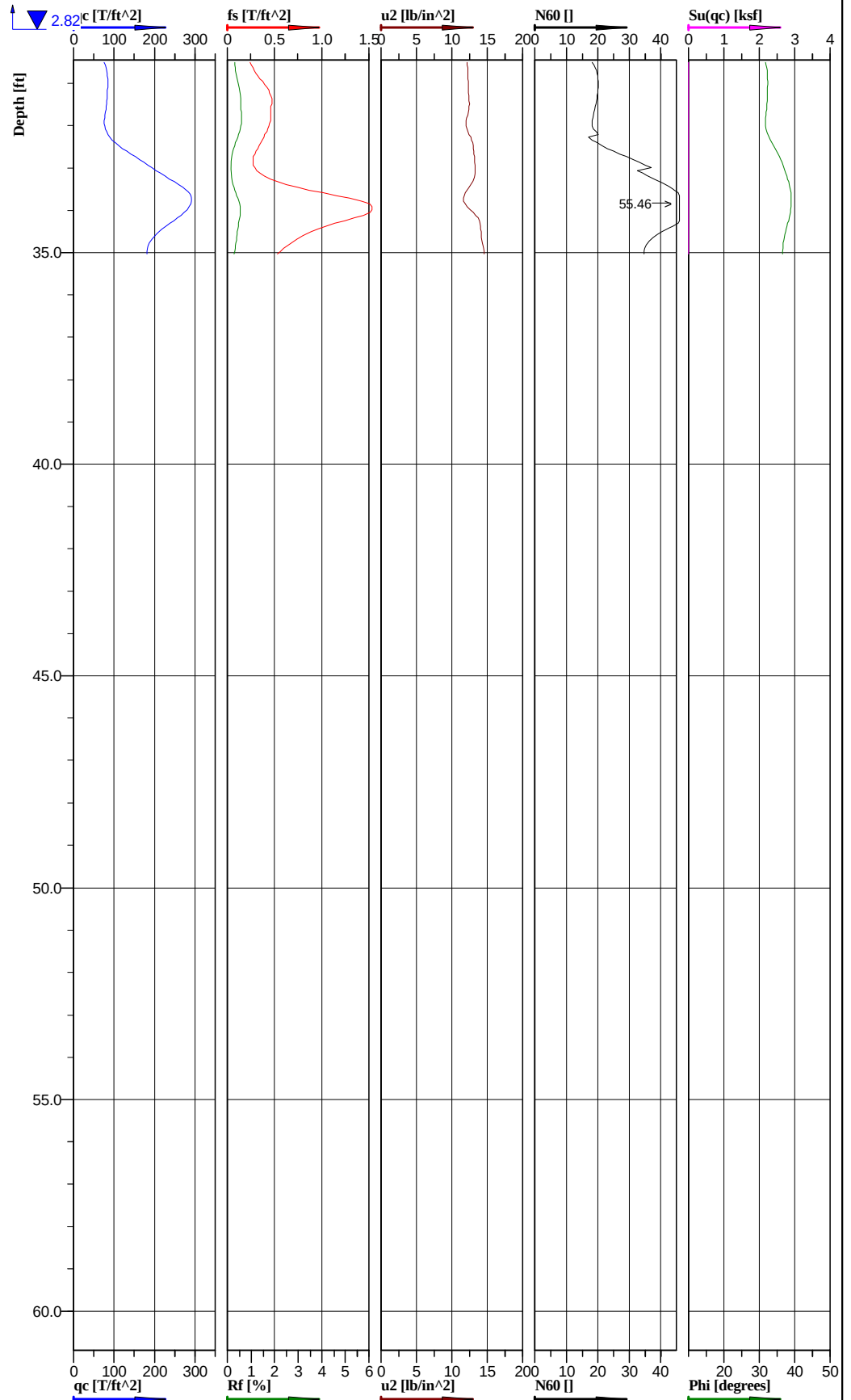
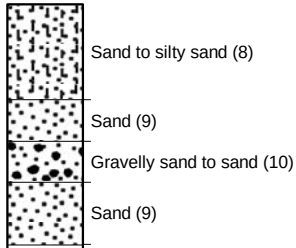
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729418.04 ft, Y: 992788.42 ft	Ground level:	464.11	Test no:	C-121
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-53
				File:	Labadie C-121.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



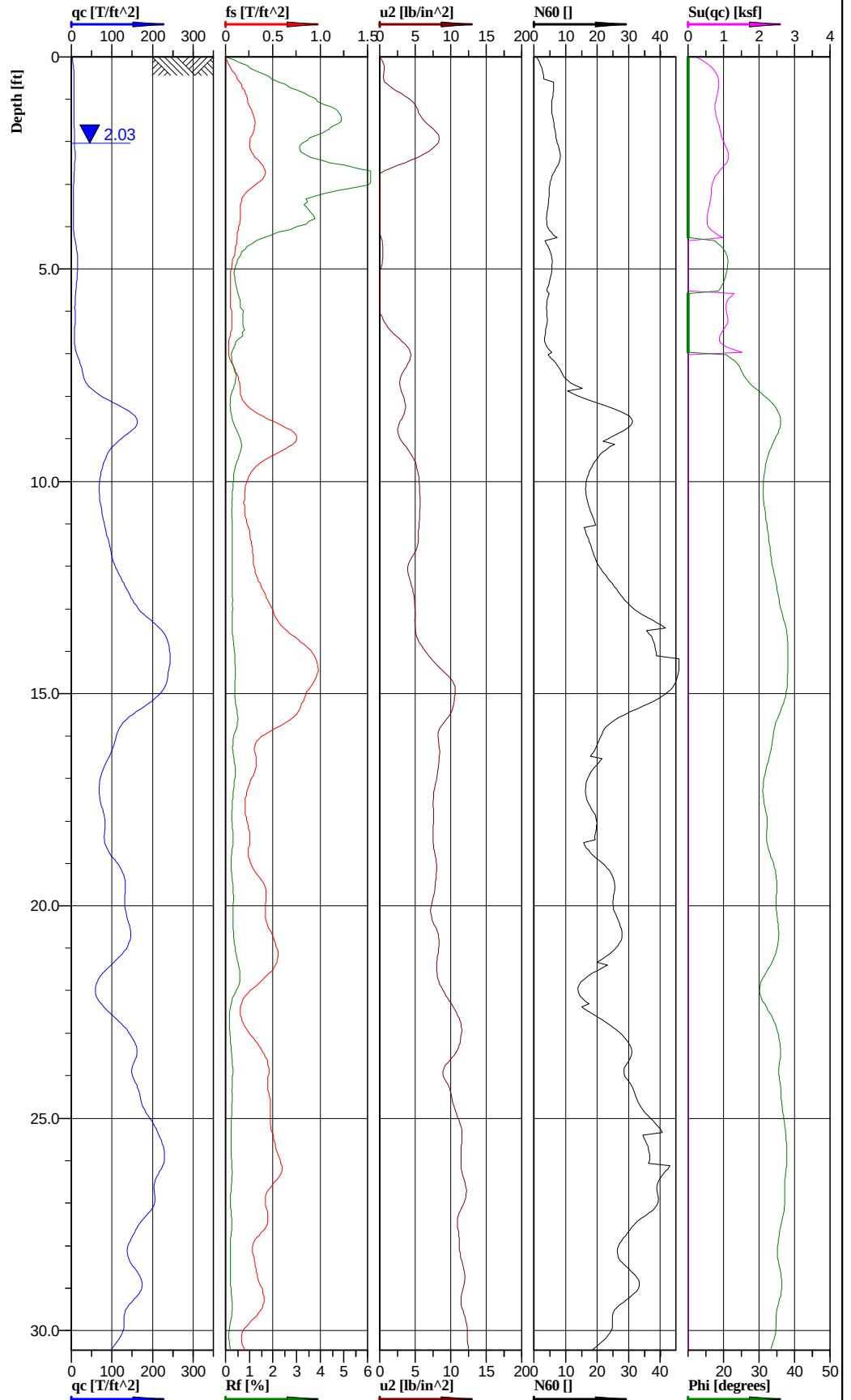
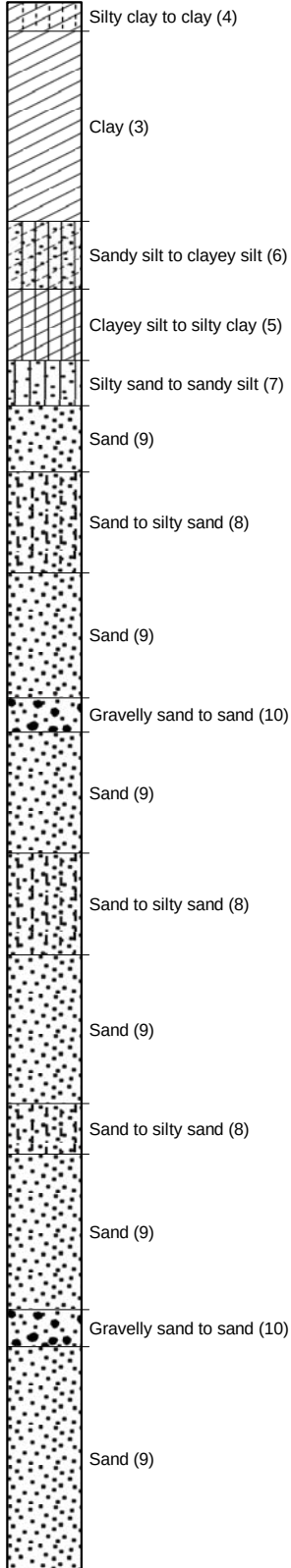
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729418.04 ft, Y: 992788.42 ft	Ground level: 464.11	Test no: C-121
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/10/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-53
		File: Labadie C-121.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-121
Test date: 11/10/2009
Location: Labadie MO
File name: Labadie C-121.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.642	0.027	4.3747	Clay (3)	6.1	0.879	0.007	0.007			1.79	6.1	112	0.15	0.15	264
3.75	0.766	0.049	11.4799	Clay (3)	7.7	1.023	0.02	0.017			1.78	7.7	111	0.42	0.35	307
6.25	0.794	0.019	8.4104	Silty clay to clay (4)	5.1	0.913	0.034	0.023	19.0		1.8	5.1	112	0.71	0.48	457
8.75	1.428	0.008	11.4398	Silty sand to sandy silt (7)	5.5	0.798	0.047	0.029	23.6		1.86	3.5	116	0.98	0.60	119
11.25	4.915	0.013	6.2279	Sand to silty sand (8)	13.0		0.061	0.036	28.9	65	1.92	8.3	120	1.27	0.75	409
13.75	17.252	0.044	6.3328	Gravelly sand to sand (10)	31.6		0.076	0.043	35.5	90	1.99	21.5	124	1.58	0.89	1435
16.25	31.276	0.1	9.9619	Gravelly sand to sand (10)	52.1		0.091	0.05	39.6	110	2.04	35.4	127	1.89	1.04	2602
18.75	25.621	0.086	13.1586	Gravelly sand to sand (10)	45.0		0.106	0.058	38.5	102	2.02	30.6	126	2.20	1.21	2132
21.25	18.212	0.078	12.5503	Sand to silty sand (8)	34.3		0.121	0.065	36.1	87	2	21.9	125	2.52	1.35	1515
23.75	13.35	0.044	10.9598	Sand (9)	28.4		0.136	0.072	34.5	77	1.98	14.2	124	2.83	1.50	1111
26.25	7.988	0.042	10.1667	Sand (9)	18.6		0.151	0.079	32.1	63	1.95	9.3	122	3.14	1.64	665
28.75	10.044	0.037	11.2453	Sand to silty sand (8)	21.4		0.166	0.086	33.4	68	1.97	13.7	123	3.45	1.79	836
31.25	7.788	0.035	12.3049	Sand (9)	18.8		0.18	0.093	32.1	61	1.94	9.4	121	3.74	1.93	648
33.75	21.275	0.076	13.2582	Gravelly sand to sand (10)	40.0		0.195	0.101	37.5	88	2	27.2	125	4.06	2.10	1770

Classification by
Robertson 1986

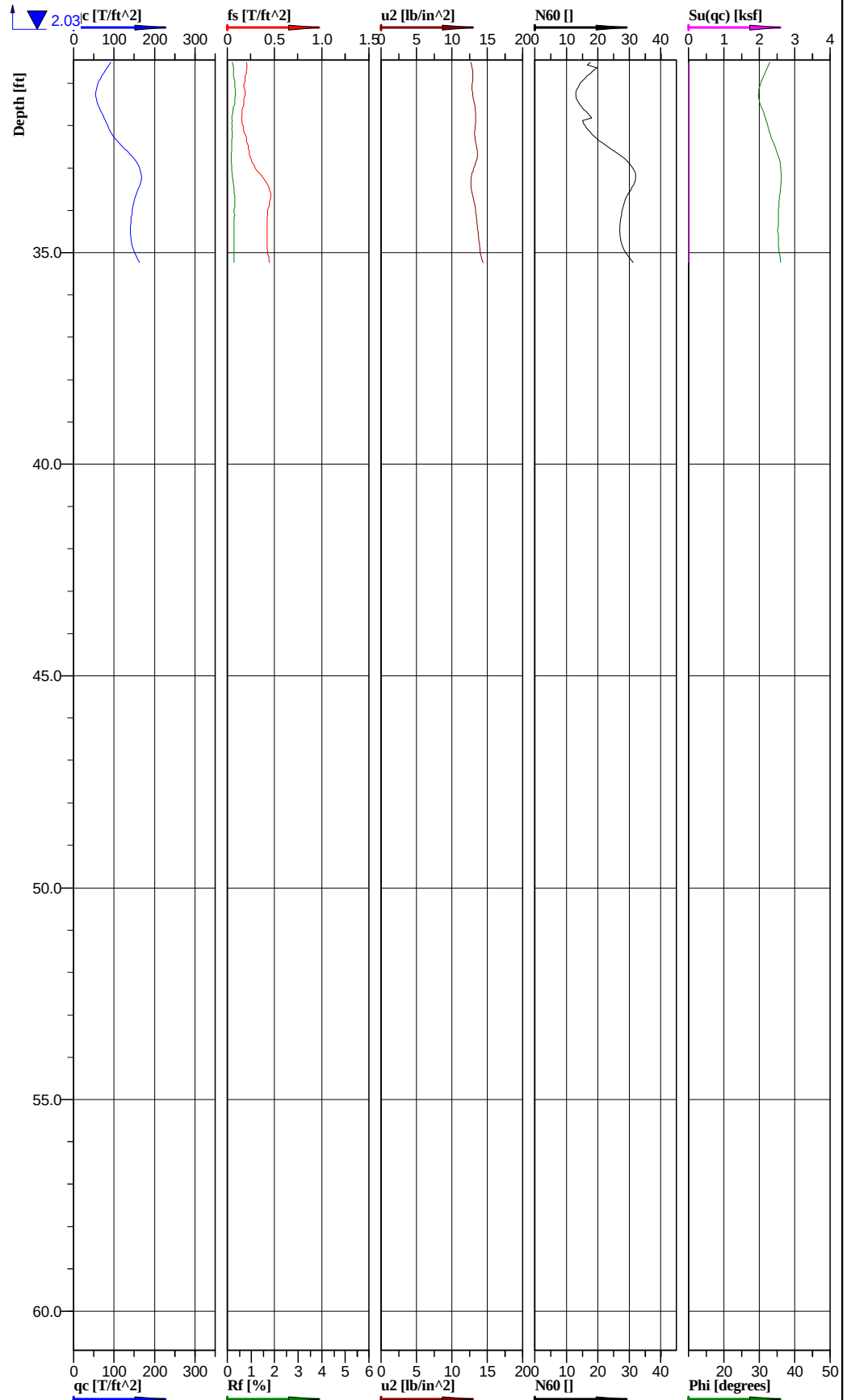
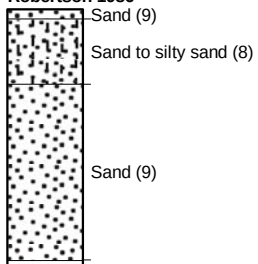


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 730008.50 ft, Y: 992783.30 ft	Ground level:	464.90	Test no:	C-123
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-54
				File:	Labadie C-123.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



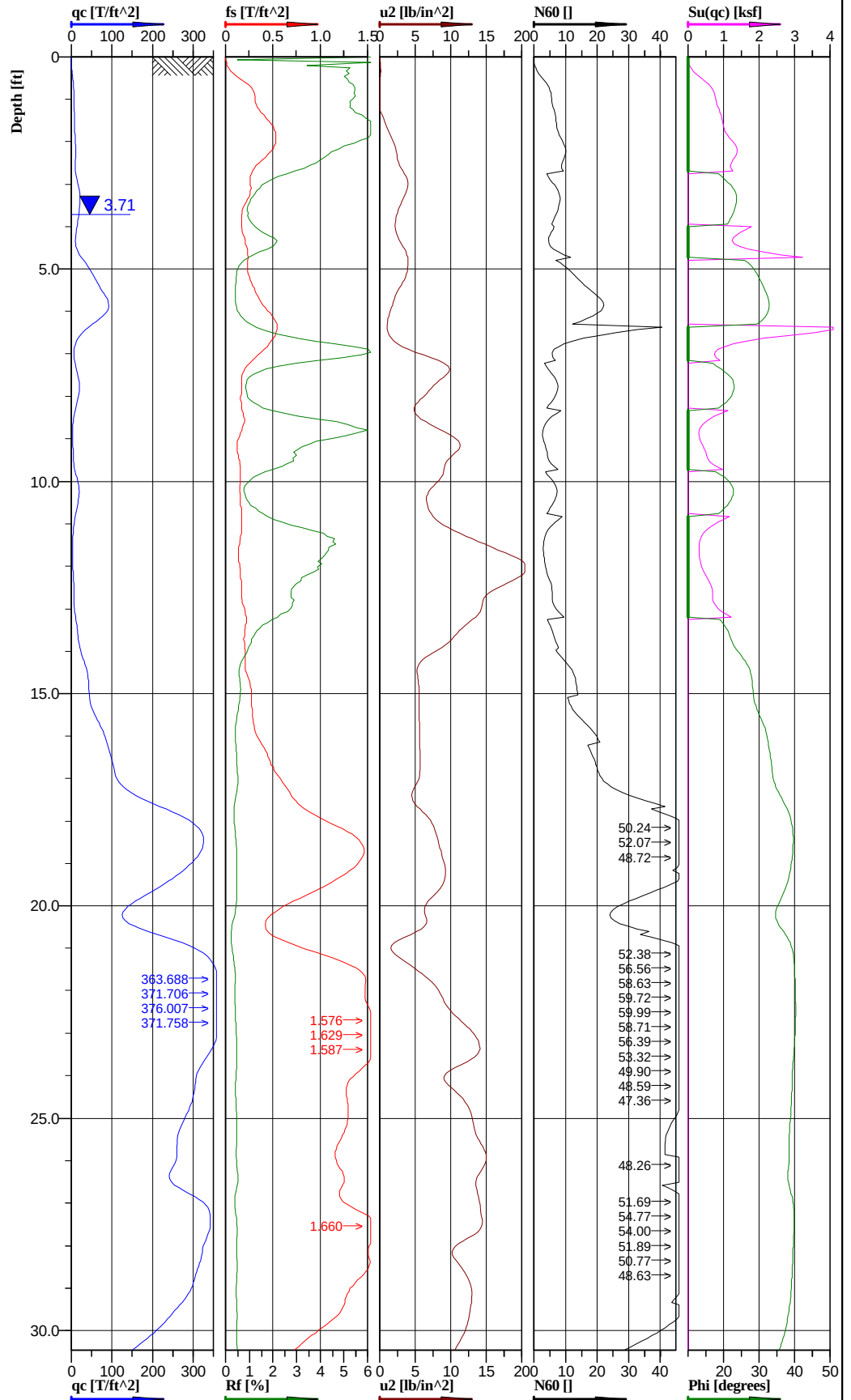
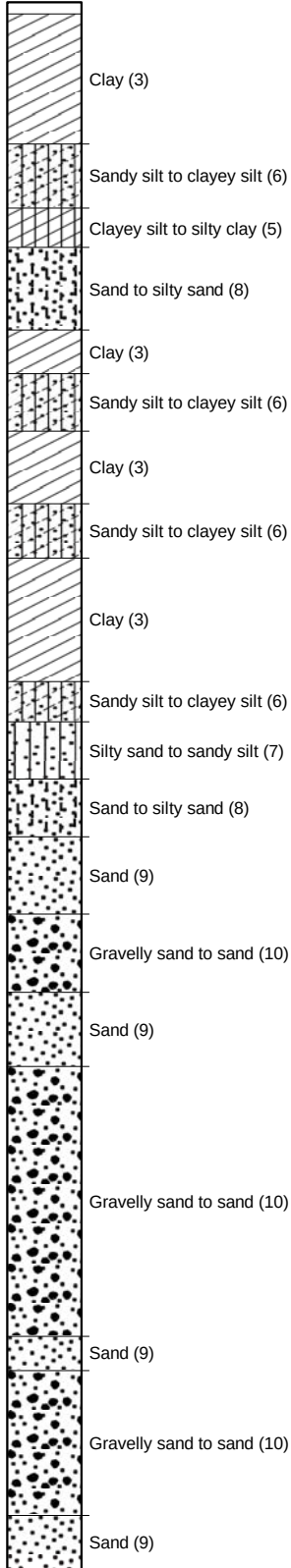
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 730008.50 ft, Y: 992783.30 ft	Ground level: 464.90	Test no: C-123
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/10/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-54
		File: Labadie C-123.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-123
Test date: 11/10/2009
Location: Labadie MO
File name: Labadie C-123.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.62	0.021	4.2539	Clay (3)	5.7	0.847	0.007	0.007			1.8	5.7	112	0.15	0.15	254
3.75	0.749	0.018	-0.6722	Sandy silt to clayey silt (6)	5.1	0.689	0.02	0.015	20.2		1.8	5.1	112	0.42	0.31	62
6.25	1.22	0.006	1.3273	Silty sand to sandy silt (7)	5.0	1.086	0.034	0.021	22.1		1.82	3.2	114	0.71	0.44	102
8.75	9.343	0.037	3.7429	Sand to silty sand (8)	20.8		0.048	0.027	32.6	84	1.96	13.3	122	1.00	0.56	777
11.25	8.804	0.025	5.0862	Sand (9)	19.0		0.063	0.034	32.7	78	1.97	9.5	123	1.31	0.71	732
13.75	20.167	0.07	6.7269	Sand (9)	38.4		0.077	0.042	37.3	99	2	19.2	125	1.60	0.87	1678
16.25	10.709	0.043	8.6736	Sand to silty sand (8)	22.9		0.092	0.049	33.5	77	1.97	14.6	123	1.91	1.02	891
18.75	9.872	0.028	7.6612	Sand (9)	21.2		0.107	0.056	33.3	74	1.97	10.6	123	2.23	1.16	821
21.25	10.164	0.039	8.4126	Sand (9)	21.6		0.122	0.063	33.3	73	1.97	10.8	123	2.54	1.31	846
23.75	14.733	0.036	10.4311	Sand (9)	29.4		0.136	0.07	35.7	83	1.99	14.7	124	2.83	1.46	1226
26.25	19.853	0.047	11.5384	Sand (9)	37.7		0.151	0.078	37.3	90	2	18.9	125	3.14	1.62	1652
28.75	14.222	0.031	11.6383	Sand (9)	28.4		0.166	0.085	35.5	79	1.99	14.2	124	3.45	1.77	1183
31.25	8.05	0.017	12.9894	Sand (9)	17.6		0.181	0.092	32.1	61	1.96	8.8	122	3.76	1.91	670
33.75	14.33	0.037	13.3571	Sand (9)	28.6		0.196	0.099	35.6	77	1.99	14.3	124	4.08	2.06	1192
36.25	15.098	0.042	14.2028	Sand (9)	30.2		0.204	0.103	35.9	78	1.99	15.1	124	4.24	2.14	1256

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS

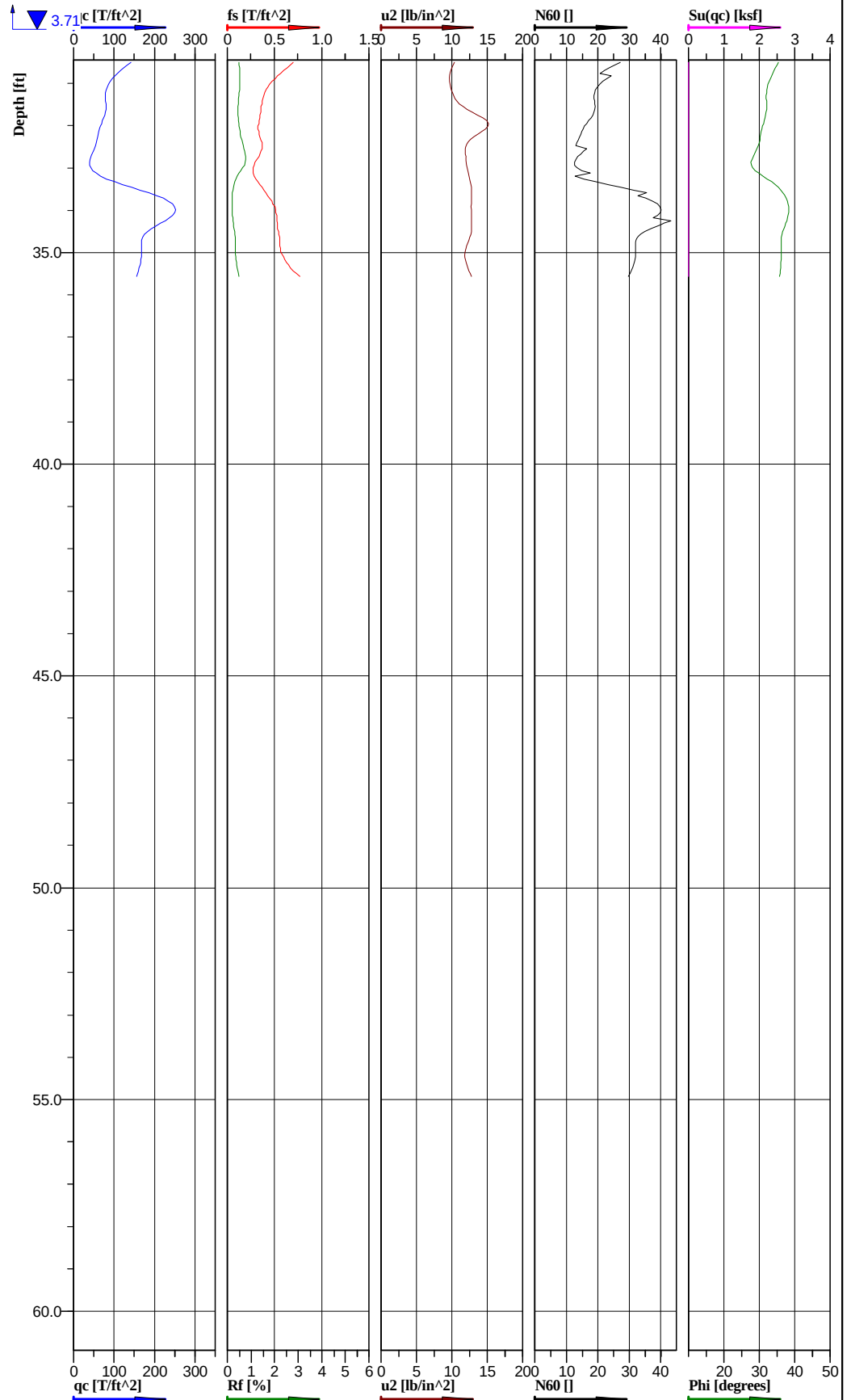


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730600.30 ft, Y: 992770.51 ft	Ground level:	466.01	Test no:	C-125
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/09	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-55
				File:	Labadie C-125.cpd		

Classification by
Robertson 1986

Sand (9)
Sand to silty sand (8)
Silty sand to sandy silt (7)
Sand (9)
Gravelly sand to sand (10)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



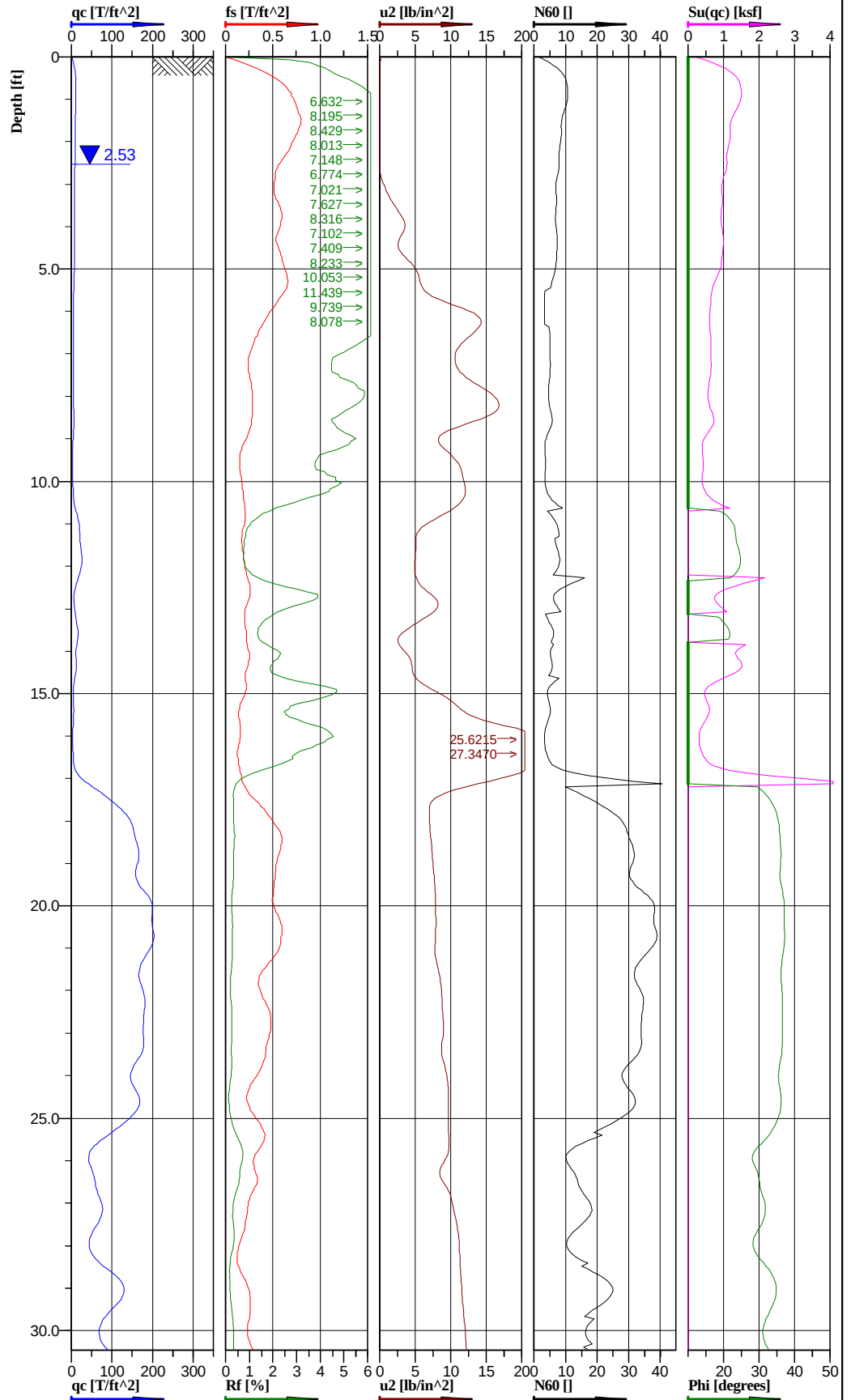
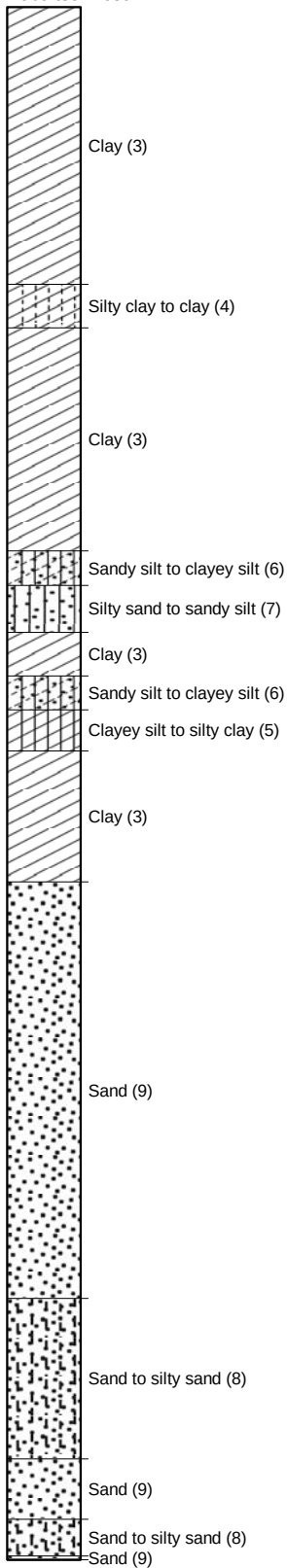
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730600.30 ft, Y: 992770.51 ft	Ground level:	466.01	Test no:	C-125
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/10/09	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-55
				File:	Labadie C-125.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-125
 Test date: 11/10/09
 Location: Labadie MO
 File name: Labadie C-125.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.587	0.031	0.6753	Clay (3)	5.9	0.807	0.006	0.006			1.71	5.9	107	0.12	0.12	242
3.75	1.775	0.021	3.1855	Sand to silty sand (8)	7.2	1.652	0.02	0.019	23.3	60	1.85	4.6	115	0.42	0.40	148
6.25	4.262	0.035	3.7607	Sandy silt to clayey silt (6)	14.7	2.041	0.034	0.026	28.6	76	1.88	14.7	117	0.71	0.54	355
8.75	0.91	0.015	8.1393	Sandy silt to clayey silt (6)	5.2	0.55	0.048	0.032	21.2		1.81	5.2	113	1.00	0.67	76
11.25	0.781	0.015	12.8816	Clay (3)	5.0	0.506	0.061	0.038	21.5		1.8	5.0	112	1.27	0.79	152
13.75	2.127	0.02	9.7481	Silty sand to sandy silt (7)	8.6	0.82	0.075	0.044	24.8		1.85	5.5	115	1.56	0.92	177
16.25	8.87	0.041	5.4323	Sand (9)	19.2		0.089	0.051	32.4	72	1.96	9.6	122	1.85	1.06	738
18.75	24.957	0.108	7.775	Sand (9)	44.2		0.104	0.058	38.3	100	2.02	22.1	126	2.16	1.21	2076
21.25	27.758	0.099	5.9082	Gravelly sand to sand (10)	47.4		0.119	0.065	38.6	100	2.03	32.3	127	2.48	1.35	2309
23.75	31.407	0.139	11.8625	Gravelly sand to sand (10)	52.3		0.134	0.073	39.6	104	2.04	35.6	127	2.79	1.52	2613
26.25	27.061	0.123	14.0581	Gravelly sand to sand (10)	47.1		0.149	0.081	38.8	98	2.02	32.0	126	3.10	1.68	2251
28.75	27.888	0.131	12.206	Sand (9)	48.6		0.165	0.088	39.0	98	2.03	24.3	127	3.43	1.83	2320
31.25	9.485	0.047	11.632	Sand to silty sand (8)	21.5		0.18	0.095	32.8	64	1.95	13.8	122	3.74	1.98	789
33.75	14.292	0.042	12.4347	Sand (9)	28.3		0.194	0.102	34.4	82	1.98	14.1	124	4.04	2.12	1189
36.25	15.596	0.063	12.1913	Sand (9)	31.2		0.203	0.107	36.0	79	1.99	15.6	124	4.22	2.23	1298

Classification by
Robertson 1986

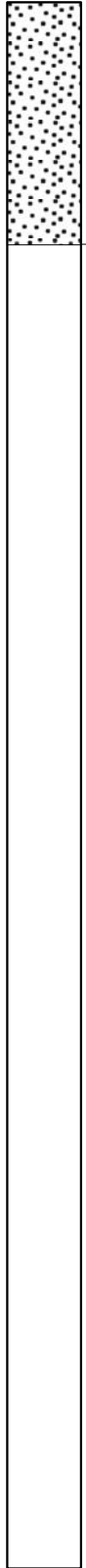


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

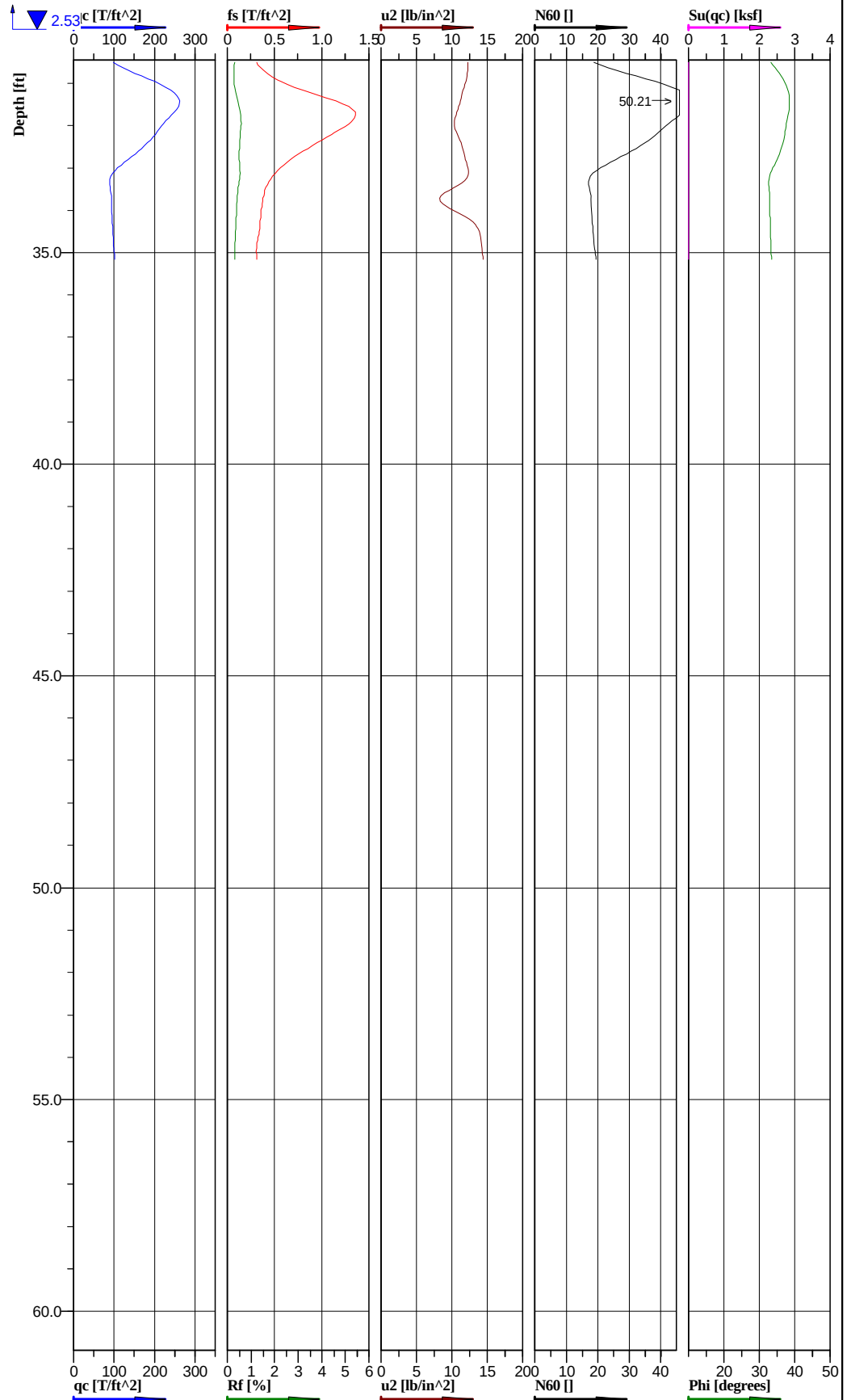


Location:	Labadie, MO	Position:	X: 727767.13 ft, Y: 992541.27 ft	Ground level:	464.11	Test no:	C-129
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-56
				File:	Labadie C-129.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

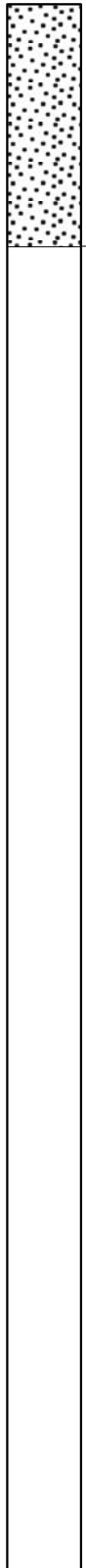
Location:	Labadie, MO	Position:	X: 727767.13 ft, Y: 992541.27 ft	Ground level:	464.11	Test no:	C-129
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-56
				File:	Labadie C-129.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-129
Test date: 11/11/2009
Location: Labadie MO
File name: Labadie C-129.cpd

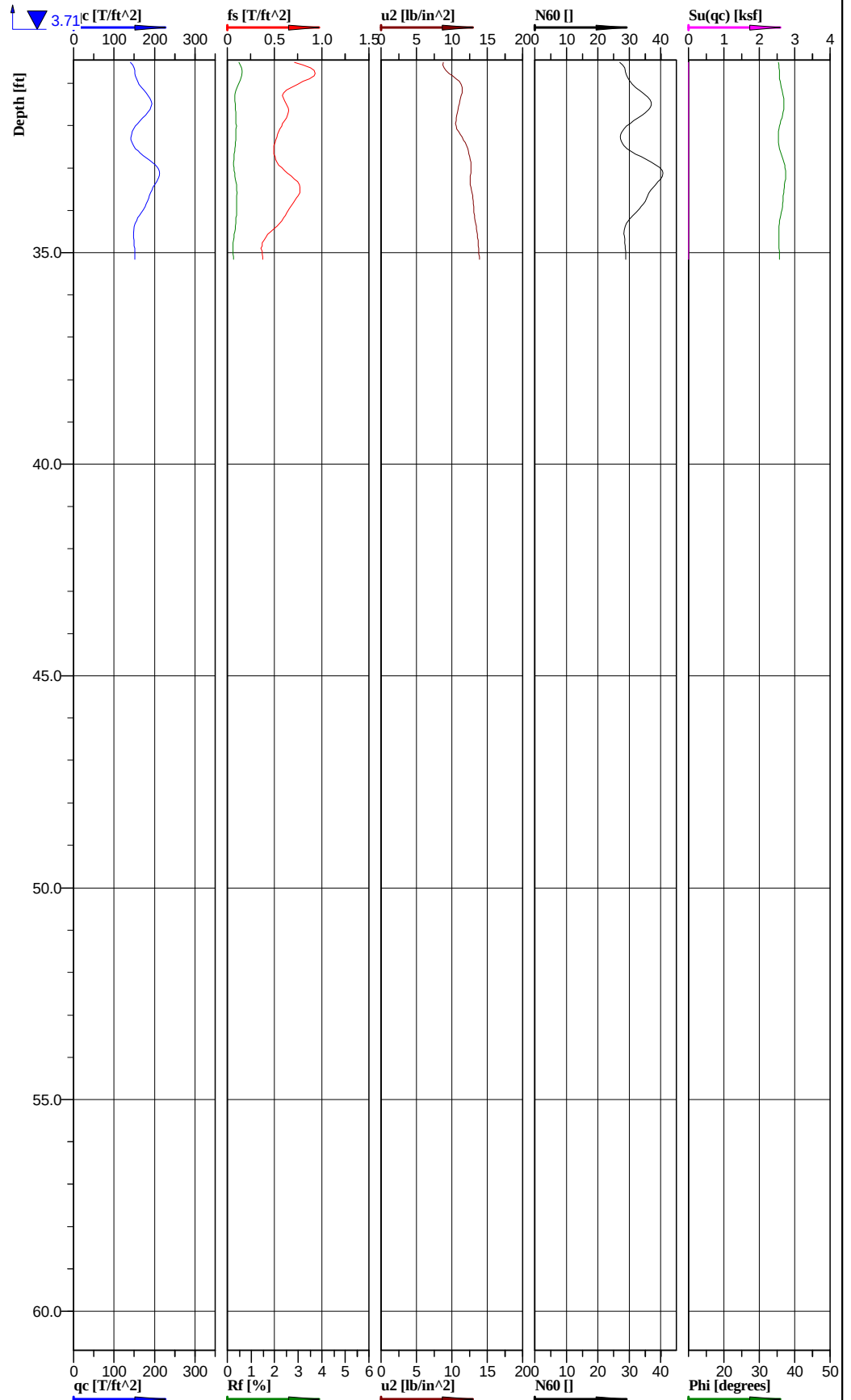
Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.862	0.059	-2.038	Clay (3)	8.6	1.194	0.007	0.007			1.78	8.6	111	0.15	0.15	358
3.75	0.716	0.054	2.3248	Clay (3)	7.2	0.966	0.02	0.016			1.78	7.2	111	0.42	0.33	290
6.25	0.516	0.04	10.337	Clay (3)	4.6	0.659	0.033	0.021			1.61	4.6	101	0.69	0.44	198
8.75	0.437	0.021	12.3521	Clay (3)	4.4	0.527	0.046	0.026			1.78	4.4	111	0.96	0.54	158
11.25	1.516	0.019	7.2849	Clay (3)	7.3	0.963	0.059	0.032	23.2		1.84	7.3	115	1.23	0.67	289
13.75	0.975	0.021	5.4527	Clay (3)	5.8	1.055	0.073	0.038	20.7		1.82	5.8	114	1.52	0.79	317
16.25	1.774	0.016	17.4535	Sand (9)	8.8	0.925	0.086	0.044	31.6	68	1.83	4.4	114	1.79	0.92	148
18.75	15.172	0.049	7.4021	Sand (9)	30.3		0.101	0.051	35.8	88	1.99	15.2	124	2.10	1.06	1262
21.25	17.785	0.046	8.1962	Sand (9)	35.6		0.115	0.058	36.7	91	1.99	17.8	124	2.39	1.21	1480
23.75	15.809	0.035	9.2235	Sand (9)	31.6		0.13	0.066	36.1	86	1.99	15.8	124	2.70	1.37	1315
26.25	6.799	0.029	9.6893	Sand to silty sand (8)	16.1		0.145	0.073	31.0	59	1.94	10.3	121	3.02	1.52	566
28.75	7.992	0.019	11.4888	Sand to silty sand (8)	17.4		0.16	0.08	31.8	62	1.96	11.1	122	3.33	1.66	665
31.25	17.467	0.077	11.4498	Sand (9)	35.4		0.174	0.087	36.1	83	1.99	17.7	124	3.62	1.81	1453
33.75	9.965	0.042	11.8796	Sand (9)	19.9		0.189	0.094	33.5	67	1.98	10.0	124	3.93	1.96	829
36.25	9.694	0.03	14.3598	Sand (9)	19.4		0.197	0.098	33.4	66	1.99	9.7	124	4.10	2.04	807

Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



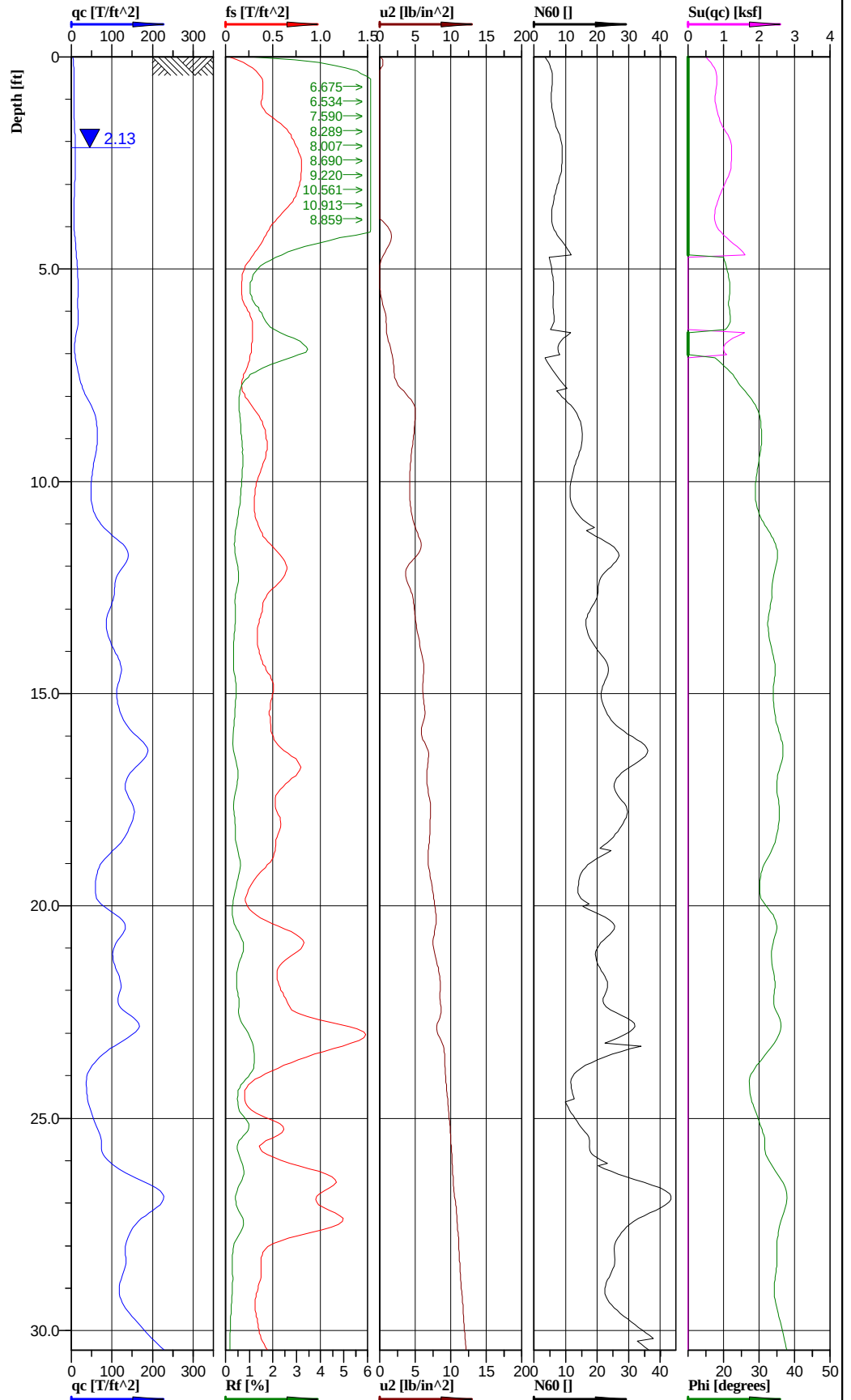
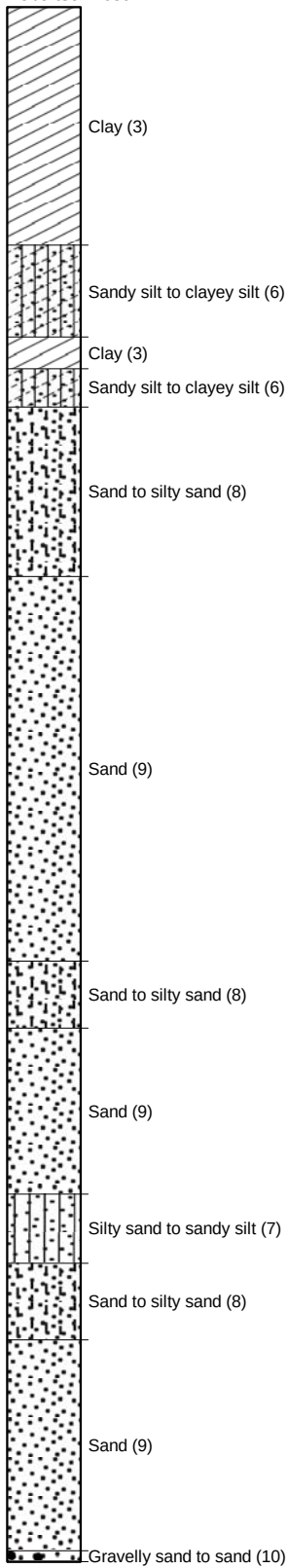
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 728365.32 ft, Y: 992547.90 ft	Ground level:	464.99	Test no:	C-131
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-57
				File:	Labadie C-131.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-131
 Test date: 11/11/2009
 Location: Labadie MO
 File name: Labadie C-131.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.757	0.039	-3.2302	Clay (3)	6.9	1.049	0.007	0.007			1.8	6.9	112	0.15	0.15	315
3.75	0.764	0.055	-3.9377	Clay (3)	7.6	1.041	0.02	0.019			1.79	7.6	112	0.42	0.40	312
6.25	1.39	0.01	-0.445	Sandy silt to clayey silt (6)	5.9	1.43	0.034	0.026	20.9		1.84	5.9	115	0.71	0.54	116
8.75	0.689	0.008	1.5727	Silty sand to sandy silt (7)	3.6	0.674	0.048	0.032	18.7		1.83	2.3	114	1.00	0.67	57
11.25	1.547	0.008	5.7584	Sand to silty sand (8)	5.7	1.055	0.061	0.038	22.9	51	1.85	3.6	115	1.27	0.79	129
13.75	5.06	0.027	4.6657	Sand to silty sand (8)	13.7		0.075	0.045	29.0	62	1.91	8.8	119	1.56	0.94	421
16.25	7.243	0.026	5.8234	Sand (9)	15.8		0.09	0.051	31.0	64	1.96	7.9	122	1.87	1.06	603
18.75	9.512	0.031	7.0072	Sand (9)	19.0		0.104	0.059	33.3	73	1.99	9.5	124	2.16	1.23	791
21.25	15.05	0.05	7.6984	Sand (9)	30.1		0.119	0.066	35.8	84	1.99	15.0	124	2.48	1.37	1252
23.75	13.06	0.042	8.9186	Sand (9)	26.1		0.134	0.073	35.1	79	1.99	13.1	124	2.79	1.52	1087
26.25	10.483	0.033	9.9546	Sand (9)	22.1		0.149	0.08	33.6	71	1.97	11.0	123	3.10	1.66	872
28.75	7.53	0.039	10.7032	Sand to silty sand (8)	17.1		0.164	0.087	31.5	59	1.95	10.9	122	3.41	1.81	626
31.25	14.515	0.059	10.5828	Sand (9)	29.1		0.178	0.094	35.5	78	1.99	14.5	124	3.70	1.96	1208
33.75	16.694	0.055	13.0307	Sand (9)	33.4		0.193	0.102	36.3	81	1.99	16.7	124	4.01	2.12	1389
36.25	14.448	0.036	13.8475	Sand (9)	28.9		0.201	0.105	35.6	77	1.99	14.4	124	4.18	2.18	1202

Classification by
Robertson 1986

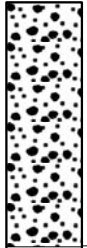


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

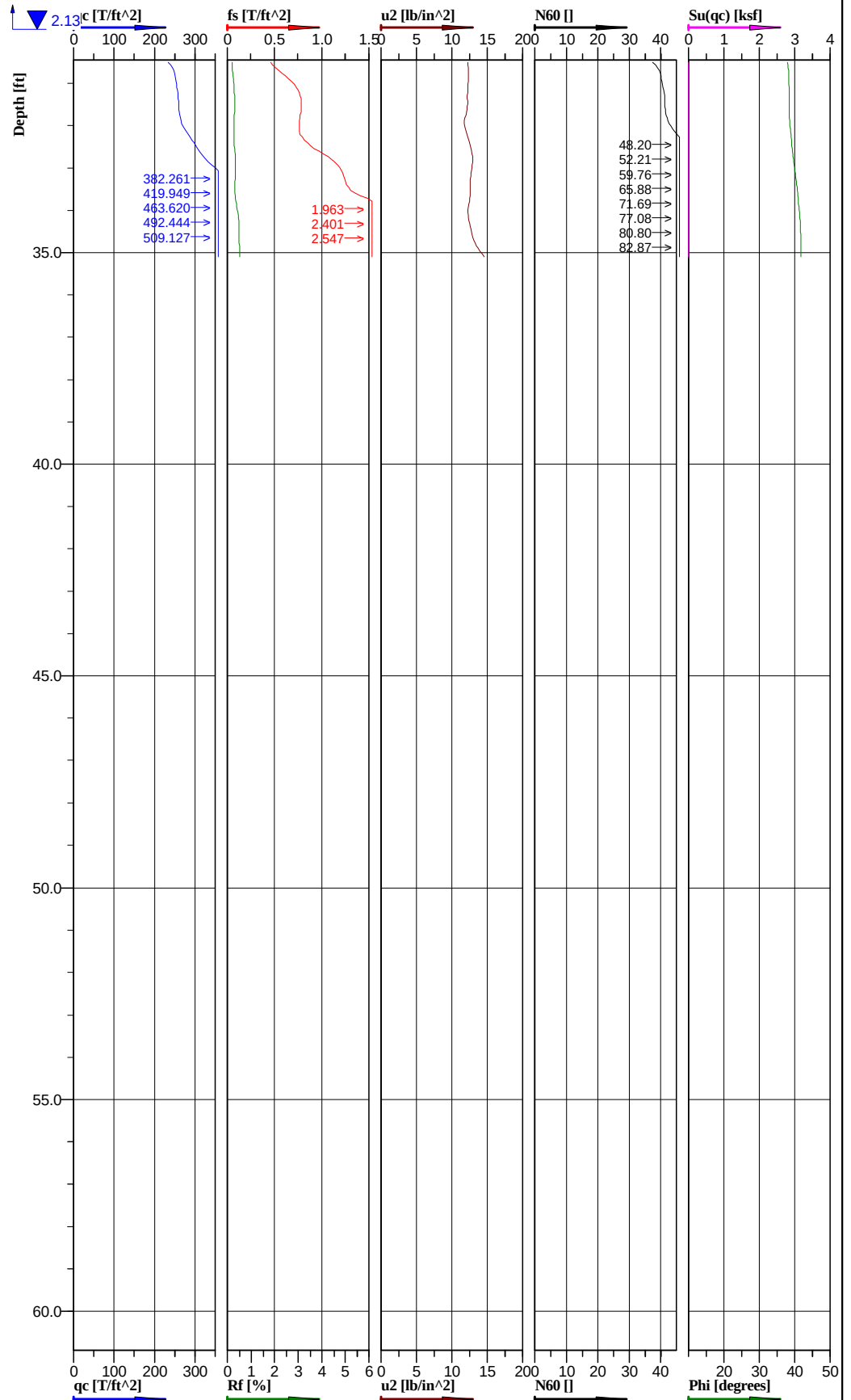


Location:	Labadie, MO	Position:	X: 729146.49 ft, Y: 992516.70 ft	Ground level:	464.60	Test no:	C-133
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-58
				File:	Labadie C-133.cpd		

Classification by
Robertson 1986



Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



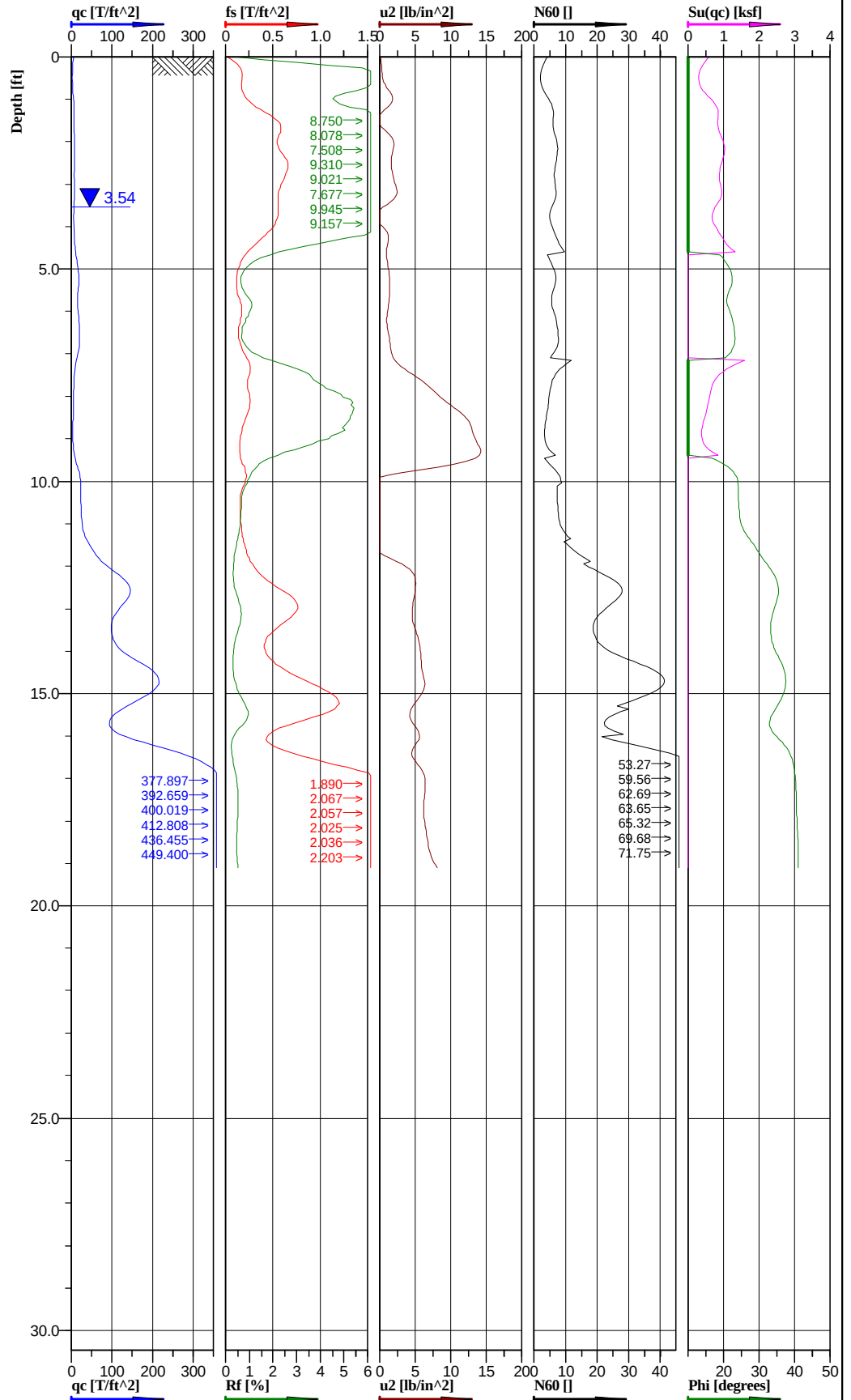
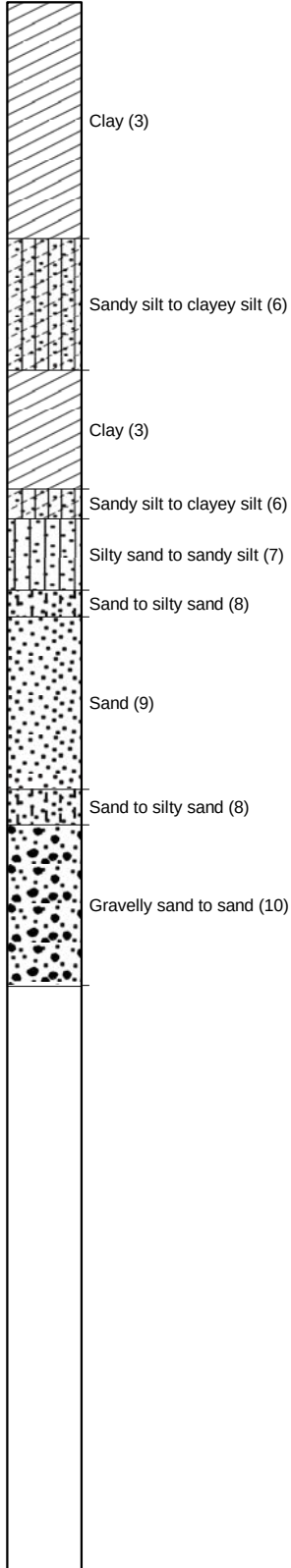
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729146.49 ft, Y: 992516.70 ft	Ground level:	464.60	Test no:	C-133
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-58
				File:	Labadie C-133.cpd		

Client: Aneren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-133
Test date: 11/11/2009
Location: Labadie MO
File name: Labadie C-133.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.666	0.048	-2.3972	Clay (3)	6.7	0.921	0.007	0.007			1.78	6.7	111	0.15	0.15	276
3.75	0.841	0.052	-0.322	Sandy silt to clayey silt (6)	7.2	1.022	0.02	0.015	20.6		1.8	7.2	112	0.42	0.31	70
6.25	1.339	0.022	0.9269	Sandy silt to clayey silt (6)	6.6	1.171	0.034	0.021	21.3		1.83	6.6	114	0.71	0.44	111
8.75	4.842	0.032	4.2585	Sand to silty sand (8)	12.5		0.048	0.028	28.9	66	1.92	8.0	120	1.00	0.58	403
11.25	8.763	0.042	4.5831	Sand (9)	18.7		0.062	0.034	32.3	76	1.97	9.3	123	1.29	0.71	729
13.75	9.975	0.039	5.4884	Sand (9)	19.9		0.077	0.042	33.5	79	1.98	10.0	124	1.60	0.87	830
16.25	13.939	0.055	6.4677	Sand (9)	27.9		0.092	0.049	35.4	86	1.99	13.9	124	1.91	1.02	1160
18.75	9.808	0.042	7.1385	Sand (9)	21.3		0.107	0.056	33.0	73	1.96	10.7	122	2.23	1.16	816
21.25	10.997	0.057	8.0847	Sand (9)	22.0		0.121	0.063	34.1	76	1.98	11.0	124	2.52	1.31	915
23.75	7.856	0.068	9.0521	Sand to silty sand (8)	19.6		0.136	0.07	31.1	70	1.93	12.6	120	2.83	1.46	654
26.25	12.927	0.079	10.3313	Sand (9)	27.3		0.15	0.077	34.3	75	1.96	13.7	122	3.12	1.60	1076
28.75	13.186	0.041	11.4379	Sand (9)	26.4		0.165	0.084	35.1	77	1.99	13.2	124	3.43	1.75	1097
31.25	24.327	0.064	12.1666	Gravelly sand to sand (10)	41.0		0.18	0.092	38.3	94	2.03	27.9	127	3.74	1.91	2024
33.75	41.311	0.17	12.7782	Gravelly sand to sand (10)	68.8		0.196	0.099	40.8	107	2.04	46.8	127	4.08	2.06	3437
36.25	50.05	0.263	14.3985	Gravelly sand to sand (10)	83.4		0.203	0.103	41.8	113	2.04	56.7	127	4.22	2.14	4164

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

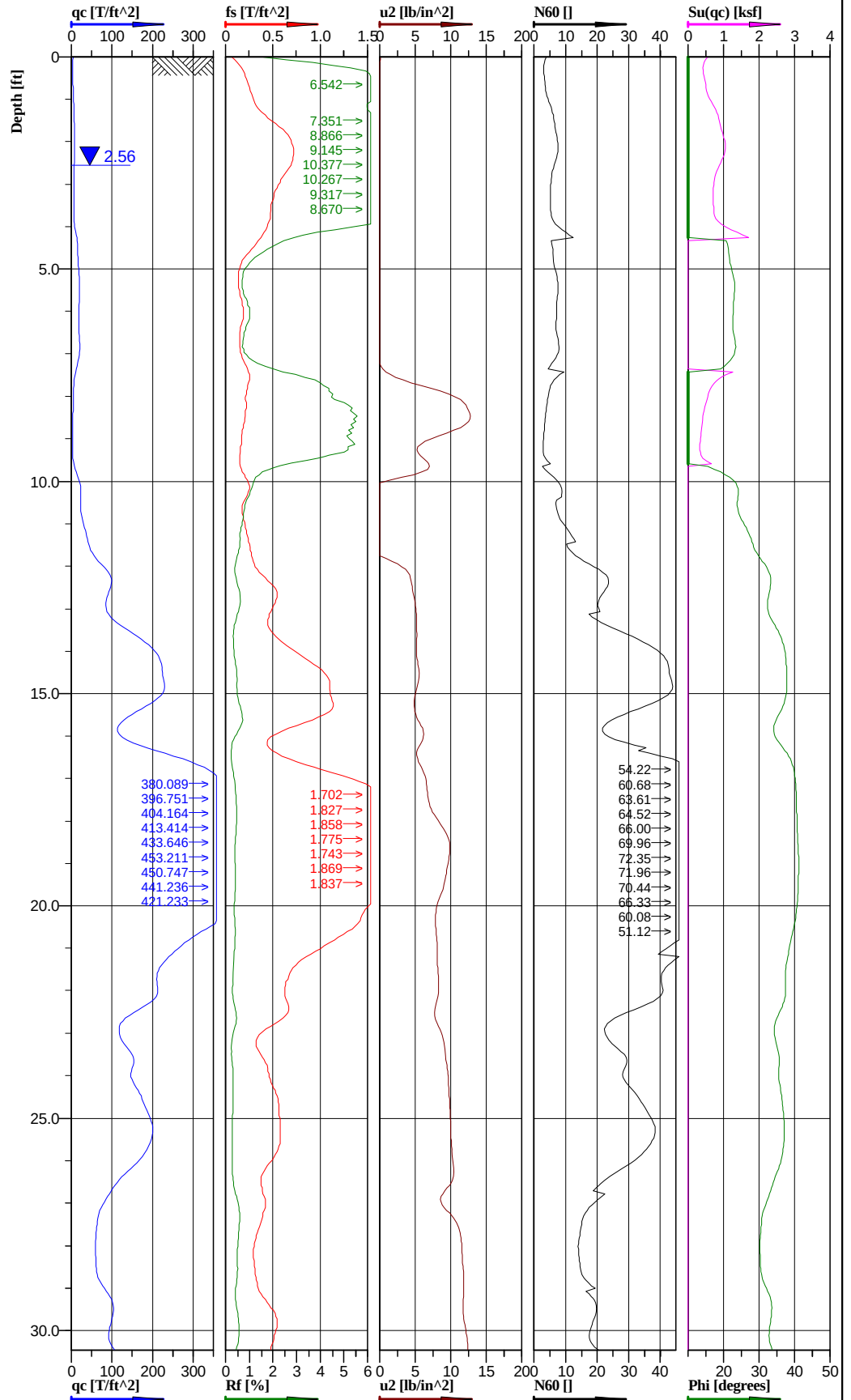
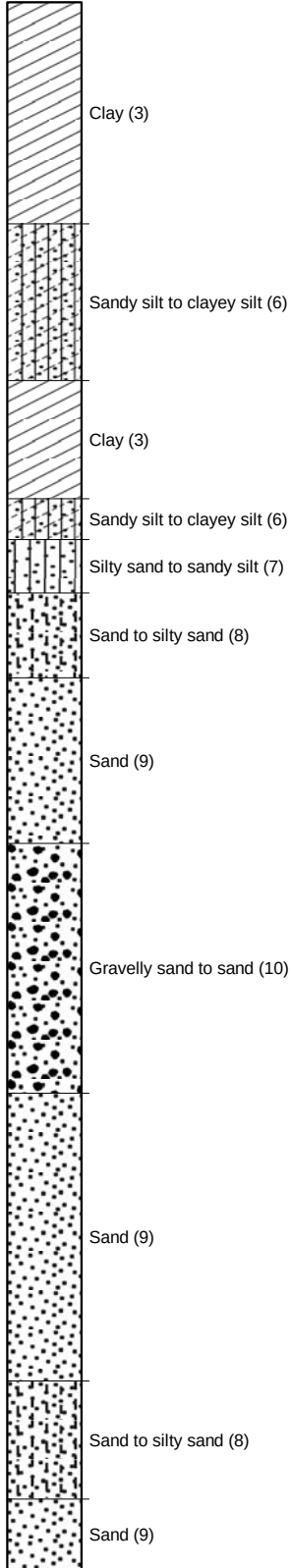


Location:	Labadie, MO	Position:	X: 729732.32 ft, Y: 992494.23 ft	Ground level:	463.71	Test no:	C-135
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-59
				File:	Labadie C-135.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-135
Test date: 11/11/2009
Location: Labadie MO
File name: Labadie C-135.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.515	0.036	0.9556	Clay (3)	5.2	0.708	0.006	0.006			1.7	5.2	106	0.12	0.12	212
3.75	0.784	0.043	1.1503	Sandy silt to clayey silt (6)	6.4	0.894	0.019	0.018	20.6		1.75	6.4	109	0.40	0.37	65
6.25	1.52	0.016	1.7248	Clay (3)	7.0	1.14	0.033	0.024	22.1		1.83	7.0	114	0.69	0.50	342
8.75	0.751	0.019	9.3867	Sandy silt to clayey silt (6)	5.0	0.549	0.046	0.03	21.6		1.8	5.0	112	0.96	0.62	62
11.25	5.321	0.023	-1.0433	Sand (9)	13.0		0.06	0.037	28.2	74	1.92	6.5	120	1.25	0.77	443
13.75	13.955	0.062	5.4052	Sand (9)	27.9		0.075	0.044	35.2	87	1.99	14.0	124	1.56	0.92	1161
16.25	23.166	0.11	5.3639	Gravelly sand to sand (10)	41.4		0.09	0.051	37.3	97	2.01	28.2	125	1.87	1.06	1927
18.75	40.698	0.2	6.7326	Gravelly sand to sand (10)	67.8		0.102	0.057	40.8	115	2.04	46.1	127	2.12	1.19	3386

Classification by
Robertson 1986



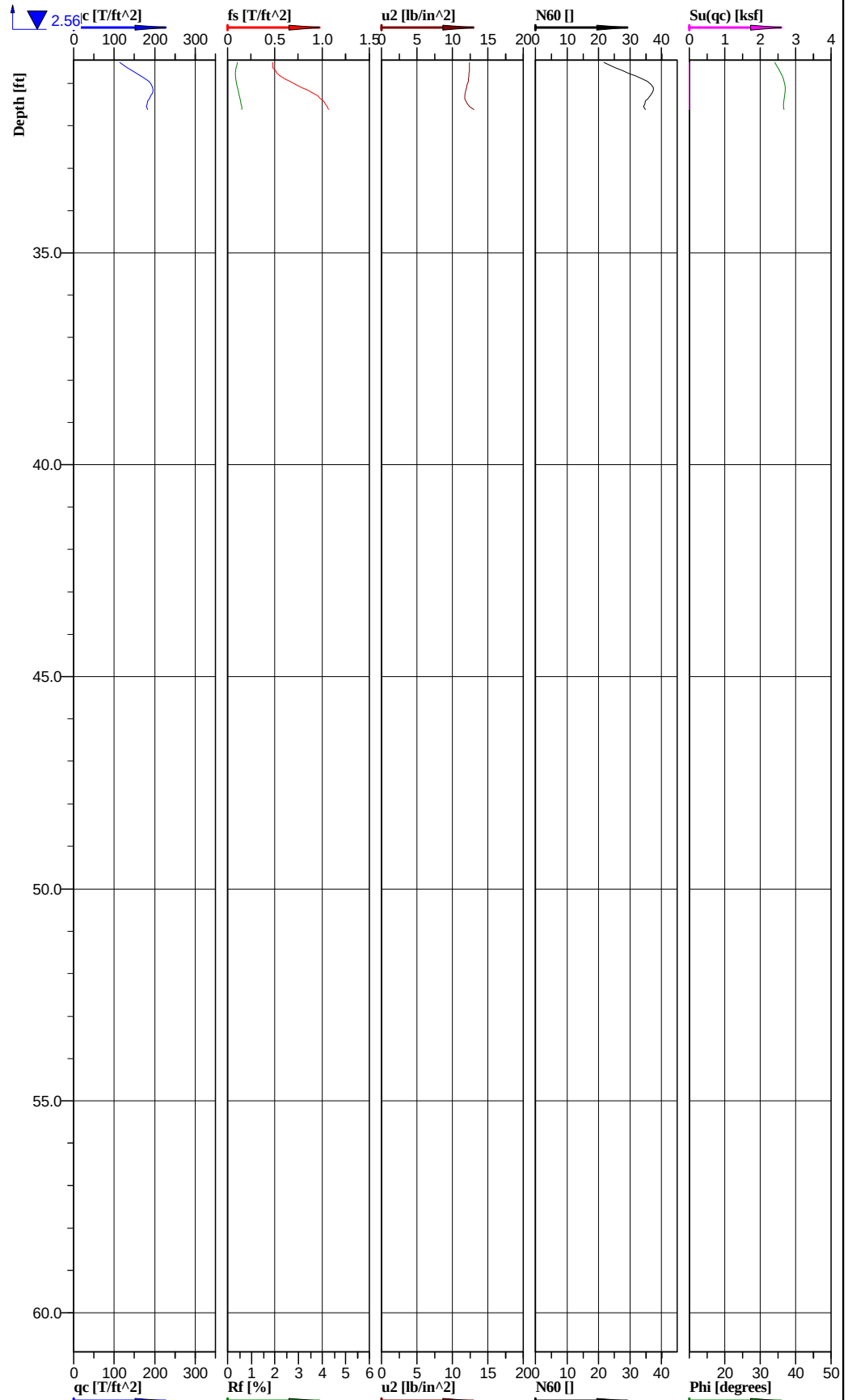
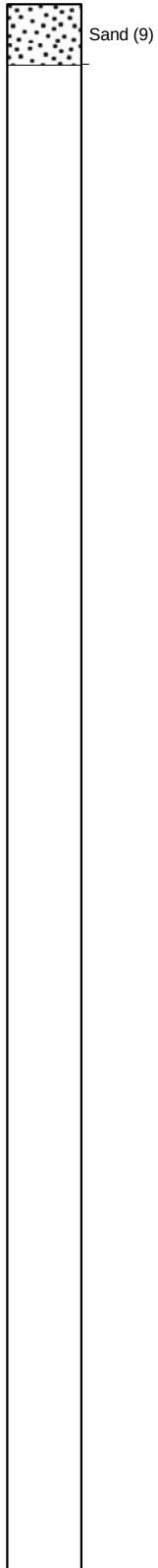
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729740.19 ft, Y: 992494.16 ft	Ground level:	463.91	Test no:	C-135A
Project ID:	200801245	Client:	Ameren Missouri	Date:	11/11/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-60
Confirmation sounding adjacent to C-135				File:	Labadie C-135A.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



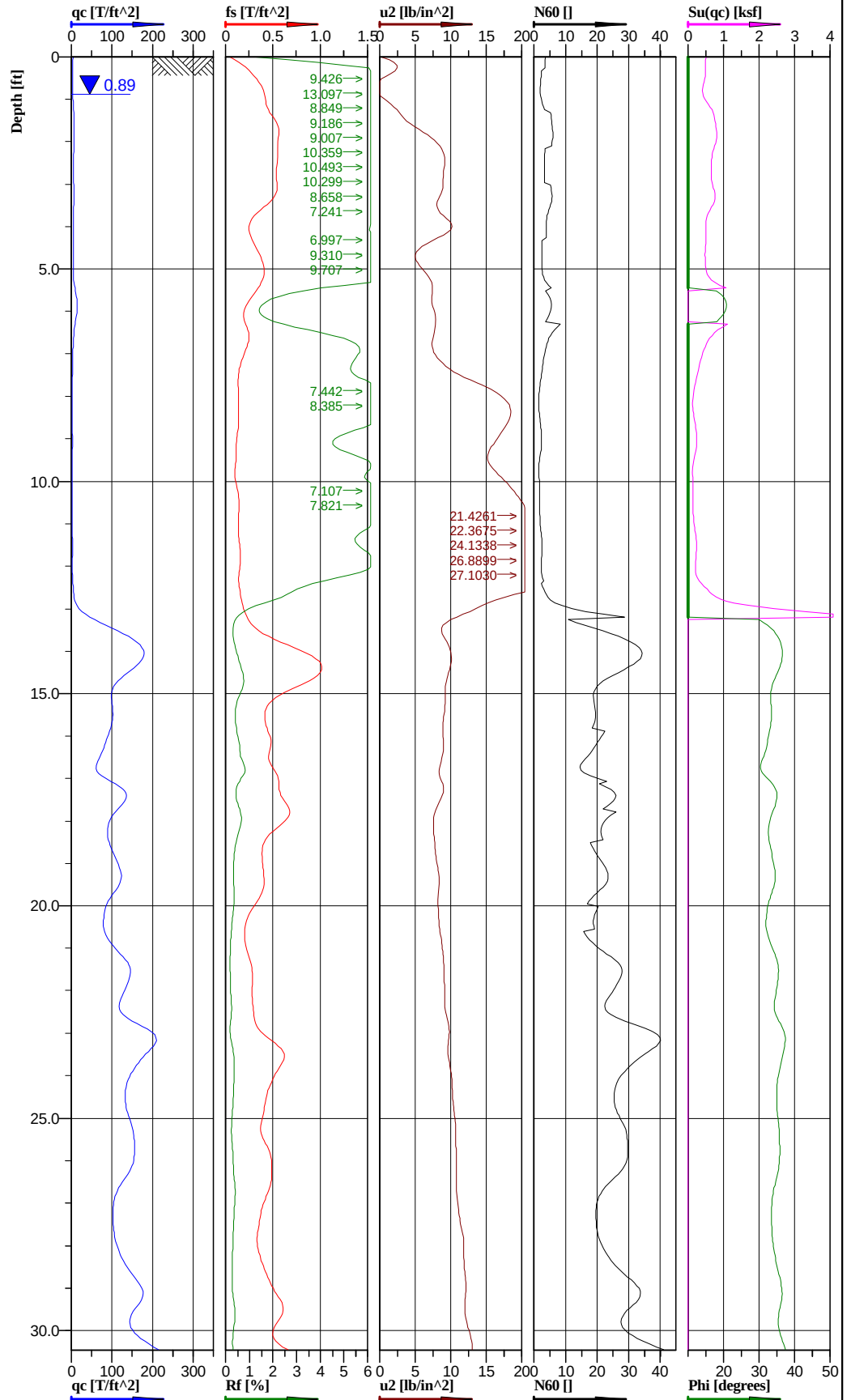
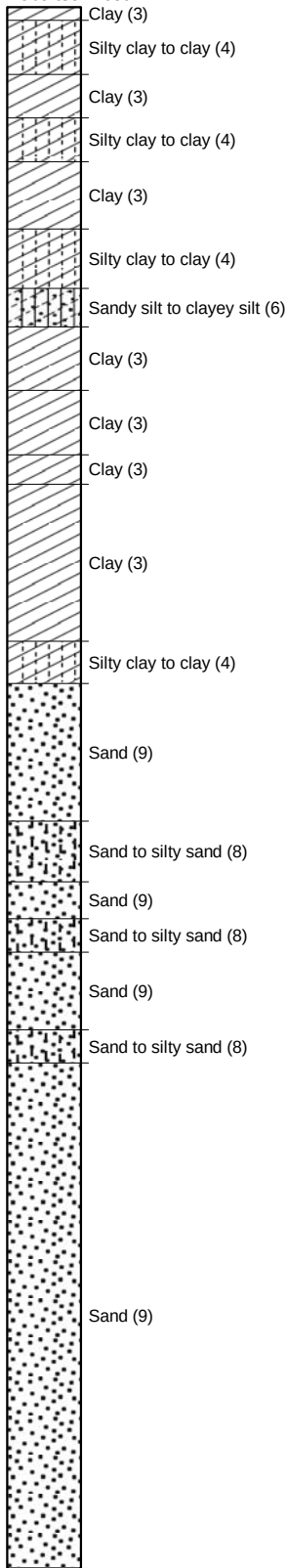
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729740.19 ft, Y: 992494.16 ft	Ground level: 463.91	Test no: C-135A
Project ID: 200801245	Client: Ameren Missouri	Date: 11/11/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-60
Confirmation sounding adjacent to C-135		File: Labadie C-135A.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-135A
Test date: 11/11/2009
Location: Labadie MO
File name: Labadie C-135A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.538	0.041	-3.8534	Clay (3)	5.4	0.745	0.007	0.007			1.78	5.4	111	0.15	0.15	224
3.75	0.915	0.041	-2.7141	Sandy silt to clayey silt (6)	6.3	0.873	0.02	0.017	21.6		1.8	6.3	112	0.42	0.35	76
6.25	1.705	0.016	-0.7871	Clay (3)	7.2	1.091	0.034	0.023	22.6		1.84	7.2	115	0.71	0.48	327
8.75	0.569	0.019	7.7746	Sandy silt to clayey silt (6)	4.3	0.483	0.047	0.028	20.1		1.79	4.3	112	0.98	0.58	47
11.25	4.616	0.026	-1.4165	Sand to silty sand (8)	13.0		0.061	0.035	27.9	71	1.91	8.3	119	1.27	0.73	384
13.75	15.766	0.069	5.1665	Sand (9)	32.5		0.076	0.042	35.6	91	1.98	16.3	124	1.58	0.87	1312
16.25	23.424	0.096	5.7792	Gravelly sand to sand (10)	41.6		0.091	0.049	37.6	99	2.01	28.3	125	1.89	1.02	1949
18.75	41.091	0.171	8.8275	Gravelly sand to sand (10)	68.5		0.106	0.056	40.9	116	2.04	46.6	127	2.20	1.16	3419
21.25	25.158	0.091	8.0401	Sand (9)	45.5		0.121	0.064	38.3	99	2.01	22.7	125	2.52	1.33	2093
23.75	14.467	0.045	9.2201	Sand (9)	28.9		0.136	0.071	35.6	82	1.99	14.5	124	2.83	1.48	1204
26.25	12.949	0.044	9.9354	Sand to silty sand (8)	27.0		0.151	0.078	34.5	75	1.97	17.3	123	3.14	1.62	1077
28.75	7.407	0.037	11.7045	Sand (9)	16.6		0.165	0.085	31.7	60	1.95	8.3	122	3.43	1.77	616
31.25	14.37	0.066	12.2357	Sand (9)	28.7		0.177	0.091	35.3	78	1.98	14.4	124	3.68	1.89	1196

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS

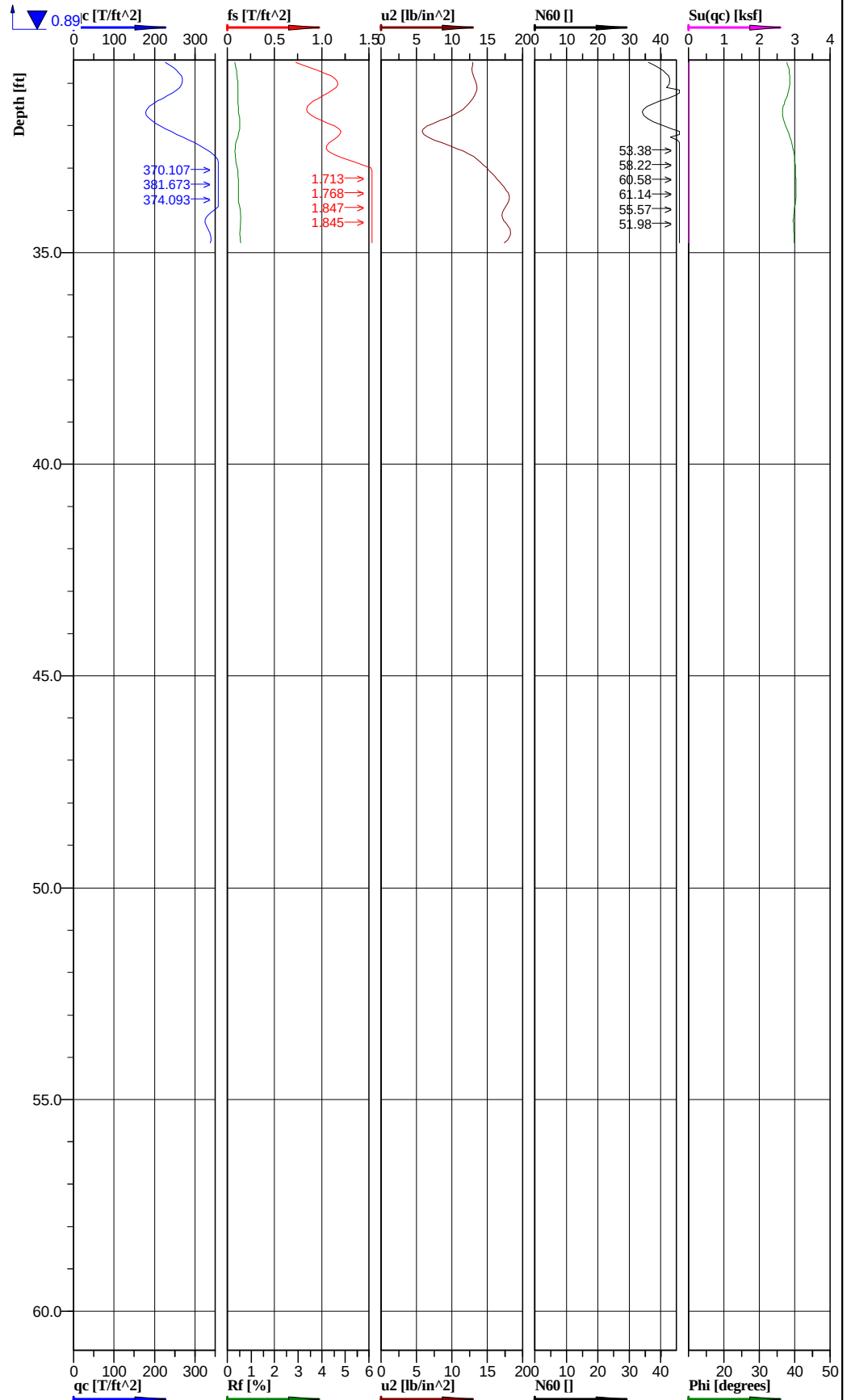


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 730304.63 ft, Y: 992490.72 ft	Ground level: 463.62	Test no: C-137
Project ID: 20080124055	Client: Ameren Missouri	Date: 11/12/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 1	Fig: C-61
		File: Labadie C-137.cpt	

Classification by
Robertson 1986

Sand (9)
Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



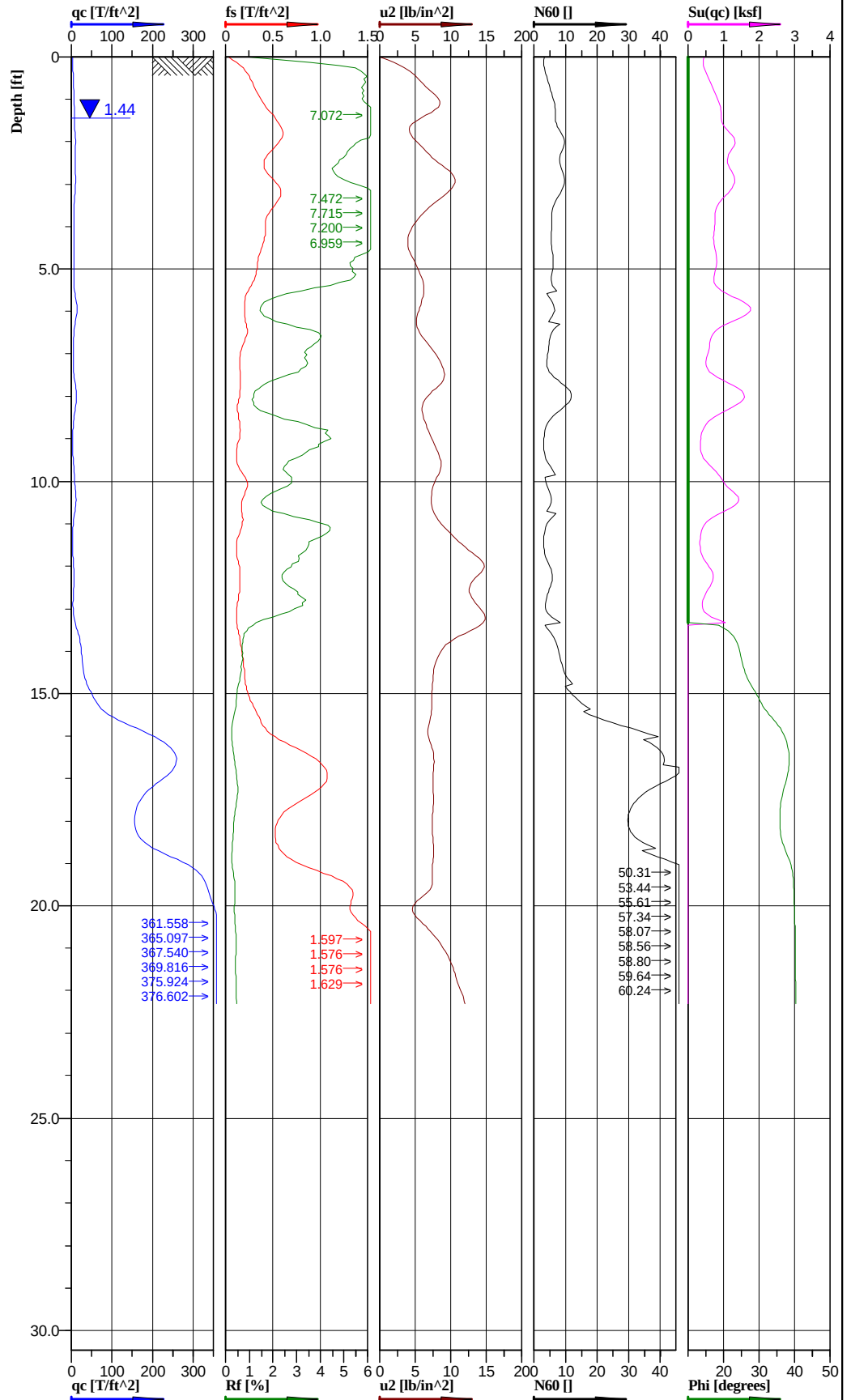
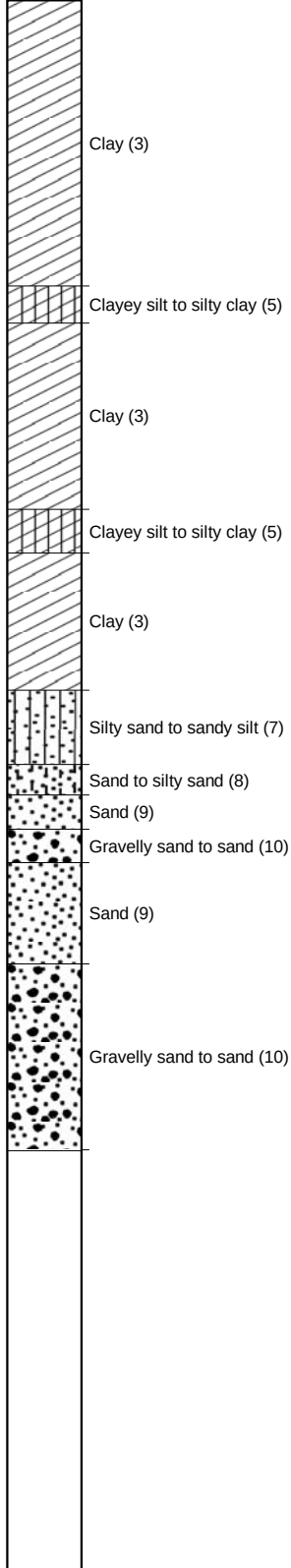
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Labadie, MO	Position: X: 730304.63 ft, Y: 992490.72 ft	Ground level: 463.62	Test no: C-137
Project ID: 20080124055	Client: Ameren Missouri	Date: 11/12/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-61
		File: Labadie C-137.cpt	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-137
 Test date: 11/12/2009
 Location: Labadie MO
 File name: Labadie C-137.cpt

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.449	0.041	3.8258	Silty clay to clay (4)	3.8	0.611	0.007	0.007			1.8	3.8	112	0.15	0.15	306
3.75	0.446	0.038	7.9504	Silty clay to clay (4)	3.8	0.581	0.02	0.02			1.74	3.8	109	0.42	0.42	291
6.25	0.678	0.023	7.9177	Clay (3)	4.2	0.564	0.033	0.033	19.7		1.8	4.2	112	0.69	0.69	169
8.75	0.19	0.012	16.493	Clay (3)	1.9	0.176	0.046	0.046			1.52	1.9	95	0.96	0.96	53
11.25	0.231	0.013	22.9563	Silty clay to clay (4)	2.2	0.209	0.057	0.057			1.45	2.2	91	1.19	1.19	105
13.75	9.573	0.053	11.274	Sand (9)	21.2	2.068	0.069	0.069	34.7	78	1.93	10.6	120	1.44	1.44	796
16.25	8.994	0.047	8.8529	Sand (9)	19.8		0.084	0.084	32.8	66	1.96	9.9	122	1.75	1.75	748
18.75	10.066	0.044	7.9906	Sand to silty sand (8)	21.5		0.099	0.099	33.6	67	1.97	13.8	123	2.06	2.06	837
21.25	10.804	0.024	8.8212	Sand (9)	22.5		0.113	0.113	33.9	67	1.97	11.2	123	2.35	2.35	899
23.75	15.16	0.044	9.9425	Sand (9)	30.3		0.128	0.128	35.8	75	1.99	15.2	124	2.66	2.66	1261
26.25	12.617	0.041	10.8608	Sand (9)	25.2		0.143	0.143	34.8	68	1.99	12.6	124	2.97	2.97	1050
28.75	13.572	0.044	11.9935	Sand (9)	27.1		0.158	0.158	35.2	69	1.99	13.6	124	3.29	3.29	1129
31.25	21.933	0.09	11.1782	Gravelly sand to sand (10)	40.5		0.173	0.173	37.7	81	2.01	27.6	125	3.60	3.60	1825
33.75	33.997	0.159	16.4069	Gravelly sand to sand (10)	56.6		0.187	0.187	40.0	93	2.04	38.5	127	3.89	3.89	2829

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



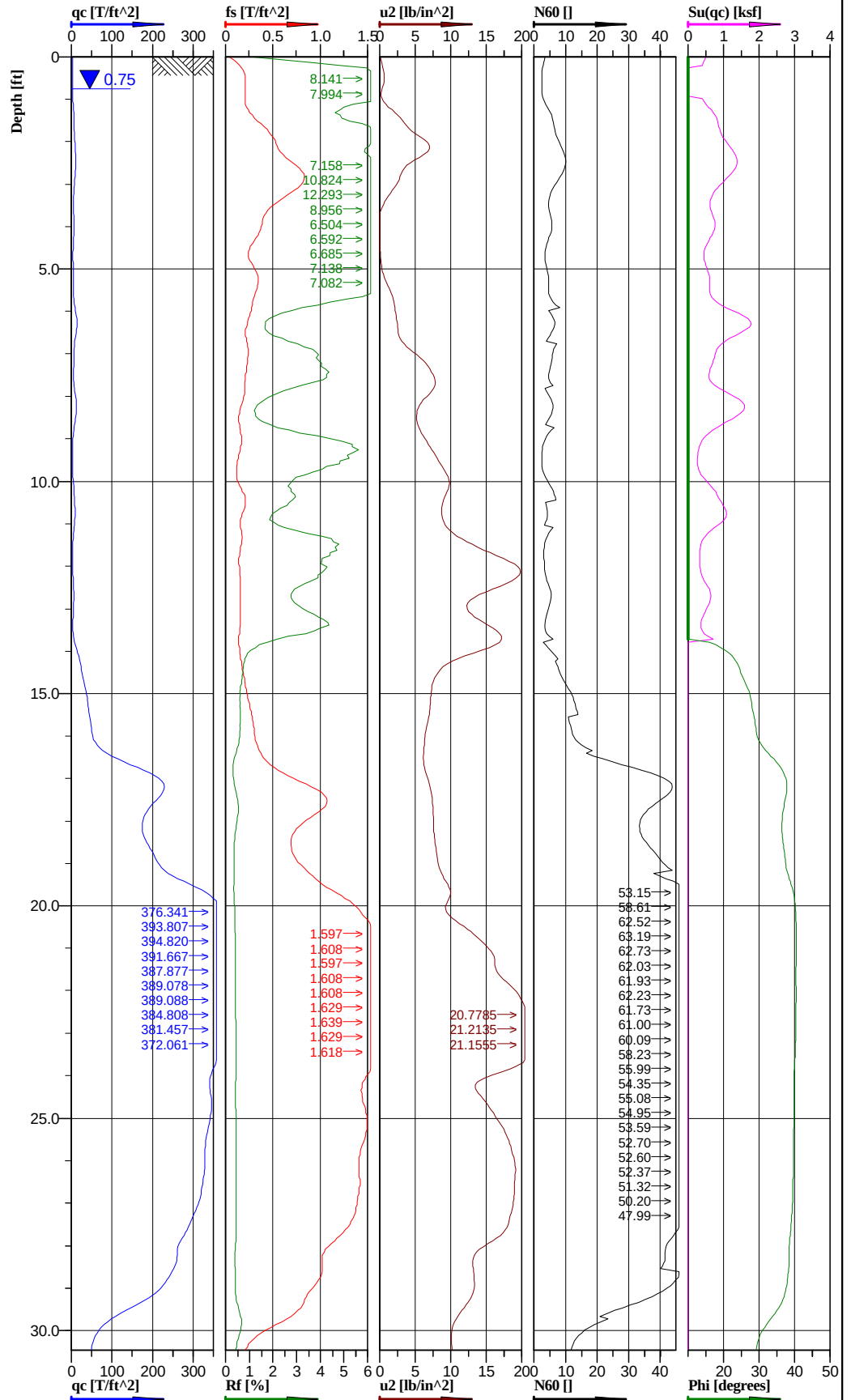
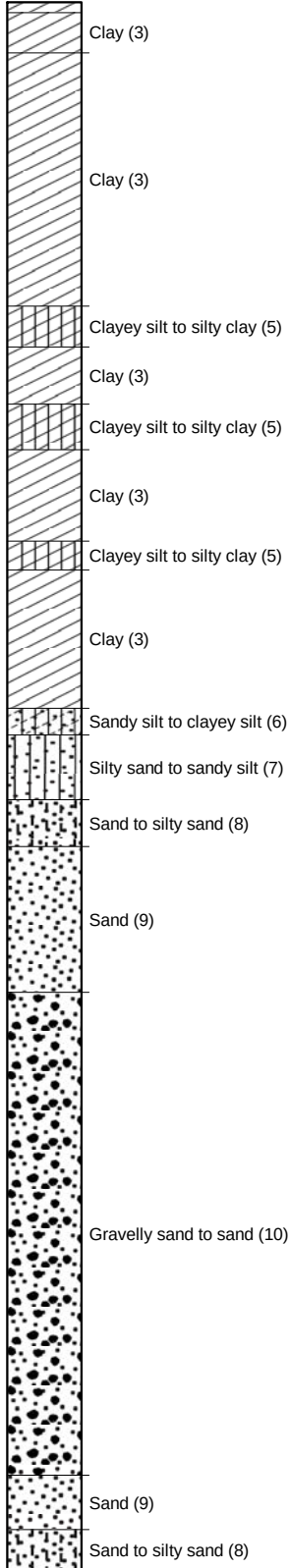
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730891.11 ft, Y: 992467.72 ft	Ground level:	464.40	Test no:	C-139
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-62
				File:	Labadie C-139.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-139
 Test date: 11/12/2009
 Location: Labadie MO
 File name: Labadie C-139.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.648	0.038	5.7536	Clay (3)	6.5	0.885	0.007	0.006			1.78	6.5	111	0.15	0.12	266
3.75	0.68	0.042	6.6503	Clay (3)	6.8	0.91	0.02	0.013			1.78	6.8	111	0.42	0.27	273
6.25	0.698	0.02	6.5971	Clay (3)	5.4	0.915	0.034	0.019			1.8	5.4	112	0.71	0.40	275
8.75	0.64	0.014	7.4686	Clayey silt to silty clay (5)	6.1	0.815	0.047	0.025			1.81	6.1	113	0.98	0.52	489
11.25	0.589	0.015	10.5393	Clay (3)	4.5	0.72	0.061	0.031			1.81	4.5	113	1.27	0.64	216
13.75	1.961	0.016	10.5776	Sand to silty sand (8)	7.2	0.551	0.074	0.037	25.0	57	1.85	4.6	115	1.54	0.77	163
16.25	17.111	0.066	7.3273	Sand (9)	32.6		0.089	0.043	35.9	91	1.99	16.3	124	1.85	0.89	1424
18.75	23.26	0.081	7.1608	Gravelly sand to sand (10)	41.2		0.103	0.051	37.8	99	2.02	28.0	126	2.14	1.06	1935
21.25	35.243	0.149	8.9143	Gravelly sand to sand (10)	58.7		0.118	0.058	40.2	111	2.04	39.9	127	2.45	1.21	2932

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

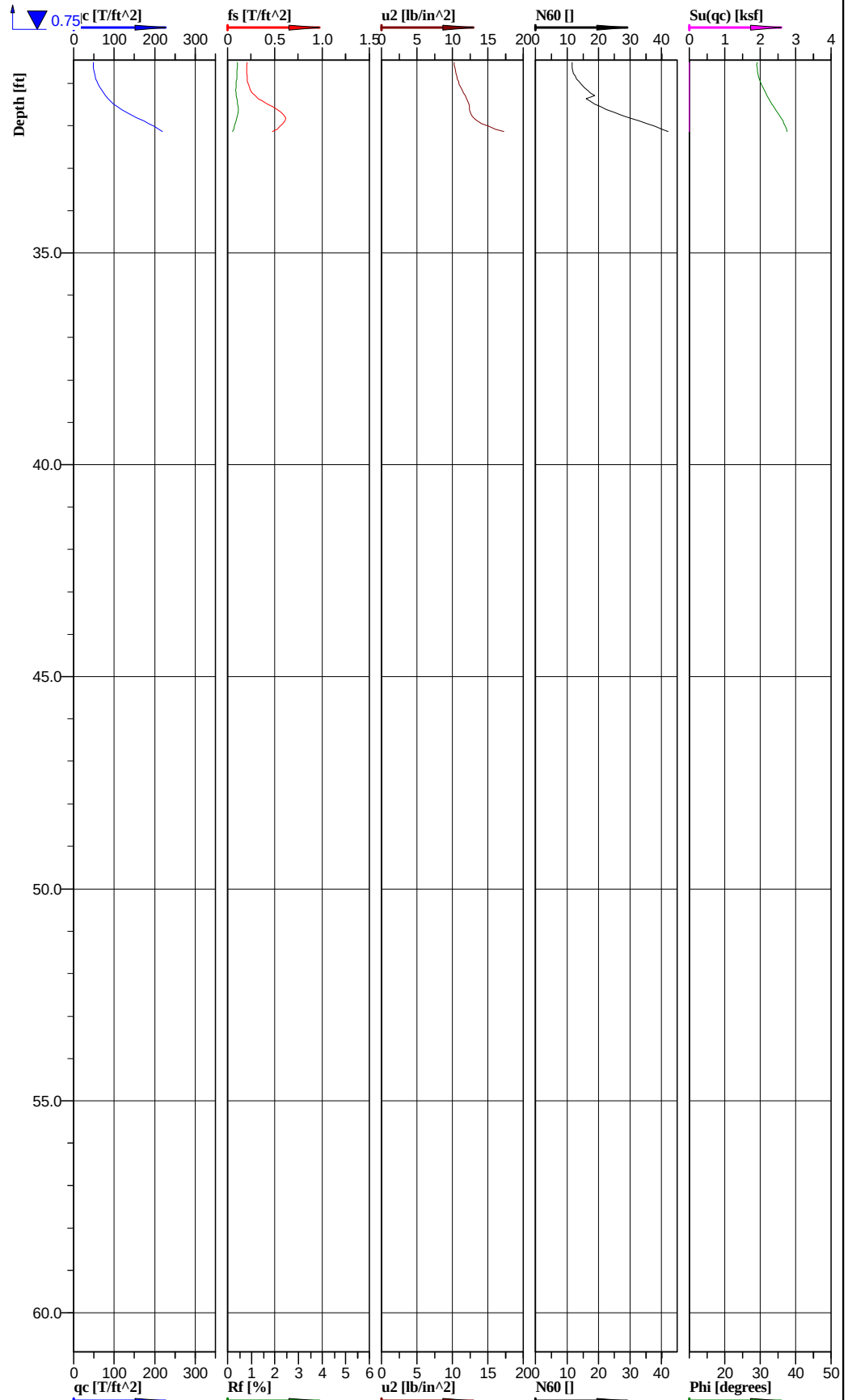
Location:	Labadie, MO	Position:	X: 730892.03 ft, Y: 992473.23 ft	Ground level:	464.50	Test no:	C-139A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-63
Confirmation sounding adjacent to C-139				File:	Labadie C-139A.cpd		

Classification by
Robertson 1986



Sand to silty sand (8)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



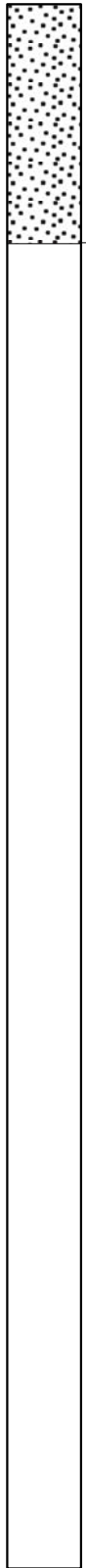
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730892.03 ft, Y: 992473.23 ft	Ground level:	464.50	Test no:	C-139A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-63
Confirmation sounding adjacent to C-139				File:	Labadie C-139A.cpd		

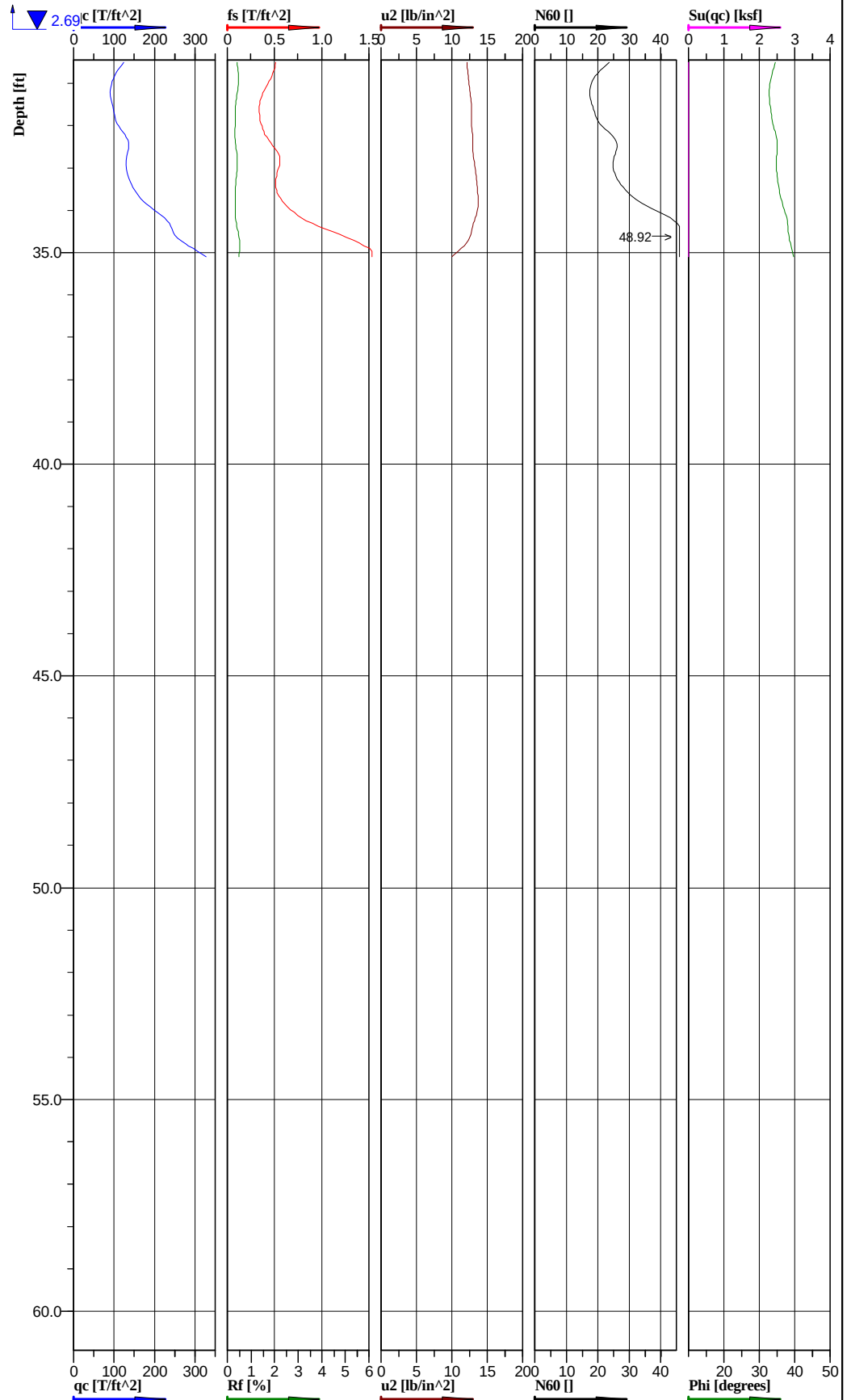
Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-139A
Test date: 11/12/2009
Location: Labadie MO
File name: Labadie C-139A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.536	0.033	2.6807	Clay (3)	5.4	0.638	0.007	0.005			1.81	5.4	113	0.15	0.10	191
3.75	0.545	0.046	0.8462	Clay (3)	5.5	0.728	0.021	0.011			1.84	5.5	115	0.44	0.23	218
6.25	0.714	0.025	3.2034	Clay (3)	5.4	0.941	0.034	0.017			1.84	5.4	115	0.71	0.35	282
8.75	0.594	0.015	7.1124	Clay (3)	4.2	0.75	0.048	0.024			1.81	4.2	113	1.00	0.50	225
11.25	0.519	0.016	12.9686	Clay (3)	4.3	0.618	0.061	0.029			1.81	4.3	113	1.27	0.60	185
13.75	1.382	0.016	12.2696	Silty sand to sandy silt (7)	6.2	0.511	0.075	0.035	23.6		1.84	4.0	115	1.56	0.73	115
16.25	10.676	0.046	6.7083	Sand (9)	23.3		0.089	0.042	32.4	80	1.96	11.6	122	1.85	0.87	888
18.75	22.3	0.088	8.3494	Gravelly sand to sand (10)	41.3		0.104	0.049	37.7	99	2	28.1	125	2.16	1.02	1855
21.25	37.259	0.151	15.5875	Gravelly sand to sand (10)	62.1		0.119	0.057	40.4	113	2.04	42.2	127	2.48	1.19	3100
23.75	34.438	0.148	18.1447	Gravelly sand to sand (10)	57.4		0.134	0.064	40.0	109	2.04	39.0	127	2.79	1.33	2865
26.25	30.874	0.136	18.4364	Gravelly sand to sand (10)	51.4		0.15	0.072	39.5	104	2.03	35.0	127	3.12	1.50	2569
28.75	19.706	0.088	13.2396	Sand to silty sand (8)	36.5		0.165	0.079	36.8	87	1.98	23.3	124	3.43	1.64	1640
31.25	8.862	0.033	11.7318	Sand to silty sand (8)	19.4		0.178	0.086	32.0	62	1.96	12.4	122	3.70	1.79	737

Classification by
Robertson 1986



Sand (9)



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

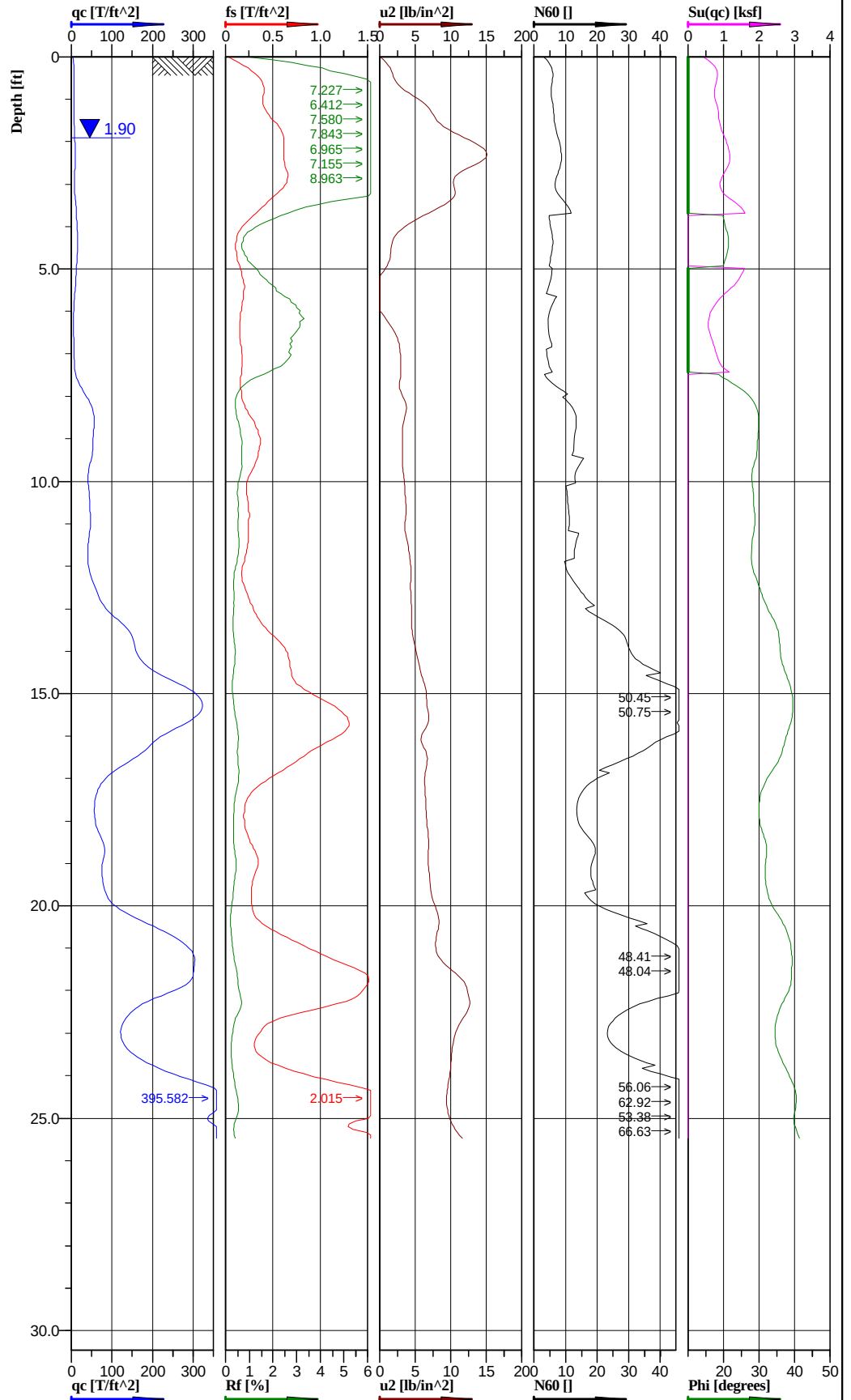
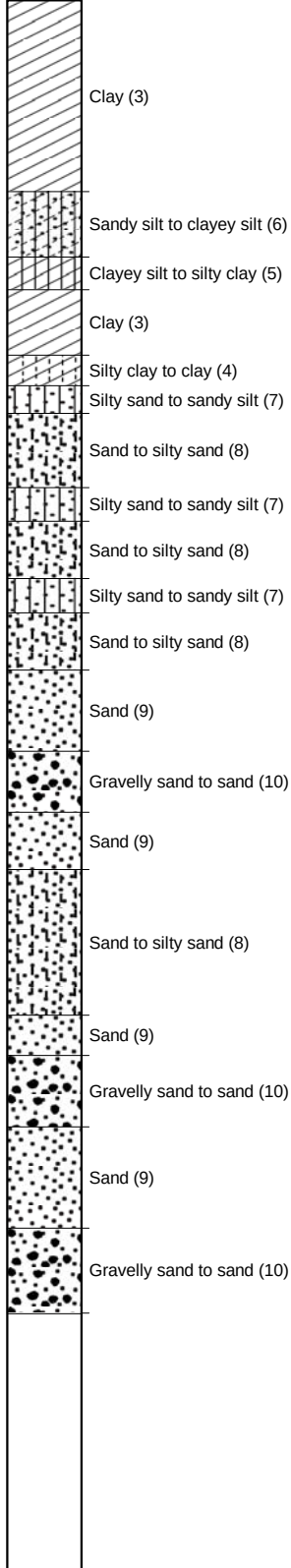


Location: Labadie, MO	Position: X: 728062.43 ft, Y: 992247.01 ft	Ground level: 463.91	Test no: C-143
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/13/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-64
		File: Labadie C-143.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-143
Test date: 11/13/2009
Location: Labadie MO
File name: Labadie C-143.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.665	0.048	3.3241	Clay (3)	6.7	0.912	0.007	0.007			1.78	6.7	111	0.15	0.15	274
3.75	0.694	0.064	4.7954	Clay (3)	6.9	0.931	0.02	0.017			1.75	6.9	109	0.42	0.35	279
6.25	1.478	0.023	5.3869	Sand to silty sand (8)	5.9	0.976	0.033	0.022	22.2	59	1.83	3.8	114	0.69	0.46	123
8.75	6.464	0.031	4.4679	Sand to silty sand (8)	16.2		0.048	0.029	31.0	72	1.94	10.3	121	1.00	0.60	538
11.25	8.156	0.034	4.5162	Sand (9)	19.3		0.062	0.036	32.4	76	1.95	9.7	122	1.29	0.75	679
13.75	10.396	0.044	5.2167	Sand (9)	22.1		0.077	0.043	33.7	80	1.97	11.0	123	1.60	0.89	865
16.25	11.581	0.048	6.0298	Sand (9)	23.2		0.091	0.05	34.3	81	1.98	11.6	124	1.89	1.04	964
18.75	7.413	0.036	6.2038	Sand (9)	16.7		0.106	0.057	31.6	66	1.95	8.3	122	2.20	1.19	617
21.25	9.518	0.044	8.0676	Sand to silty sand (8)	20.3		0.121	0.064	33.1	71	1.97	13.0	123	2.52	1.33	792
23.75	8.91	0.02	9.3075	Sand (9)	19.3		0.135	0.071	32.4	66	1.96	9.7	122	2.81	1.48	741
26.25	13.149	0.042	10.3769	Sand (9)	26.3		0.15	0.078	34.8	77	1.99	13.1	124	3.12	1.62	1094
28.75	12.281	0.037	11.4346	Sand (9)	24.5		0.165	0.086	34.6	75	1.99	12.3	124	3.43	1.79	1022
31.25	10.932	0.041	12.512	Sand (9)	21.8		0.18	0.093	34.0	70	1.99	10.9	124	3.74	1.93	910
33.75	18.367	0.076	13.0128	Sand (9)	36.7		0.195	0.1	36.6	83	1.99	18.4	124	4.06	2.08	1528
36.25	30.857	0.153	10.2297	Sand (9)	61.7		0.202	0.104	39.5	99	2.04	30.8	127	4.20	2.16	2567

Classification by
Robertson 1986



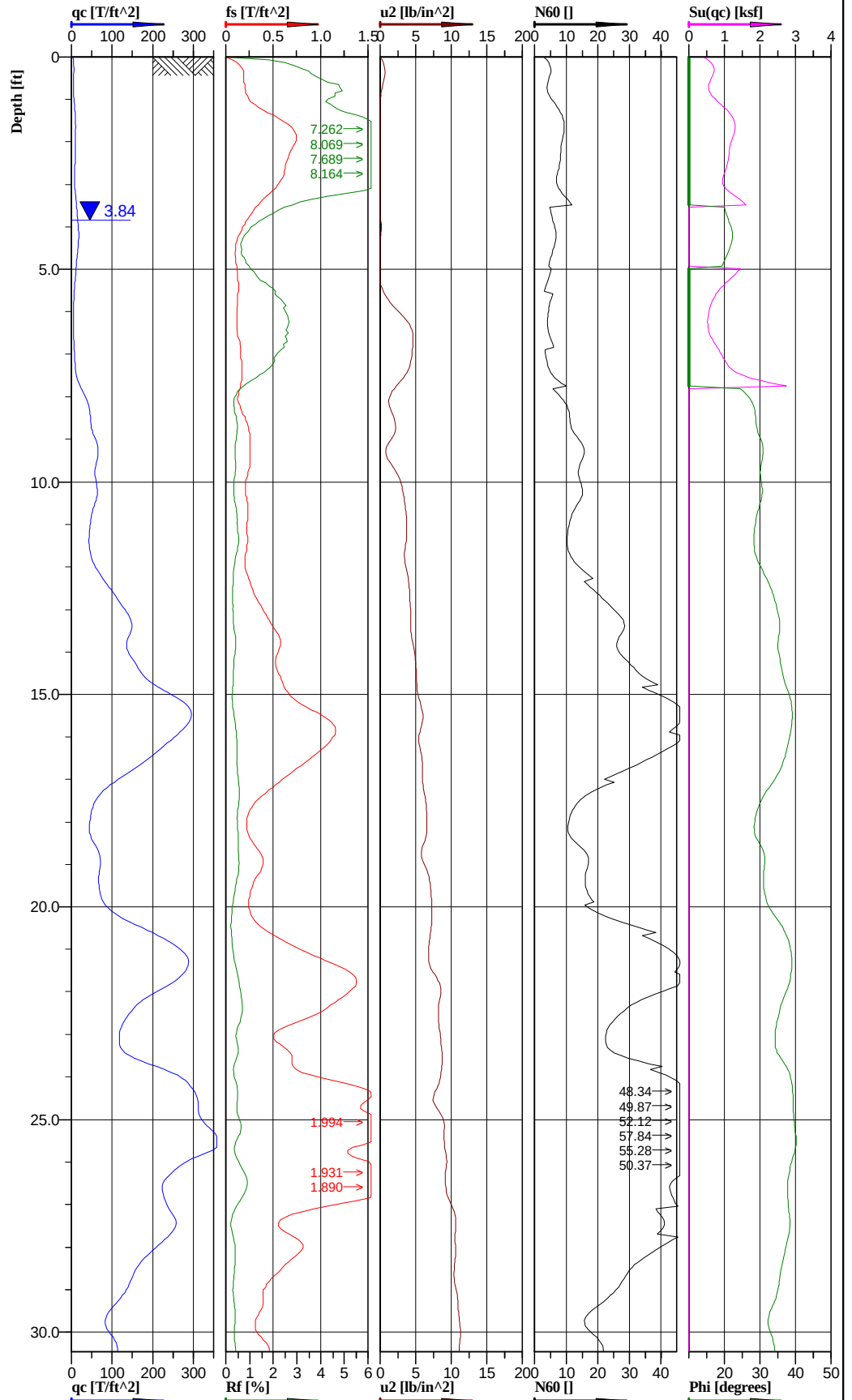
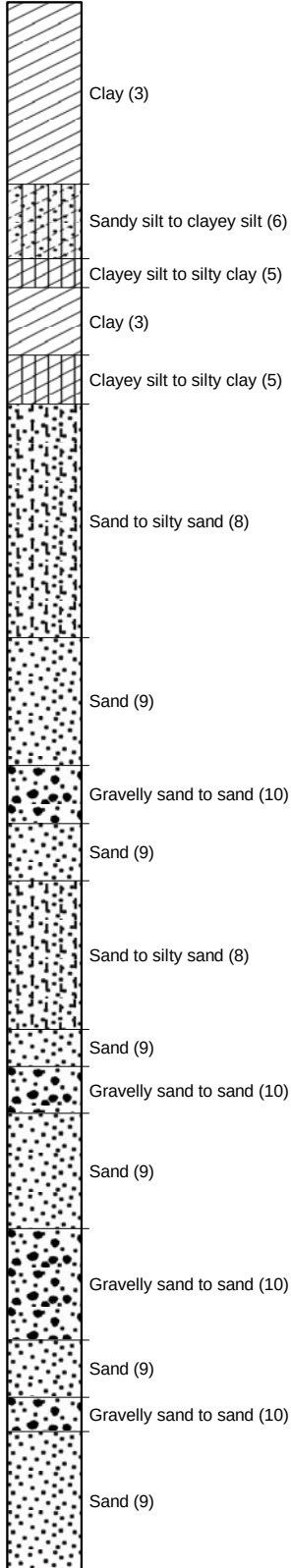
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728823.72 ft, Y: 992222.70 ft	Ground level:	464.99	Test no:	C-145
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/13/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-65
				File:	Labadie C-145.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-145
Test date: 11/13/2009
Location: Labadie MO
File name: Labadie C-145.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.653	0.043	7.4055	Clay (3)	6.5	0.89	0.007	0.007			1.78	6.5	111	0.15	0.15	267
3.75	1.106	0.032	5.9971	Clayey silt to silty clay (5)	6.8	1.179	0.02	0.015	20.7		1.82	6.8	114	0.42	0.31	707
6.25	0.695	0.016	1.1258	Silty sand to sandy silt (7)	4.9	0.89	0.034	0.021	19.1		1.81	3.1	113	0.71	0.44	58
8.75	4.25	0.025	3.2536	Silty sand to sandy silt (7)	11.8		0.048	0.027	28.0	66	1.91	7.6	119	1.00	0.56	354
11.25	4.321	0.021	3.9038	Sand to silty sand (8)	11.7		0.062	0.034	28.5	59	1.92	7.5	120	1.29	0.71	360
13.75	15.188	0.051	5.1003	Gravelly sand to sand (10)	29.2		0.077	0.04	35.3	89	1.99	19.8	124	1.60	0.83	1264
16.25	18.219	0.081	6.451	Sand to silty sand (8)	34.6		0.092	0.048	35.9	90	1.99	22.1	124	1.91	1.00	1516
18.75	7.126	0.025	6.9024	Sand (9)	17.1		0.106	0.055	31.5	66	1.94	8.6	121	2.20	1.14	593
21.25	22.574	0.092	9.8068	Sand (9)	40.3		0.121	0.062	37.7	96	2.02	20.2	126	2.52	1.29	1878
23.75	22.514	0.091	10.1753	Gravelly sand to sand (10)	39.8		0.136	0.069	37.4	93	2.01	27.1	125	2.83	1.44	1873
26.25	37.332	0.143	10.5995	Gravelly sand to sand (10)	62.2		0.145	0.074	40.4	109	2.04	42.3	127	3.02	1.54	3106

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS

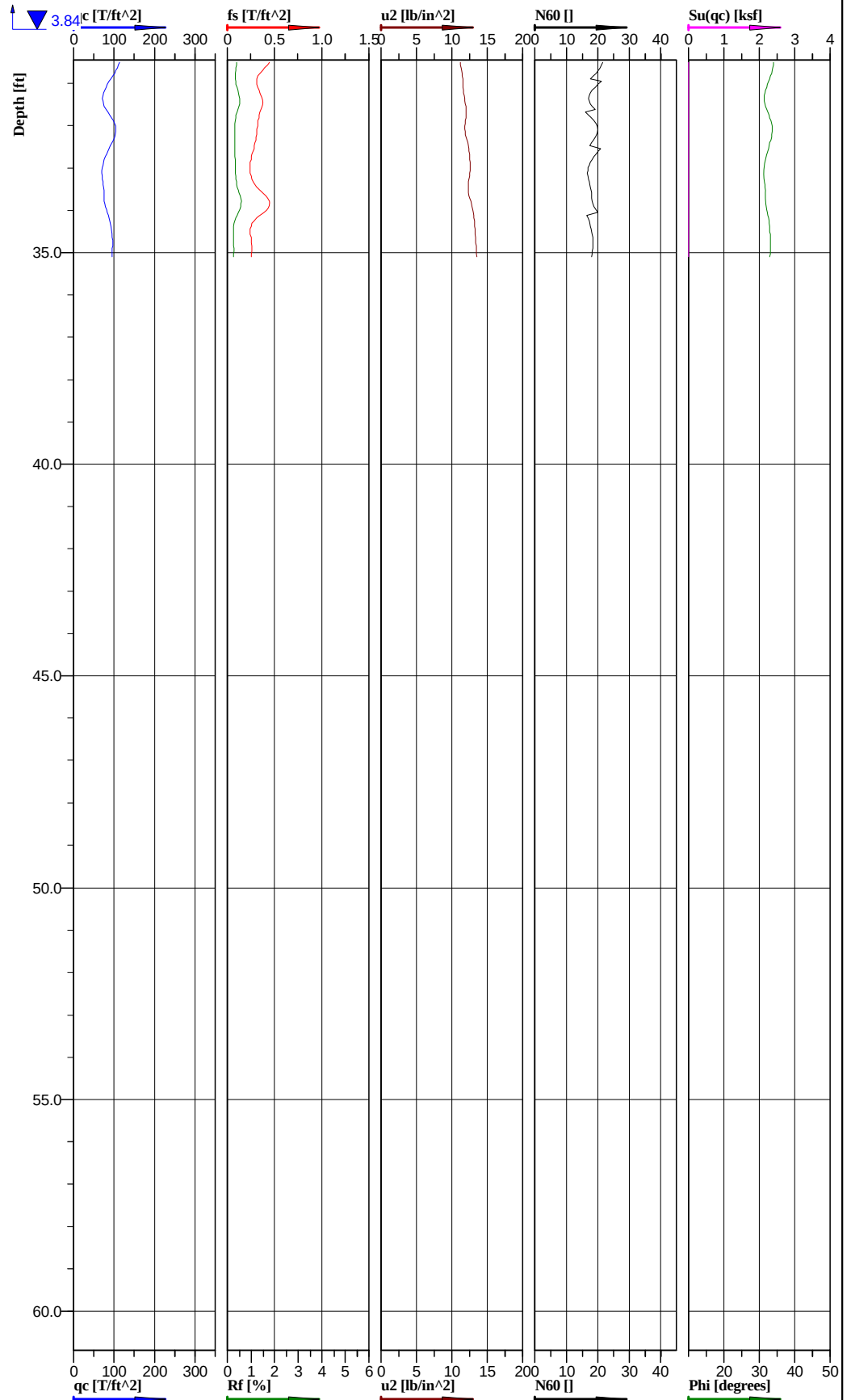
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 728823.23 ft, Y: 992218.34 ft	Ground level:	464.99	Test no:	C-145A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/13/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-66
Confirmation sounding adjacent to C-145				File:	Labadie C-145A.cpd		

Classification by
Robertson 1986

Sand (9)
Sand to silty sand (8)
Sand (9)
Sand to silty sand (8)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



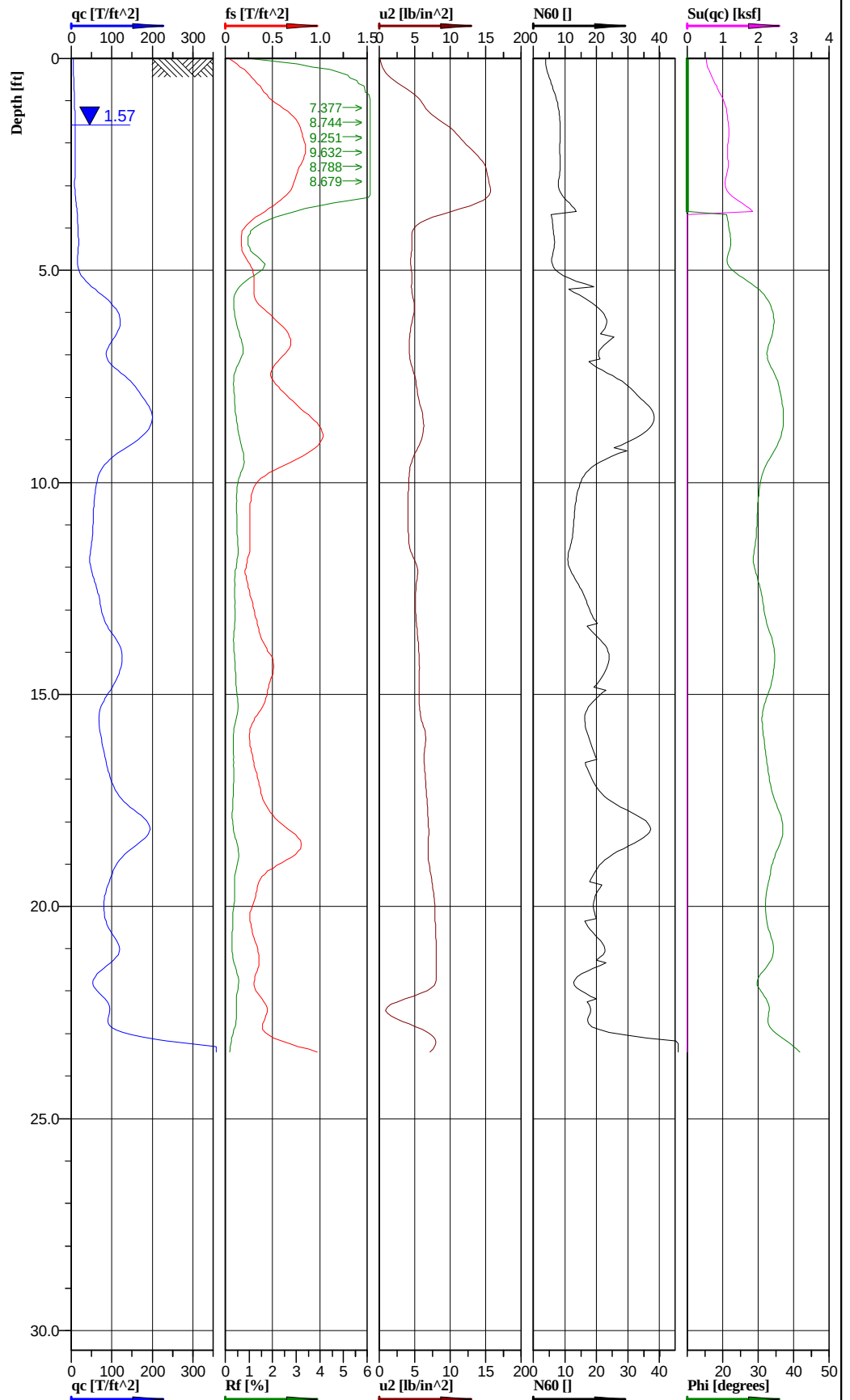
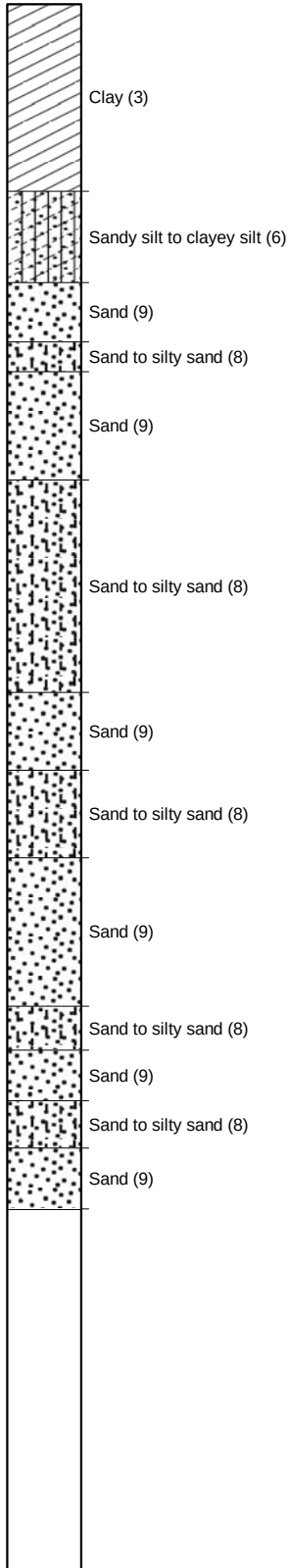
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Labadie, MO	Position: X: 728823.23 ft, Y: 992218.34 ft	Ground level: 464.99	Test no: C-145A
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/13/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI	Page: 2	Fig: C-66	
Confirmation sounding adjacent to C-145		File: Labadie C-145A.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-145A
Test date: 11/13/2009
Location: Labadie MO
File name: Labadie C-145A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.679	0.041	-0.3545	Clay (3)	6.8	0.937	0.007	0.007			1.78	6.8	111	0.15	0.15	281
3.75	1.184	0.028	-0.3941	Clayey silt to silty clay (5)	6.7	1.173	0.02	0.019	21.1		1.82	6.7	114	0.42	0.40	704
6.25	0.656	0.013	2.8015	Clayey silt to silty clay (5)	4.5	0.863	0.034	0.026			1.82	4.5	114	0.71	0.54	518
8.75	4.614	0.02	1.7991	Sand to silty sand (8)	12.0	2.196	0.048	0.033	29.2	62	1.92	7.6	120	1.00	0.69	384
11.25	5.493	0.021	3.5897	Sand (9)	13.3		0.062	0.04	29.9	62	1.94	6.6	121	1.29	0.83	457
13.75	14.697	0.048	4.6493	Gravelly sand to sand (10)	28.6		0.077	0.047	35.6	88	1.99	19.5	124	1.60	0.98	1223
16.25	19.193	0.079	5.8353	Sand to silty sand (8)	35.9		0.092	0.054	36.5	91	2	23.0	125	1.91	1.12	1597
18.75	5.912	0.028	6.5737	Sand (9)	14.6		0.106	0.061	30.4	58	1.94	7.3	121	2.20	1.27	492
21.25	20.053	0.084	7.5136	Sand (9)	37.0		0.121	0.068	37.1	91	2.01	18.5	125	2.52	1.41	1668
23.75	20.498	0.096	8.3115	Gravelly sand to sand (10)	36.4		0.136	0.075	37.0	89	2.01	24.7	125	2.83	1.56	1705
26.25	26.879	0.144	9.4971	Gravelly sand to sand (10)	48.0		0.151	0.083	38.8	98	2.02	32.7	126	3.14	1.73	2236
28.75	14.409	0.049	10.7415	Sand (9)	28.2		0.167	0.09	35.2	77	1.99	14.1	124	3.47	1.87	1199
31.25	9.05	0.034	11.6814	Sand to silty sand (8)	19.2		0.181	0.098	32.9	64	1.97	12.3	123	3.76	2.04	753
33.75	7.923	0.028	12.8336	Sand (9)	18.1		0.196	0.105	32.2	60	1.96	9.0	122	4.08	2.18	659
36.25	9.072	0.024	13.4995	Sand (9)	18.1		0.203	0.108	33.0	63	1.99	9.1	124	4.22	2.25	755

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

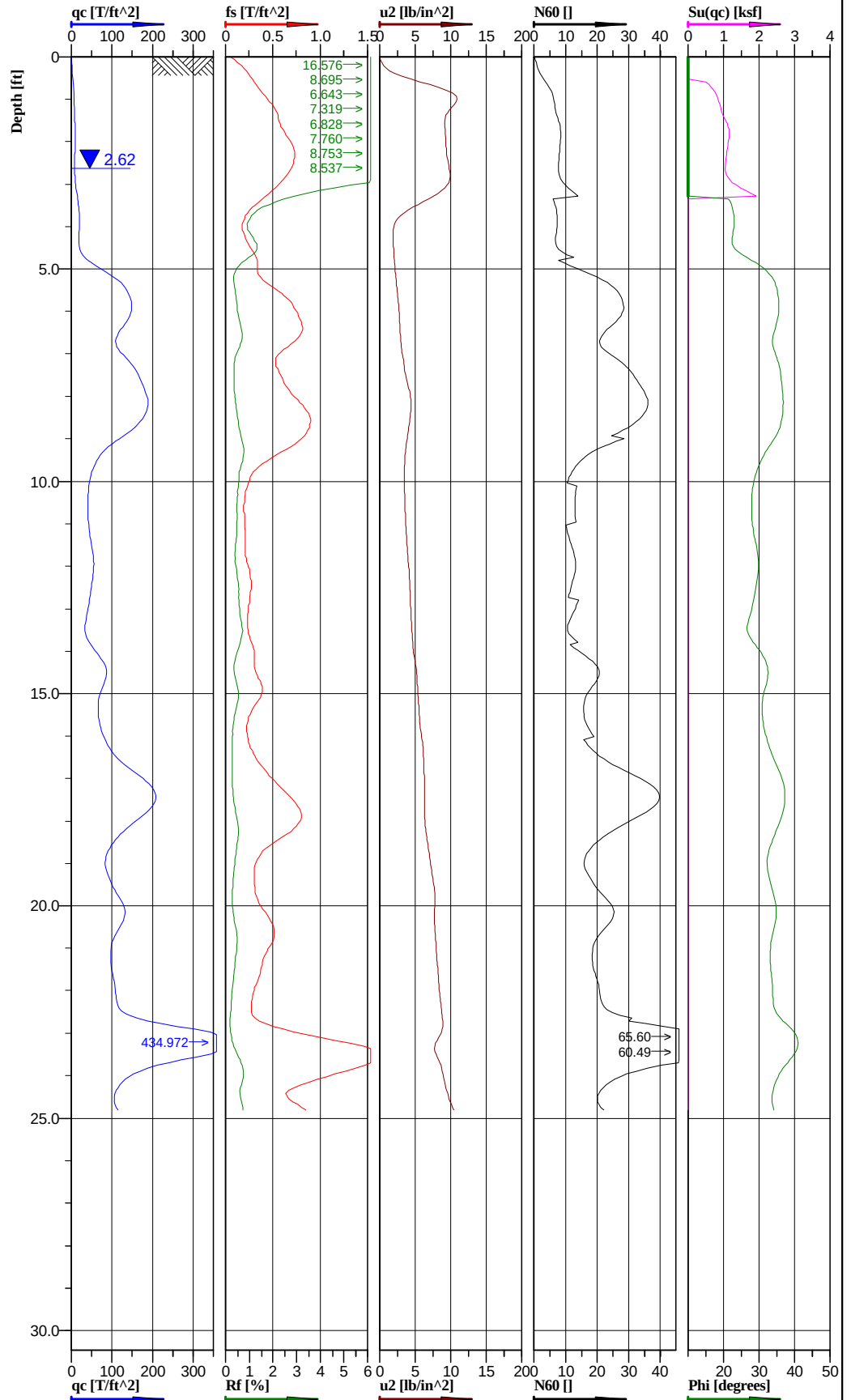
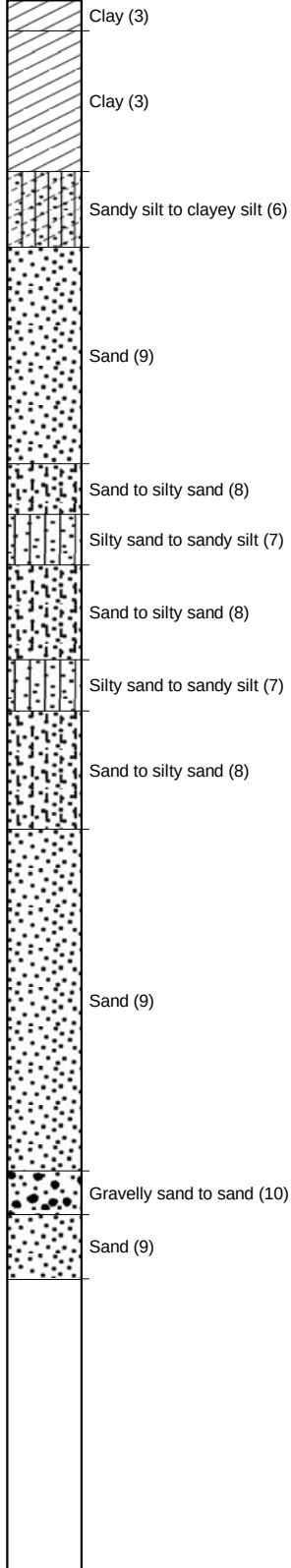


Location:	Labadie, MO	Position:	X: 729416.57 ft, Y: 992208.04 ft	Ground level:	464.50	Test no:	C-147
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-67
				File:	Labadie C-147.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-147
Test date: 11/12/2009
Location: Labadie MO
File name: Labadie C-147.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.718	0.055	7.391	Clay (3)	7.2	0.979	0.007	0.006			1.78	7.2	111	0.15	0.12	294
3.75	1.309	0.04	9.2053	Sandy silt to clayey silt (6)	7.7	1.283	0.02	0.014	21.8		1.82	7.7	114	0.42	0.29	109
6.25	8.838	0.047	4.5731	Sand (9)	19.7		0.034	0.02	32.3	89	1.95	9.9	122	0.71	0.42	735
8.75	13.842	0.071	5.3345	Sand to silty sand (8)	29.0		0.049	0.027	35.0	93	1.97	18.6	123	1.02	0.56	1152
11.25	5.13	0.024	4.485	Sand to silty sand (8)	12.8		0.064	0.034	29.6	63	1.94	8.2	121	1.33	0.71	427
13.75	9.414	0.038	5.404	Sand to silty sand (8)	20.3		0.078	0.041	33.1	77	1.97	13.0	123	1.62	0.85	783
16.25	8.207	0.031	6.2621	Sand (9)	18.6		0.093	0.048	32.3	71	1.96	9.3	122	1.93	1.00	683
18.75	12.628	0.05	7.1321	Sand to silty sand (8)	26.2		0.108	0.055	34.6	81	1.98	16.7	124	2.25	1.14	1051
21.25	8.394	0.032	6.8157	Sand (9)	18.5		0.122	0.062	32.4	68	1.96	9.2	122	2.54	1.29	698
23.75	18.846	0.052	5.5989	Sand (9)	37.7		0.132	0.067	35.9	85	2	18.8	125	2.75	1.39	1568

Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

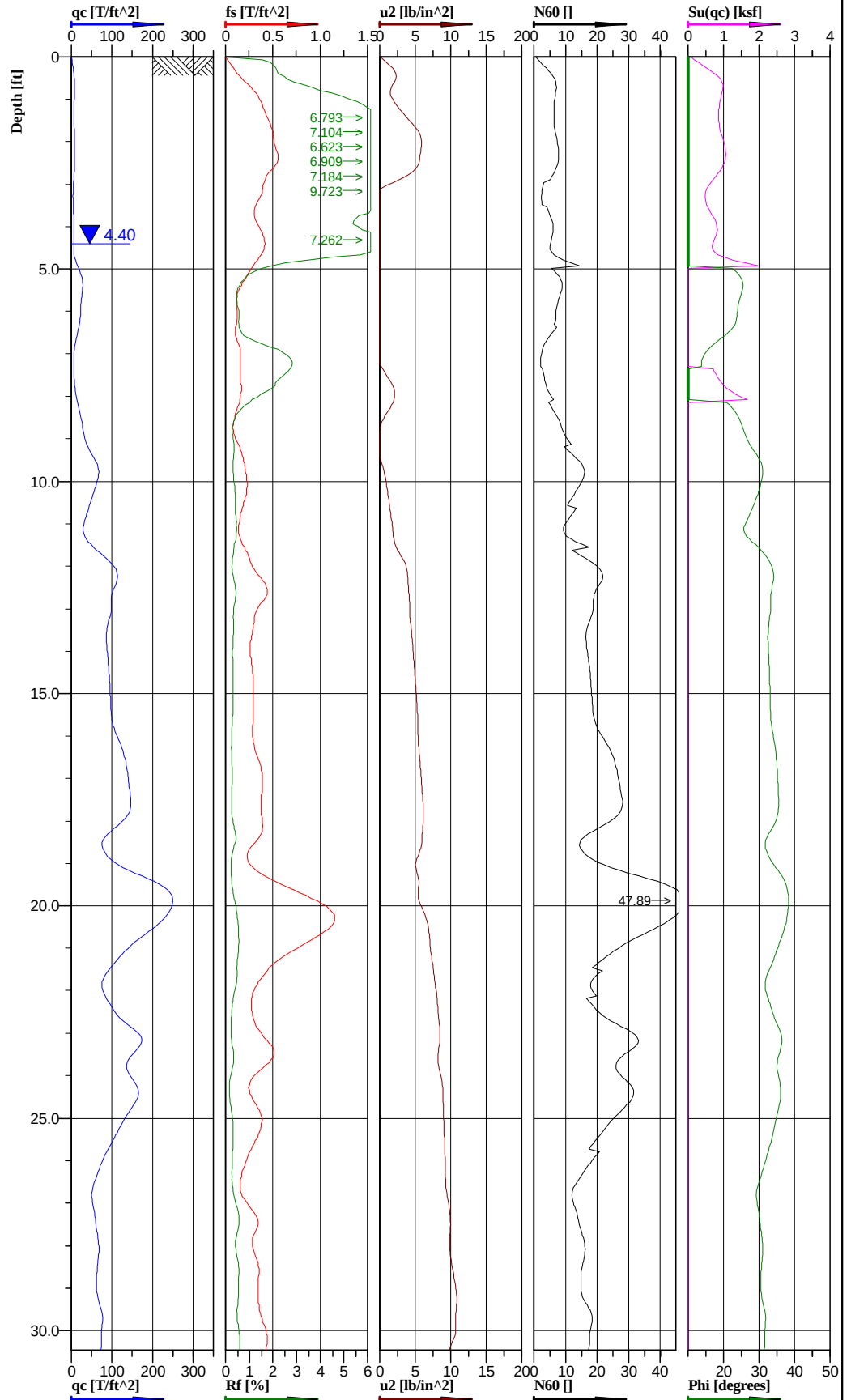
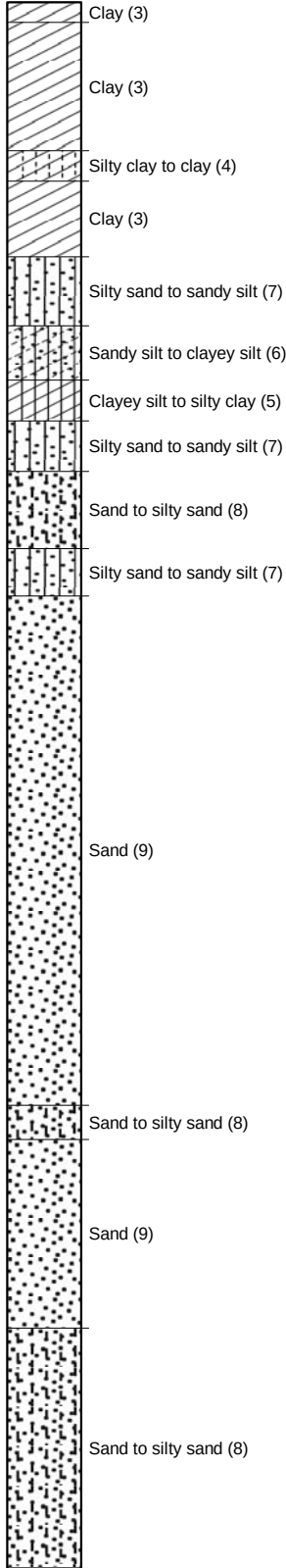


Location:	Labadie, MO	Position:	X: 729416.37 ft, Y: 992202.59 ft	Ground level:	464.50	Test no:	C-147A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/13/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-68
Confirmation sounding adjacent to C-147				File:	Labadie C-147A.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-147A
Test date: 11/13/2009
Location: Labadie MO
File name: Labadie C-147A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.589	0.046	7.5955	Clay (3)	5.9	0.757	0.006	0.006			1.66	5.9	104	0.12	0.12	227
3.75	2.112	0.035	4.7627	Sand (9)	8.8	1.323	0.02	0.016	24.3	75	1.84	4.4	115	0.42	0.33	176
6.25	12.622	0.06	2.8465	Sand (9)	25.2		0.034	0.023	34.8	95	1.99	12.6	124	0.71	0.48	1050
8.75	12.2	0.062	3.899	Silty sand to sandy silt (7)	25.8		0.049	0.03	33.9	88	1.97	16.5	123	1.02	0.62	1015
11.25	4.489	0.021	3.7934	Sand to silty sand (8)	12.4	0.021	0.063	0.037	28.7	60	1.92	7.9	120	1.31	0.77	373
13.75	5.42	0.027	4.7374	Sand to silty sand (8)	14.8		0.077	0.043	29.6	66	1.92	9.5	120	1.60	0.89	451
16.25	11.14	0.035	5.9509	Sand (9)	23.6		0.092	0.05	33.6	77	1.97	11.8	123	1.91	1.04	927
18.75	11.76	0.047	6.9771	Sand (9)	23.5		0.107	0.057	34.2	78	1.98	11.8	124	2.23	1.19	978
21.25	10.58	0.037	8.091	Sand (9)	21.1		0.121	0.065	33.9	75	1.99	10.6	124	2.52	1.35	880
23.75	21.307	0.092	8.8518	Sand (9)	38.3		0.136	0.072	36.9	90	2	19.2	125	2.83	1.50	1773

Classification by
Robertson 1986



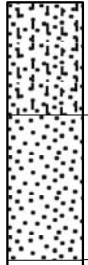
REITZ & JENS, INC.
CONSULTING ENGINEERS

Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



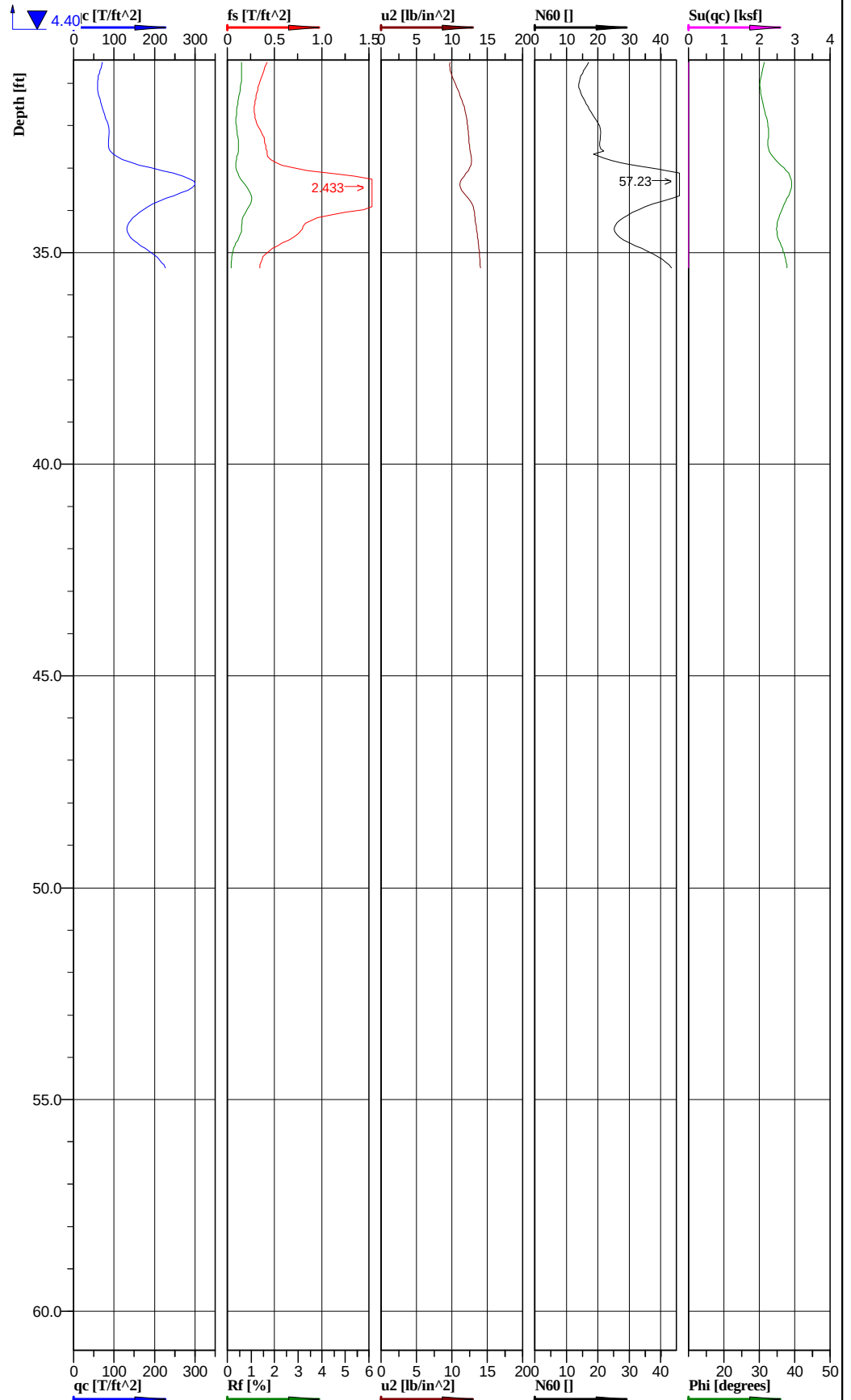
Location:	Labadie, MO	Position:	X: 730004.82 ft, Y: 992190.52 ft	Ground level:	463.29	Test no:	C-149
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-69
				File:	Labadie C-149.cpd		

Classification by
Robertson 1986



Sand to silty sand (8)

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



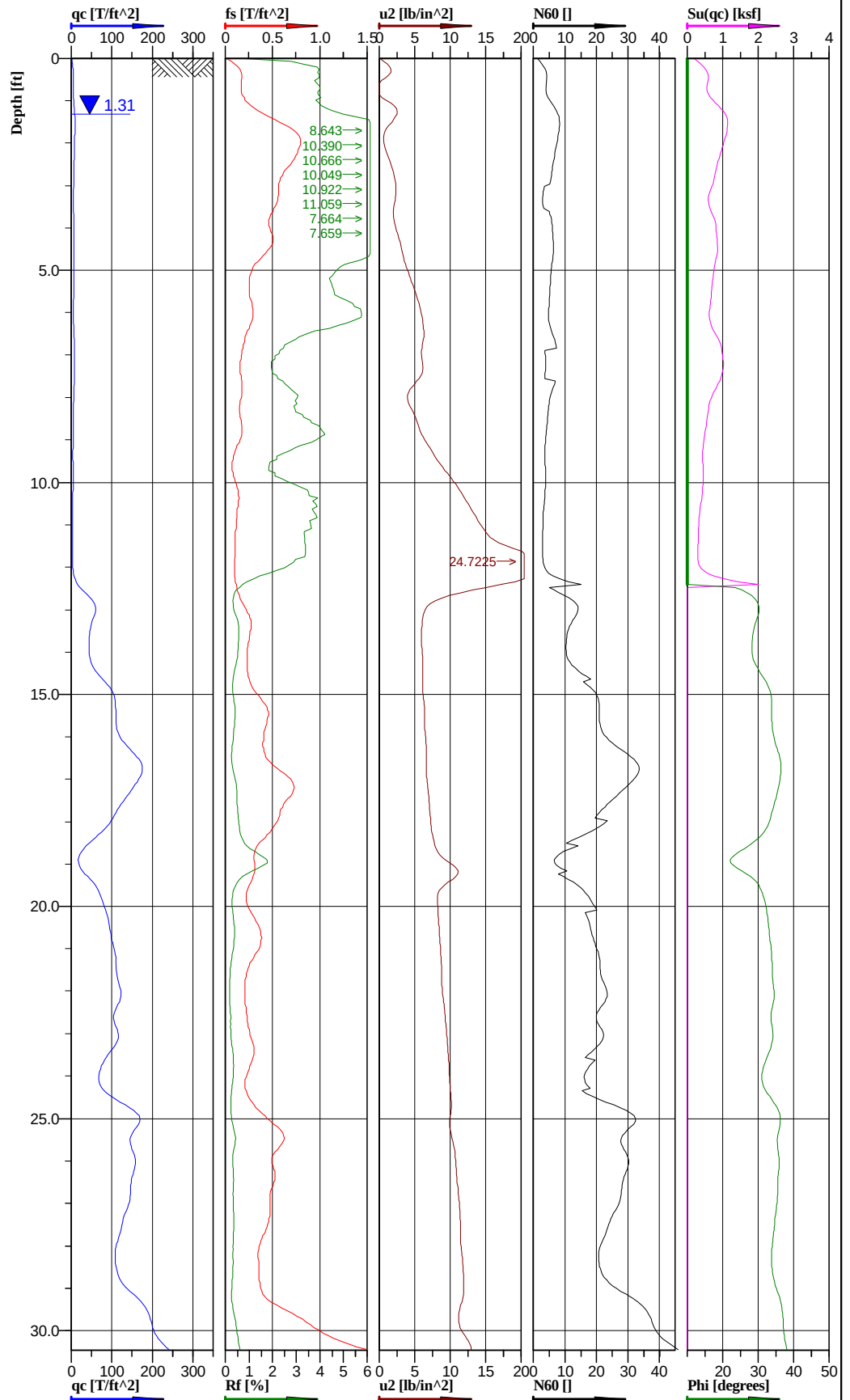
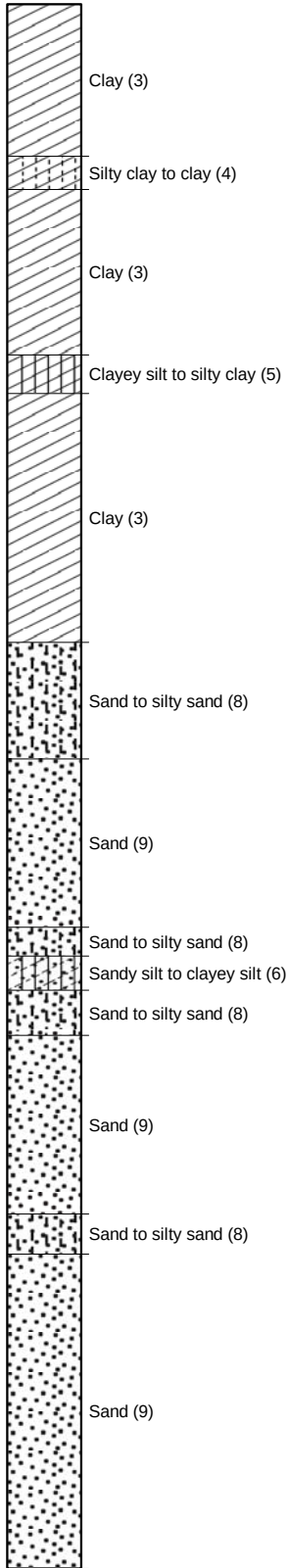
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730004.82 ft, Y: 992190.52 ft	Ground level:	463.29	Test no:	C-149
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-69
				File:	Labadie C-149.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-149
 Test date: 12/23/2009
 Location: Labadie MO
 File name: Labadie C-149.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.622	0.035	3.4655	Clay (3)	6.2	0.851	0.007	0.007			1.79	6.2	112	0.15	0.15	255
3.75	0.645	0.036	-0.2242	Silty sand to sandy silt (7)	5.5	0.781	0.02	0.019	22.9		1.67	3.5	104	0.42	0.40	54
6.25	1.596	0.014	-0.5592	Clayey silt to silty clay (5)	5.7	0.771	0.033	0.027	21.3		1.85	5.7	115	0.69	0.56	463
8.75	3.22	0.014	0.7778	Sand to silty sand (8)	9.4	1.164	0.047	0.034	27.2	65	1.89	6.0	118	0.98	0.71	268
11.25	6.158	0.022	2.3367	Sand (9)	14.7		0.061	0.04	30.0	71	1.94	7.4	121	1.27	0.83	512
13.75	8.902	0.029	4.5842	Sand (9)	17.8		0.076	0.047	32.9	74	1.99	8.9	124	1.58	0.98	741
16.25	11.596	0.031	5.5583	Sand (9)	23.2		0.091	0.055	34.3	80	1.99	11.6	124	1.89	1.14	965
18.75	14.188	0.044	5.6888	Sand (9)	28.4		0.106	0.062	35.0	82	1.99	14.2	124	2.20	1.29	1180
21.25	13.181	0.063	7.3188	Sand (9)	27.3		0.12	0.069	34.6	78	1.98	13.7	124	2.50	1.44	1097
23.75	14.262	0.034	8.5543	Sand (9)	28.5		0.135	0.076	35.5	81	1.99	14.3	124	2.81	1.58	1187
26.25	7.331	0.025	9.3714	Sand to silty sand (8)	16.7		0.15	0.083	31.4	59	1.95	10.7	122	3.12	1.73	610
28.75	6.453	0.033	10.3813	Sand to silty sand (8)	16.1		0.165	0.09	31.0	56	1.94	10.3	121	3.43	1.87	537
31.25	7.001	0.034	11.1509	Sand to silty sand (8)	17.5		0.179	0.097	31.4	57	1.94	11.2	121	3.72	2.02	582
33.75	17.559	0.109	12.763	Sand (9)	35.3		0.194	0.104	36.3	81	1.99	17.7	124	4.04	2.16	1461
36.25	20.442	0.035	13.9635	Sand (9)	40.9		0.202	0.108	37.5	86	2.02	20.4	126	4.20	2.25	1701

Classification by
Robertson 1986



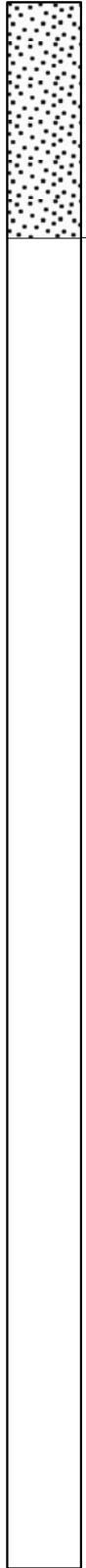
REITZ & JENS, INC.
CONSULTING ENGINEERS



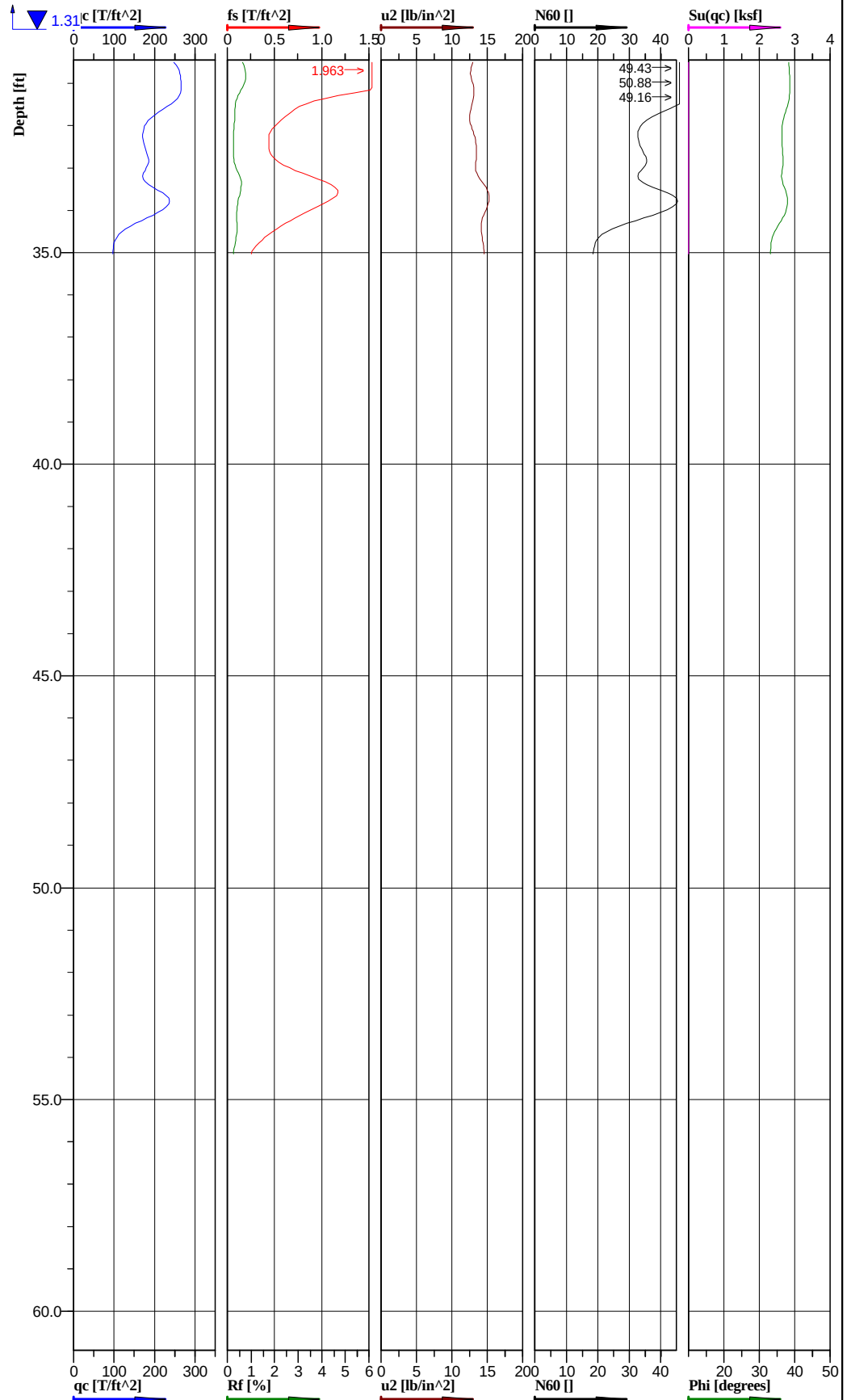
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730603.48 ft, Y: 992180.61 ft	Ground level:	462.99	Test no:	C-151
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-70
				File:	Labadie C-151.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 730603.48 ft, Y: 992180.61 ft	Ground level:	462.99	Test no:	C-151
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/12/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-70
				File:	Labadie C-151.cpd		

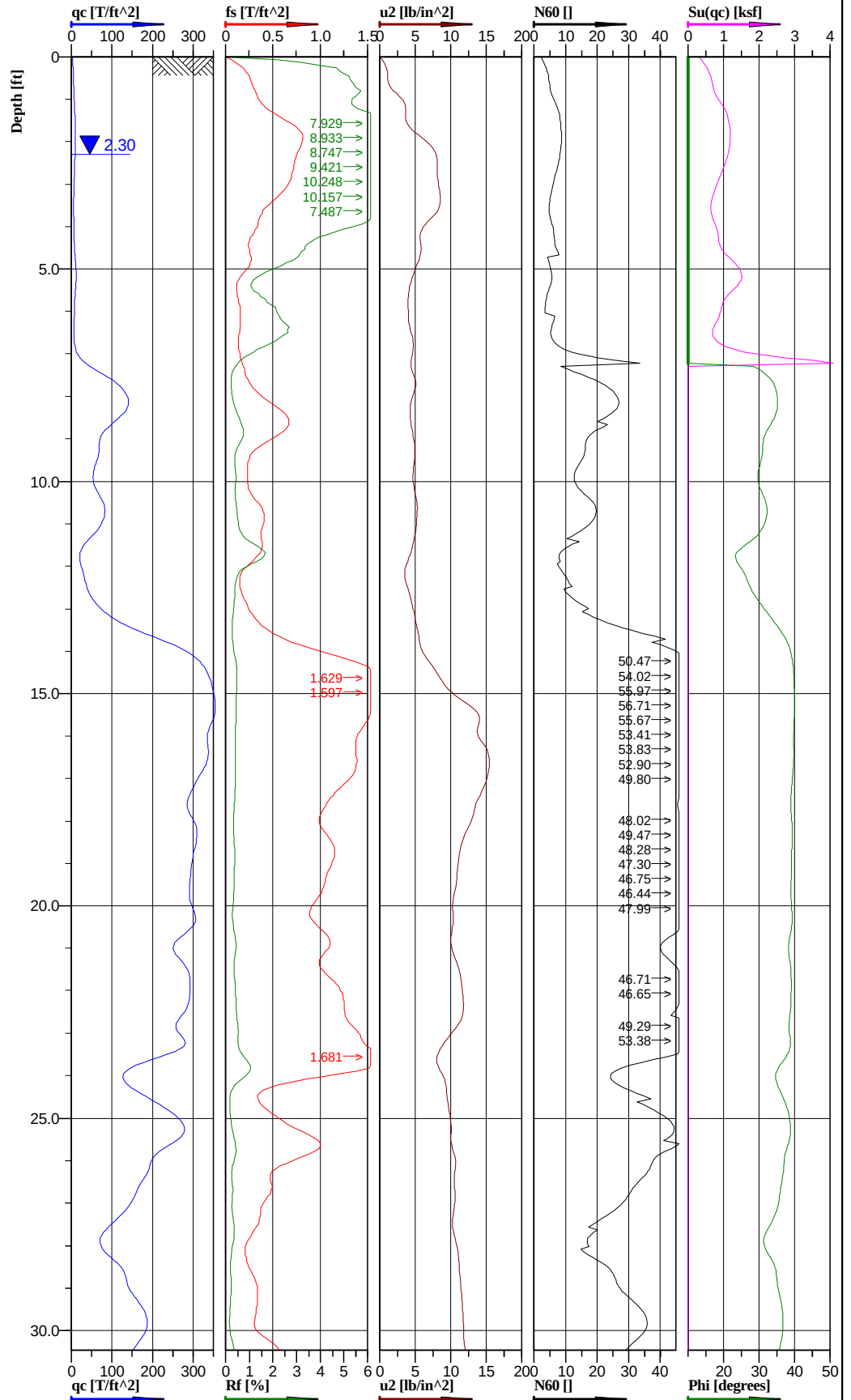
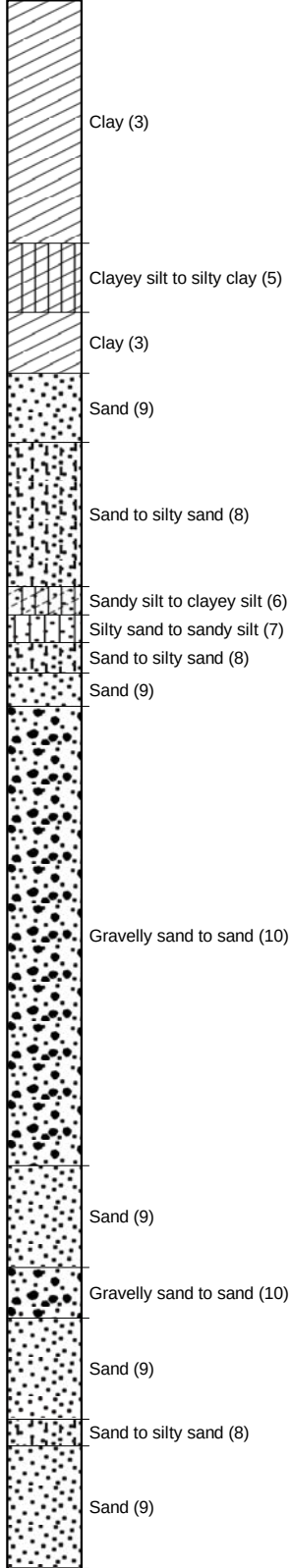
Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-151
Test date: 11/12/2009
Location: Labadie MO
File name: Labadie C-151.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.59	0.042	1.0393	Clay (3)	5.9	0.81	0.007	0.006			1.78	5.9	111	0.15	0.12	243
3.75	0.564	0.047	2.591	Clay (3)	5.3	0.754	0.02	0.012			1.65	5.3	103	0.42	0.25	226
6.25	0.611	0.022	5.6754	Clayey silt to silty clay (5)	5.0	0.797	0.033	0.017			1.8	5.0	112	0.69	0.35	478
8.75	0.454	0.013	6.4741	Clay (3)	4.5	0.559	0.046	0.023			1.79	4.5	112	0.96	0.48	168
11.25	0.504	0.011	16.7051	Sand to silty sand (8)	4.1	0.458	0.059	0.029	24.4	41	1.8	2.6	112	1.23	0.60	42
13.75	5.485	0.023	6.6711	Sand (9)	13.0		0.073	0.035	29.7	63	1.94	6.5	121	1.52	0.73	456
16.25	13.054	0.048	6.5718	Sand (9)	26.1		0.088	0.042	35.0	87	1.99	13.0	124	1.83	0.87	1086
18.75	6.169	0.036	8.3922	Sand to silty sand (8)	15.3		0.103	0.049	29.6	67	1.92	9.8	120	2.14	1.02	513
21.25	10.143	0.026	8.6929	Sand (9)	20.5		0.117	0.056	33.6	75	1.99	10.2	124	2.43	1.16	844
23.75	9.878	0.026	9.7652	Sand (9)	20.7		0.132	0.063	33.3	72	1.97	10.4	123	2.75	1.31	822
26.25	14.13	0.049	10.809	Sand (9)	28.2		0.147	0.071	35.5	82	1.99	14.1	124	3.06	1.48	1176
28.75	13.777	0.048	11.6052	Sand (9)	27.5		0.162	0.078	35.2	79	1.99	13.8	124	3.37	1.62	1146
31.25	21.31	0.105	12.8236	Sand (9)	42.6		0.177	0.085	37.6	91	1.99	21.3	124	3.68	1.77	1773
33.75	16.277	0.067	14.2568	Sand (9)	32.5		0.191	0.092	36.0	81	1.99	16.3	124	3.97	1.91	1354

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-157
 Test date: 11/13/2009
 Location: Labadie MO
 File name: Labadie C-157.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.515	0.041	1.5656	Clay (3)	4.7	0.707	0.006	0.004			1.57	4.7	98	0.12	0.08	212
3.75	0.695	0.048	3.0089	Clayey silt to silty clay (5)	6.0	0.939	0.018	0.01			1.76	6.0	110	0.37	0.21	563
6.25	1.571	0.017	-0.6562	Sand (9)	6.6	0.988	0.032	0.016	28.5	67	1.84	3.3	115	0.67	0.33	131
8.75	8.997	0.038	2.7364	Sand to silty sand (8)	19.9		0.046	0.022	32.7	84	1.96	12.7	122	0.96	0.46	749
11.25	6.696	0.027	4.263	Sand to silty sand (8)	15.9		0.061	0.029	31.0	72	1.95	10.2	122	1.27	0.60	557
13.75	18.981	0.07	5.5189	Gravelly sand to sand (10)	34.3		0.075	0.036	35.8	94	2	23.3	125	1.56	0.75	1579
16.25	30.246	0.123	7.1797	Gravelly sand to sand (10)	50.4		0.09	0.044	39.4	110	2.04	34.3	127	1.87	0.92	2516
18.75	28.046	0.091	7.8363	Gravelly sand to sand (10)	46.7		0.106	0.051	39.0	106	2.04	31.8	127	2.20	1.06	2333
21.25	24.828	0.088	8.1594	Gravelly sand to sand (10)	43.5		0.121	0.059	38.4	100	2.03	29.6	127	2.52	1.23	2066
23.75	25.079	0.122	8.1185	Gravelly sand to sand (10)	47.8		0.132	0.064	38.5	100	2.01	32.5	125	2.75	1.33	2087

Classification by
Robertson 1986



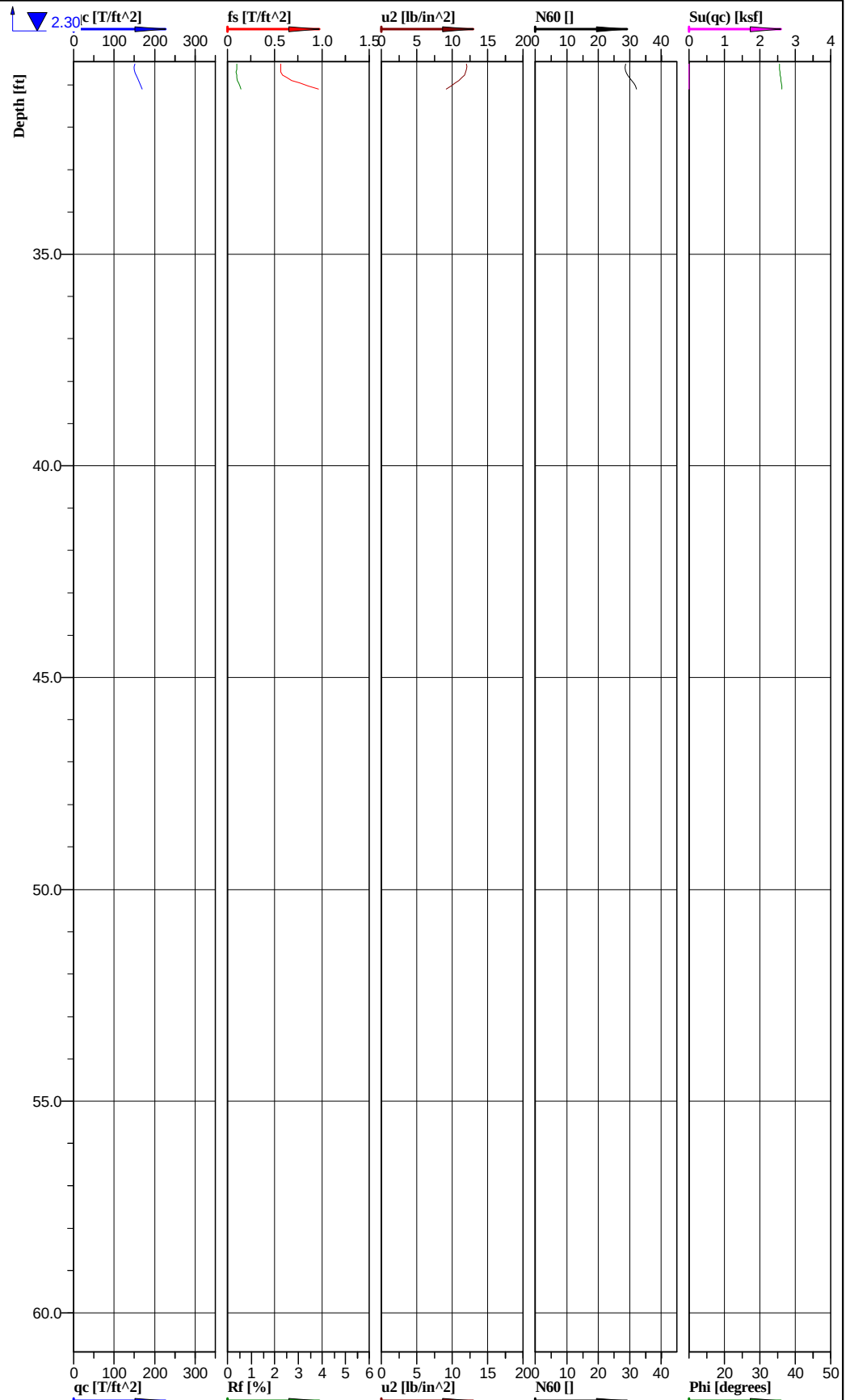
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 729106.30 ft, Y: 991925.39 ft	Ground level:	464.01	Test no:	C-157A
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/13/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-72
Confirmation sounding adjacent to C-157				File:	Labadie C-157A.cpd		

Classification by
Robertson 1986

Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



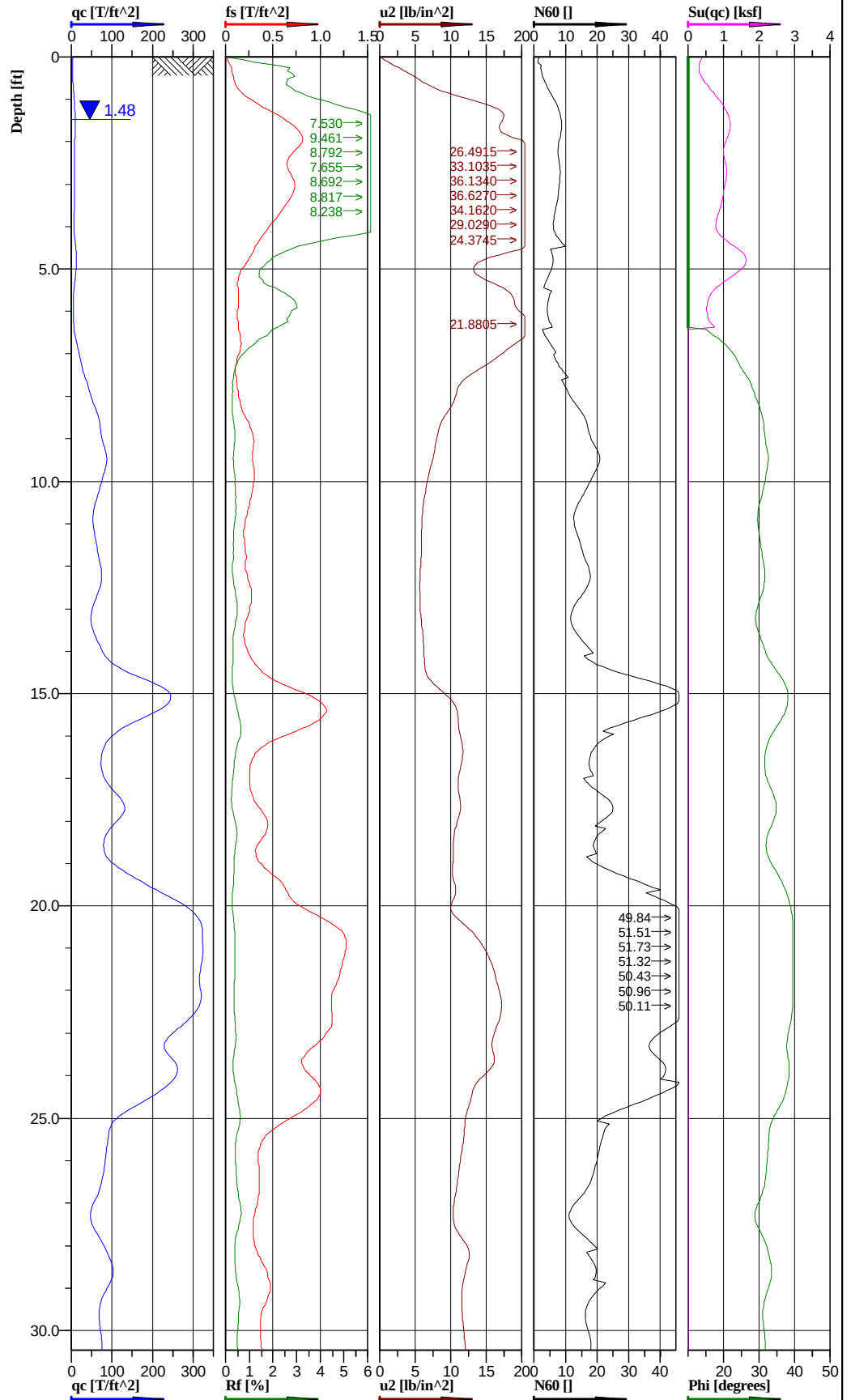
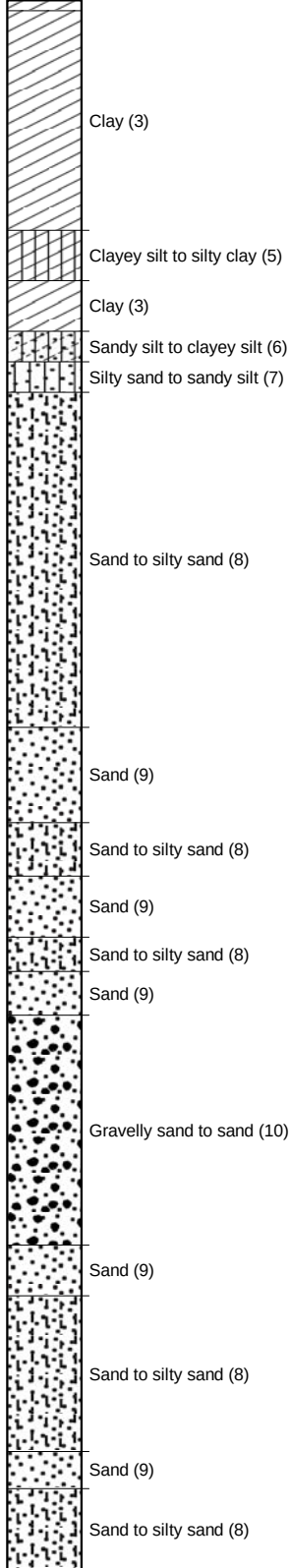
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729106.30 ft, Y: 991925.39 ft	Ground level: 464.01	Test no: C-157A
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/13/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-72
Confirmation sounding adjacent to C-157		File: Labadie C-157A.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-157A
 Test date: 11/13/2009
 Location: Labadie MO
 File name: Labadie C-157A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.665	0.047	3.8624	Clay (3)	6.7	0.911	0.007	0.007			1.78	6.7	111	0.15	0.15	273
3.75	0.668	0.041	6.9782	Clayey silt to silty clay (5)	5.9	0.893	0.02	0.015			1.73	5.9	108	0.42	0.31	536
6.25	1.687	0.015	4.3745	Sand (9)	8.4	1.322	0.033	0.021	30.8	74	1.85	4.2	115	0.69	0.44	140
8.75	8.791	0.038	4.6902	Sand to silty sand (8)	19.4		0.048	0.028	32.5	80	1.96	12.4	122	1.00	0.58	731
11.25	4.824	0.029	4.5779	Sand to silty sand (8)	13.4		0.062	0.035	28.5	70	1.91	8.6	119	1.29	0.73	401
13.75	20.396	0.082	6.3019	Gravelly sand to sand (10)	36.1		0.076	0.041	36.1	94	2	24.6	125	1.58	0.85	1697
16.25	31.682	0.133	14.1531	Gravelly sand to sand (10)	52.8		0.092	0.049	39.6	110	2.04	35.9	127	1.91	1.02	2636
18.75	28.47	0.101	11.6112	Gravelly sand to sand (10)	47.4		0.107	0.057	39.1	105	2.04	32.3	127	2.23	1.19	2369
21.25	27.204	0.103	10.8583	Gravelly sand to sand (10)	45.3		0.122	0.064	38.9	102	2.04	30.8	127	2.54	1.33	2263
23.75	20.751	0.102	9.515	Gravelly sand to sand (10)	39.7		0.137	0.072	37.3	92	2	27.0	125	2.85	1.50	1726
26.25	18.271	0.057	10.3686	Sand (9)	34.6		0.152	0.079	36.6	86	2	17.3	125	3.16	1.64	1520
28.75	12.687	0.028	11.2613	Sand (9)	26.0		0.167	0.086	34.6	74	1.98	13.0	124	3.47	1.79	1056
31.25	15.414	0.056	11.4439	Sand (9)	30.8		0.178	0.091	36.0	81	1.99	15.4	124	3.70	1.89	1282

Classification by
Robertson 1986

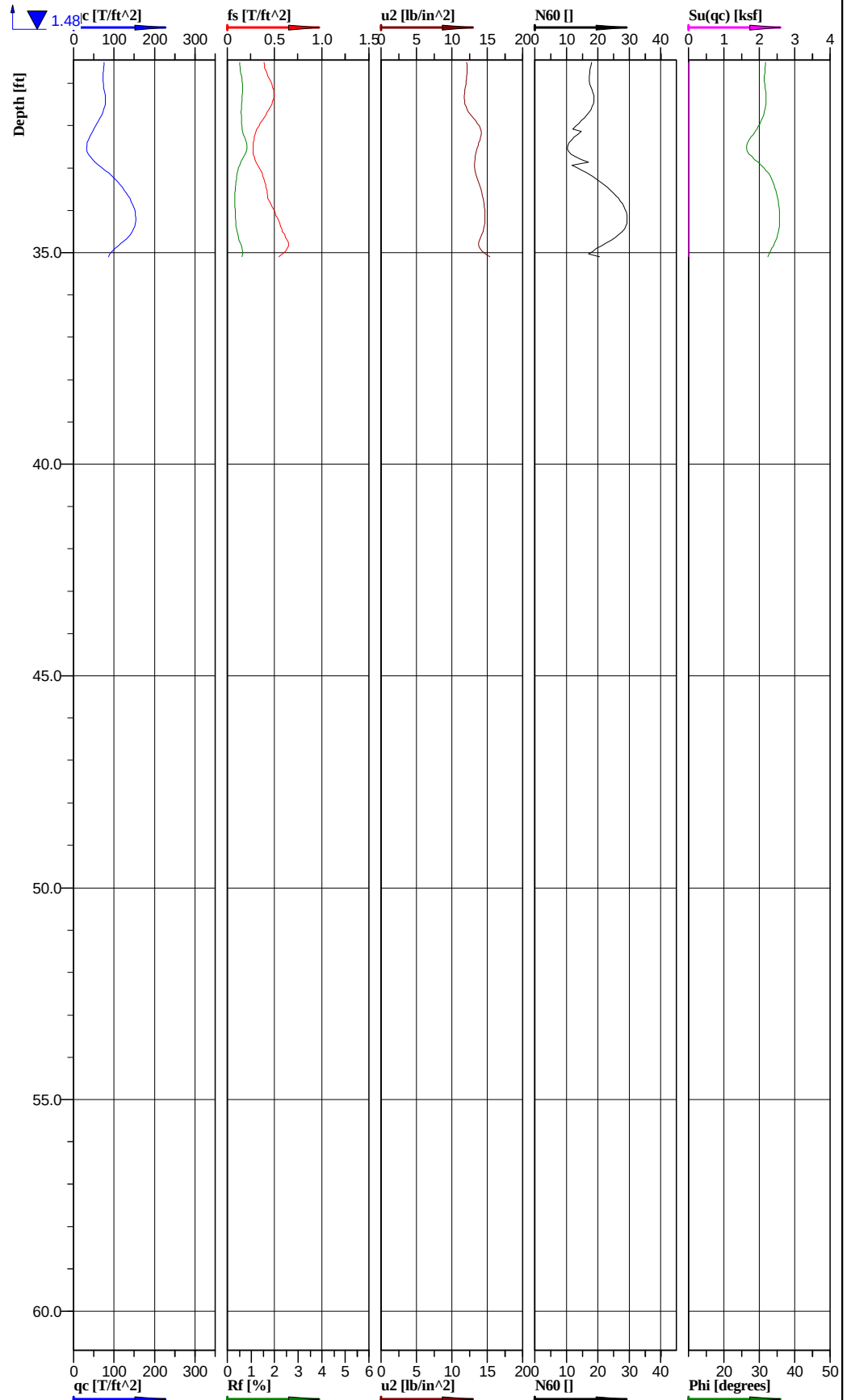
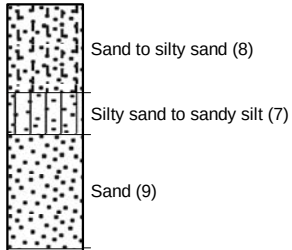


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 729691.99 ft, Y: 991906.89 ft	Ground level:	463.81	Test no:	C-159
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-73
				File:	Labadie C-159.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



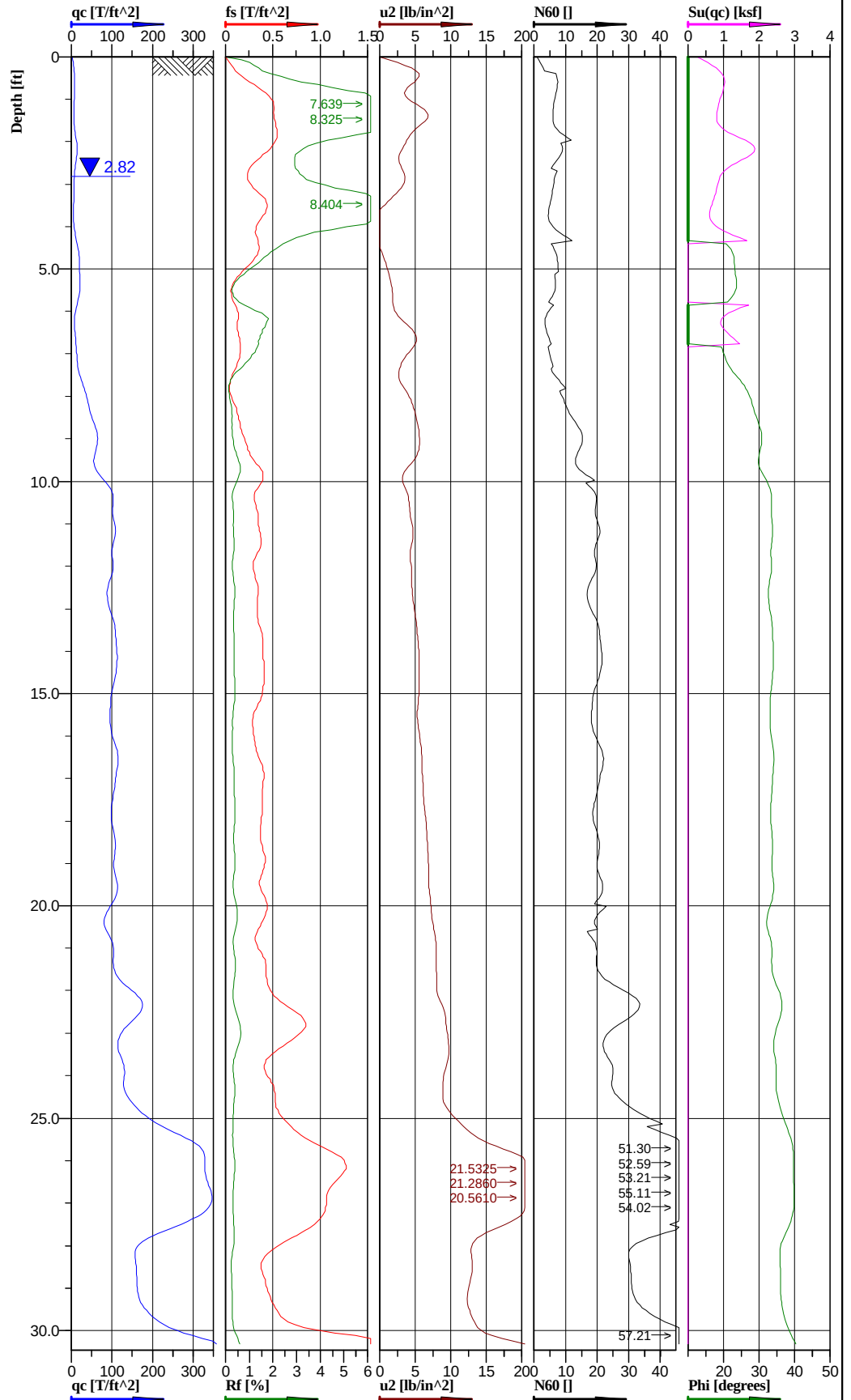
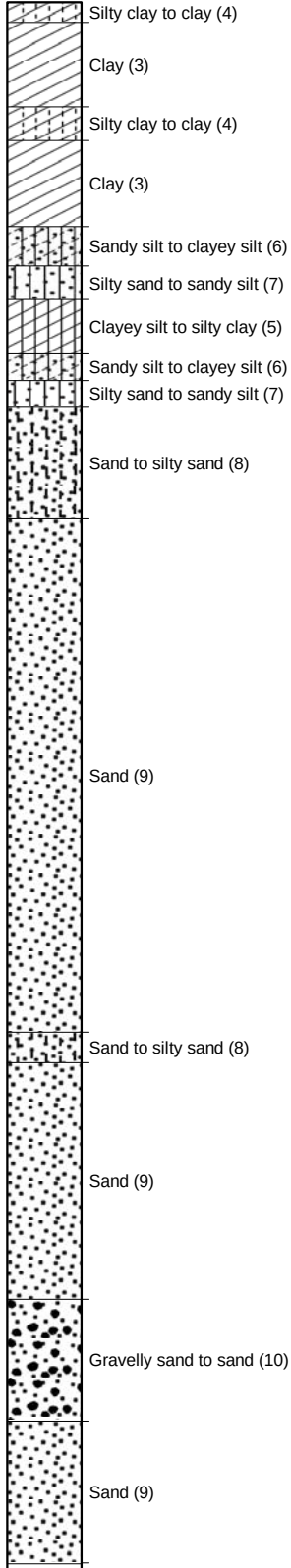
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729691.99 ft, Y: 991906.89 ft	Ground level:	463.81	Test no:	C-159
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-73
				File:	Labadie C-159.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-159
 Test date: 11/16/2009
 Location: Labadie MO
 File name: Labadie C-159.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.624	0.041	14.7954	Clay (3)	6.1	0.838	0.007	0.006			1.78	6.1	111	0.15	0.12	251
3.75	0.841	0.048	28.3798	Clayey silt to silty clay (5)	7.1	1.103	0.02	0.013			1.8	7.1	112	0.42	0.27	662
6.25	1.163	0.013	17.7547	Silty sand to sandy silt (7)	5.4	0.761	0.034	0.019	21.9		1.83	3.5	114	0.71	0.40	97
8.75	6.45	0.022	8.797	Sand to silty sand (8)	16.2		0.048	0.026	30.8	73	1.94	10.3	121	1.00	0.54	537
11.25	6.119	0.022	5.9558	Sand to silty sand (8)	15.3		0.062	0.032	30.7	69	1.94	9.8	121	1.29	0.67	509
13.75	9.433	0.032	6.3796	Sand (9)	20.6		0.077	0.039	32.2	74	1.96	10.3	122	1.60	0.81	785
16.25	12.085	0.053	11.1126	Sand (9)	25.7		0.092	0.046	34.1	81	1.97	12.9	123	1.91	0.96	1005
18.75	13.284	0.045	10.5869	Gravelly sand to sand (10)	26.3		0.106	0.054	34.7	82	1.98	17.9	124	2.20	1.12	1105
21.25	30.34	0.111	14.7008	Gravelly sand to sand (10)	50.5		0.121	0.061	39.4	106	2.04	34.4	127	2.52	1.27	2524
23.75	22.004	0.09	14.8235	Sand (9)	38.7		0.136	0.068	37.7	94	2.01	19.4	125	2.83	1.41	1831
26.25	7.198	0.036	11.1393	Sand to silty sand (8)	17.7		0.151	0.076	31.5	61	1.94	11.3	121	3.14	1.58	599
28.75	7.692	0.037	11.7944	Sand to silty sand (8)	17.9		0.166	0.083	32.0	62	1.95	11.4	122	3.45	1.73	640
31.25	6.318	0.037	12.5537	Silty sand to sandy silt (7)	16.3		0.18	0.09	30.7	58	1.93	10.4	120	3.74	1.87	526
33.75	10.62	0.044	14.0118	Sand (9)	22.0		0.195	0.096	33.3	72	1.97	11.0	123	4.06	2.00	884
36.25	8.401	0.054	15.022	Sand (9)	18.8		0.202	0.1	32.6	62	1.94	9.4	121	4.20	2.08	699

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



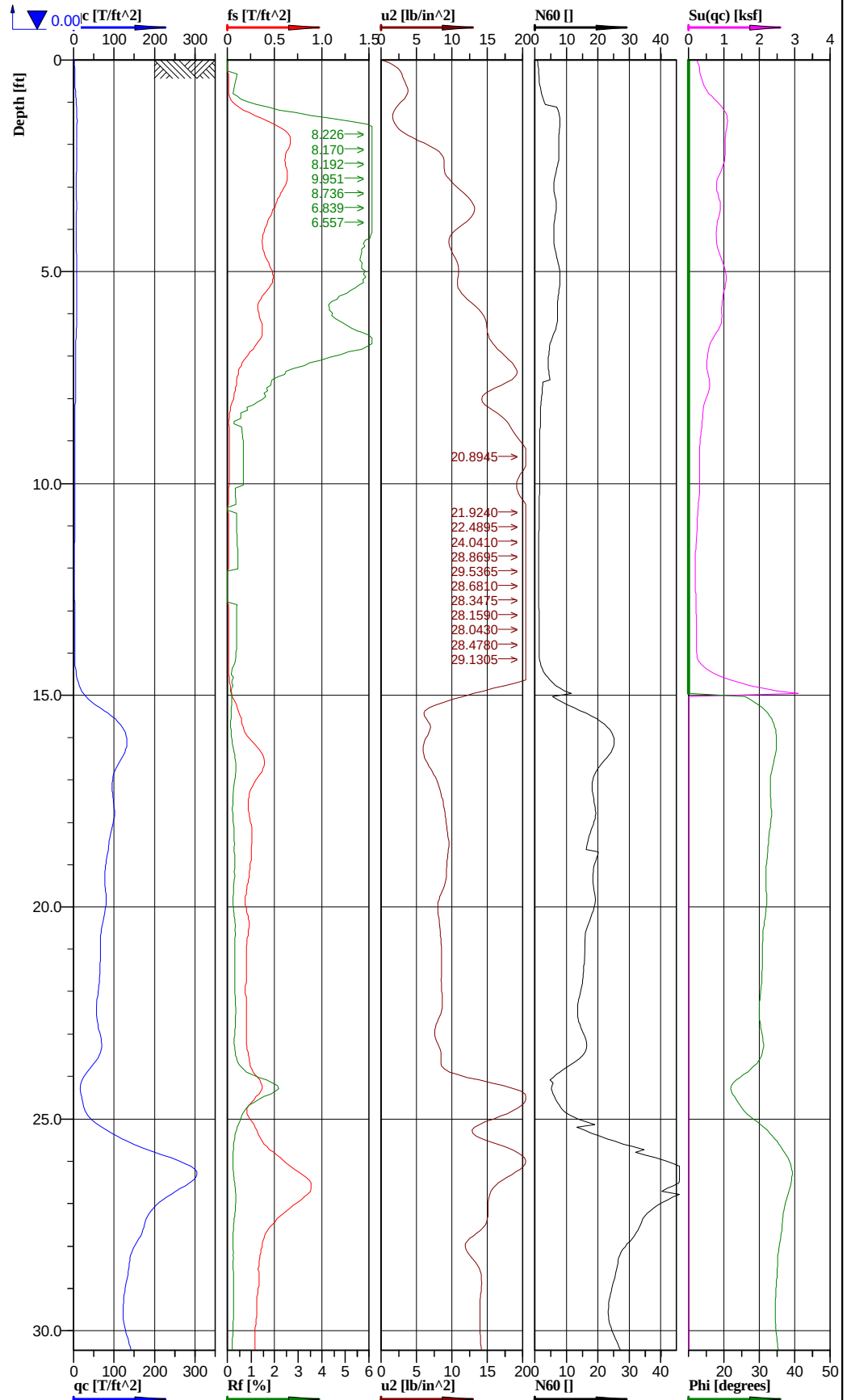
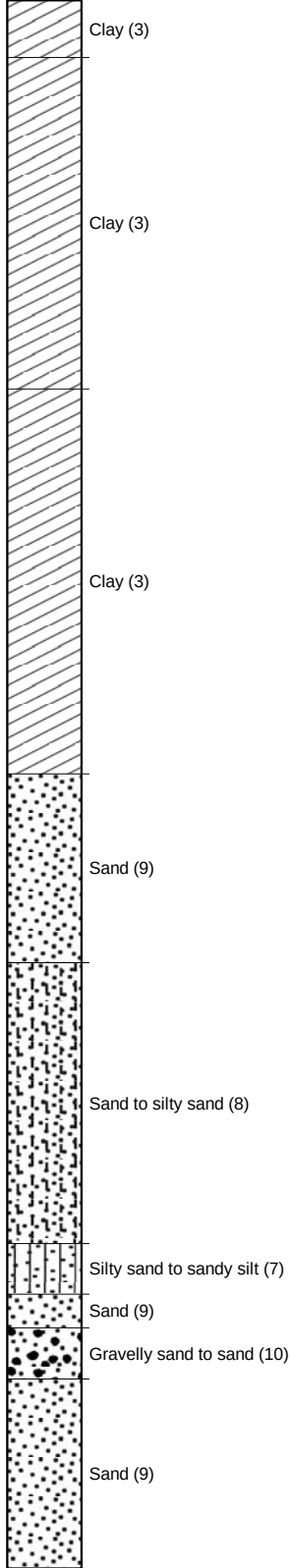
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730278.18 ft, Y: 991888.45 ft	Ground level:	463.19	Test no:	C-161
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-74
				File:	Labadie C-161.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-161
Test date: 12/23/2009
Location: Labadie MO
File name: Labadie C-161.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.785	0.036	4.2384	Silty clay to clay (4)	6.6	1.078	0.007	0.007			1.8	6.6	112	0.15	0.15	539
3.75	0.962	0.031	0.8819	Sandy silt to clayey silt (6)	6.5	0.881	0.02	0.017	22.5		1.73	6.5	108	0.42	0.35	80
6.25	1.38	0.011	2.942	Silty sand to sandy silt (7)	5.4	1.186	0.034	0.023	22.1		1.85	3.4	115	0.71	0.48	115
8.75	5.027	0.018	4.4712	Sand (9)	12.7		0.048	0.029	29.2	66	1.93	6.4	120	1.00	0.60	418
11.25	9.658	0.032	4.3143	Sand (9)	19.3		0.062	0.036	33.4	80	1.99	9.7	124	1.29	0.75	804
13.75	9.912	0.036	5.2438	Sand (9)	19.8		0.077	0.044	33.5	79	1.98	9.9	124	1.60	0.92	825
16.25	9.968	0.033	5.7442	Sand (9)	19.9		0.092	0.051	33.6	77	1.99	10.0	124	1.91	1.06	829
18.75	10.058	0.037	6.7358	Sand to silty sand (8)	20.2		0.107	0.058	33.6	75	1.99	12.9	124	2.23	1.21	837
21.25	11.098	0.042	7.9386	Sand (9)	23.1		0.121	0.065	34.0	75	1.98	11.6	124	2.52	1.35	923
23.75	13.184	0.056	9.3811	Sand (9)	26.4		0.136	0.072	35.1	79	1.99	13.2	124	2.83	1.50	1097
26.25	29.323	0.098	18.2566	Sand (9)	49.5		0.151	0.08	39.2	101	2.03	24.8	127	3.14	1.66	2440
28.75	17.678	0.054	13.2329	Sand (9)	35.3		0.167	0.087	36.6	85	1.99	17.7	124	3.47	1.81	1471
31.25	31.147	0.16	17.5421	Sand (9)	62.3		0.175	0.091	39.5	101	2.04	31.1	127	3.64	1.89	2591

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



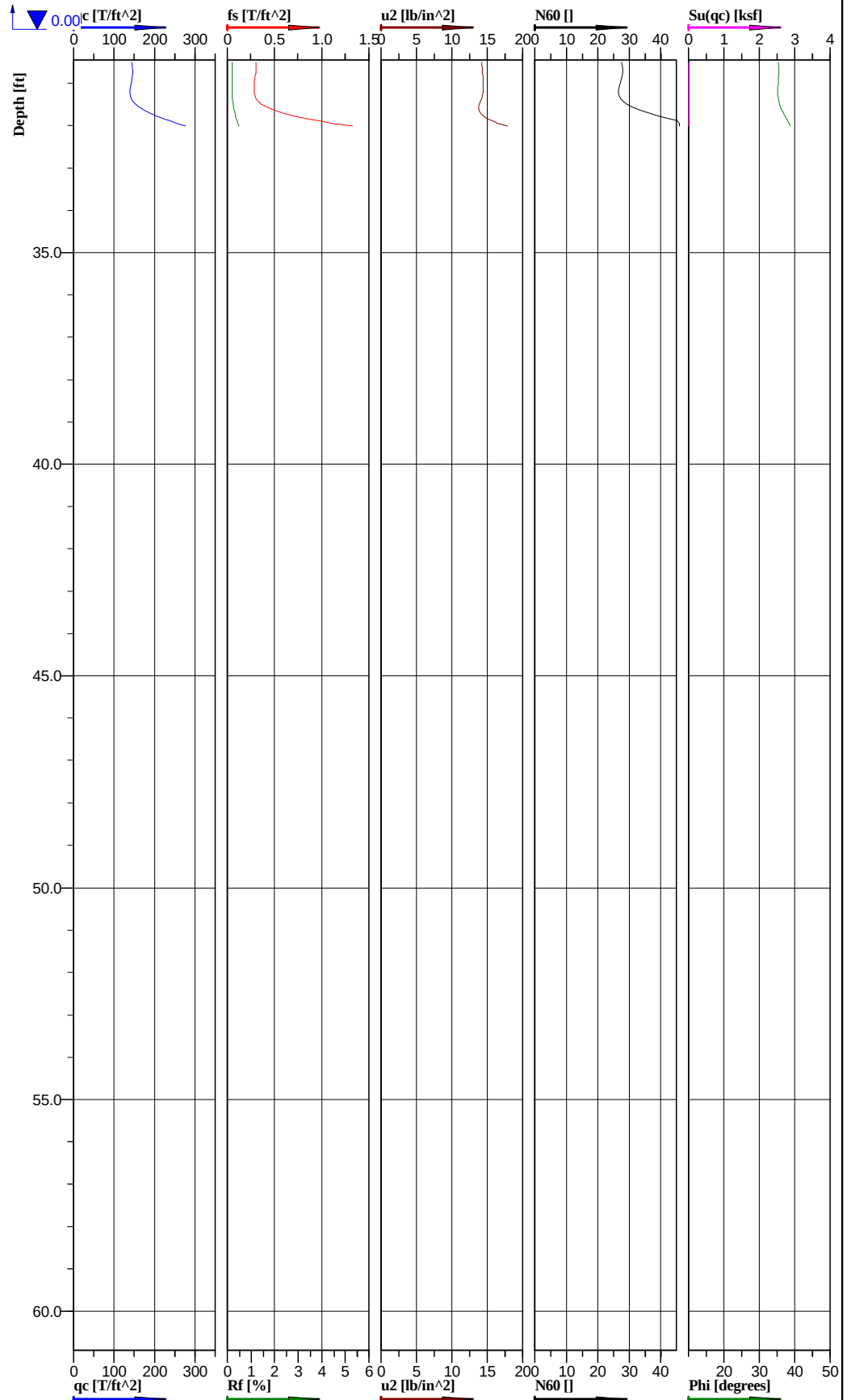
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730886.02 ft, Y: 991897.77 ft	Ground level:	462.30	Test no:	C-163
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-75
				File:	Labadie C-163.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



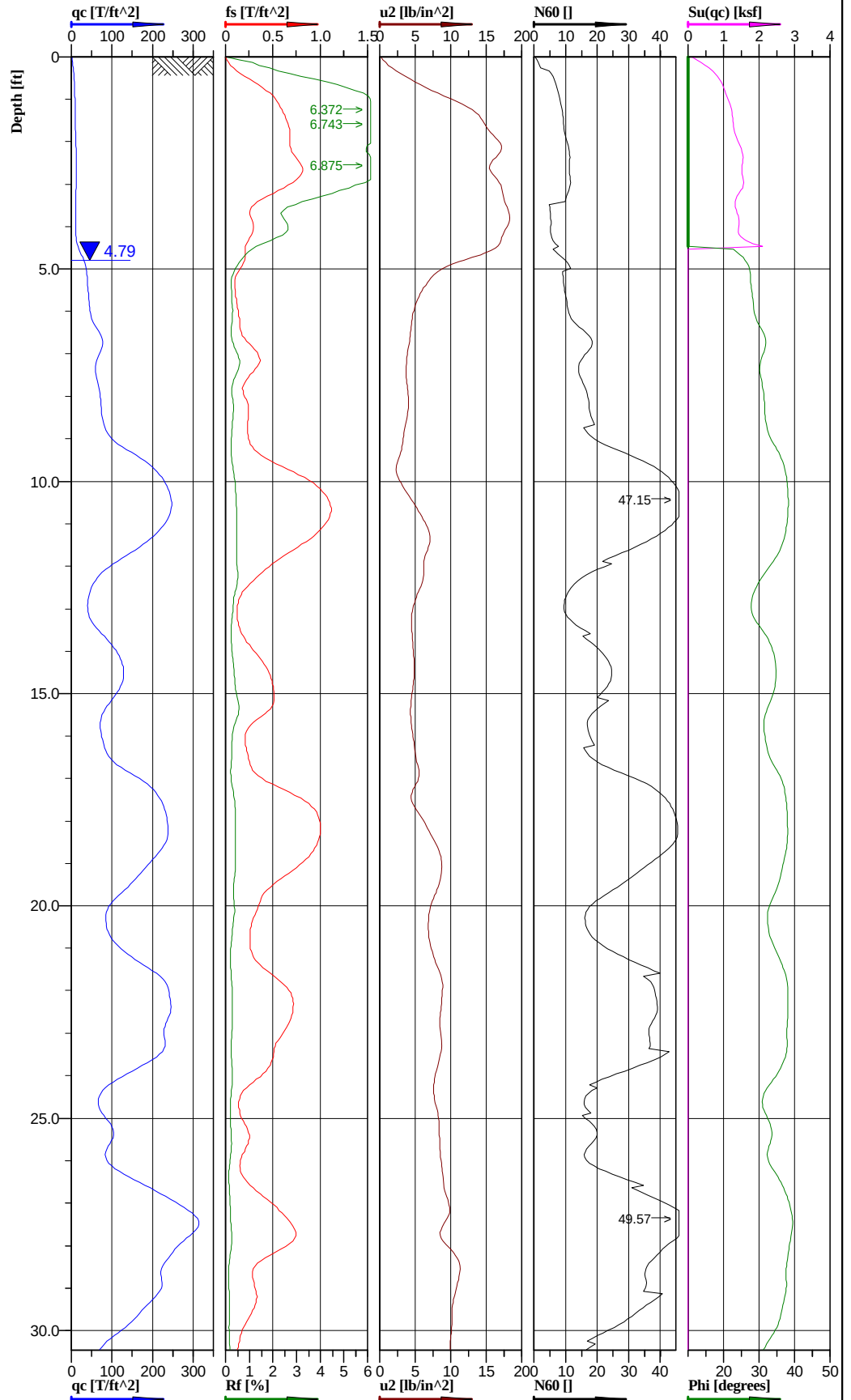
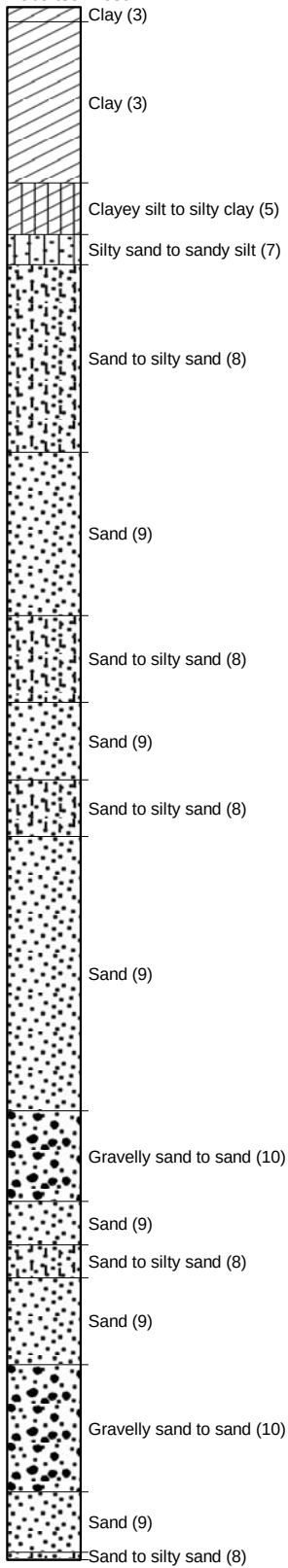
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730886.02 ft, Y: 991897.77 ft	Ground level:	462.30	Test no:	C-163
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/28/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-75
				File:	Labadie C-163.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-163
 Test date: 12/28/2009
 Location: Labadie MO
 File name: Labadie C-163.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.58	0.03	4.0868	Clay (3)	5.1	0.793	0.007	0.003			1.79	5.1	112	0.15	0.06	238
3.75	0.653	0.046	10.8925	Clay (3)	6.5	0.865	0.02	0.009			1.78	6.5	111	0.42	0.19	260
6.25	0.618	0.03	14.8491	Clay (3)	6.2	0.793	0.034	0.014			1.79	6.2	112	0.71	0.29	238
8.75	0.346	0.003	18.2008	Clay (3)	1.8	0.39	0.047	0.02			1.79	1.8	112	0.98	0.42	117
11.25	0.252	0.001	24.5399	Clay (3)	1.3	0.232	0.06	0.026			1.78	1.3	111	1.25	0.54	70
13.75	0.564	0.001	25.8676	Sand (9)	2.6	0.561	0.074	0.032	25.9	46	1.8	1.3	112	1.54	0.67	47
16.25	9.682	0.023	7.2586	Sand (9)	19.4		0.088	0.038	33.1	79	1.98	9.7	124	1.83	0.79	806
18.75	8.274	0.022	9.0487	Sand to silty sand (8)	18.6		0.102	0.045	32.5	73	1.96	11.9	122	2.12	0.94	688
21.25	6.274	0.019	8.436	Sand to silty sand (8)	15.7		0.117	0.052	30.8	63	1.94	10.0	121	2.43	1.08	522
23.75	4.216	0.024	12.2737	Silty sand to sandy silt (7)	11.2		0.131	0.059	27.5	55	1.9	7.2	119	2.72	1.23	351
26.25	18.909	0.056	16.2498	Sand (9)	35.0		0.146	0.066	36.4	91	2	17.5	125	3.04	1.37	1573
28.75	13.086	0.032	13.588	Sand (9)	26.1		0.161	0.073	35.0	79	1.99	13.1	124	3.35	1.52	1089
31.25	15.303	0.041	14.4439	Sand (9)	30.6		0.174	0.08	35.8	82	1.99	15.3	124	3.62	1.66	1273

Classification by
Robertson 1986



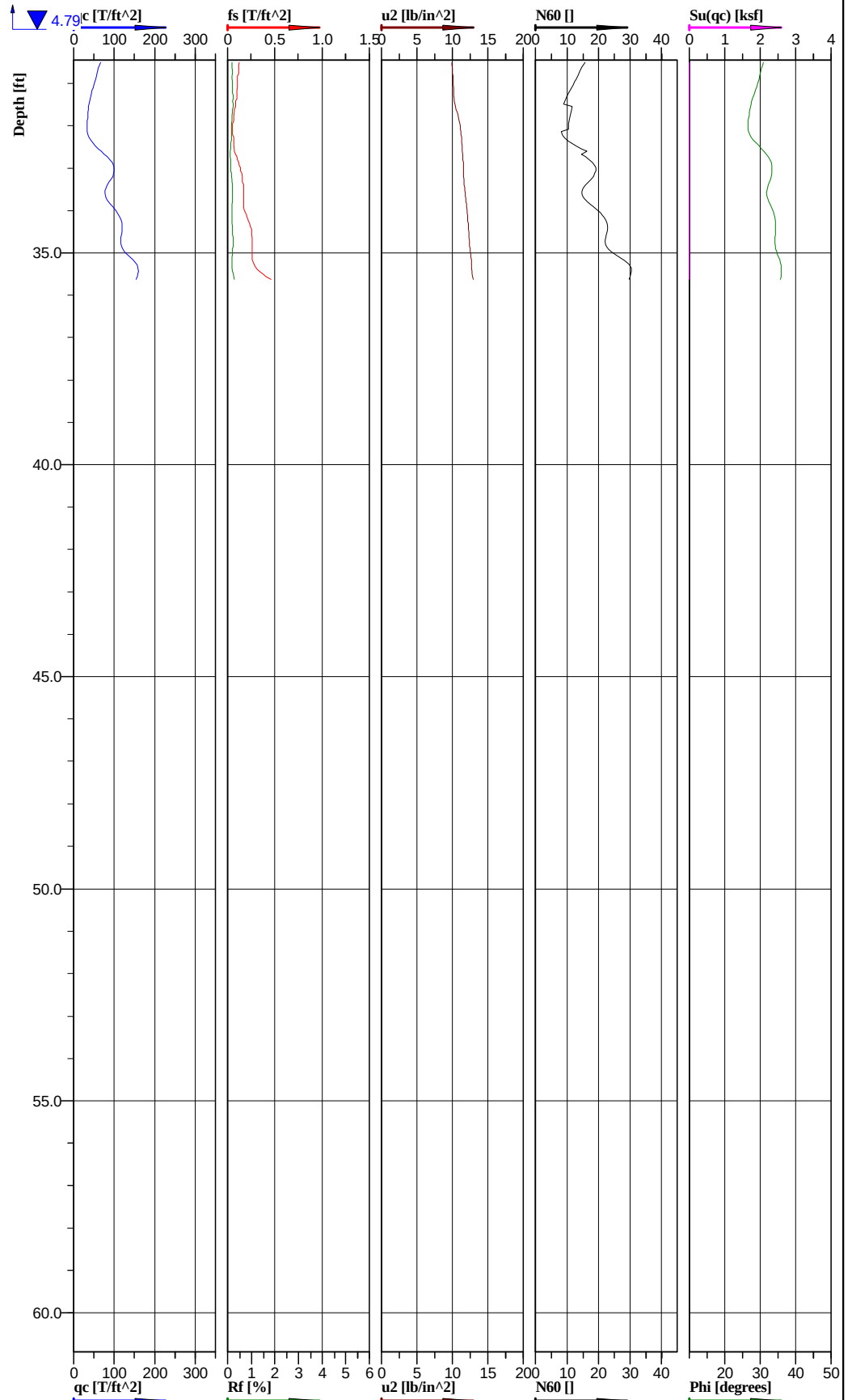
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150



Location:	Labadie, MO	Position:	X: 728048.69 ft, Y: 991654.40 ft	Ground level:	464.21	Test no:	C-166
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-76
				File:	Labadie C-166.cpd		

Classification by
Robertson 1986

Sand to silty sand (8)
Silty sand to sandy silt (7)
Sand to silty sand (8)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



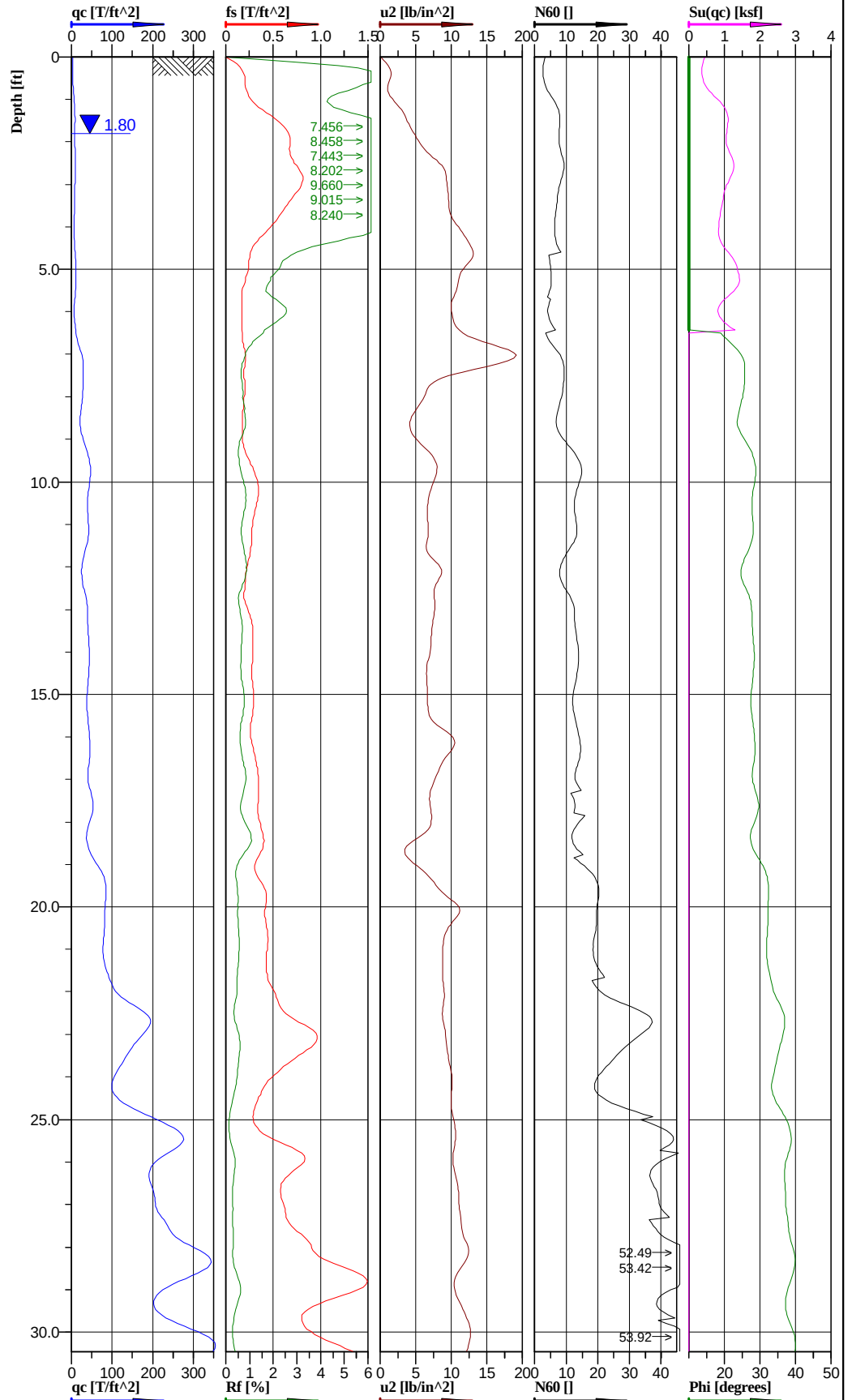
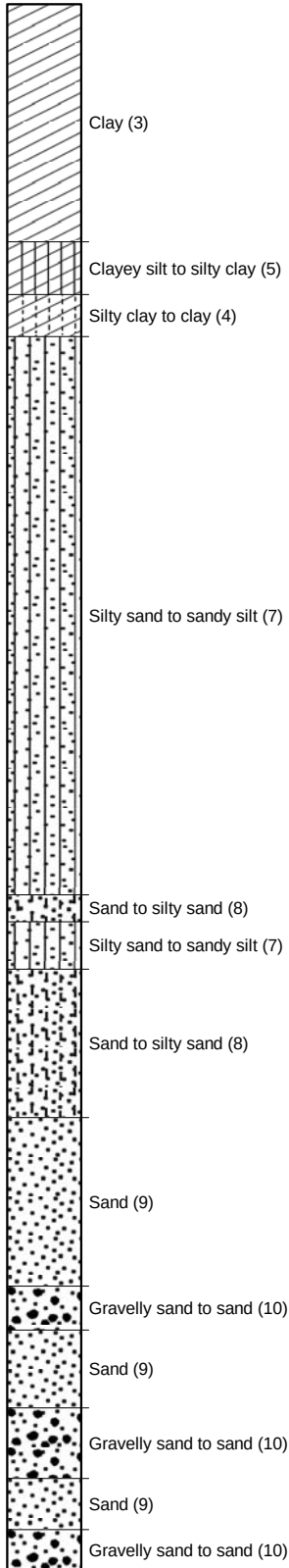
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 728048.69 ft, Y: 991654.40 ft	Ground level:	464.21	Test no:	C-166
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-76
				File:	Labadie C-166.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-166
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-166.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.82	0.048	10.7847	Clay (3)	8.0	1.118	0.007	0.007			1.79	8.0	112	0.15	0.15	335
3.75	1.509	0.037	16.0009	Silty sand to sandy silt (7)	8.3	1.489	0.02	0.02	25.6	57	1.83	5.3	114	0.42	0.42	126
6.25	5.257	0.018	4.8843	Sand to silty sand (8)	13.1		0.035	0.03	29.6	65	1.94	8.4	121	0.73	0.62	437
8.75	11.248	0.034	3.3554	Sand (9)	24.1		0.049	0.037	33.6	82	1.96	12.0	122	1.02	0.77	936
11.25	16.684	0.075	5.7862	Sand to silty sand (8)	34.2		0.064	0.044	35.7	90	1.98	21.9	124	1.33	0.92	1388
13.75	8.249	0.027	4.7463	Sand (9)	17.5		0.078	0.051	31.8	68	1.97	8.8	123	1.62	1.06	686
16.25	11.172	0.037	4.782	Sand (9)	24.0		0.093	0.058	33.7	76	1.97	12.0	123	1.93	1.21	930
18.75	18.33	0.074	7.3716	Sand (9)	36.6		0.108	0.065	36.7	89	1.99	18.3	124	2.25	1.35	1525
21.25	15.618	0.042	7.8174	Gravelly sand to sand (10)	28.5		0.123	0.072	35.5	82	2	19.4	125	2.56	1.50	1299
23.75	15.313	0.039	8.1918	Sand (9)	28.8		0.138	0.08	35.2	79	2	14.4	125	2.87	1.66	1274
26.25	16.113	0.031	8.9066	Gravelly sand to sand (10)	29.0		0.153	0.087	35.5	79	2.01	19.7	125	3.18	1.81	1341
28.75	20.809	0.038	10.2303	Sand (9)	36.7		0.168	0.095	37.4	88	2.02	18.4	126	3.49	1.98	1731
31.25	5.078	0.009	10.459	Sand to silty sand (8)	12.8		0.183	0.102	29.1	49	1.93	8.2	120	3.81	2.12	422
33.75	9.539	0.017	11.9309	Sand (9)	19.2		0.197	0.109	33.2	64	1.98	9.6	124	4.10	2.27	794
36.25	14.495	0.031	12.7035	Sand (9)	29.0		0.206	0.113	35.6	76	1.99	14.5	124	4.28	2.35	1206

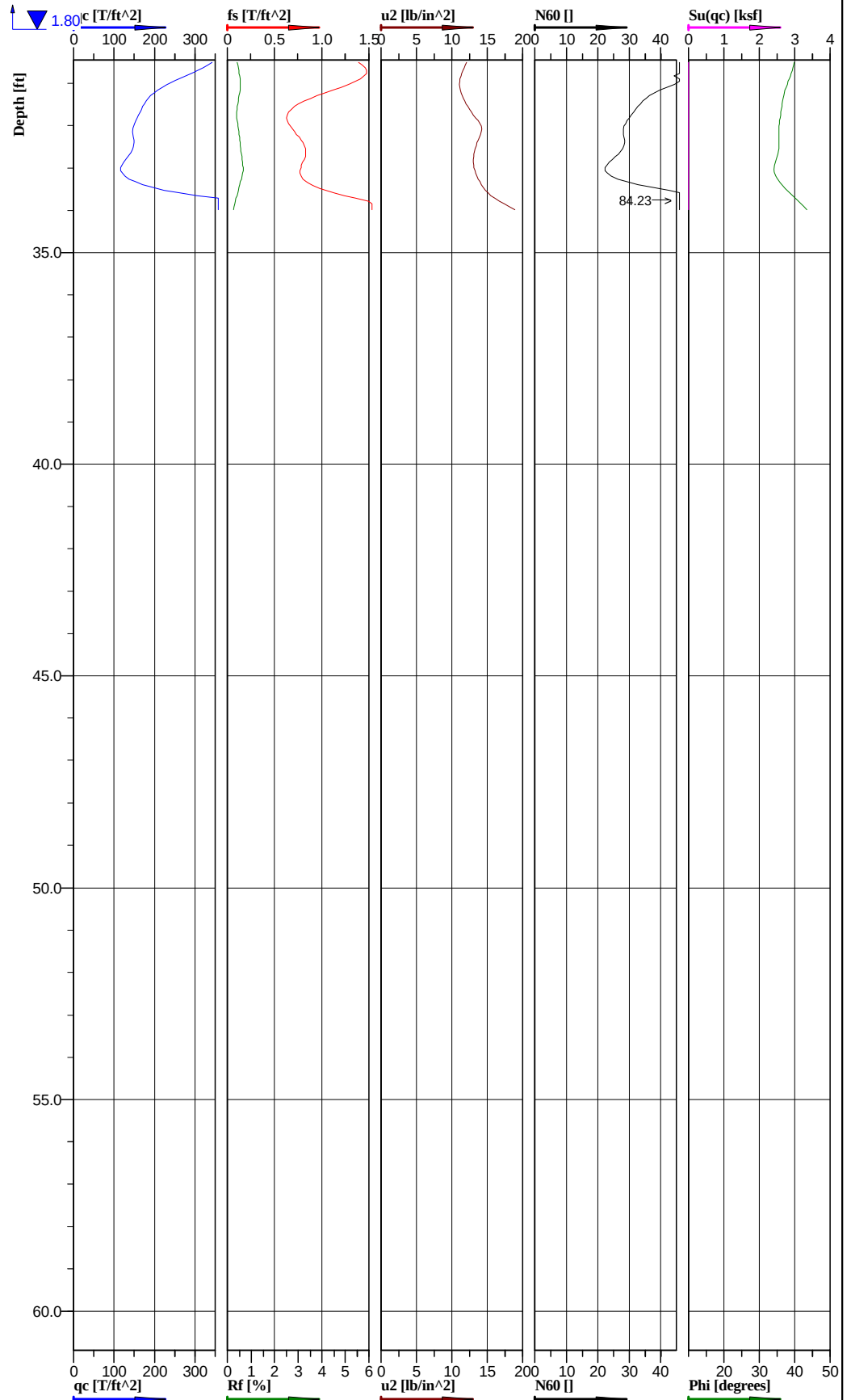
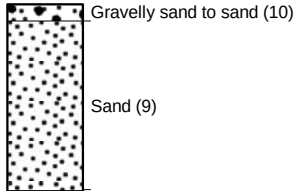
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728804.07 ft, Y: 991635.63 ft	Ground level:	464.01	Test no:	C-168
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-77
				File:	Labadie C-168.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



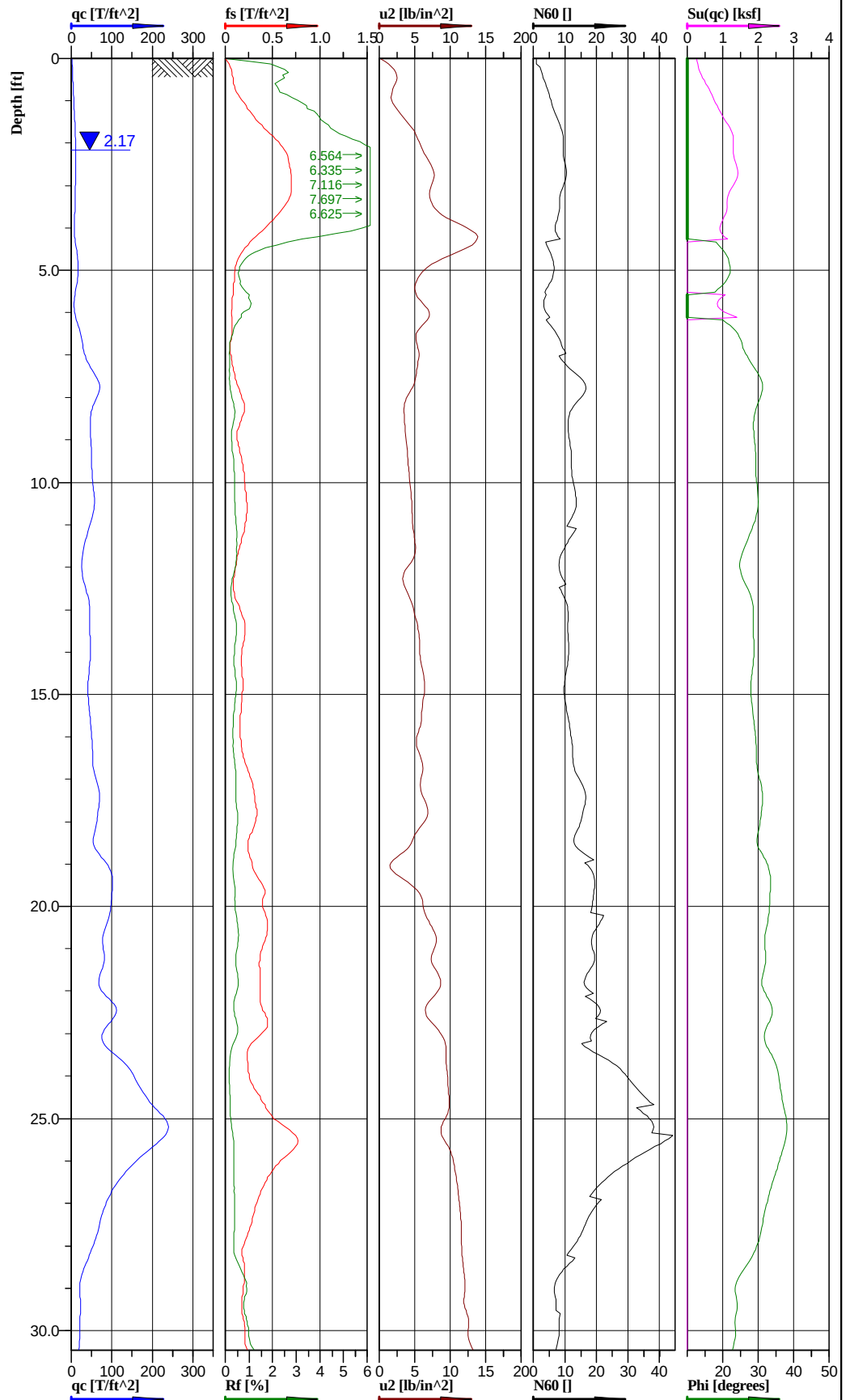
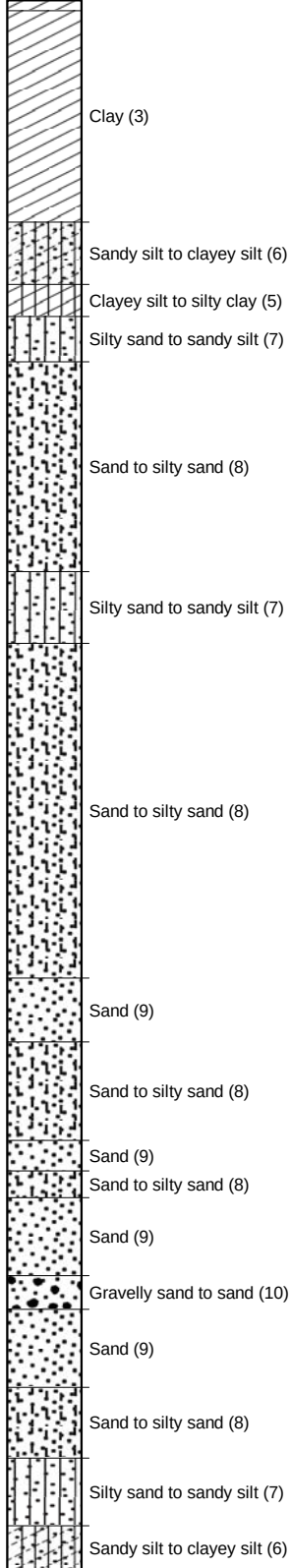
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728804.07 ft, Y: 991635.63 ft	Ground level:	464.01	Test no:	C-168
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-77
				File:	Labadie C-168.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-168
Test date: 11/16/2009
Location: Labadie MO
File name: Labadie C-168.cpd

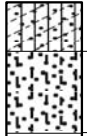
Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.616	0.04	3.4633	Clay (3)	6.2	0.844	0.006	0.006			1.73	6.2	108	0.12	0.12	253
3.75	0.779	0.05	10.7326	Clayey silt to silty clay (5)	6.9	1.042	0.02	0.014			1.8	6.9	112	0.42	0.29	625
6.25	1.443	0.018	12.4131	Silty sand to sandy silt (7)	6.0	1.129	0.033	0.02	23.7		1.85	3.8	115	0.69	0.42	120
8.75	3.083	0.021	6.2603	Silty sand to sandy silt (7)	10.3		0.047	0.026	26.1		1.89	6.6	118	0.98	0.54	257
11.25	3.416	0.026	7.1742	Silty sand to sandy silt (7)	11.4		0.062	0.033	26.9		1.89	7.3	118	1.29	0.69	284
13.75	3.863	0.025	7.0898	Silty sand to sandy silt (7)	12.9		0.076	0.039	27.8		1.89	8.2	118	1.58	0.81	321
16.25	4.109	0.029	8.1003	Sand to silty sand (8)	13.3		0.09	0.046	28.2	47	1.89	8.5	118	1.87	0.96	342
18.75	5.768	0.035	6.7009	Sand to silty sand (8)	15.7		0.104	0.052	30.0	55	1.92	10.0	120	2.16	1.08	480
21.25	9.358	0.044	9.2261	Sand (9)	21.3		0.118	0.059	33.0	62	1.95	10.7	122	2.45	1.23	779
23.75	13.943	0.058	9.6511	Gravelly sand to sand (10)	27.7		0.133	0.066	35.3	72	1.99	18.8	124	2.77	1.37	1160
26.25	21.372	0.058	10.7554	Gravelly sand to sand (10)	39.5		0.148	0.074	37.6	83	2.01	26.9	125	3.08	1.54	1778
28.75	25.752	0.1	11.6279	Gravelly sand to sand (10)	45.7		0.163	0.081	38.5	87	2.02	31.0	126	3.39	1.68	2143
31.25	21.709	0.095	12.4878	Sand (9)	39.9		0.178	0.088	37.4	79	2	19.9	125	3.70	1.83	1806
33.75	23.179	0.099	14.5177	Sand (9)	46.3		0.19	0.094	37.0	76	2	23.2	125	3.95	1.96	1928

Classification by
Robertson 1986



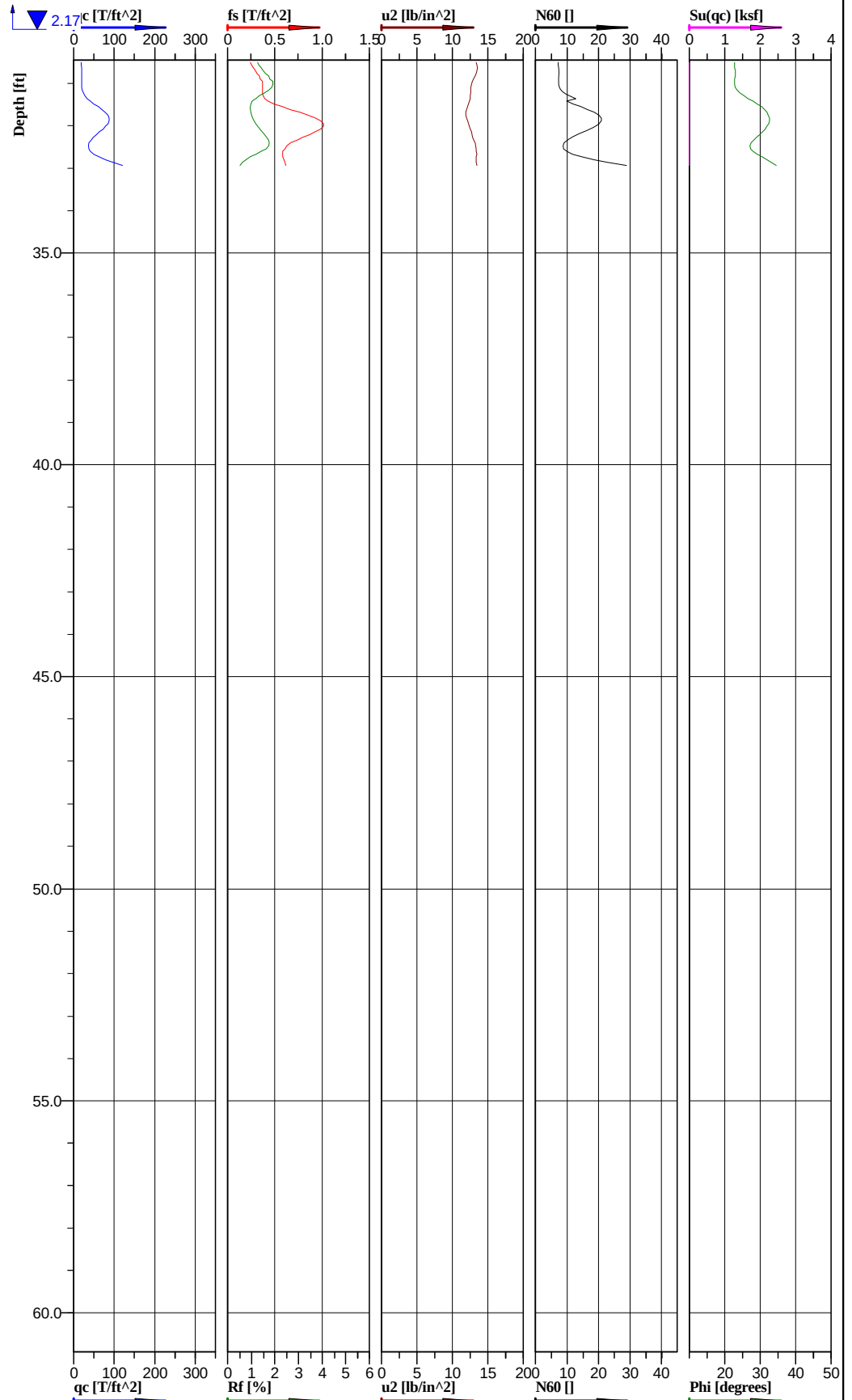
Location: Labadie, MO	Position: X: 728805.71 ft, Y: 991644.98 ft	Ground level: 464.21	Test no: C-168A
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/16/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 1	Fig: C-78
Confirmation sounding adjacent to C-168		File: Labadie C-168A.cpd	

Classification by
Robertson 1986



Sandy silt to clayey silt (6)

Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



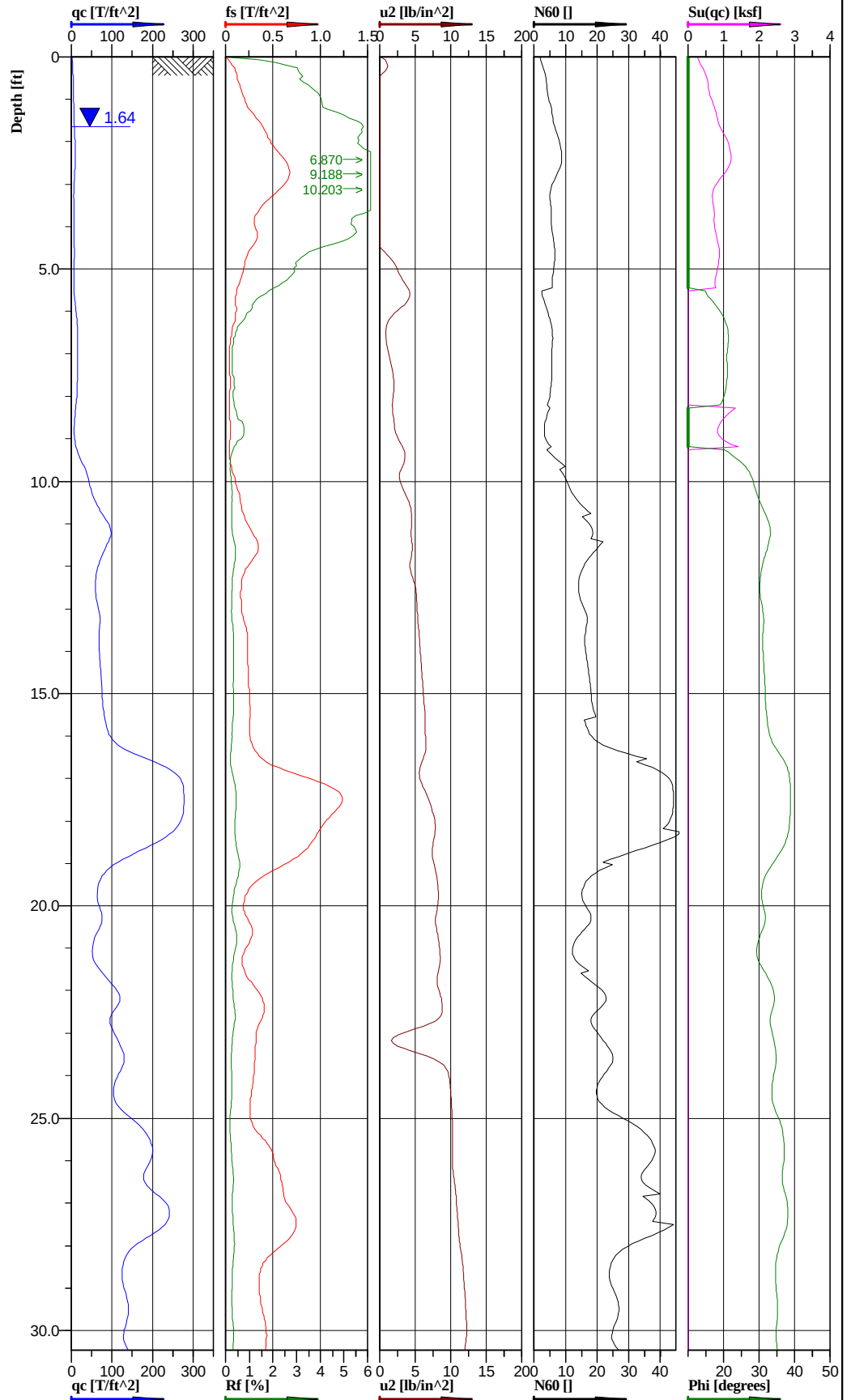
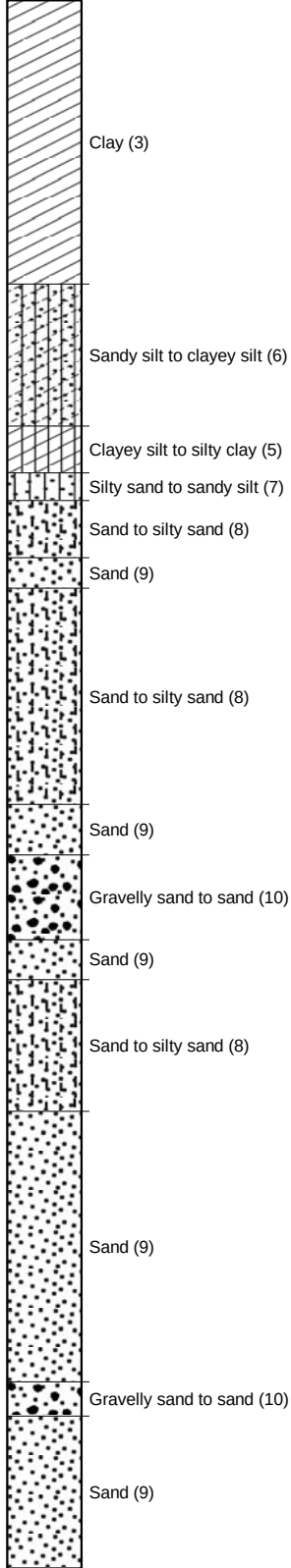
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728805.71 ft, Y: 991644.98 ft	Ground level: 464.21	Test no: C-168A
Project ID: 2008012455	Client: Ameren Missouri	Date: 11/16/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-78
Confirmation sounding adjacent to C-168		File: Labadie C-168A.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-168A
Test date: 11/16/2009
Location: Labadie MO
File name: Labadie C-168A.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.656	0.03	3.6493	Clay (3)	6.5	0.899	0.007	0.007			1.78	6.5	111	0.15	0.15	270
3.75	1.029	0.043	9.2071	Sandy silt to clayey silt (6)	7.7	1.16	0.02	0.015	20.8		1.8	7.7	112	0.42	0.31	86
6.25	2.26	0.007	5.6476	Sand to silty sand (8)	7.1	1.015	0.034	0.021	24.5	65	1.86	4.6	116	0.71	0.44	188
8.75	5.108	0.016	3.9856	Sand to silty sand (8)	12.8		0.048	0.028	29.5	66	1.94	8.2	121	1.00	0.58	425
11.25	3.878	0.016	4.424	Sand to silty sand (8)	11.0		0.063	0.035	27.6	62	1.91	7.1	119	1.31	0.73	323
13.75	4.224	0.016	5.5026	Sand to silty sand (8)	10.5		0.077	0.041	28.4	55	1.93	6.7	120	1.60	0.85	351
16.25	5.106	0.02	5.8561	Sand to silty sand (8)	12.8		0.091	0.048	29.5	58	1.94	8.2	121	1.89	1.00	425
18.75	7.495	0.031	4.7203	Sand (9)	16.7		0.106	0.055	31.7	66	1.96	8.3	122	2.20	1.14	624
21.25	8.065	0.038	7.5188	Sand (9)	18.9		0.12	0.062	32.3	67	1.95	9.5	122	2.50	1.29	671
23.75	13.339	0.033	9.1045	Gravelly sand to sand (10)	26.6		0.135	0.069	34.8	79	1.98	18.1	124	2.81	1.44	1110
26.25	13.911	0.048	10.4364	Sand to silty sand (8)	27.7		0.15	0.077	34.9	78	1.99	17.7	124	3.12	1.60	1157
28.75	3.255	0.019	11.9718	Sandy silt to clayey silt (6)	9.8		0.165	0.083	26.0	53	1.89	9.8	118	3.43	1.73	271
31.25	3.817	0.049	12.7117	Sand to silty sand (8)	11.2		0.179	0.09	26.5	52	1.87	7.1	117	3.72	1.87	318
33.75	6.623	0.057	13.4001	Sand to silty sand (8)	16.5		0.187	0.093	30.6	54	1.92	10.6	120	3.89	1.93	551

Classification by
Robertson 1986

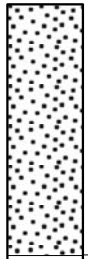


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

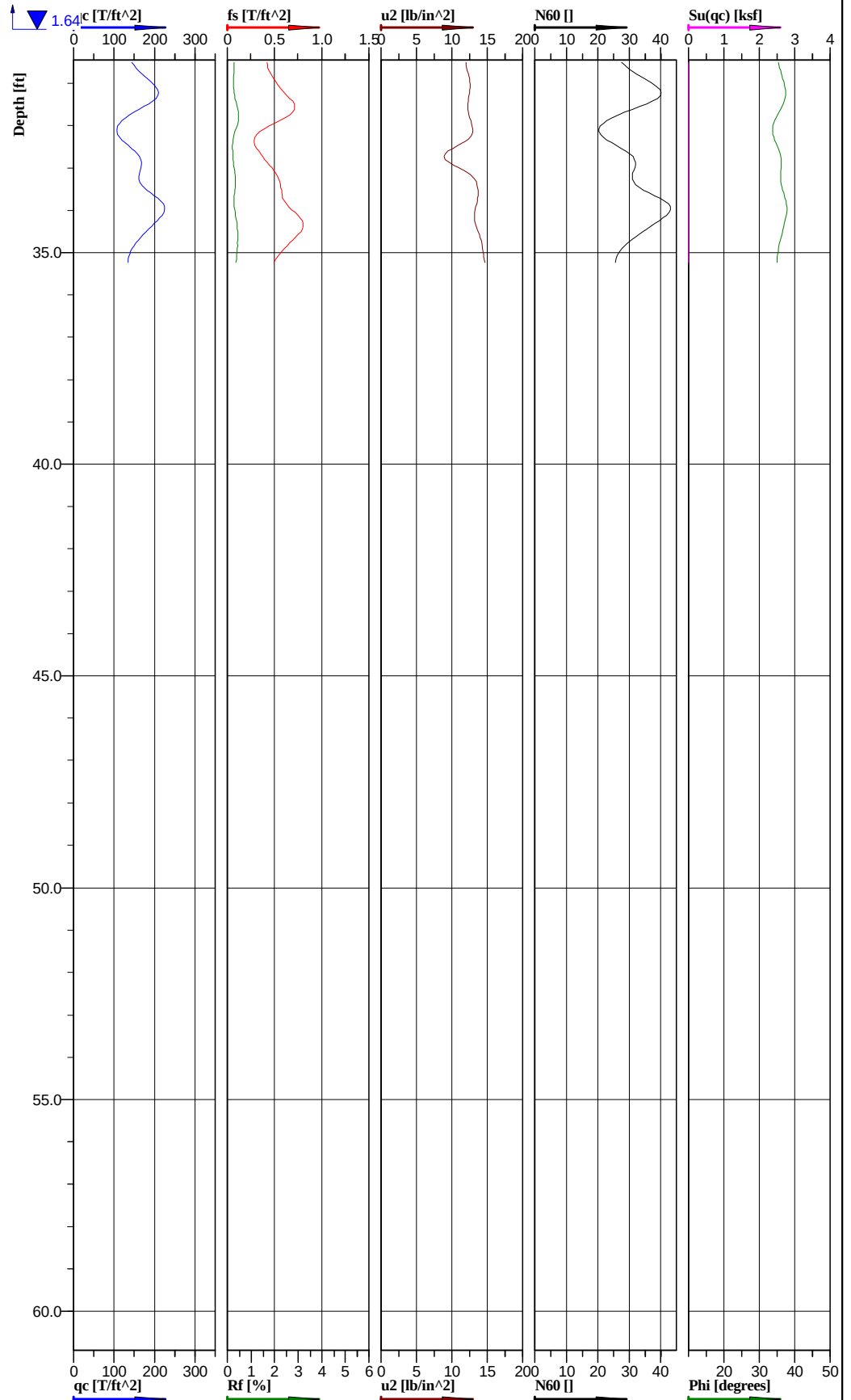


Location:	Labadie, MO	Position:	X: 729392.26 ft, Y: 991620.18 ft	Ground level:	464.01	Test no:	C-170
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-79
				File:	Labadie C-170.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



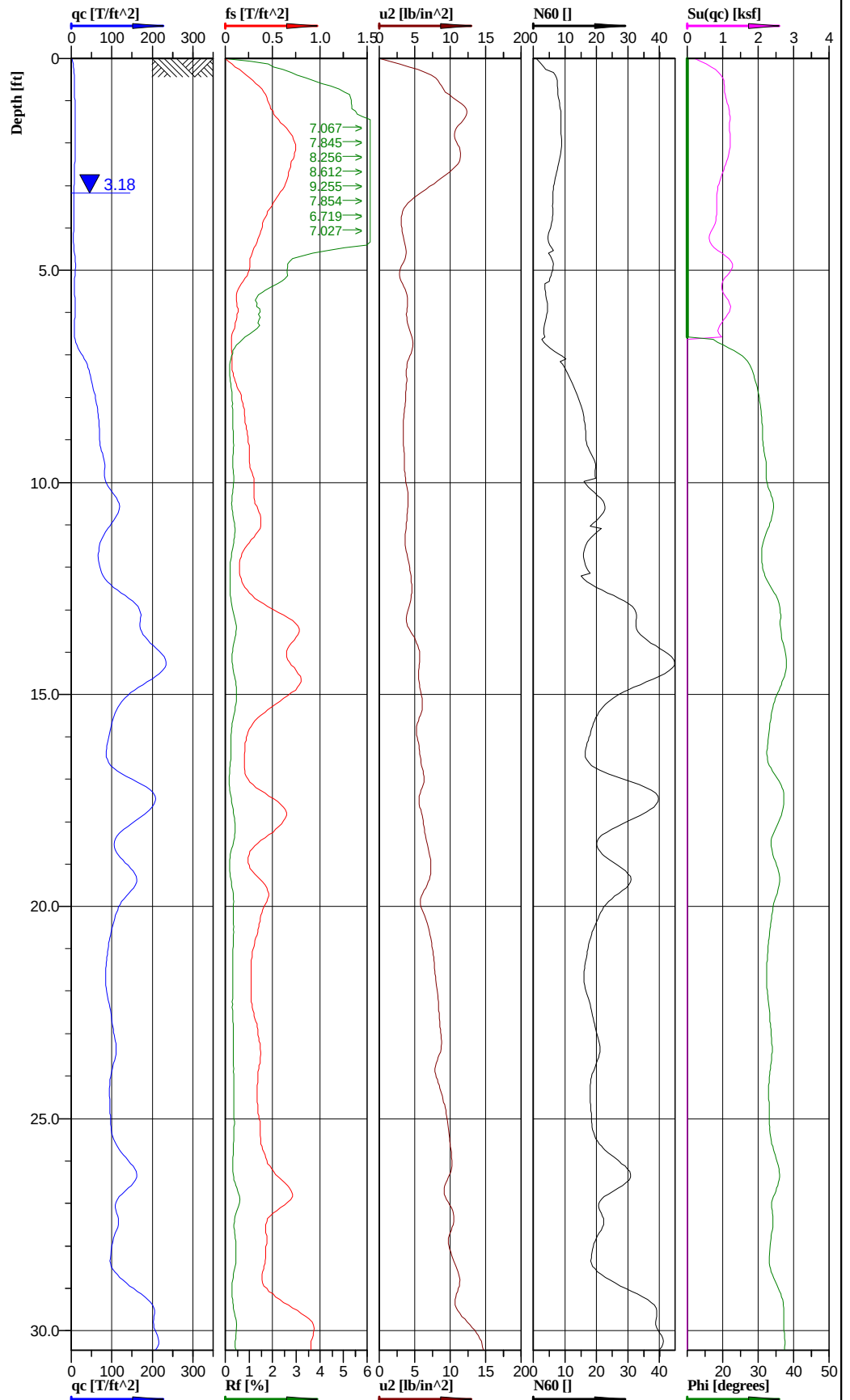
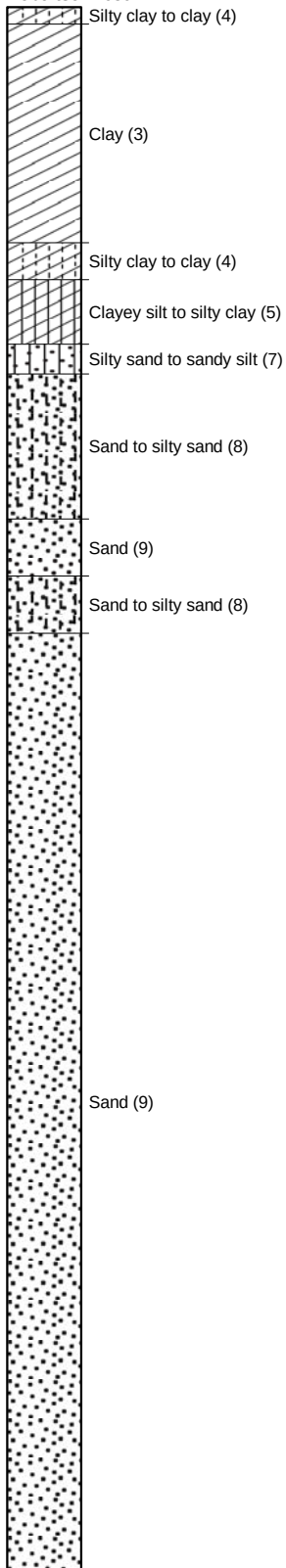
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729392.26 ft, Y: 991620.18 ft	Ground level:	464.01	Test no:	C-170
Project ID:	2008012455	Client:	Ameren Missouri	Date:	11/16/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-79
				File:	Labadie C-170.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-170
Test date: 11/16/2009
Location: Labadie MO
File name: Labadie C-170.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.569	0.029	-1.3162	Clay (3)	5.7	0.785	0.007	0.006			1.78	5.7	111	0.15	0.12	236
3.75	0.608	0.038	-0.177	Clay (3)	6.1	0.819	0.02	0.013			1.73	6.1	108	0.42	0.27	246
6.25	1.127	0.008	2.1464	Sandy silt to clayey silt (6)	5.1	0.777	0.033	0.019	19.9		1.83	5.1	114	0.69	0.40	94
8.75	1.623	0.005	2.4609	Sand to silty sand (8)	5.7	1.038	0.047	0.025	23.0	58	1.84	3.6	115	0.98	0.52	135
11.25	6.816	0.021	4.3069	Sand to silty sand (8)	16.0		0.061	0.032	31.2	72	1.95	10.2	122	1.27	0.67	567
13.75	6.606	0.02	5.6104	Sand to silty sand (8)	16.5		0.076	0.039	31.2	69	1.94	10.6	121	1.58	0.81	550
16.25	15.512	0.05	6.2242	Gravelly sand to sand (10)	28.7		0.09	0.046	35.2	87	1.99	19.5	124	1.87	0.96	1291
18.75	15.705	0.068	7.7493	Sand to silty sand (8)	30.4		0.105	0.053	35.1	84	1.99	19.4	124	2.18	1.10	1307
21.25	7.595	0.025	8.3022	Sand (9)	17.0		0.12	0.06	31.7	65	1.96	8.5	122	2.50	1.25	632
23.75	10.956	0.029	7.7263	Sand (9)	21.9		0.135	0.067	34.1	75	1.99	11.0	124	2.81	1.39	912
26.25	19.181	0.052	10.5154	Sand (9)	36.5		0.15	0.074	37.1	90	2	18.2	125	3.12	1.54	1596
28.75	13.877	0.043	11.7654	Sand (9)	27.7		0.165	0.082	35.3	79	1.99	13.9	124	3.43	1.71	1155
31.25	14.526	0.047	12.2629	Sand (9)	29.0		0.179	0.089	35.5	79	1.99	14.5	124	3.72	1.85	1209
33.75	17.059	0.057	12.7429	Sand (9)	34.1		0.194	0.096	36.5	83	1.99	17.0	124	4.04	2.00	1419
36.25	13.006	0.05	14.5471	Sand (9)	26.0		0.202	0.1	35.0	75	1.99	13.0	124	4.20	2.08	1082

Classification by
Robertson 1986



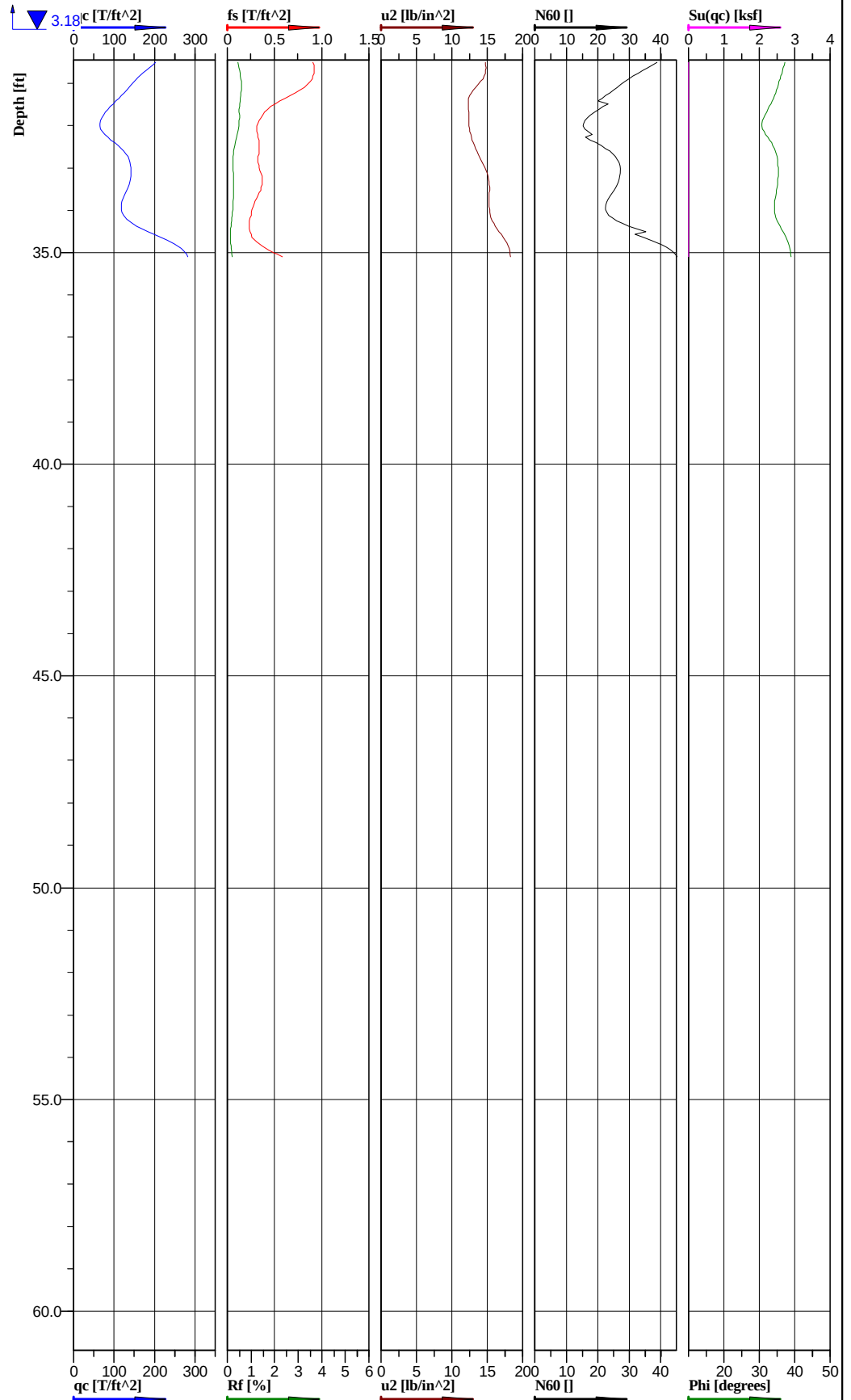
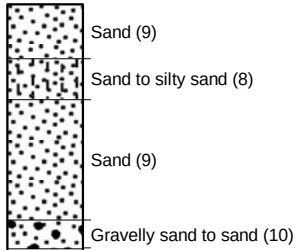
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729981.27 ft, Y: 991596.82 ft	Ground level:	463.19	Test no:	C-172
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-80
				File:	Labadie C-172.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



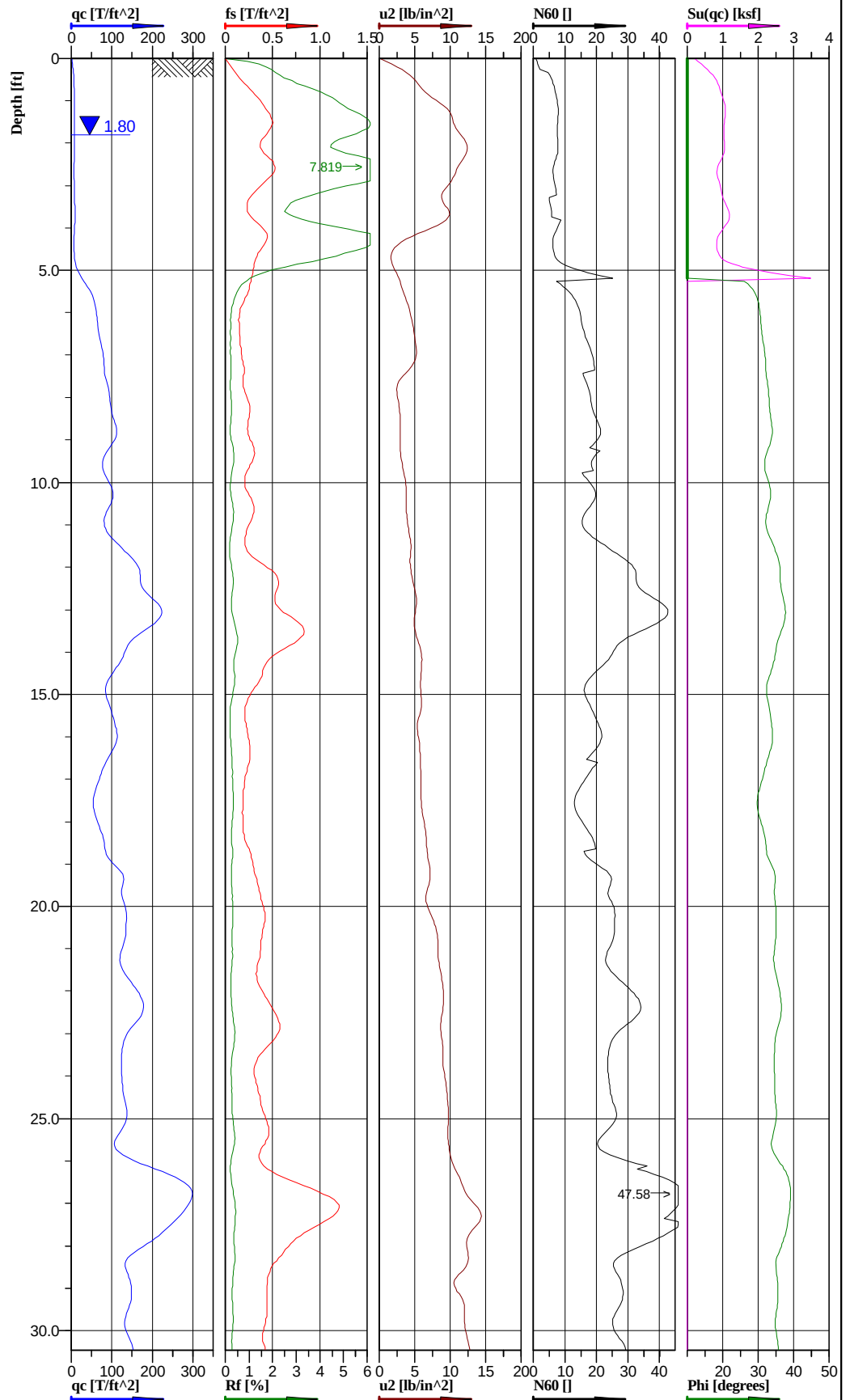
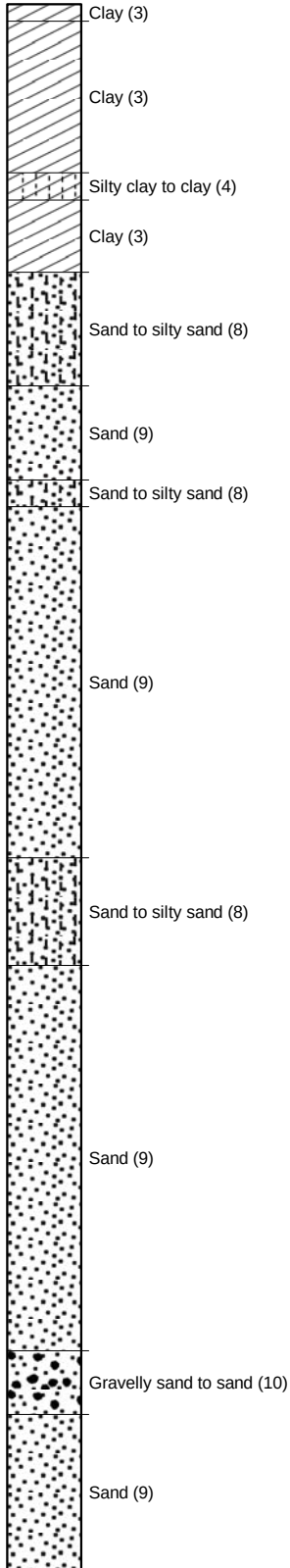
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 729981.27 ft, Y: 991596.82 ft	Ground level: 463.19	Test no: C-172
Project ID: 2008012455	Client: Ameren Missouri	Date: 12/23/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-80
		File: Labadie C-172.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-172
Test date: 12/23/2009
Location: Labadie MO
File name: Labadie C-172.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.771	0.047	9.5776	Clay (3)	7.6	1.051	0.007	0.007			1.79	7.6	112	0.15	0.15	315
3.75	0.666	0.042	4.795	Silty clay to clay (4)	6.1	0.892	0.02	0.018			1.79	6.1	112	0.42	0.37	446
6.25	1.597	0.011	3.9414	Sand to silty sand (8)	5.7	1.048	0.034	0.024	25.0	60	1.85	3.6	115	0.71	0.50	133
8.75	6.648	0.021	3.554	Sand (9)	16.4		0.048	0.031	31.1	72	1.94	8.2	121	1.00	0.64	553
11.25	8.607	0.025	4.0143	Sand (9)	18.7		0.063	0.038	32.6	76	1.97	9.4	123	1.31	0.79	716
13.75	17.424	0.061	4.9821	Sand (9)	34.8		0.077	0.045	36.5	94	2	17.4	125	1.60	0.94	1450
16.25	11.784	0.031	5.7907	Sand (9)	23.6		0.092	0.052	34.2	80	1.99	11.8	124	1.91	1.08	980
18.75	13.728	0.041	6.4871	Sand (9)	27.4		0.107	0.06	35.2	83	1.99	13.7	124	2.23	1.25	1142
21.25	8.99	0.029	7.5374	Sand (9)	18.0		0.122	0.067	32.9	70	1.98	9.0	124	2.54	1.39	748
23.75	9.634	0.033	8.6078	Sand (9)	19.3		0.137	0.074	33.4	70	1.99	9.6	124	2.85	1.54	802
26.25	11.782	0.047	9.9064	Sand (9)	23.5		0.152	0.081	34.4	74	1.99	11.8	124	3.16	1.68	980
28.75	13.945	0.053	10.9888	Sand (9)	27.9		0.167	0.089	35.1	77	1.99	13.9	124	3.47	1.85	1160
31.25	12.716	0.061	13.3604	Sand (9)	26.5		0.181	0.096	34.4	72	1.97	13.3	123	3.76	2.00	1058
33.75	15.106	0.03	15.6243	Gravelly sand to sand (10)	28.6		0.196	0.103	35.6	77	2	19.4	125	4.08	2.14	1257
36.25	26.928	0.053	18.2337	Gravelly sand to sand (10)	44.9		0.204	0.107	38.9	94	2.04	30.5	127	4.24	2.23	2240

Classification by
Robertson 1986



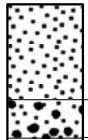
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

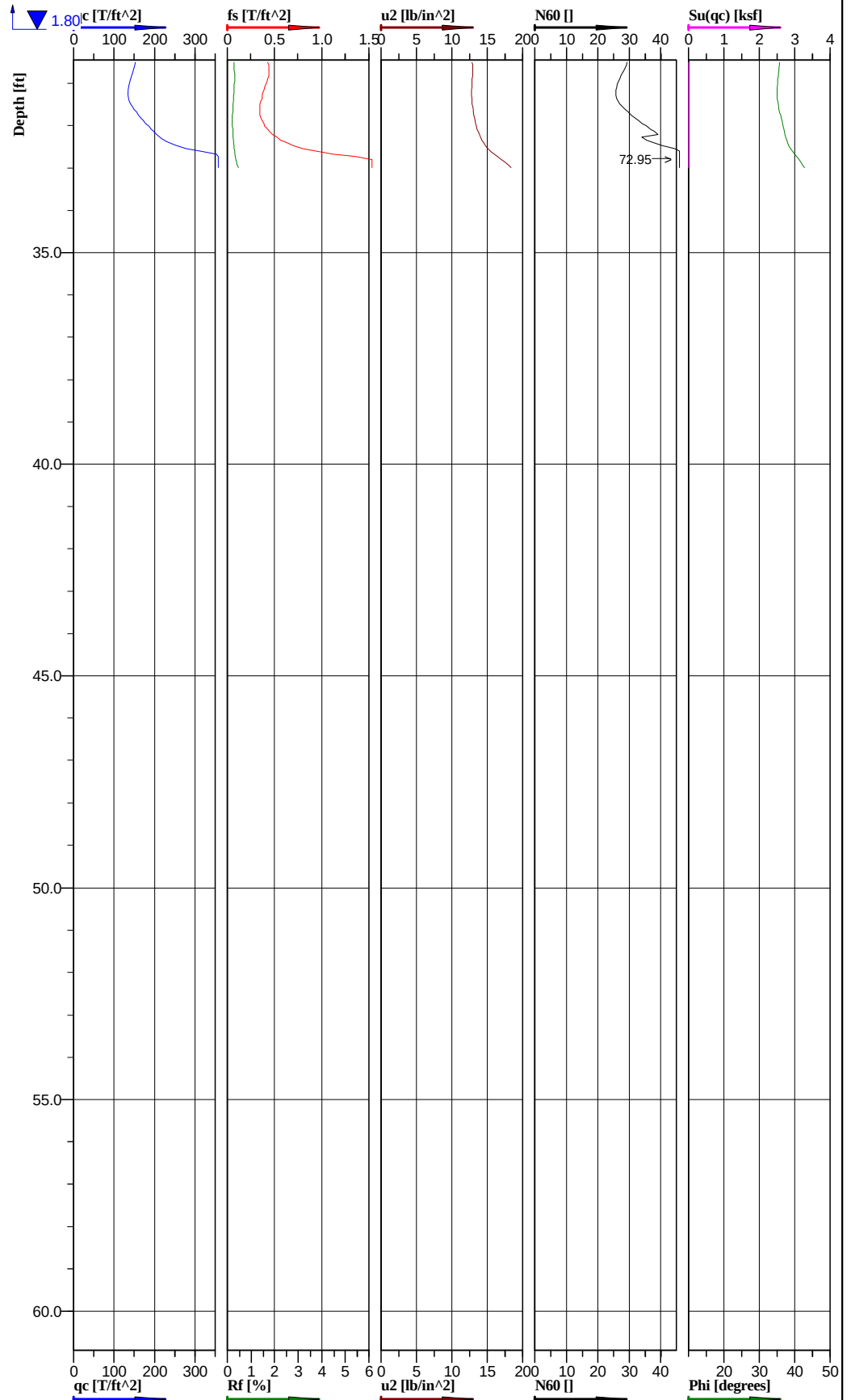
Location:	Labadie, MO	Position:	X: 730570.70 ft, Y: 991581.46 ft	Ground level:	463.48	Test no:	C-174
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-81
				File:	Labadie C-174.cpd		

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS



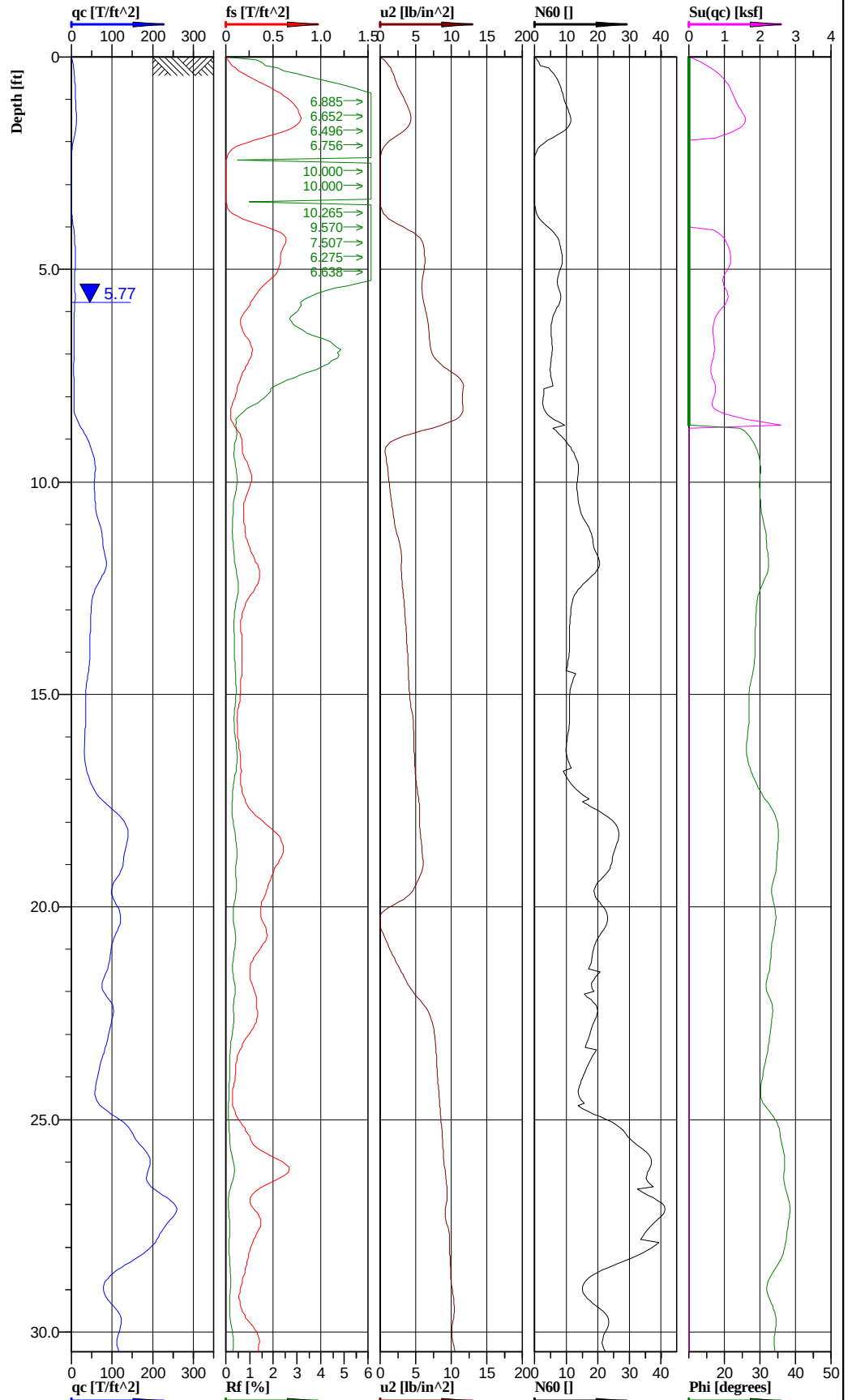
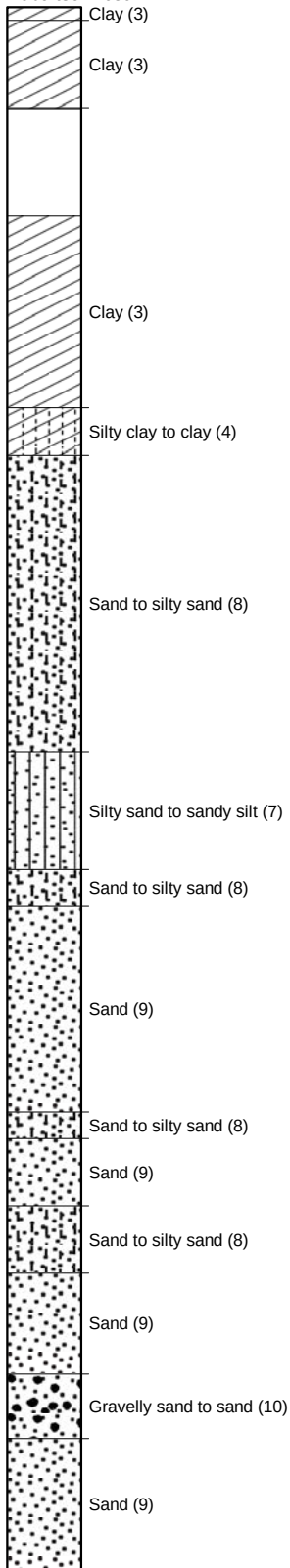
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730570.70 ft, Y: 991581.46 ft	Ground level:	463.48	Test no:	C-174
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-81
				File:	Labadie C-174.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-174
 Test date: 12/23/2009
 Location: Labadie MO
 File name: Labadie C-174.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.664	0.032	8.4343	Clay (3)	6.5	0.903	0.007	0.006			1.79	6.5	112	0.15	0.12	271
3.75	0.785	0.034	6.776	Clay (3)	7.3	1.055	0.02	0.014			1.8	7.3	112	0.42	0.29	317
6.25	5.967	0.018	4.1834	Sand (9)	15.8	2.915	0.034	0.021	30.7	75	1.93	7.9	120	0.71	0.44	496
8.75	9.003	0.023	2.9855	Sand (9)	18.8		0.049	0.028	32.9	82	1.98	9.4	124	1.02	0.58	749
11.25	11.636	0.031	4.2191	Sand (9)	23.3		0.064	0.035	34.2	85	1.98	11.6	124	1.33	0.73	968
13.75	14.535	0.053	5.4866	Sand (9)	29.1		0.078	0.042	35.3	89	1.98	14.5	124	1.62	0.87	1209
16.25	8.462	0.022	5.7383	Sand to silty sand (8)	18.2		0.093	0.049	32.5	72	1.97	11.6	123	1.93	1.02	704
18.75	9.047	0.026	6.6269	Sand (9)	19.6		0.108	0.056	32.7	71	1.96	9.8	122	2.25	1.16	753
21.25	13.608	0.038	8.3643	Sand (9)	27.2		0.122	0.063	35.2	82	1.99	13.6	124	2.54	1.31	1132
23.75	12.901	0.04	9.1547	Sand (9)	25.8		0.137	0.07	35.0	79	1.99	12.9	124	2.85	1.46	1073
26.25	19.774	0.067	11.4296	Sand (9)	35.4		0.152	0.078	36.9	88	2.01	17.7	125	3.16	1.62	1645
28.75	14.872	0.051	11.9651	Sand (9)	29.7		0.168	0.085	35.7	80	1.99	14.9	124	3.49	1.77	1237
31.25	15.708	0.041	13.1299	Gravelly sand to sand (10)	30.4		0.182	0.092	36.0	81	1.99	20.7	124	3.79	1.91	1307
33.75	42.433	0.16	16.7131	Gravelly sand to sand (10)	70.7		0.191	0.097	40.8	108	2.04	48.1	127	3.97	2.02	3530

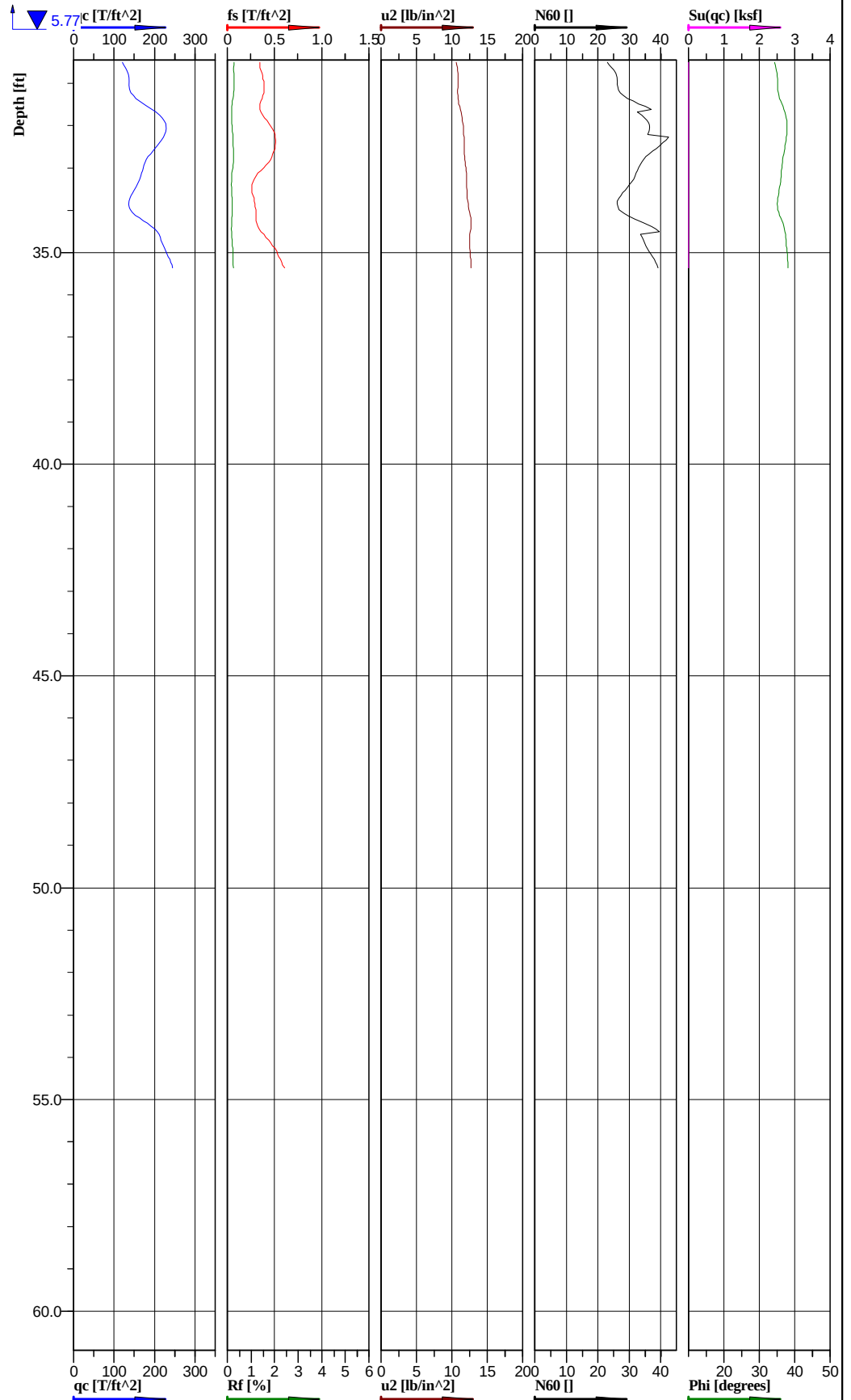
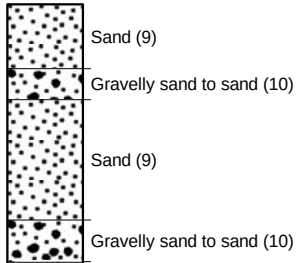
Classification by
Robertson 1986



Cone No: 0
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728334.65 ft, Y: 991342.29 ft	Ground level:	463.91	Test no:	C-178
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/09	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-82
				File:	Labadie C-178 combin.d.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



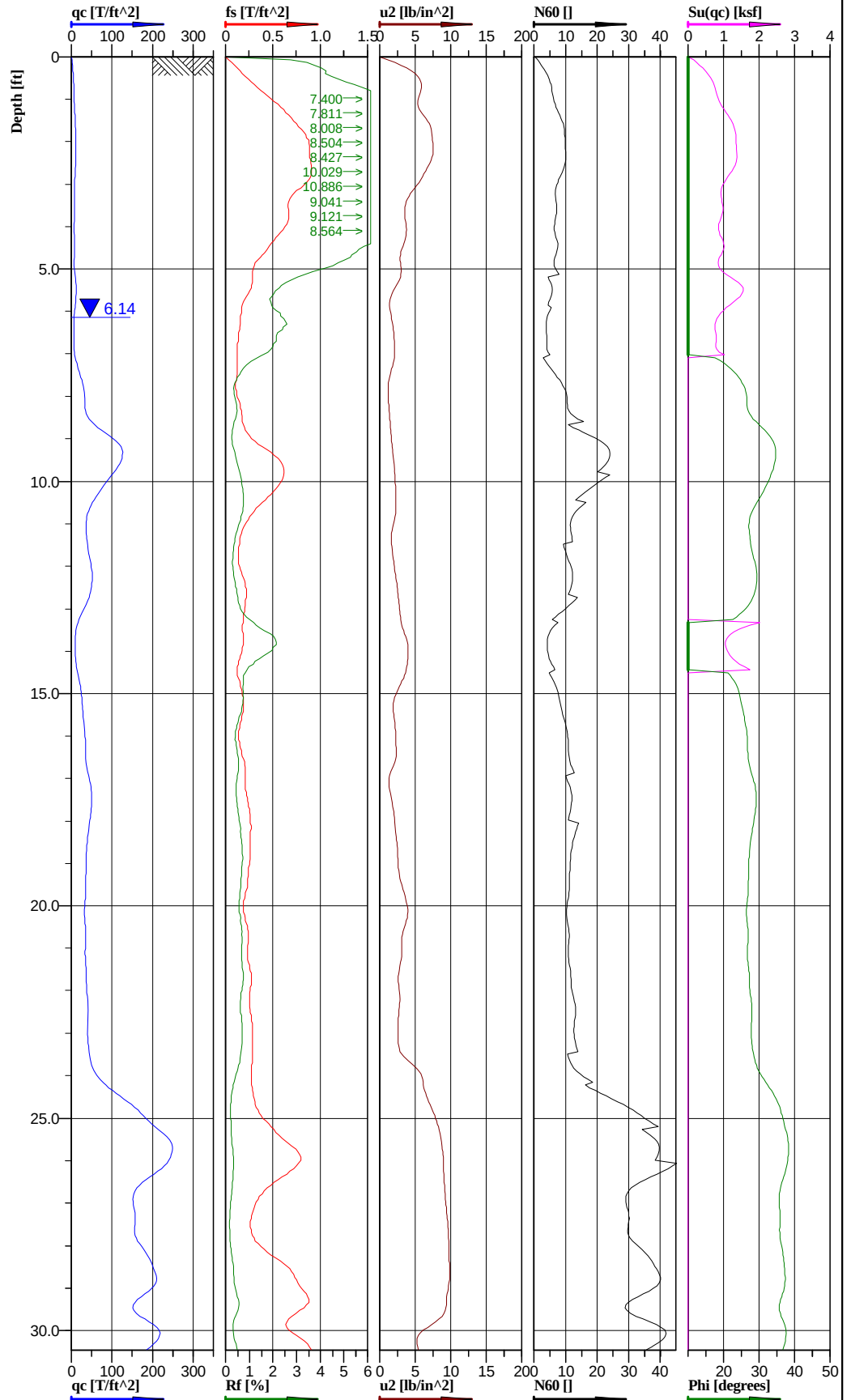
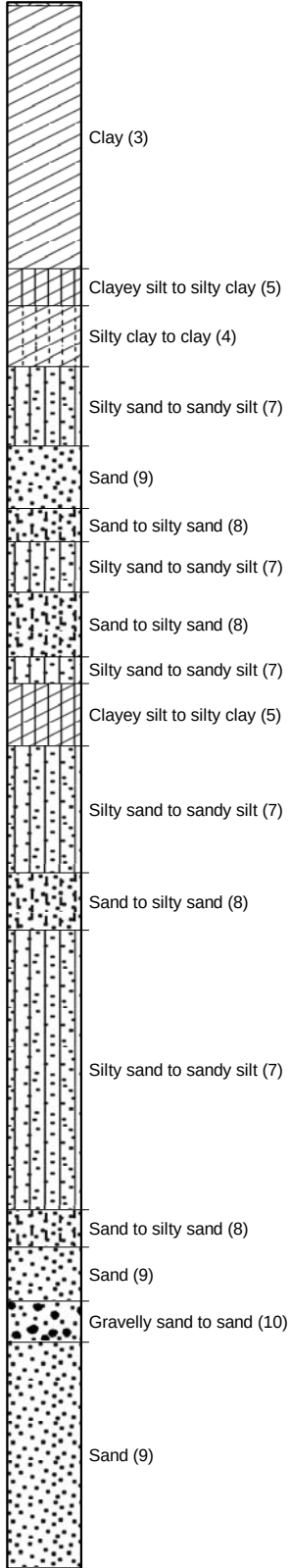
Cone No: 0
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Labadie, MO	Position: X: 728334.65 ft, Y: 991342.29 ft	Ground level: 463.91	Test no: C-178
Project ID: 2008012455	Client: Ameren Missouri	Date: 12/22/09	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-82
		File: Labadie C-178 combind.cpd	

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-178
 Test date: 12/22/09
 Location: Labadie MO
 File name: Labadie C-178 combin.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.617	0.036	2.1464	NO SAMPLING												
3.75	0.357	0.026	2.6647	NO SAMPLING												
6.25	0.621	0.026	7.0585	Clay (3)	6.2	0.812	0.031	0.029			1.79	6.2	112	0.64	0.60	244
8.75	2.856	0.014	6.1759	Sand to silty sand (8)	8.3	0.992	0.044	0.035	28.8	59	1.88	5.3	117	0.92	0.73	238
11.25	6.685	0.024	2.3587	Sand to silty sand (8)	16.7		0.058	0.042	31.2	68	1.94	10.7	121	1.21	0.87	556
13.75	4.302	0.017	3.7101	Silty sand to sandy silt (7)	11.4		0.073	0.049	28.5	55	1.93	7.3	120	1.52	1.02	358
16.25	3.822	0.014	4.7857	Sand to silty sand (8)	11.3		0.087	0.055	27.5	55	1.9	7.2	119	1.81	1.14	318
18.75	11.318	0.043	5.1724	Sand (9)	22.6		0.102	0.062	34.2	77	1.99	11.3	124	2.12	1.29	942
21.25	9.426	0.032	2.5546	Sand (9)	19.6		0.116	0.069	33.2	70	1.98	9.8	124	2.41	1.44	784
23.75	7.649	0.015	7.9367	Sand (9)	16.9		0.131	0.076	31.9	63	1.96	8.5	122	2.72	1.58	636
26.25	18.875	0.035	9.0661	Gravelly sand to sand (10)	34.9		0.146	0.084	36.9	87	2.01	23.7	125	3.04	1.75	1570
28.75	12.826	0.022	10.0061	Sand (9)	24.7		0.161	0.091	34.6	74	1.99	12.4	124	3.35	1.89	1067
31.25	15.899	0.038	11.0096	Sand (9)	30.1		0.176	0.098	35.9	80	2	15.1	125	3.66	2.04	1323
33.75	17.002	0.035	12.2614	Gravelly sand to sand (10)	32.5		0.191	0.106	36.4	81	2	22.1	125	3.97	2.20	1415
36.25	22.87	0.054	12.6319	Gravelly sand to sand (10)	38.1		0.199	0.11	38.0	89	2.04	25.9	127	4.14	2.29	1903

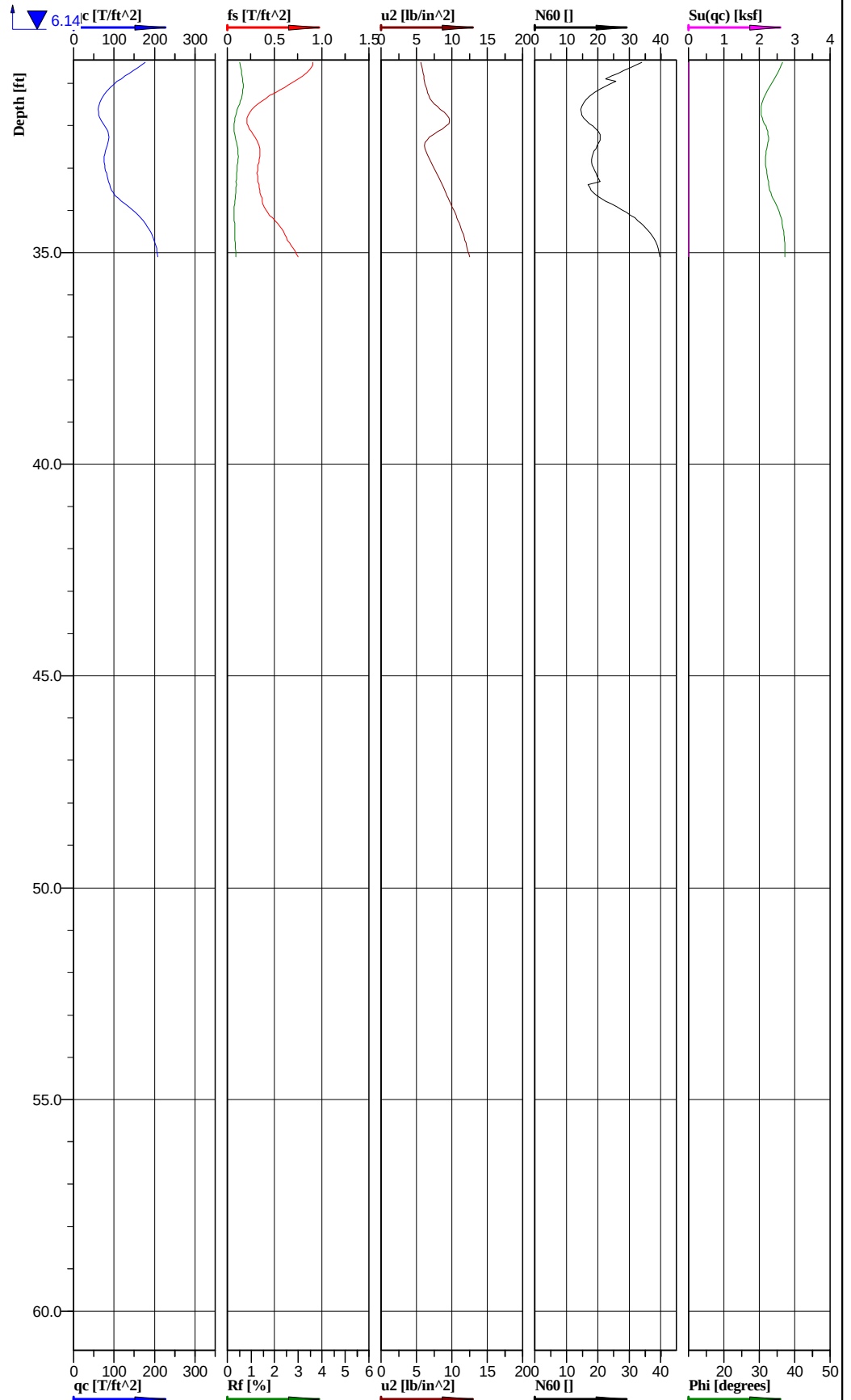
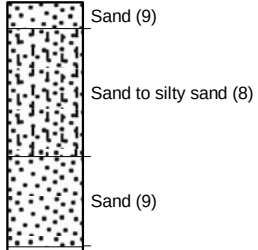
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729095.01 ft, Y: 991331.59 ft	Ground level:	464.30	Test no:	C-180
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-83
				File:	Labadie C-180.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



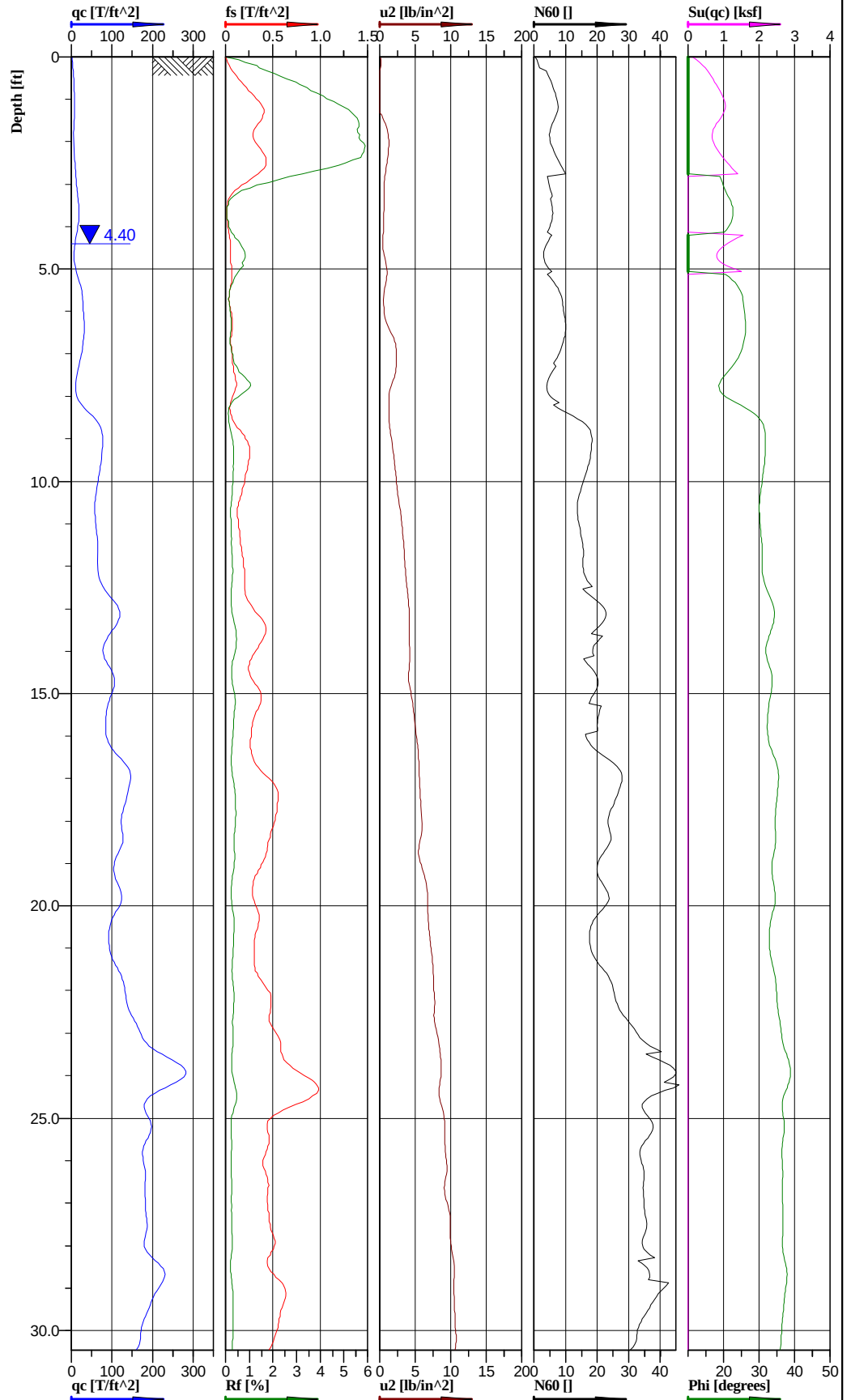
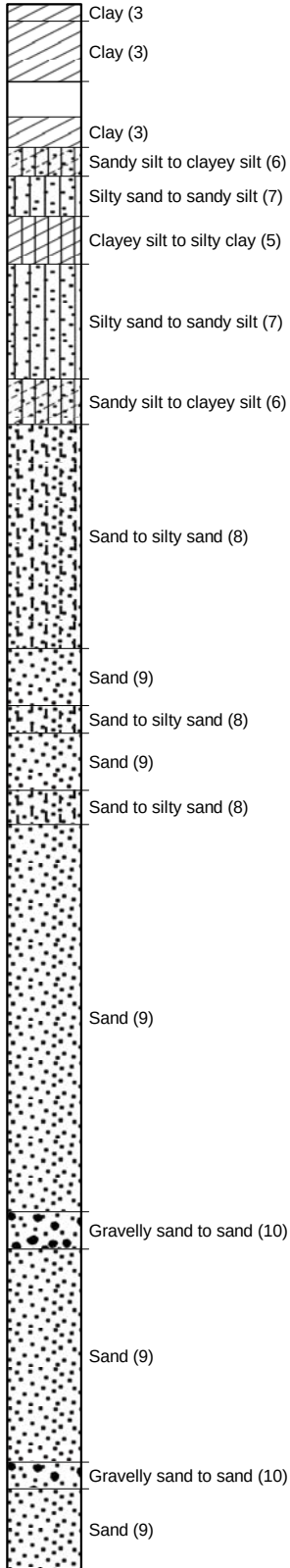
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729095.01 ft, Y: 991331.59 ft	Ground level:	464.30	Test no:	C-180
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-83
				File:	Labadie C-180.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-180
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-180.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.708	0.054	5.8598	Clay (3)	7.1	0.967	0.007	0.007			1.77	7.1	111	0.15	0.15	290
3.75	0.723	0.059	4.0589	Clay (3)	7.2	0.973	0.02	0.02			1.78	7.2	111	0.42	0.42	292
6.25	0.943	0.017	1.9211	Silty sand to sandy silt (7)	4.9	1.048	0.034	0.032	21.3		1.84	3.1	115	0.71	0.67	78
8.75	6.971	0.03	1.6006	Sand to silty sand (8)	16.3		0.048	0.04	30.4	79	1.94	10.4	121	1.00	0.83	580
11.25	4.612	0.024	2.0501	Sand to silty sand (8)	12.8		0.062	0.046	28.8	58	1.92	8.2	120	1.29	0.96	384
13.75	1.967	0.017	3.2197	Silty sand to sandy silt (7)	7.1	1.337	0.076	0.053	25.2	54	1.86	4.5	116	1.58	1.10	164
16.25	3.445	0.018	1.9125	Sand to silty sand (8)	10.5		0.09	0.059	26.9	51	1.9	6.7	119	1.87	1.23	287
18.75	3.754	0.023	2.6059	Silty sand to sandy silt (7)	11.7		0.104	0.066	27.6	51	1.9	7.5	119	2.16	1.37	312
21.25	3.435	0.023	3.0859	Silty sand to sandy silt (7)	11.4		0.118	0.072	27.1		1.89	7.3	118	2.45	1.50	286
23.75	7.386	0.028	4.7106	Sand (9)	17.5		0.133	0.079	30.8	66	1.93	8.8	120	2.77	1.64	615
26.25	18.699	0.049	8.9683	Sand (9)	35.1		0.148	0.086	36.9	87	2	17.5	125	3.08	1.79	1556
28.75	17.52	0.059	9.2079	Sand (9)	35.0		0.163	0.094	36.6	84	1.99	17.5	124	3.39	1.96	1458
31.25	10.842	0.05	6.8436	Sand to silty sand (8)	24.1		0.177	0.101	33.4	66	1.96	15.4	122	3.68	2.10	902
33.75	12.604	0.043	9.5373	Sand (9)	26.5		0.192	0.108	34.4	70	1.97	13.2	123	3.99	2.25	1049
36.25	19.858	0.071	12.4337	Sand (9)	39.7		0.2	0.111	37.3	85	1.99	19.8	124	4.16	2.31	1652

**Classification by
Robertson 1986**

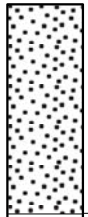


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

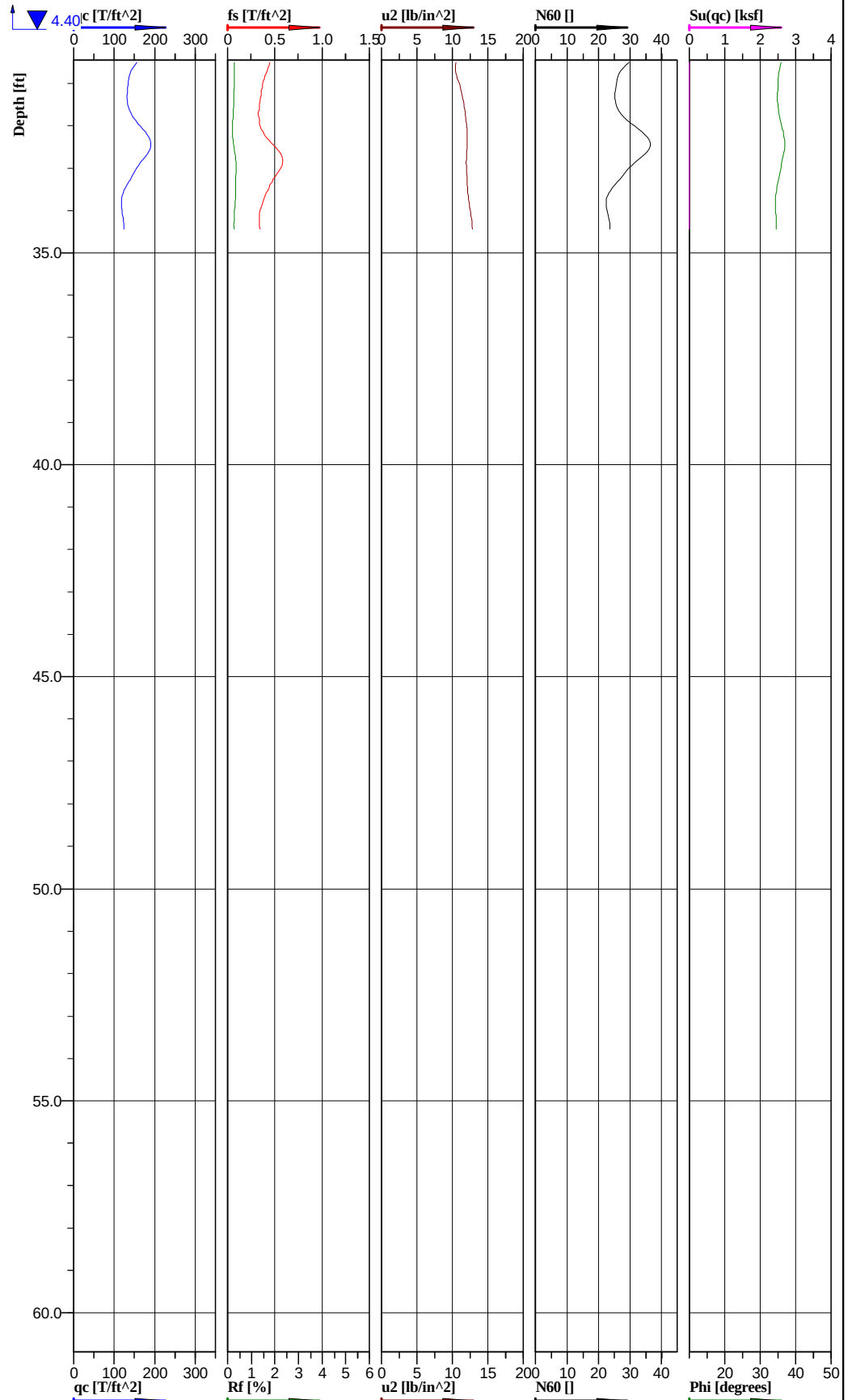


Location:	Labadie, MO	Position:	X: 729674.15 ft, Y: 991324.64 ft	Ground level:	464.50	Test no:	C-182
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-84
				File:	Labadie C-182.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



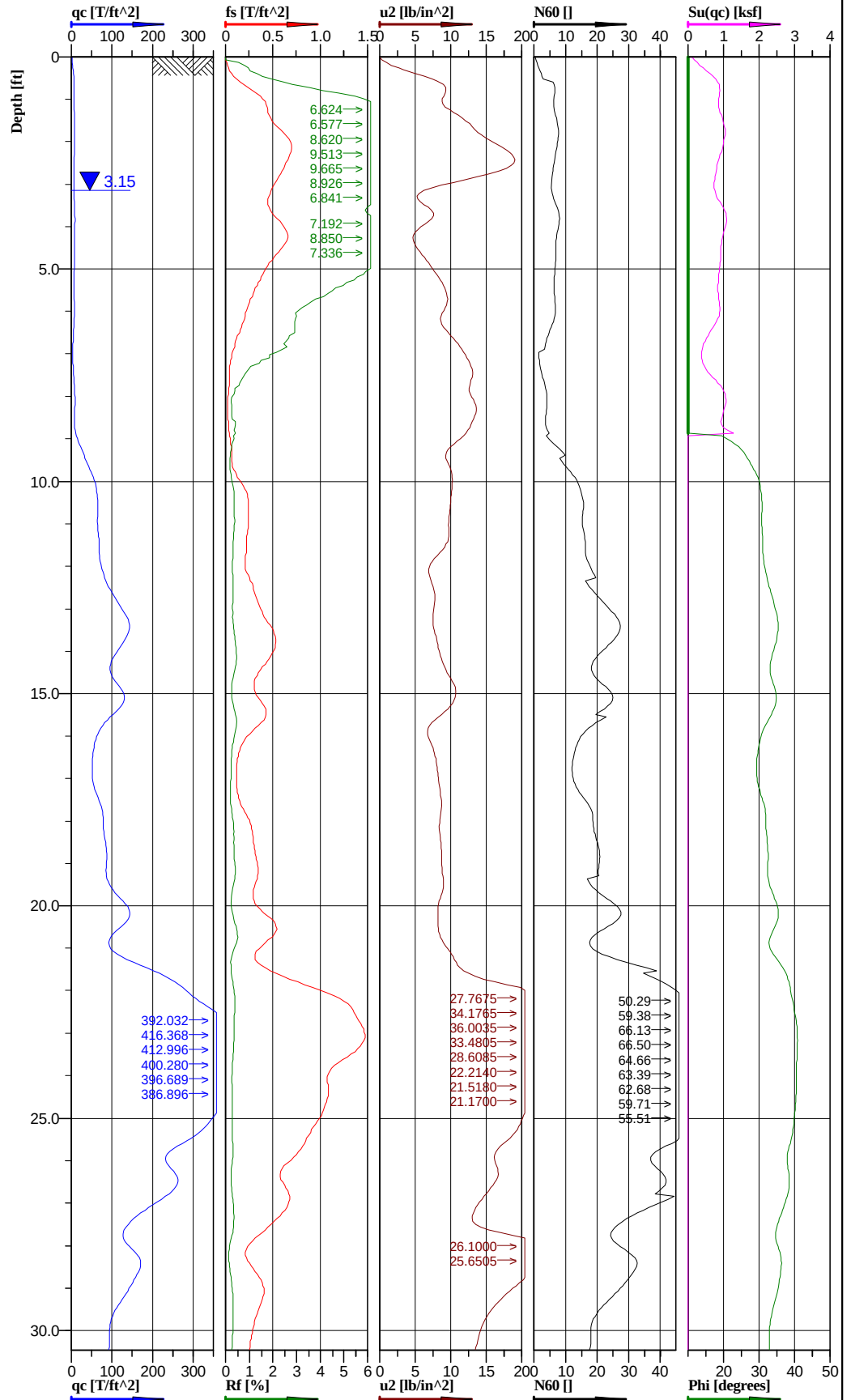
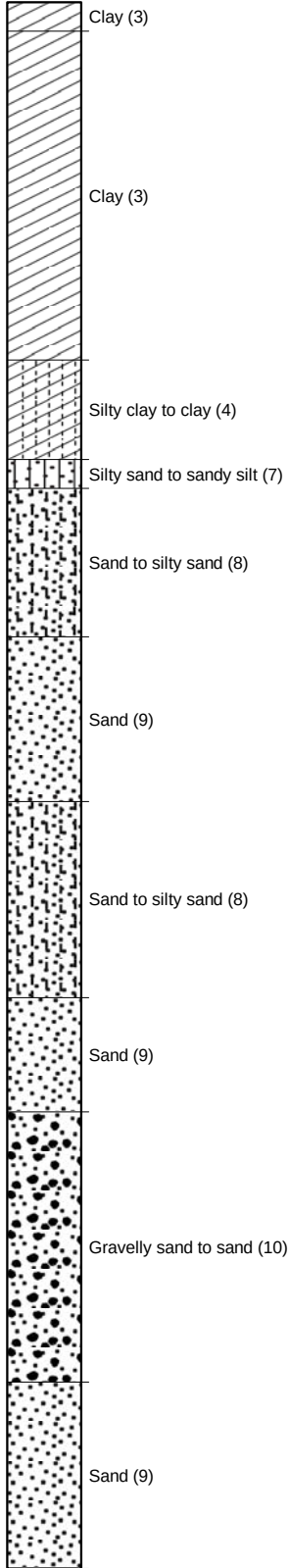
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729674.15 ft, Y: 991324.64 ft	Ground level:	464.50	Test no:	C-182
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-84
				File:	Labadie C-182.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-182
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-182.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.574	0.026	0.1929	Clay (3)	5.6	0.79	0.007	0.007			1.78	5.6	111	0.15	0.15	237
3.75	1.182	0.009	0.6216	Clayey silt to silty clay (5)	5.2	1.136	0.021	0.02	21.2		1.83	5.2	114	0.44	0.42	682
6.25	2.35	0.006	1.3834	Sandy silt to clayey silt (6)	8.0	1.508	0.034	0.029	24.4		1.88	8.0	117	0.71	0.60	196
8.75	5.016	0.015	1.6976	Sand to silty sand (8)	13.0		0.048	0.035	27.9	68	1.91	8.3	119	1.00	0.73	417
11.25	6.096	0.016	3.1848	Sand to silty sand (8)	15.1		0.063	0.042	30.7	65	1.94	9.7	121	1.31	0.87	507
13.75	9.394	0.03	4.1318	Sand (9)	19.6		0.077	0.049	33.2	75	1.98	9.8	124	1.60	1.02	782
16.25	10.634	0.035	5.23	Sand (9)	22.3		0.092	0.056	33.8	76	1.98	11.2	124	1.91	1.16	885
18.75	11.435	0.04	6.0391	Sand (9)	22.9		0.107	0.063	34.3	77	1.99	11.4	124	2.23	1.31	951
21.25	10.821	0.035	7.3065	Sand (9)	21.6		0.122	0.07	34.0	74	1.99	10.8	124	2.54	1.46	900
23.75	19.705	0.064	8.3858	Sand (9)	37.0		0.137	0.078	37.2	90	2	18.5	125	2.85	1.62	1639
26.25	17.62	0.042	9.3811	Sand (9)	35.2		0.152	0.085	36.7	86	1.99	17.6	124	3.16	1.77	1466
28.75	18.829	0.052	10.382	Sand (9)	36.2		0.167	0.092	37.0	86	2	18.1	125	3.47	1.91	1567
31.25	14.807	0.039	11.32	Sand (9)	29.6		0.182	0.1	35.7	78	1.99	14.8	124	3.79	2.08	1232
33.75	13.326	0.043	12.2525	Sand (9)	26.6		0.195	0.106	35.1	74	1.99	13.3	124	4.06	2.20	1109

Classification by
Robertson 1986



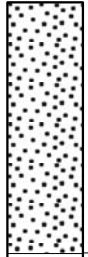
REITZ & JENS, INC.
CONSULTING ENGINEERS



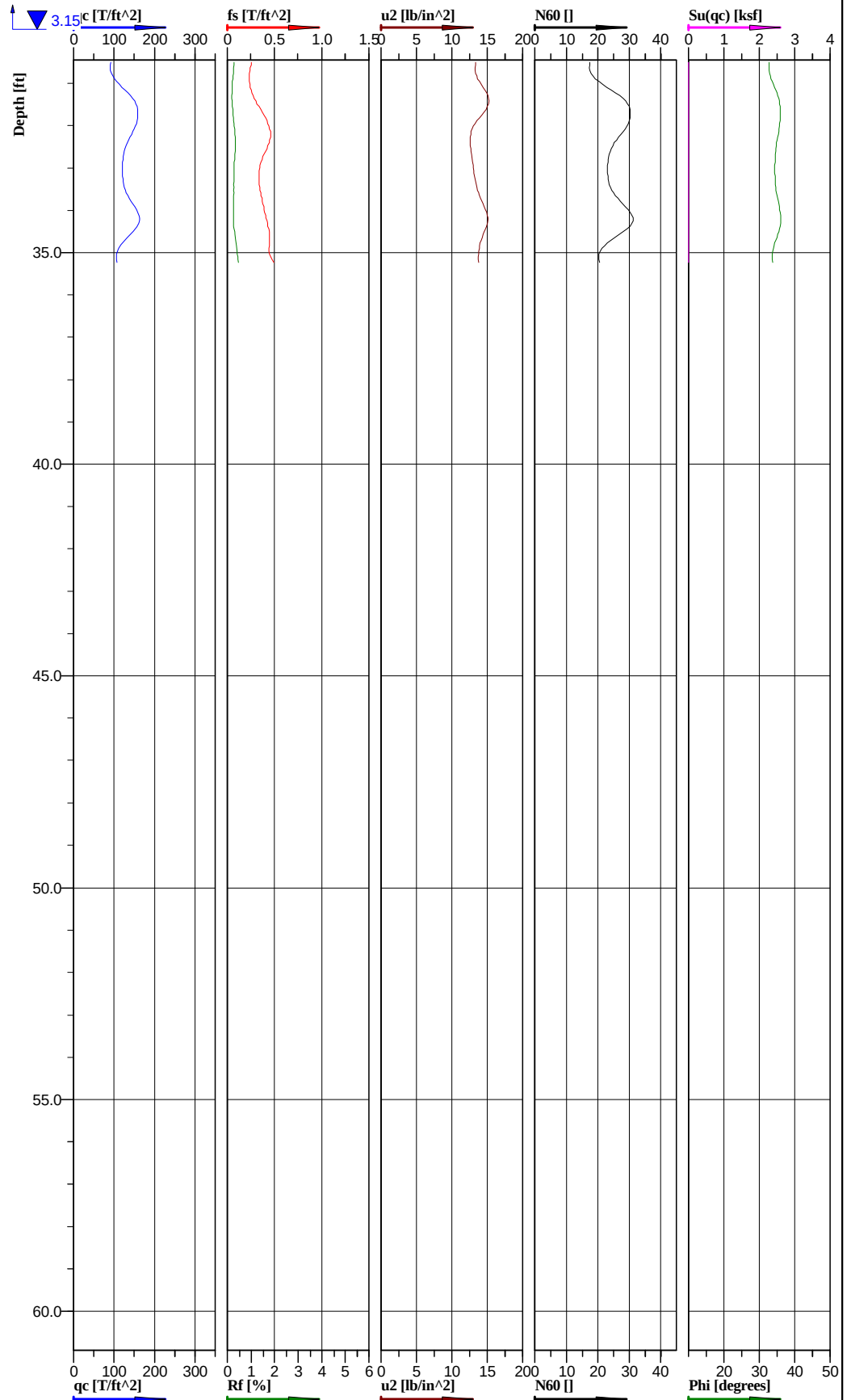
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730272.57 ft, Y: 991307.05 ft	Ground level:	463.19	Test no:	C-184
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-85
				File:	Labadie C-184.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



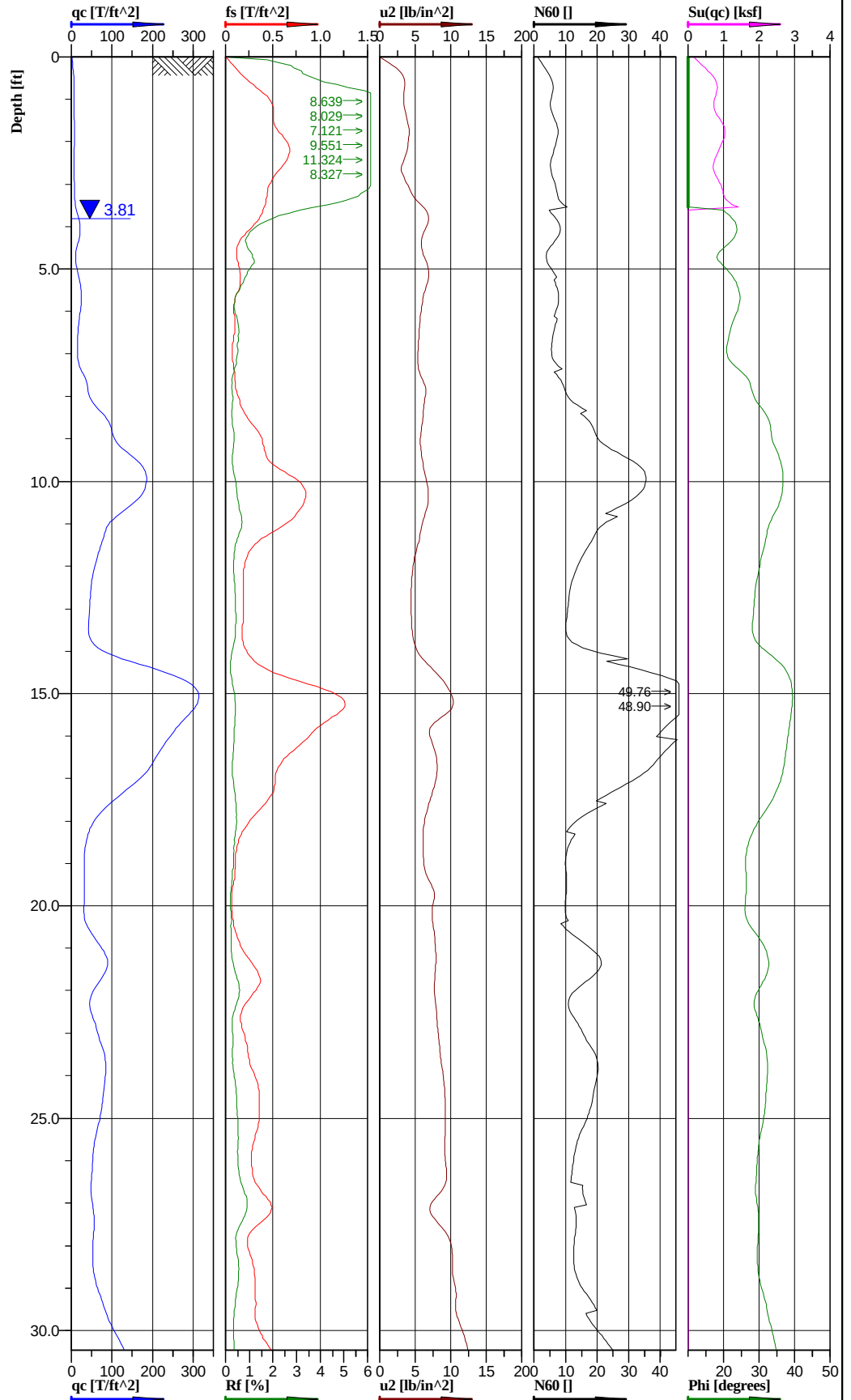
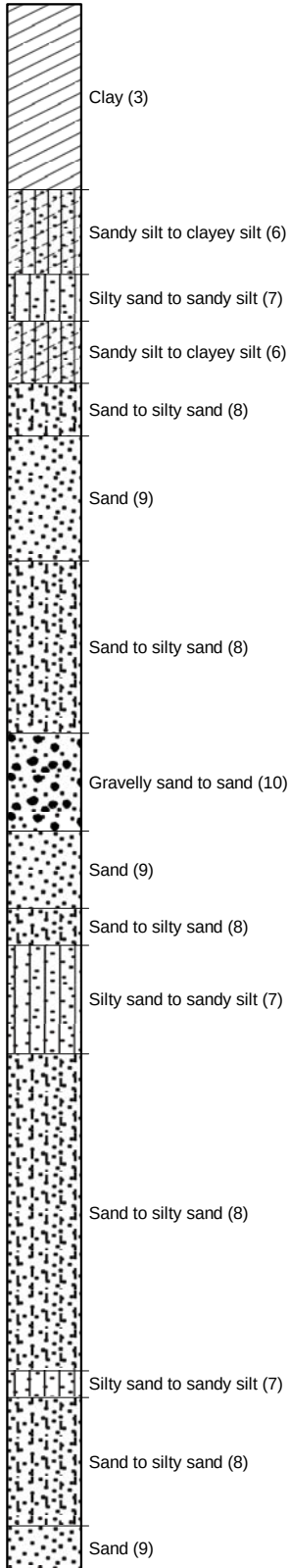
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730272.57 ft, Y: 991307.05 ft	Ground level:	463.19	Test no:	C-184
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-85
				File:	Labadie C-184.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-184
 Test date: 12/24/2009
 Location: Labadie MO
 File name: Labadie C-184.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.604	0.039	10.8402	Clay (3)	5.7	0.816	0.007	0.007			1.79	5.7	112	0.15	0.15	245
3.75	0.676	0.052	7.7969	Clay (3)	6.8	0.902	0.02	0.018			1.78	6.8	111	0.42	0.37	271
6.25	0.533	0.018	10.1805	Silty clay to clay (4)	4.8	0.681	0.034	0.024			1.78	4.8	111	0.71	0.50	341
8.75	1.981	0.005	11.6524	Sand to silty sand (8)	6.3	0.982	0.047	0.03	26.3	60	1.84	4.0	115	0.98	0.62	165
11.25	6.681	0.022	8.9149	Sand (9)	16.2		0.061	0.036	31.2	70	1.94	8.1	121	1.27	0.75	556
13.75	11.298	0.039	8.5334	Sand (9)	22.6		0.076	0.044	34.2	82	1.99	11.3	124	1.58	0.92	940
16.25	7.011	0.022	8.2412	Sand to silty sand (8)	16.3		0.091	0.051	31.1	65	1.95	10.4	122	1.89	1.06	583
18.75	8.572	0.027	8.6401	Sand (9)	19.9		0.105	0.057	32.6	70	1.95	10.0	122	2.18	1.19	713
21.25	18.269	0.062	14.7498	Gravelly sand to sand (10)	33.0		0.12	0.065	36.3	88	2	22.4	125	2.50	1.35	1520
23.75	37.726	0.117	27.2113	Gravelly sand to sand (10)	62.8		0.135	0.072	40.5	110	2.04	42.7	127	2.81	1.50	3139
26.25	23.412	0.067	16.1657	Sand (9)	40.7		0.15	0.08	38.0	94	2.03	20.4	127	3.12	1.66	1948
28.75	12.82	0.031	19.4809	Sand (9)	25.6		0.165	0.087	34.9	76	1.99	12.8	124	3.43	1.81	1067
31.25	11.938	0.031	13.7493	Sand (9)	23.9		0.18	0.094	34.4	72	1.99	11.9	124	3.74	1.96	993
33.75	12.746	0.037	13.8546	Sand (9)	25.5		0.195	0.102	34.9	74	1.99	12.7	124	4.06	2.12	1060
36.25	10.201	0.045	13.7532	Sand (9)	20.4		0.203	0.106	33.7	67	1.99	10.2	124	4.22	2.20	849

Classification by
Robertson 1986

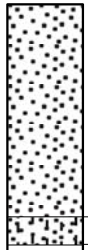


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



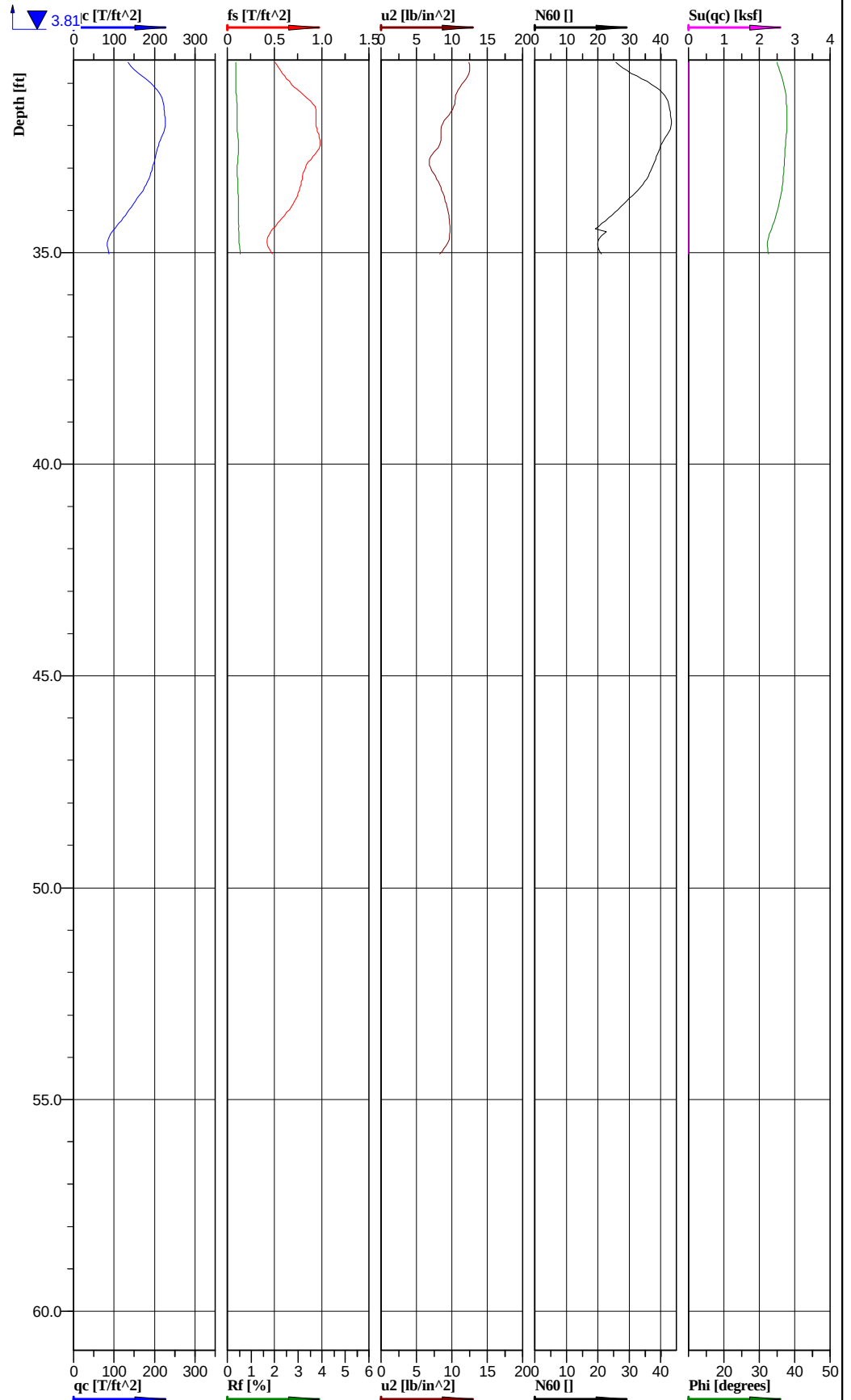
Location:	Labadie, MO	Position:	X: 730857.68 ft, Y: 991283.37 ft	Ground level:	463.39	Test no:	C-186
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/23/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-86
				File:	Labadie C-186.cpd		

Classification by
Robertson 1986



Sand (9)

Sand to silty sand (8)



REITZ & JENS, INC.
CONSULTING ENGINEERS



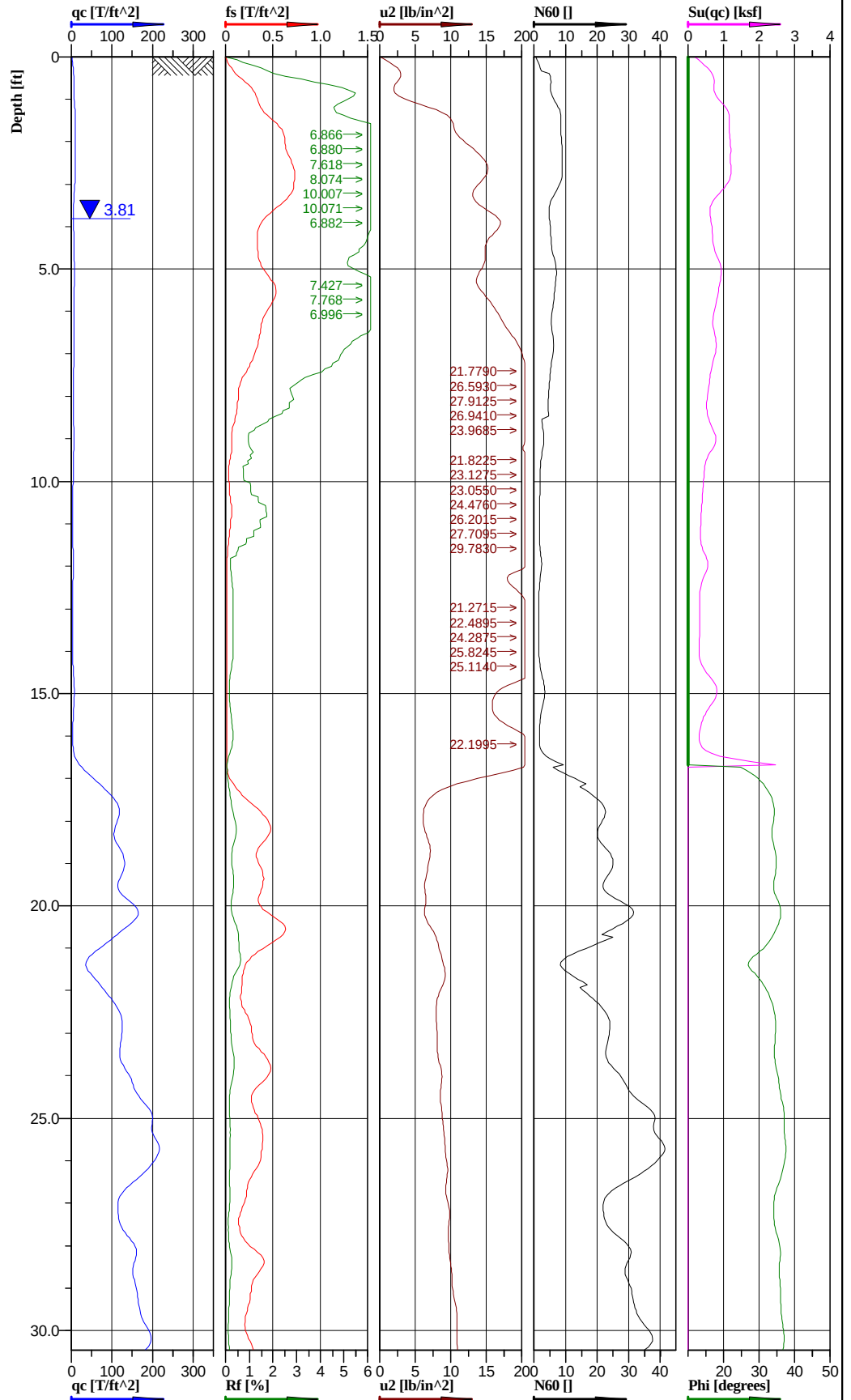
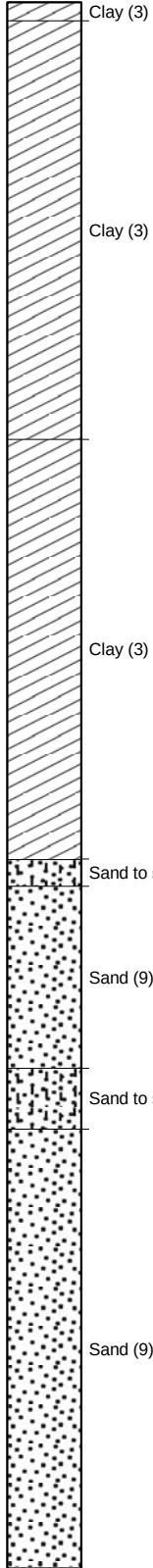
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 730857.68 ft, Y: 991283.37 ft	Ground level: 463.39	Test no: C-186
Project ID: 2008012455	Client: Ameren Missouri	Date: 12/23/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-86
		File: Labadie C-186.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-186
Test date: 12/23/2009
Location: Labadie MO
File name: Labadie C-186.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.557	0.042	3.3064	Clay (3)	5.6	0.762	0.007	0.007			1.78	5.6	111	0.15	0.15	229
3.75	1.172	0.031	5.4803	Sandy silt to clayey silt (6)	6.4	0.945	0.02	0.019	21.2		1.82	6.4	114	0.42	0.40	98
6.25	1.91	0.01	5.8513	Sand to silty sand (8)	6.8		0.034	0.027	23.0	48	1.86	4.3	116	0.71	0.56	159
8.75	10.011	0.032	6.1045	Sand (9)	20.8		0.048	0.033	32.7	79	1.97	10.4	123	1.00	0.69	833
11.25	9.327	0.046	5.6353	Sand to silty sand (8)	21.0		0.063	0.04	32.5	75	1.95	13.4	122	1.31	0.83	776
13.75	11.525	0.035	5.958	Gravelly sand to sand (10)	22.1		0.078	0.047	32.3	72	1.97	15.0	123	1.62	0.98	959
16.25	21.299	0.077	8.1431	Sand (9)	38.9		0.093	0.055	37.4	96	2.01	19.4	125	1.93	1.14	1772
18.75	4.197	0.015	6.6477	Silty sand to sandy silt (7)	12.2		0.107	0.062	27.8	61	1.91	7.8	119	2.23	1.29	349
21.25	5.599	0.02	7.7248	Sand to silty sand (8)	14.4		0.121	0.068	29.8	57	1.94	9.2	121	2.52	1.41	466
23.75	7.061	0.026	8.7015	Sand to silty sand (8)	17.6		0.136	0.075	31.5	61	1.94	11.3	121	2.83	1.56	587
26.25	5.265	0.033	8.7228	Sand to silty sand (8)	13.9		0.15	0.082	29.7	52	1.93	8.9	120	3.12	1.71	438
28.75	6.496	0.028	10.4393	Sand (9)	15.3		0.165	0.089	30.9	55	1.95	7.6	122	3.43	1.85	540
31.25	17.975	0.072	10.5307	Sand (9)	35.9		0.18	0.096	36.6	84	1.99	18.0	124	3.74	2.00	1496
33.75	14.104	0.065	8.5706	Sand (9)	29.2		0.195	0.103	35.2	75	1.98	14.6	124	4.06	2.14	1173

Classification by
Robertson 1986



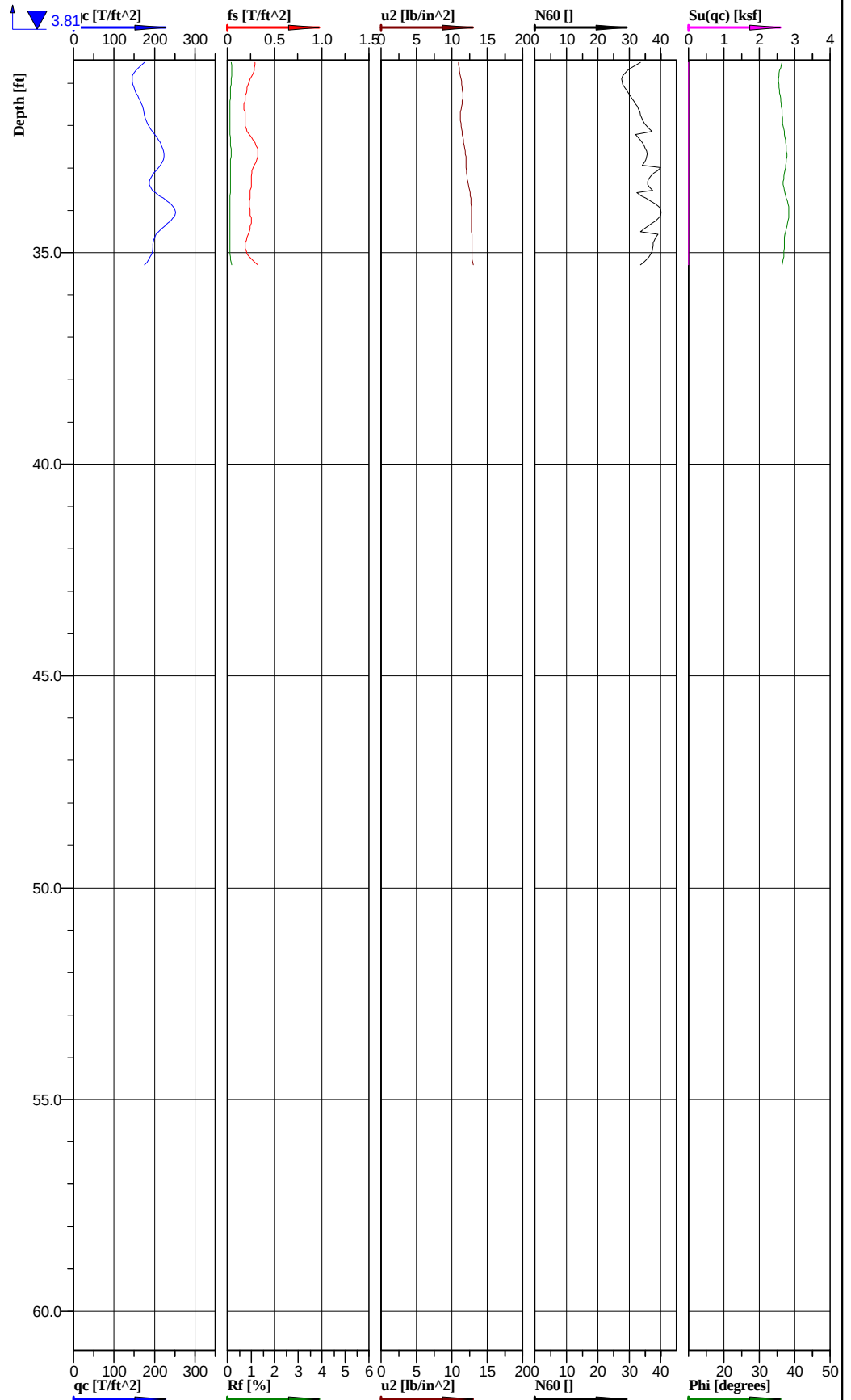
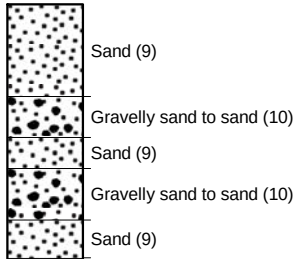
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728854.89 ft, Y: 991041.40 ft	Ground level:	463.19	Test no:	C-190
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-87
				File:	Labadie C-190.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



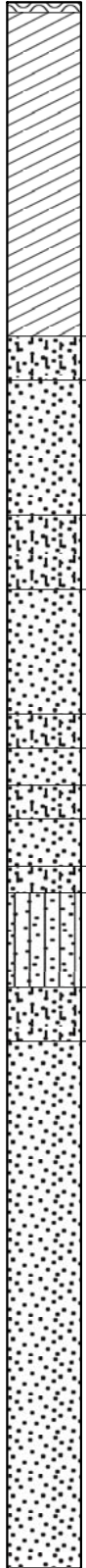
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location: Labadie, MO	Position: X: 728854.89 ft, Y: 991041.40 ft	Ground level: 463.19	Test no: C-190
Project ID: 2008012455	Client: Ameren Missouri	Date: 12/22/2009	Scale: 1 : 44
Project: Labadie Power Plant UWL DSI		Page: 2	Fig: C-87
		File: Labadie C-190.cpd	

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-190
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-190.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.688	0.038	7.4755	Clay (3)	6.7	0.936	0.007	0.007			1.79	6.7	112	0.15	0.15	281
3.75	0.637	0.048	14.9127	Clay (3)	6.4	0.838	0.02	0.019			1.71	6.4	107	0.42	0.40	251
6.25	0.602	0.037	17.5904	Clay (3)	6.0	0.765	0.033	0.025			1.78	6.0	111	0.69	0.52	230
8.75	0.488	0.008	24.2949	Clay (3)	3.3	0.58	0.046	0.031			1.79	3.3	112	0.96	0.64	174
11.25	0.38	0.003	24.4615	Clay (3)	1.9	0.412	0.06	0.037			1.78	1.9	111	1.25	0.77	124
13.75	0.398	0.001	22.166	Clay (3)	2.0	0.423	0.073	0.043			1.78	2.0	111	1.52	0.89	127
16.25	2.568	0.004	16.7728	Sand (9)	6.7	0.653	0.086	0.048	30.5	62	1.85	3.3	115	1.79	1.00	214
18.75	11.555	0.036	6.5551	Sand (9)	23.1		0.101	0.055	34.4	80	1.99	11.6	124	2.10	1.14	961
21.25	9.016	0.032	8.0442	Sand (9)	19.3		0.115	0.062	32.3	68	1.96	9.7	122	2.39	1.29	750
23.75	13.767	0.032	8.3814	Sand (9)	27.5		0.13	0.069	35.3	81	1.99	13.8	124	2.70	1.44	1145
26.25	15.942	0.027	9.3786	Sand (9)	31.9		0.145	0.077	36.0	83	2	15.9	125	3.02	1.60	1326
28.75	15.306	0.025	10.2396	Sand (9)	30.6		0.16	0.084	35.9	82	1.99	15.3	124	3.33	1.75	1273
31.25	16.976	0.022	11.2762	Gravelly sand to sand (10)	32.9		0.175	0.091	36.4	83	2	22.4	125	3.64	1.89	1412
33.75	20.517	0.024	12.4819	Sand (9)	36.9		0.19	0.099	37.5	88	2.02	18.5	126	3.95	2.06	1707
36.25	17.694	0.025	12.8876	Sand (9)	35.4		0.198	0.103	36.7	83	1.99	17.7	124	4.12	2.14	1472

Classification by
Robertson 1986



Clay (3)

Sand to silty sand (8)

Sand (9)

Sand to silty sand (8)

Sand (9)

Sand to silty sand (8)

Sand (9)

Sand to silty sand (8)

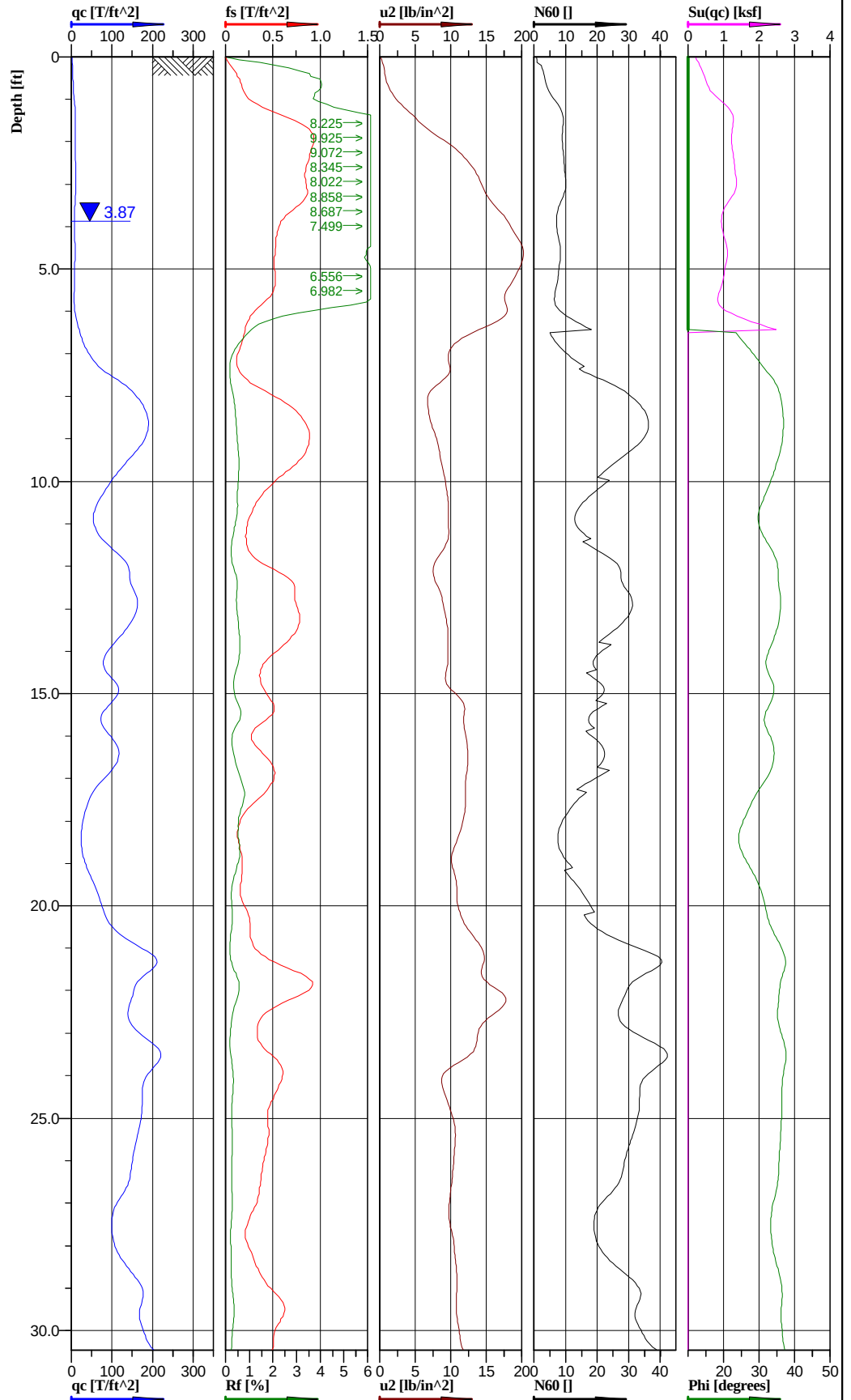
Sand (9)

Sand to silty sand (8)

Silty sand to sandy silt (7)

Sand to silty sand (8)

Sand (9)



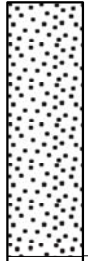
REITZ & JENS, INC.
CONSULTING ENGINEERS



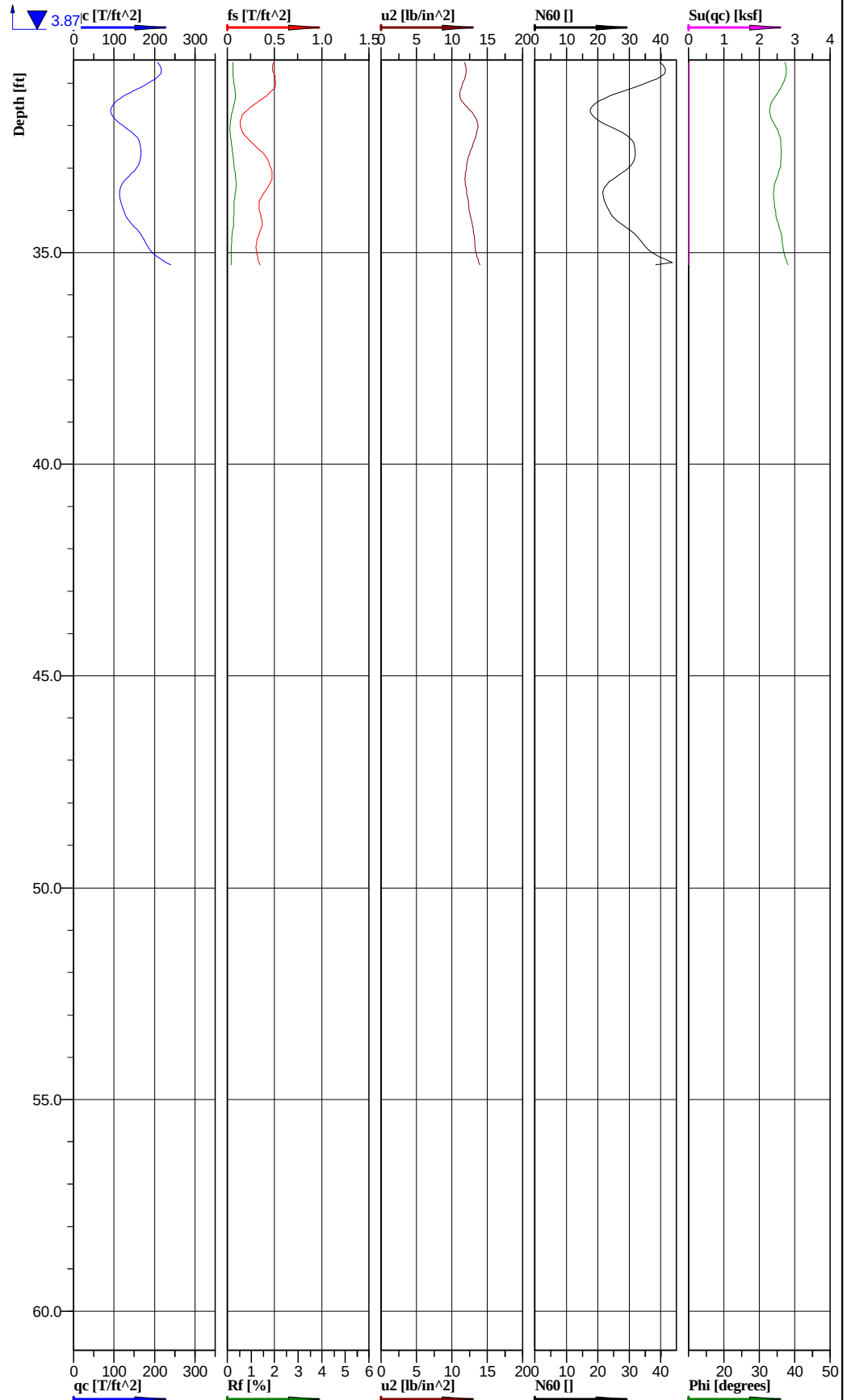
Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 729372.41 ft, Y: 991029.27 ft	Ground level:	464.30	Test no:	C-192
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-88
				File:	Labadie C-192.cpd		

Classification by
Robertson 1986



Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



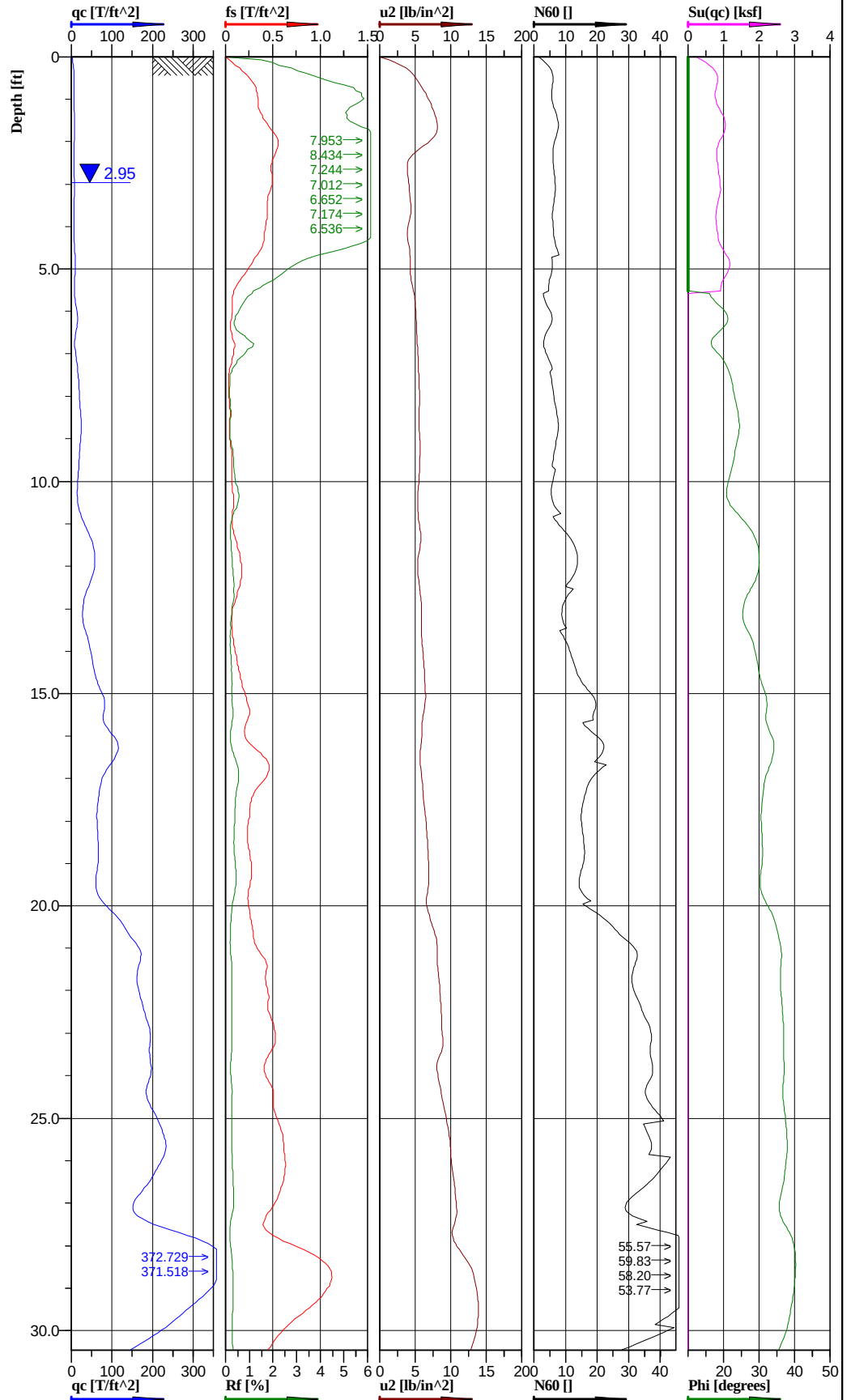
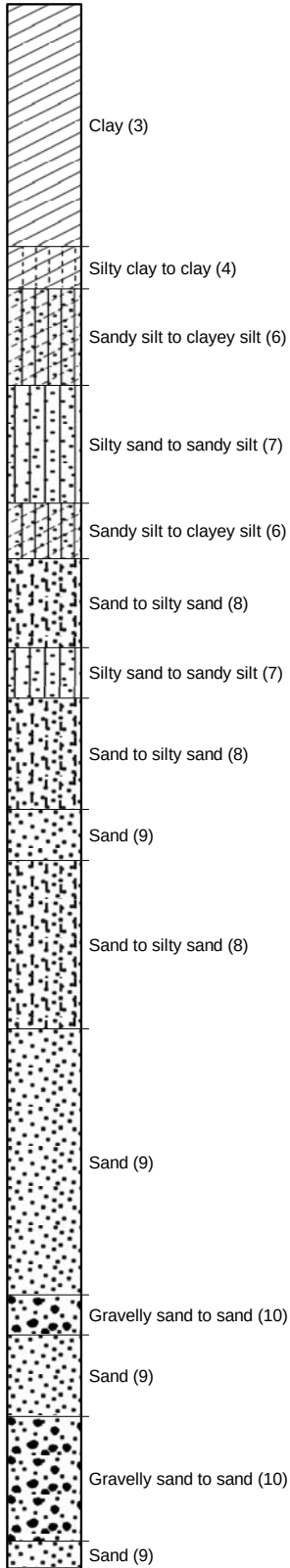
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729372.41 ft, Y: 991029.27 ft	Ground level:	464.30	Test no:	C-192
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-88
				File:	Labadie C-192.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-192
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-192.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.679	0.048	5.0496	Clay (3)	6.7	0.929	0.007	0.007			1.78	6.7	111	0.15	0.15	279
3.75	0.847	0.064	17.2342	Clay (3)	8.5	1.126	0.02	0.019			1.78	8.5	111	0.42	0.40	338
6.25	2.663	0.028	14.426	Sand (9)	10.1	1.211	0.034	0.026	28.5	62	1.85	5.1	115	0.71	0.54	222
8.75	14.757	0.065	7.949	Sand to silty sand (8)	29.7		0.048	0.033	35.6	93	1.99	19.0	124	1.00	0.69	1228
11.25	9.142	0.036	8.9469	Sand (9)	20.0		0.063	0.04	32.6	76	1.96	10.0	122	1.31	0.83	761
13.75	11.65	0.057	9.3889	Sand (9)	24.3		0.078	0.047	34.2	81	1.98	12.2	124	1.62	0.98	969
16.25	8.449	0.04	12.0528	Silty sand to sandy silt (7)	19.2		0.092	0.054	32.4	72	1.96	12.3	122	1.91	1.12	703
18.75	3.891	0.017	10.9947	Sand to silty sand (8)	11.2		0.107	0.061	27.3	57	1.9	7.2	119	2.23	1.27	324
21.25	14.058	0.047	14.384	Sand (9)	28.4		0.121	0.068	35.2	81	1.98	14.2	124	2.52	1.41	1170
23.75	17.289	0.045	11.5431	Sand (9)	34.6		0.136	0.075	36.5	87	1.99	17.3	124	2.83	1.56	1438
26.25	13.285	0.036	10.2123	Sand (9)	26.6		0.151	0.083	35.1	77	1.99	13.3	124	3.14	1.73	1105
28.75	14.035	0.04	10.7058	Sand (9)	28.1		0.166	0.09	35.3	78	1.99	14.0	124	3.45	1.87	1168
31.25	15.075	0.034	12.2027	Sand (9)	30.1		0.181	0.097	35.6	78	1.99	15.1	124	3.76	2.02	1254
33.75	14.094	0.036	12.5191	Sand (9)	28.2		0.196	0.104	35.4	76	1.99	14.1	124	4.08	2.16	1173
36.25	20.884	0.031	13.6938	Sand (9)	40.2		0.204	0.108	37.6	87	2.02	20.1	126	4.24	2.25	1738

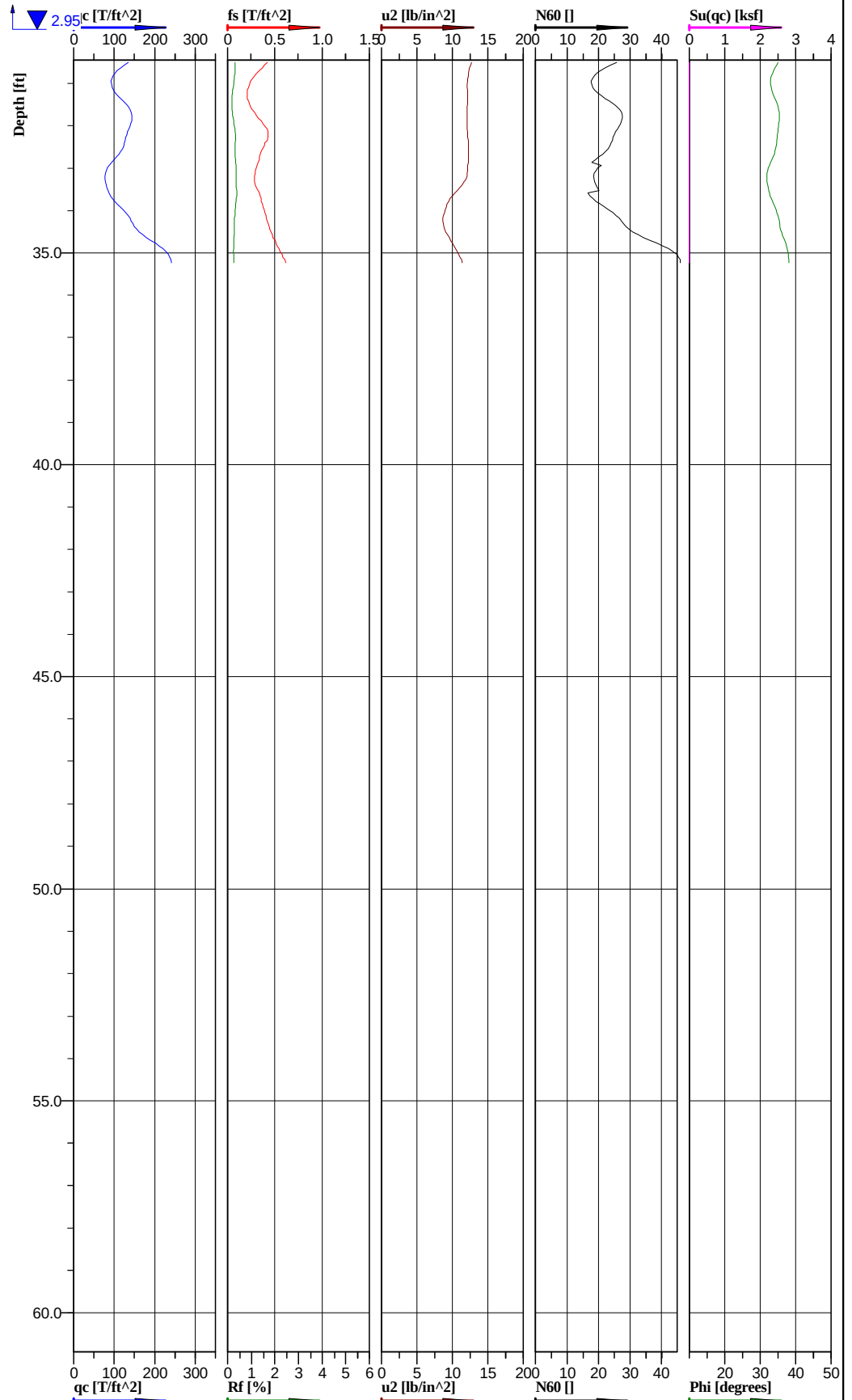
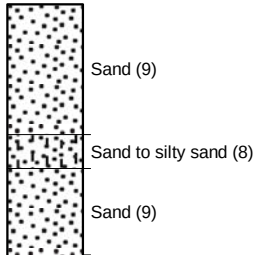
Classification by
Robertson 1986



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729967.59 ft, Y: 991014.63 ft	Ground level:	463.19	Test no:	C-194
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-89
				File:	Labadie C-194.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



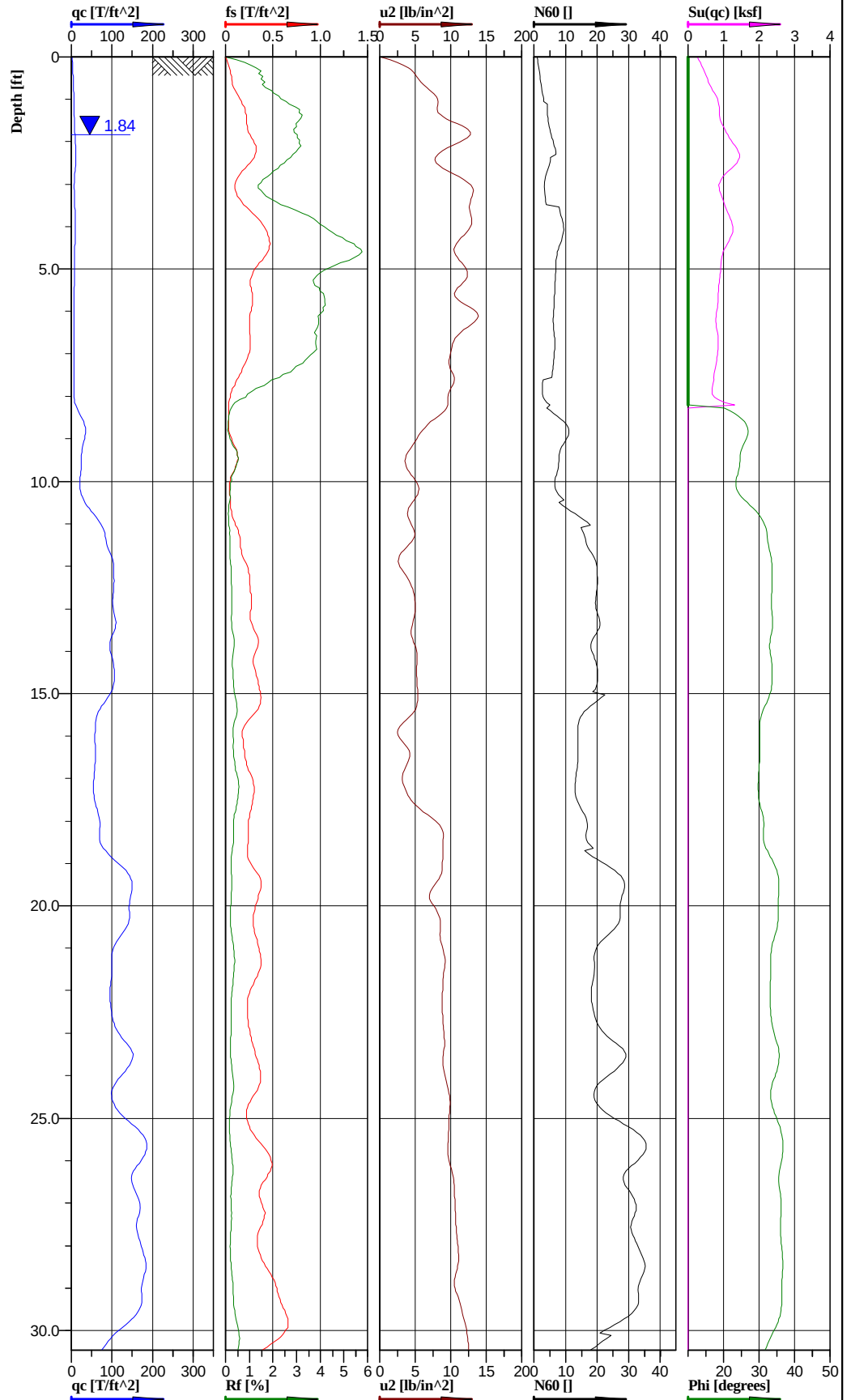
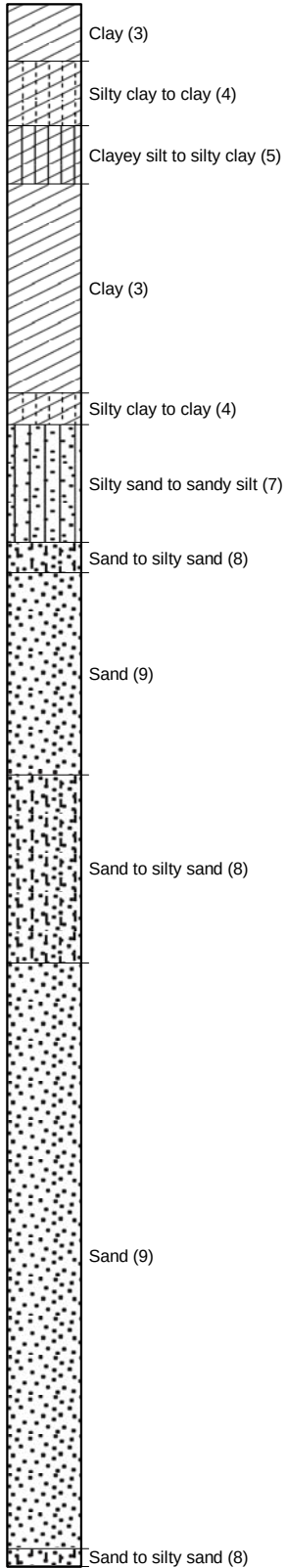
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729967.59 ft, Y: 991014.63 ft	Ground level:	463.19	Test no:	C-194
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-89
				File:	Labadie C-194.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-194
Test date: 12/24/2009
Location: Labadie MO
File name: Labadie C-194.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.602	0.035	5.796	Clay (3)	6.0	0.82	0.007	0.007			1.78	6.0	111	0.15	0.15	246
3.75	0.678	0.039	4.1396	Silty clay to clay (4)	6.3	0.91	0.02	0.018			1.79	6.3	112	0.42	0.37	455
6.25	1.051	0.008	5.0705	Silty sand to sandy silt (7)	4.5	0.991	0.034	0.024	19.1		1.83	2.9	114	0.71	0.50	87
8.75	1.933	0.005	5.5725	Sandy silt to clayey silt (6)	6.6		0.048	0.03	23.2		1.88	6.6	117	1.00	0.62	161
11.25	3.612	0.011	5.4832	Silty sand to sandy silt (7)	9.8		0.062	0.036	26.5	58	1.91	6.3	119	1.29	0.75	301
13.75	4.306	0.011	6.035	Sand to silty sand (8)	11.7		0.076	0.043	28.2	59	1.92	7.5	120	1.58	0.89	358
16.25	8.382	0.029	5.9885	Sand to silty sand (8)	19.0		0.09	0.05	32.5	72	1.96	12.2	122	1.87	1.04	697
18.75	6.272	0.024	6.6559	Sand (9)	15.5		0.105	0.057	30.8	62	1.94	7.7	121	2.18	1.19	522
21.25	14.642	0.035	7.9843	Sand (9)	29.3		0.12	0.064	35.6	84	1.99	14.6	124	2.50	1.33	1218
23.75	18.449	0.046	8.6524	Sand (9)	36.9		0.134	0.071	36.9	89	1.99	18.4	124	2.79	1.48	1535
26.25	19.156	0.054	10.2428	Gravelly sand to sand (10)	35.8		0.15	0.078	37.1	89	2.01	24.3	125	3.12	1.62	1594
28.75	30.083	0.082	12.6737	Sand (9)	50.7		0.165	0.086	39.3	100	2.04	25.3	127	3.43	1.79	2503
31.25	12.648	0.034	12.3692	Sand (9)	25.3		0.18	0.093	34.8	74	1.99	12.6	124	3.74	1.93	1052
33.75	12.189	0.037	10.4805	Sand (9)	25.4		0.195	0.101	34.3	71	1.98	12.7	124	4.06	2.10	1014
36.25	22.846	0.057	11.1505	Sand (9)	45.7		0.203	0.104	38.0	90	2.04	22.8	127	4.22	2.16	1901

Classification by
Robertson 1986

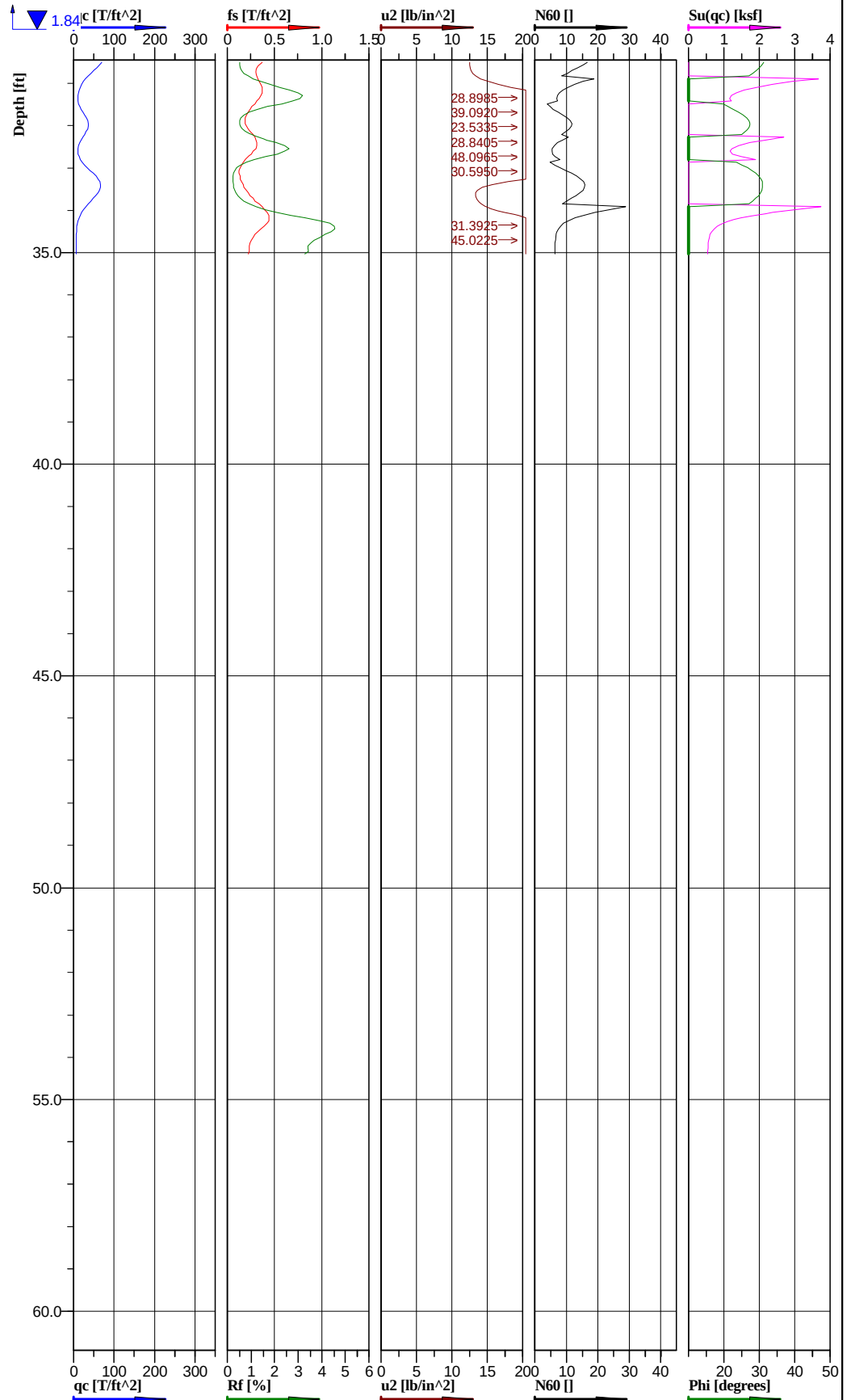
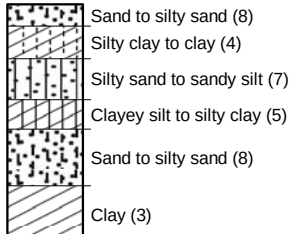


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150



Location:	Labadie, MO	Position:	X: 730560.70 ft, Y: 990995.87 ft	Ground level:	463.48	Test no:	C-196
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-90
				File:	Labadie C-196.cpd		

Classification by
Robertson 1986



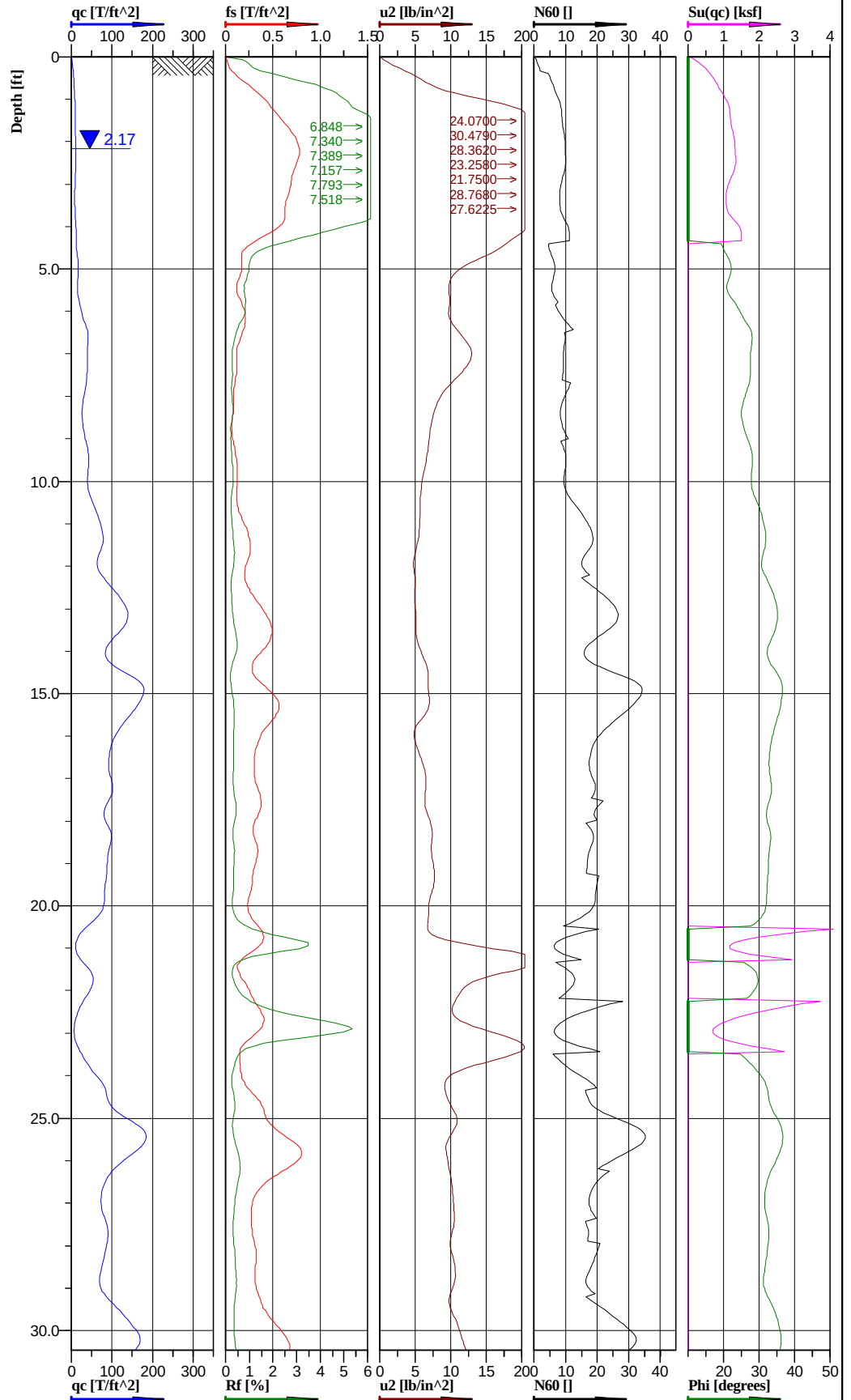
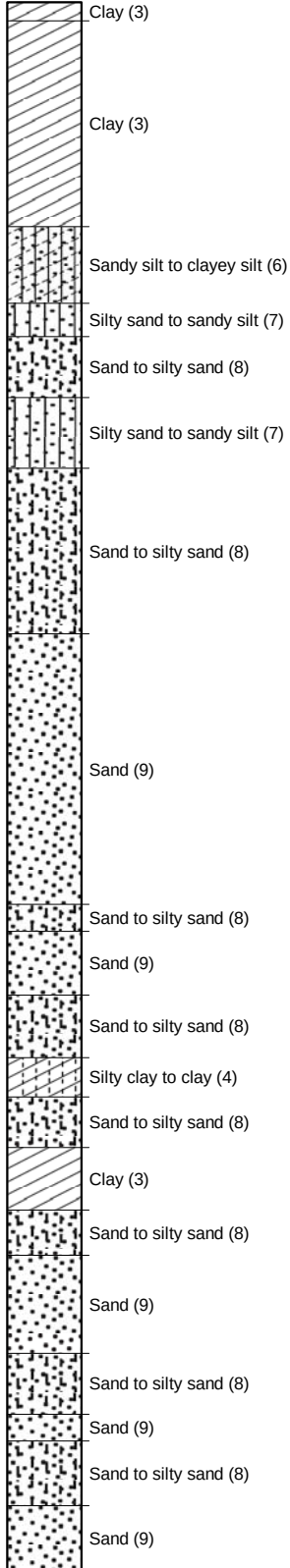
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 730560.70 ft, Y: 990995.87 ft	Ground level:	463.48	Test no:	C-196
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/24/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-90
				File:	Labadie C-196.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-196
Test date: 12/24/2009
Location: Labadie MO
File name: Labadie C-196.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.652	0.017	7.826	Clayey silt to silty clay (5)	3.9	0.888	0.007	0.007			1.81	3.9	113	0.15	0.15	533
3.75	0.79	0.028	11.8086	Clay (3)	6.5	1.054	0.021	0.015			1.81	6.5	113	0.44	0.31	316
6.25	0.637	0.024	11.3078	Clay (3)	6.4	0.823	0.034	0.02			1.79	6.4	112	0.71	0.42	247
8.75	1.96	0.007	6.7492	Silty sand to sandy silt (7)	6.9	0.8	0.048	0.026	24.7		1.87	4.4	117	1.00	0.54	163
11.25	7.024	0.013	4.1637	Sand (9)	15.2		0.062	0.033	30.7	75	1.96	7.6	122	1.29	0.69	584
13.75	9.808	0.029	4.9787	Sand to silty sand (8)	19.7		0.077	0.04	33.5	80	1.99	12.6	124	1.60	0.83	816
16.25	5.891	0.025	3.8496	Sand to silty sand (8)	14.7		0.091	0.047	30.4	62	1.94	9.4	121	1.89	0.98	490
18.75	9.795	0.027	7.8371	Sand (9)	21.1		0.106	0.054	33.1	73	1.96	10.5	122	2.20	1.12	815
21.25	10.61	0.029	8.7346	Sand (9)	21.2		0.12	0.061	33.8	75	1.99	10.6	124	2.50	1.27	883
23.75	11.517	0.028	9.2711	Sand (9)	23.0		0.135	0.068	34.3	76	1.99	11.5	124	2.81	1.41	958
26.25	15.709	0.036	10.1399	Sand (9)	31.4		0.15	0.076	36.1	84	1.99	15.7	124	3.12	1.58	1307
28.75	15.904	0.047	11.1531	Sand (9)	31.8		0.165	0.083	36.1	83	1.99	15.9	124	3.43	1.73	1323
31.25	3.74	0.032	22.7182	Clayey silt to silty clay (5)	11.9	1.897	0.18	0.09	28.2	57	1.88	11.9	117	3.74	1.87	1138
33.75	2.607	0.025	31.1757	Sand to silty sand (8)	10.6	1.23	0.194	0.096	28.8	45	1.85	6.8	115	4.04	2.00	217

Classification by
Robertson 1986



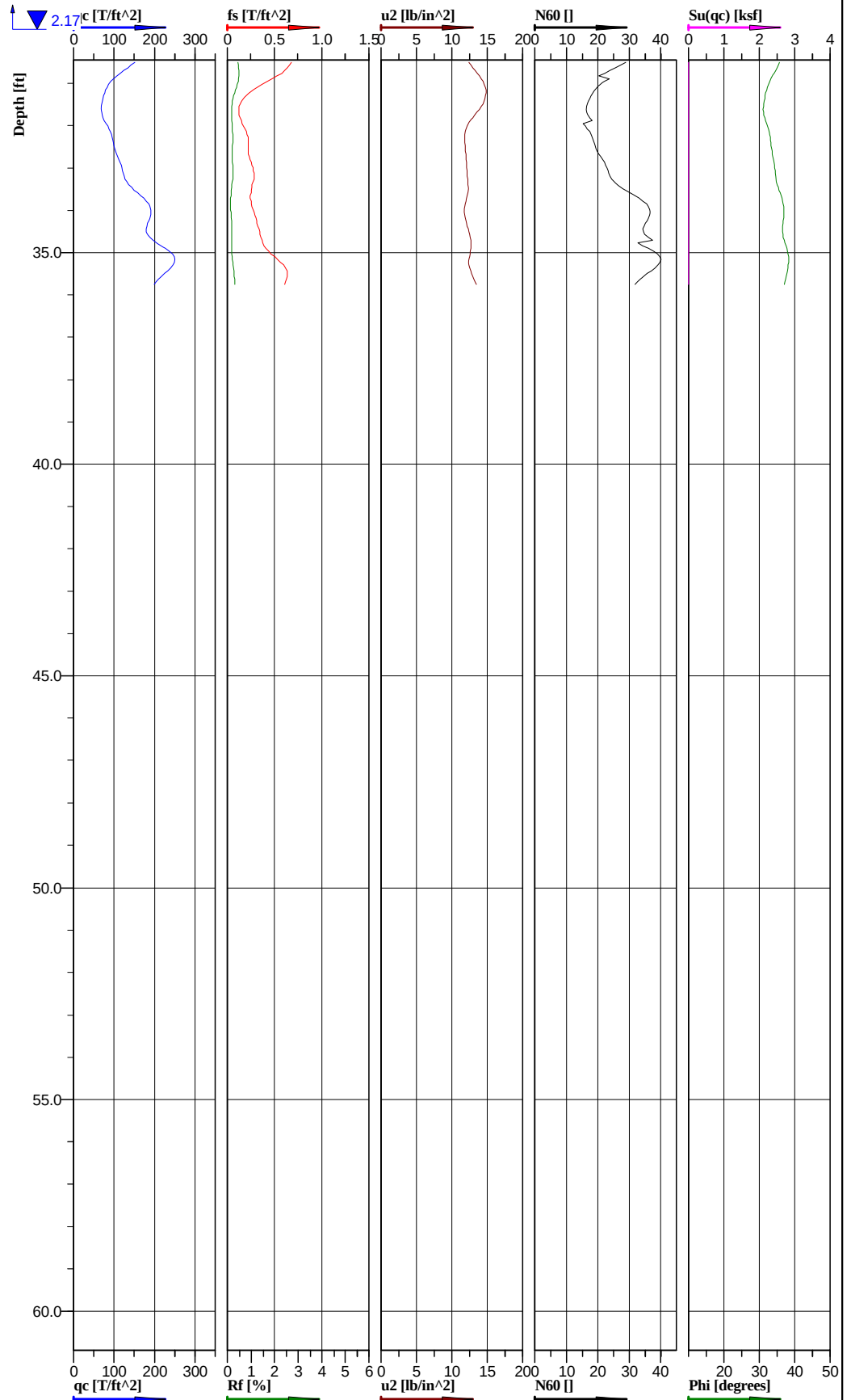
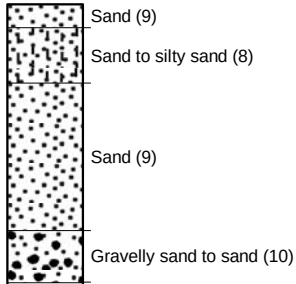
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728321.52 ft, Y: 990764.90 ft	Ground level:	463.71	Test no:	C-198
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-91
				File:	Labadie C-198.cpd		

Classification by
Robertson 1986



REITZ & JENS, INC.
CONSULTING ENGINEERS



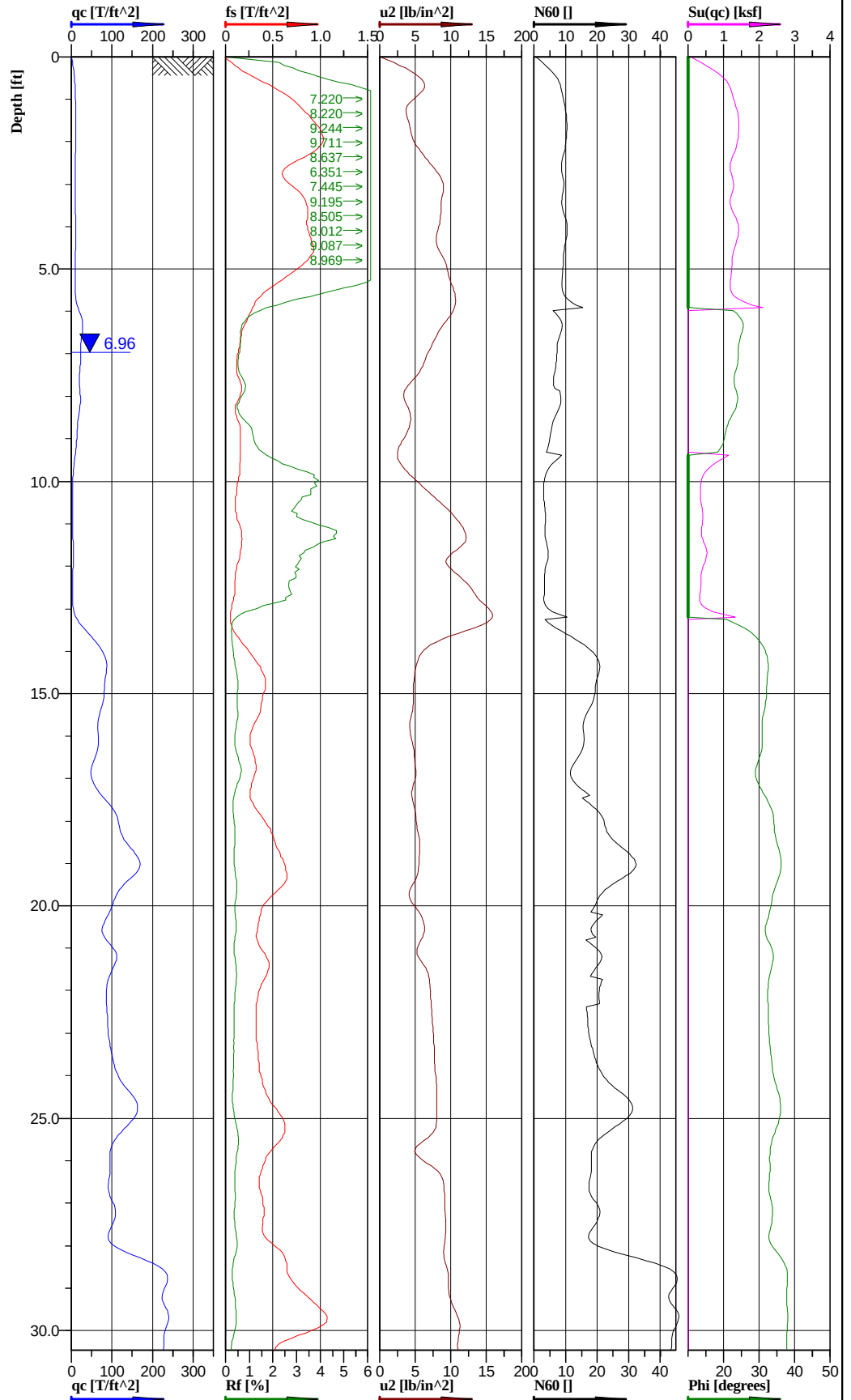
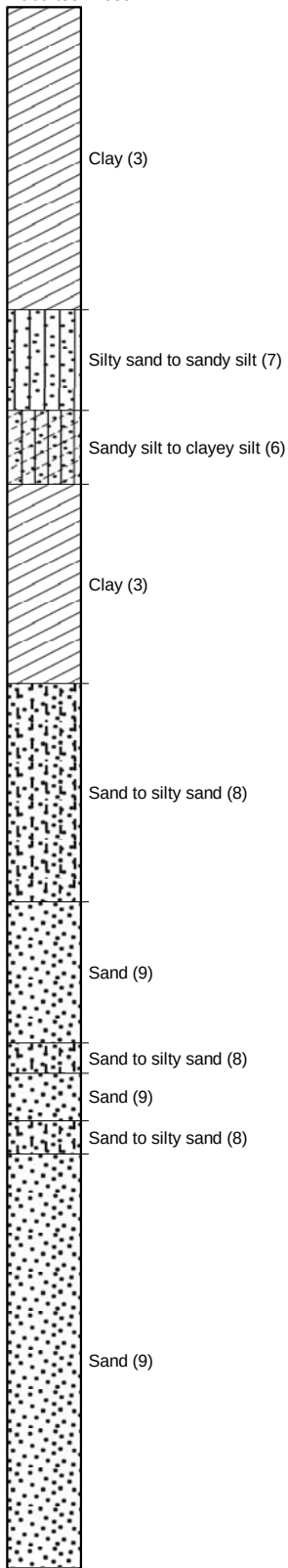
Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 728321.52 ft, Y: 990764.90 ft	Ground level:	463.71	Test no:	C-198
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/22/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-91
				File:	Labadie C-198.cpd		

Client: Ameren Missouri
Project name: Labadie Power Plant UWL DSI
Test no.: C-198
Test date: 12/22/2009
Location: Labadie MO
File name: Labadie C-198.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.753	0.045	17.5693	Clay (3)	7.4	1.014	0.007	0.007			1.79	7.4	112	0.15	0.15	304
3.75	1.075	0.048	21.2838	Sandy silt to clayey silt (6)	8.3	1.245	0.02	0.015	21.0		1.8	8.3	112	0.42	0.31	89
6.25	2.846	0.014	10.9315	Sand to silty sand (8)	8.4		0.034	0.021	25.3	60	1.89	5.4	118	0.71	0.44	237
8.75	3.32	0.009	7.5062	Sand to silty sand (8)	9.6		0.048	0.028	26.8	57	1.91	6.1	119	1.00	0.58	276
11.25	6.426	0.019	5.3401	Sand (9)	15.5		0.063	0.035	30.8	69	1.94	7.7	121	1.31	0.73	535
13.75	11.973	0.037	5.7401	Sand (9)	23.9		0.077	0.042	34.4	84	1.98	12.0	124	1.60	0.87	996
16.25	11.052	0.038	6.019	Sand to silty sand (8)	22.2		0.092	0.049	34.0	79	1.99	14.2	124	1.91	1.02	920
18.75	8.363	0.029	7.2151	Sand to silty sand (8)	18.8		0.107	0.056	32.5	70	1.96	12.0	122	2.23	1.16	696
21.25	3.533	0.026	12.4153	Clay (3)	13.0	2.308	0.121	0.063	29.1	52	1.89	13.0	118	2.52	1.31	692
23.75	4.889	0.026	12.937	Sand (9)	14.0	1.326	0.135	0.069	31.1	60	1.9	7.0	119	2.81	1.44	407
26.25	11.145	0.047	10.1061	Sand (9)	24.0		0.15	0.076	33.8	72	1.97	12.0	123	3.12	1.58	927
28.75	9.28	0.035	10.3359	Sand (9)	20.3		0.165	0.083	32.9	66	1.96	10.2	122	3.43	1.73	772
31.25	10.051	0.034	12.989	Sand (9)	21.6		0.179	0.091	33.3	67	1.97	10.8	123	3.72	1.89	836
33.75	15.622	0.028	12.1778	Gravelly sand to sand (10)	30.3		0.194	0.098	35.9	79	1.99	20.6	124	4.04	2.04	1300
36.25	22.081	0.056	12.7648	Gravelly sand to sand (10)	36.8		0.204	0.102	37.8	89	2.02	25.0	126	4.24	2.12	1837

Classification by
Robertson 1986



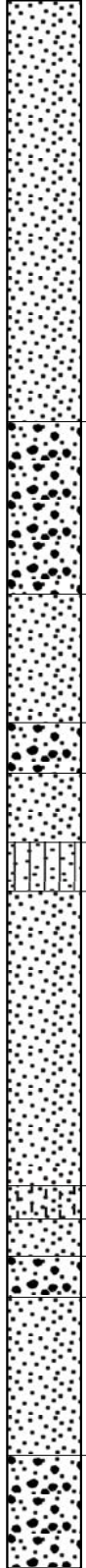
REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729076.02 ft, Y: 990737.63 ft	Ground level:	464.80	Test no:	C-200
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/21/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	1	Fig:	C-92
				File:	Labadie C-200.cpd		

Classification by
Robertson 1986



Sand (9)

Gravelly sand to sand (10)

Sand (9)

Gravelly sand to sand (10)

Sand (9)

Silty sand to sandy silt (7)

Sand (9)

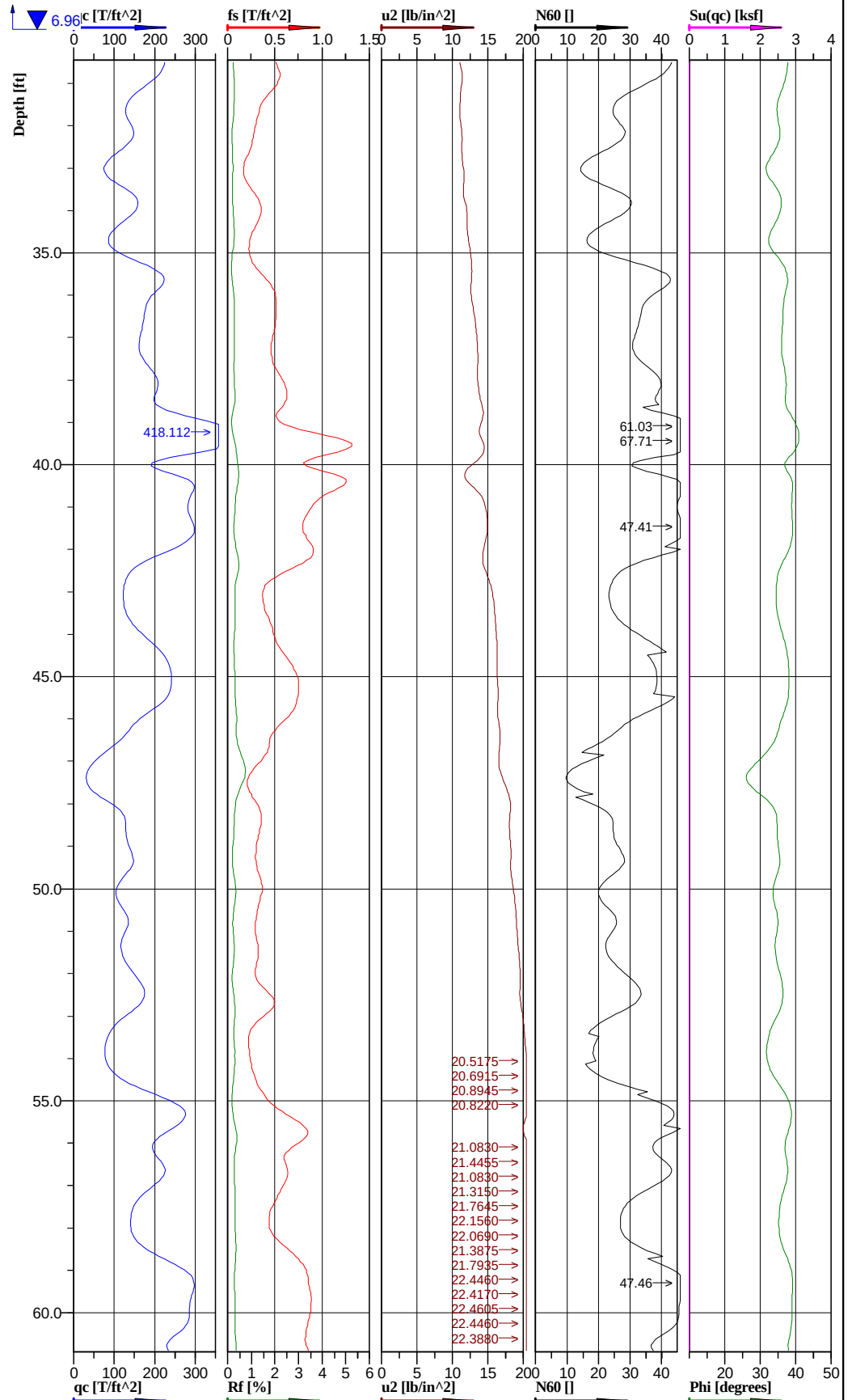
Sand to silty sand (8)

Sand (9)

Gravelly sand to sand (10)

Sand (9)

Gravelly sand to sand (10)



REITZ & JENS, INC.
CONSULTING ENGINEERS

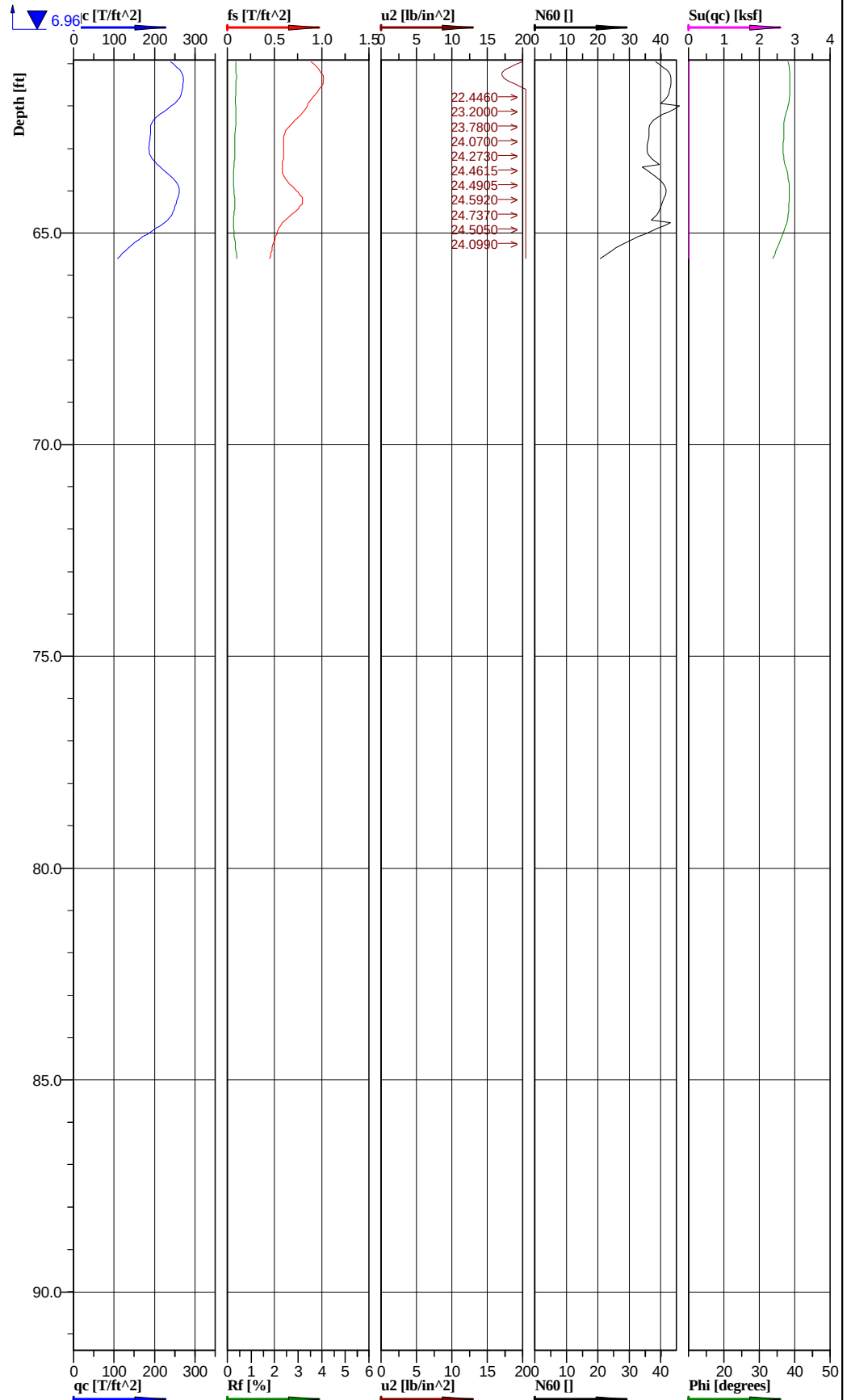


Cone No: 4274
Tip area [cm²]: 10
Sleeve area [cm²]: 150

Location:	Labadie, MO	Position:	X: 729076.02 ft, Y: 990737.63 ft	Ground level:	464.80	Test no:	C-200
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/21/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	2	Fig:	C-92
				File:	Labadie C-200.cpd		

Classification by
Robertson 1986

Gravelly sand to sand (10)
Sand (9)
Gravelly sand to sand (10)
Sand (9)



REITZ & JENS, INC.
CONSULTING ENGINEERS



Cone No: 4274
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location:	Labadie, MO	Position:	X: 729076.02 ft, Y: 990737.63 ft	Ground level:	464.80	Test no:	C-200
Project ID:	2008012455	Client:	Ameren Missouri	Date:	12/21/2009	Scale:	1 : 44
Project:	Labadie Power Plant UWL DSI			Page:	3	Fig:	C-92
				File:	Labadie C-200.cpd		

Client: Ameren Missouri
 Project name: Labadie Power Plant UWL DSI
 Test no.: C-200
 Test date: 12/21/2009
 Location: Labadie MO
 File name: Labadie C-200.cpd

Depth	Corrected point resistance	Corrected local friction	Pore pressure behind cone	CPT-Pro Calculated Values								Reitz and Jens Calculated Values				
				Soil Type	SPT Energy Ratio N60	Undrained shear strength	Total overburden stress	Effective total overburden str	R&J Phi Angle	Relative density	Unit weight	Corrected N60	Unit Weight	Total Overburden	Effective Overburden	Es (OCR=4)
[ft]	[MPa]	[MPa]	[lb/in^2]		[bpf]	[ksf]	[MPa]	[MPa]	[degrees]	[%]	[g/cm^3]	[bpf]	[pcf]	[ksf]	[ksf]	(ksf)
1.25	0.842	0.064	4.7027	Clay (3)	8.4	1.156	0.007	0.007			1.78	8.4	111	0.15	0.15	347
3.75	0.948	0.077	8.5476	Clay (3)	9.5	1.28	0.02	0.02			1.78	9.5	111	0.42	0.42	384
6.25	1.806	0.026	8.5286	Silty sand to sandy silt (7)	8.4	1.362	0.034	0.034	24.2		1.85	5.4	115	0.71	0.71	150
8.75	1.324	0.014	3.7462	Clay (3)	6.0	0.635	0.048	0.042	21.9		1.84	6.0	115	1.00	0.87	191
11.25	0.359	0.012	10.1463	Clay (3)	3.6	0.401	0.061	0.048			1.78	3.6	111	1.27	1.00	120
13.75	4.743	0.02	9.4343	Sand to silty sand (8)	12.8	0.539	0.075	0.054	30.3	60	1.89	8.2	118	1.56	1.12	395
16.25	6.207	0.029	4.6619	Sand (9)	15.3		0.089	0.061	30.7	60	1.94	7.7	121	1.85	1.27	516
18.75	12.296	0.048	5.0862	Sand (9)	24.6		0.104	0.068	34.6	78	1.99	12.3	124	2.16	1.41	1023
21.25	8.813	0.036	6.3172	Sand (9)	19.6		0.118	0.075	32.8	67	1.96	9.8	122	2.45	1.56	733
23.75	11.187	0.037	7.759	Sand (9)	22.4		0.133	0.082	34.1	72	1.99	11.2	124	2.77	1.71	931
26.25	10.062	0.043	7.9119	Sand (9)	20.1		0.148	0.089	33.6	69	1.99	10.1	124	3.08	1.85	837
28.75	18.45	0.071	9.857	Sand (9)	36.9		0.163	0.097	36.6	83	1.99	18.4	124	3.39	2.02	1535
31.25	16.467	0.042	11.1806	Sand (9)	32.9		0.178	0.104	36.2	80	2	16.5	125	3.70	2.16	1370
33.75	10.684	0.024	11.8487	Sand (9)	21.3		0.193	0.111	33.8	67	1.98	10.7	124	4.01	2.31	889
36.25	17.144	0.042	13.0143	Sand (9)	34.3		0.208	0.118	36.5	80	2	17.1	125	4.33	2.45	1426
38.75	25.488	0.071	13.8706	Gravelly sand to sand (10)	45.2		0.223	0.126	38.3	89	2.01	30.7	125	4.64	2.62	2121
41.25	24.522	0.088	14.01	Sand (9)	42.2		0.238	0.133	38.3	88	2.02	21.1	126	4.95	2.77	2040
43.75	16.106	0.049	15.9296	Gravelly sand to sand (10)	30.5		0.253	0.14	36.0	75	2	20.7	125	5.26	2.91	1340
46.25	13.171	0.05	16.588	Silty sand to sandy silt (7)	26.5		0.268	0.148	33.8	75	1.97	16.9	123	5.57	3.08	1096
48.75	10.898	0.03	18.1321	Sand (9)	22.5		0.282	0.155	33.7	65	1.98	11.2	124	5.87	3.22	907
51.25	12.734	0.031	19.2165	Sand (9)	25.4		0.297	0.162	34.9	67	1.99	12.7	124	6.18	3.37	1059
53.75	11.984	0.031	20.3409	Gravelly sand to sand (10)	24.2		0.312	0.169	34.2	63	1.98	16.4	124	6.49	3.52	997
56.25	20.555	0.061	20.9674	Sand (9)	39.1		0.327	0.177	37.4	79	2	19.6	125	6.80	3.68	1710
58.75	21.412	0.067	22.0961	Gravelly sand to sand (10)	38.0		0.342	0.184	37.4	79	2.02	25.8	126	7.11	3.83	1781
61.25	23.823	0.083	21.4444	Sand (9)	41.2		0.357	0.191	38.2	82	2.02	20.6	126	7.43	3.97	1982
63.75	21.193	0.061	24.4068	Sand (9)	38.3		0.372	0.199	37.6	78	2.02	19.2	126	7.74	4.14	1763
66.25	13.578	0.046	24.3818	Sand (9)	27.1		0.381	0.203	35.2	65	1.99	13.6	124	7.92	4.22	1130

Appendix D

**ANALYSIS OF CPT SOUNDINGS
AND COMPARISON WITH BORINGS**

This page intentionally left blank

Ameren Missouri Labadie Power Plant
Utility Waste Landfill Detailed Site Investigation
Summary of Geotechnical Investigation

Appendix D – Analysis of CPT Soundings and Comparison with Borings

The Cone Penetration Test (CPT) data, which appear in Appendix C, have been processed using the program CPT-Pro by GeoSoft in order for the soundings to be easily interpreted visually. This processing includes smoothing the raw data and interpretation for both geologic and geotechnical parameters. The raw data generated by the cone penetrometer include: the cone tip pressure (q_c), skin friction (f_s), and porewater pressure measured behind the cone tip (u_2). The tip pressure and skin friction are corrected by CPT-Pro to account for static pore water pressure (q_t and f_t respectively).

A smoothing function is used to clean up the raw data, to correct for the sensitivity of the CPT equipment and the normal errors that are generated during penetration. This smoothing function removes any erroneous data, and evens out any micro-scale features such as those caused by individual gravel fragments or thin layering which are beyond the ability of the cone penetrometer to reasonably detect due to the probe geometry. By smoothing the data, we ensure that it represents the soil behavior of a soil stratum and not individual anomalies. This smoothing of the data has been shown to have little impact on the soil stratigraphy that is created from the data.

After the data has been smoothed, interpretations can be made. Based upon the pore water pressure data, the ground water depth is approximated manually. Knowing the depth to ground water, the software calculates the static pore water pressure (u_0). From the smoothed data of q_t and f_t , CPT-Pro automatically calculates the friction ratio (R_f), which is defined as (f_t/q_t) or alternately as (f_s/q_t) . In general, a high R_f is indicative of fine-grain and low sensitivity soils. CPT-Pro also calculates the pore pressure ratio (B_q), which is defined as $(u_2 - u_0)/(q_t - \sigma_{vo})$. In general, higher pore pressure ratios correspond to more sensitive soils, that is, soils which lose significant undrained shear strength when disturbed. Very sensitive soils are typically found in marine deposits in saltwater environments, not in the St. Louis area.

The soil stratigraphy can be determined with this base information, which is derived solely from the data collected from the cone penetrometer as it is pushed, because there are no soil cuttings or soil samples. The primary classification system that we used is the “ R_f and q_t based Robertson 1986”, which determines the soil type based upon the corrected cone tip pressure and the friction ratio. The chart used for this method is shown in Figure D-1, which we copied from the CPT-Pro manual. This method is one of 5 that are part of the CPT-Pro program. Coarse-grain soils generally have high q_t and low R_f , and fine-grain soils (silts and clays) have low q_t and high R_f . These relative values are the basis of soil classification under the R_f & q_t method. In order to account for the limits of data acquisition due to probe geometry, a minimum layer thickness of 6 inches was used for soil classification.

In some cases, we used a second classification system where unexpected or anomalous classifications were produced by the R_f & q_t method – specifically where either “sensitive fine grained” or “organic material” classifications were selected by CPT-Pro. The term “sensitive fine grained” was not useful as it does not descriptive of a soil type. A few CPT logs were developed in our initial analyses using the

R_f & q_t method that had very thick layers (greater than 5 feet) of “organic material.” None of the standard borings on the site encountered anything more than laminations of organics, so we questioned the validity of this classification. The second classification system employed was “ B_q and q_t based Robertson 1986,” which determines the soil type based upon the corrected cone tip pressure and the pore pressure ratio. The chart for this classification method is shown in Figure D-2, also from the CPT-Pro manual. A reasonable soil classification resulted using the B_q & q_t method in each case where a questionable classification from the R_f & q_t method was re-analyzed. Our engineering judgment, and CPT soundings correlated with geotechnical borings with soil samples on this project and from other projects, led to our choice of the above two methods of the 5 available in CPT-Pro. We tried the other methods of analyses in the CPT-Pro program, but this yielded the best results.

Five extra temporary geotechnical borings were made next to selected CPT soundings to verify that the CPT sounding produced similar or better results than a standard boring. The pairs of CPT logs and boring logs are depicted in Figures D-3 through D-7. Some logs, specifically C-100 and B-100 in Figure D-6, demonstrate that the CPT probe can detect finer soil layering than a standard geotechnical boring in which soil samples are taken at intervals. In addition to the geotechnical borings, we made CPT soundings next to 3 selected piezometer borings. These are depicted in Figures D-8 through D-10. The general soil classifications in each of these pairs of logs are very similar for practical purposes, with the exception of laminated soils. Laminated soils have been identified in the CPT logs as an average of the soil types in that interval because of the scale limitations of the probe’s size and geometry.

Nine extra confirmation CPT soundings were made next to the planned CPT soundings to demonstrate the repeatability of the results. These comparisons are depicted in Figures D-11 through D-19. The distance in feet between the soundings is shown at the bottom in each figure. The results for each pair are very similar.

Based on the soil type and generated parameters (B_q , R_f , etc.), geotechnical soil parameters were then developed by CPT-Pro. These parameters include: undrained shear strength (s_u), internal effective friction angle (ϕ'), a pseudo corrected SPT blow count (N_{60}), relative density (D_r or I_D), Young’s modulus (E_s), and wet unit weight (γ). Some of these are calculated by CPT-Pro using internal equations, and some are calculated with user-input equations from other sources. The references for the equations used are listed below. The data are plotted on the CPT sounding logs and/or are listed in the CPT reports. The CPT reports list the means of data and calculated parameters within each 2.5-foot depth interval. Each CPT report follows the corresponding CPT log in Appendix C.

We noted that the N_{60} -values from the standard borings were drastically different from the N_{60} -values which were calculated by CPT-Pro for the pairs of borings and CPT soundings. Therefore, the N_{60} -values from CPT-Pro have been corrected with factors developed by Reitz & Jens for this site. The factors depend upon the soil type. The corrected N_{60} -values are listed in the CPT reports. The correlations which we used are plotted in Figure D-20.

REFERENCES USED IN ANALYSES

Lunne, T., Robertson P.K. and Powell J.J.M. (1997), *Cone Penetration Testing in Geotechnical Practice*. Blackie Academic & Professional.

Bowles, Joseph (1996), *Foundation Analysis and Design*, 5th Ed. McGraw-Hill.

Soil classification method based on R_f and q_t . Robertson 1986.

Source paper.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J.

Use of piezometer cone data.

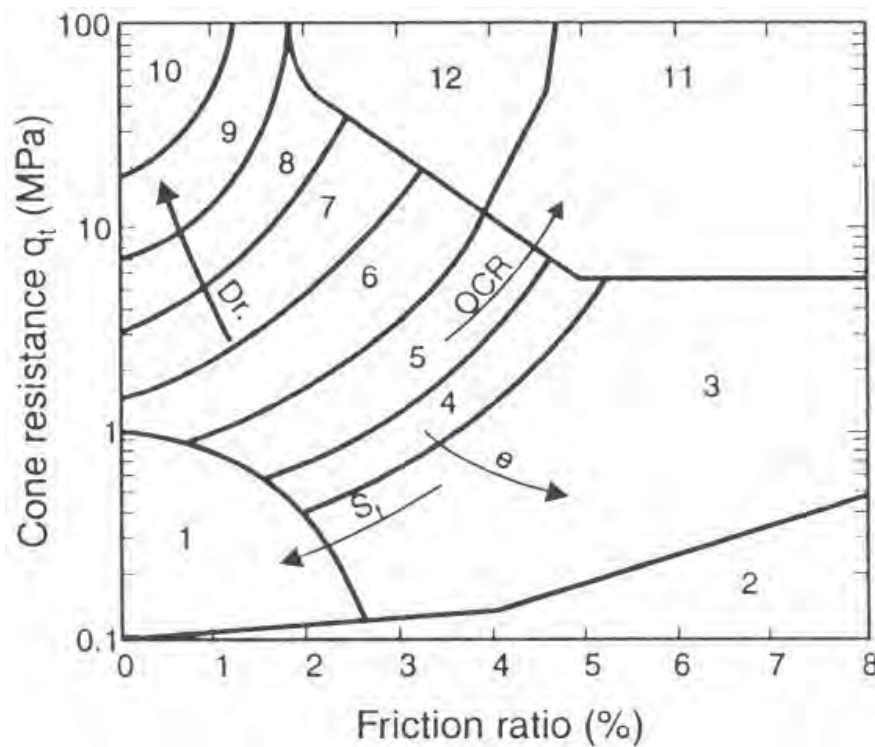
Proceedings of the ASCE Specialty Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering. ASCE. 1986.

Also quoted in:

Lunne, T., Robertson P.K. and Powell J.J.M. (1997).

Cone Penetration Testing in Geotechnical Practice.

Blackie Academic & Professional.



Classification system from CPTU data (quoted after Lunne, Robertson and Powell, 1997).

Zone	Soil Behaviour Type	Zone	Soil Behaviour Type
1	Sensitive fine grained	7	Silty sand to silty clay
2	Organic material	8	Sand to silty sand
3	Clay	9	Sand
4	Silty clay to clay	10	Gravely sand to sand
5	Clayey silt to silty clay	11	Very stiff fine grained *
6	Sandy silt to clayey silt	12	Sand to clayey sand *

* Overconsolidated or cemented.

Soil classification method based on B_q and q_t . Robertson 1986.

Source paper.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J.

Use of piezometer cone data.

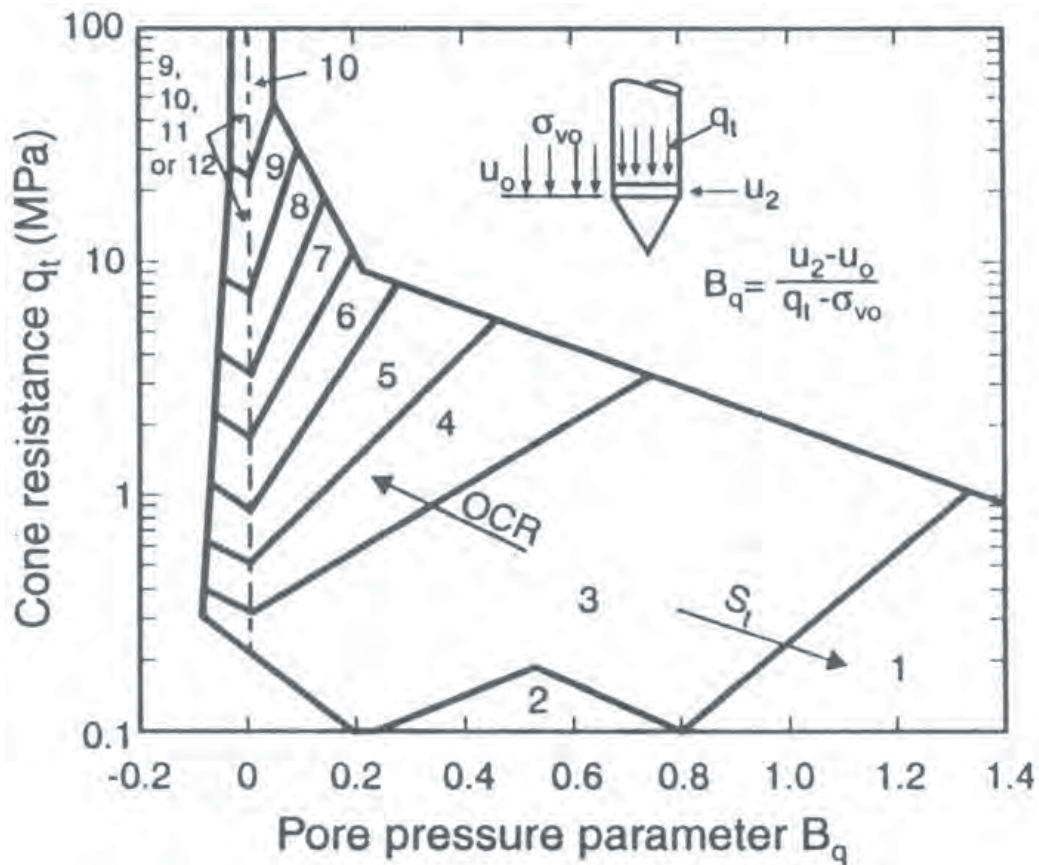
Proceedings of the ASCE Specialty Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering. ASCE. 1986.

Also quoted in:

Lunne, T., Robertson P.K. and Powell J.J.M. (1997).

Cone Penetration Testing in Geotechnical Practice.

Blackie Academic & Professional.

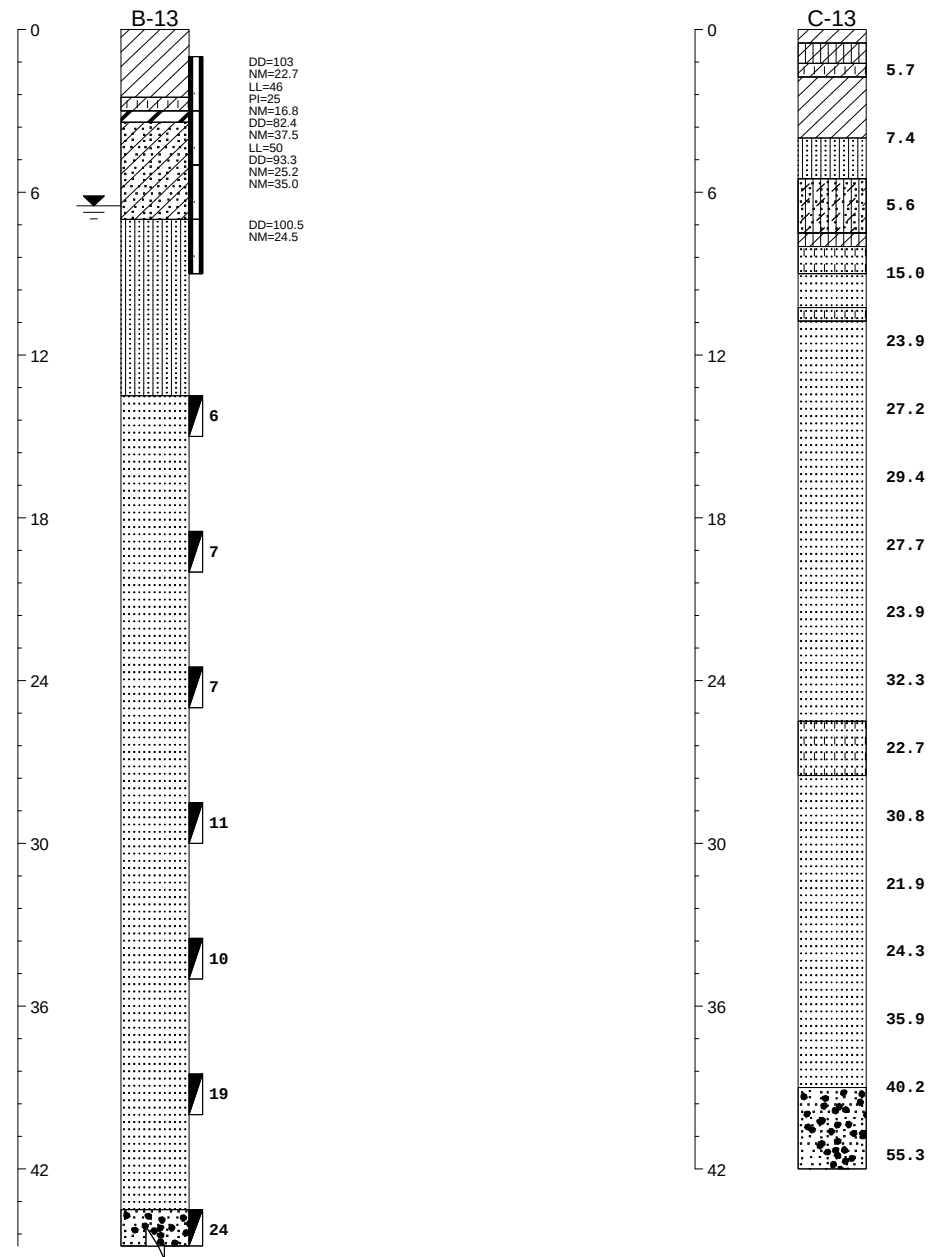


Classification system from CPTU data (quoted after Lunne, Robertson and Powell, 1997).

Zone	Soil Behaviour Type	Zone	Soil Behaviour Type
1	Sensitive fine grained	7	Silty sand to silty clay
2	Organic material	8	Sand to silty sand
3	Clay	9	Sand
4	Silty clay to clay	10	Gravely sand to sand
5	Clayey silt to silty clay	11	Very stiff fine grained *
6	Sandy silt to clayey silt	12	Sand to clayey sand *

* Overconsolidated or cemented

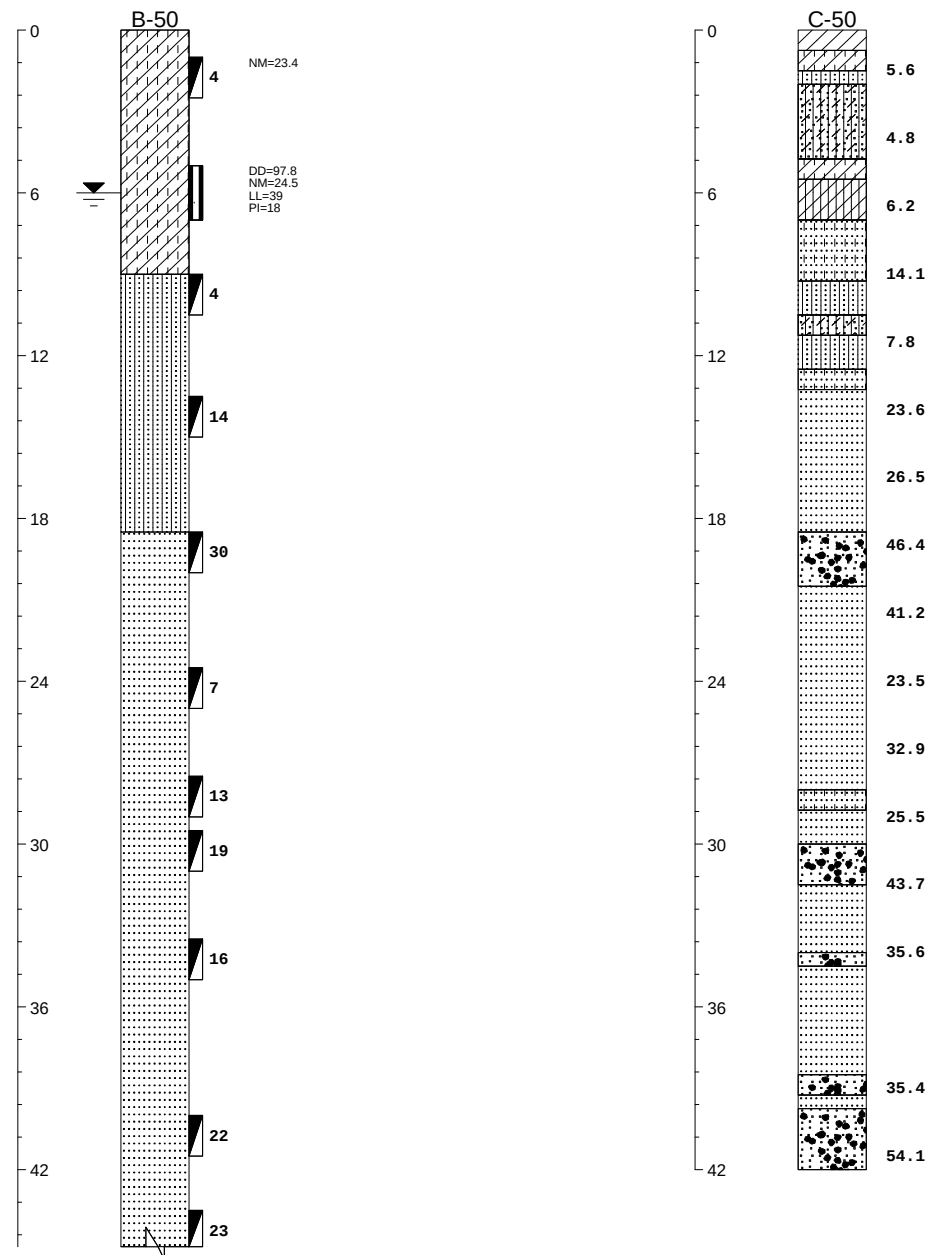
LOG OF BORINGS Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

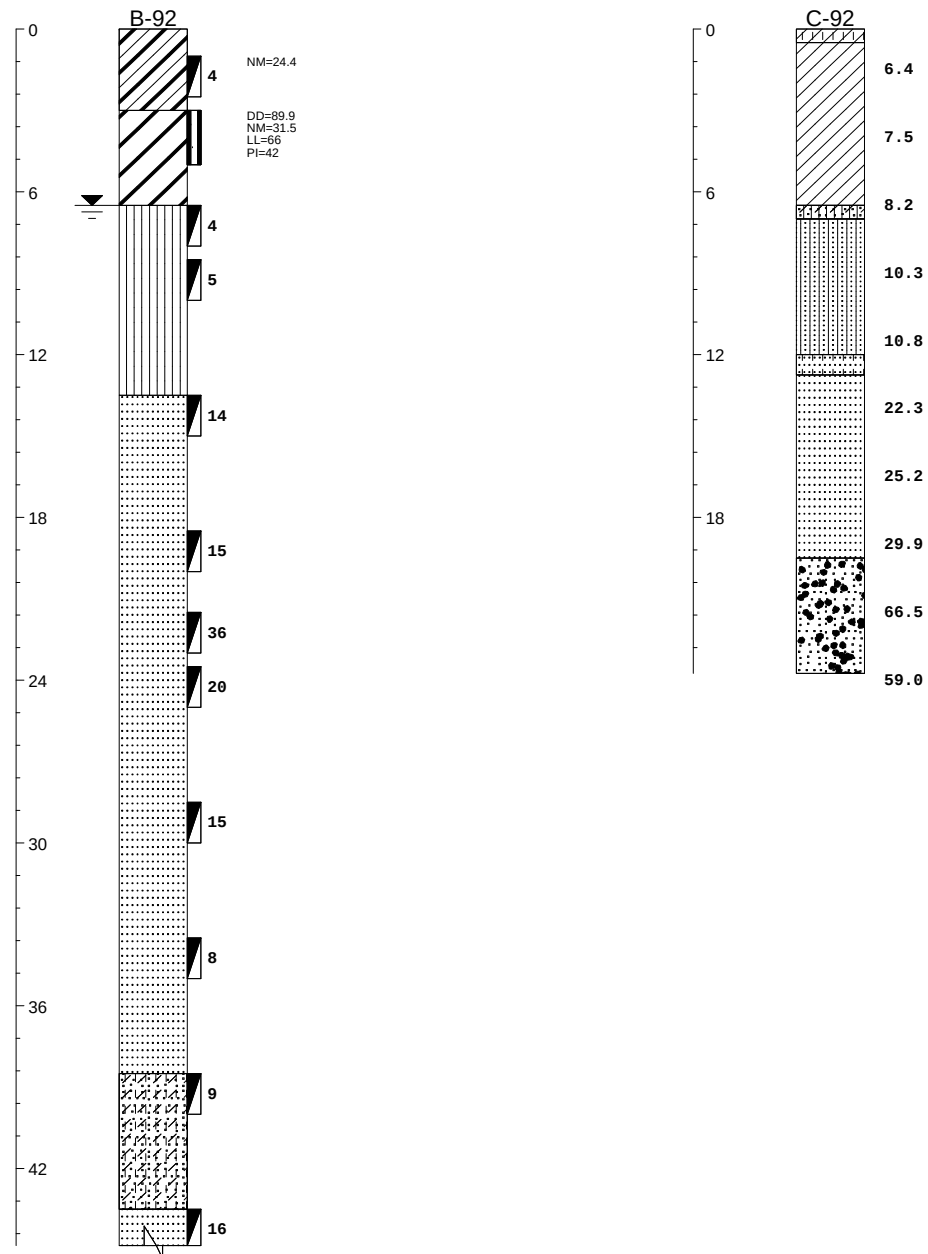
Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

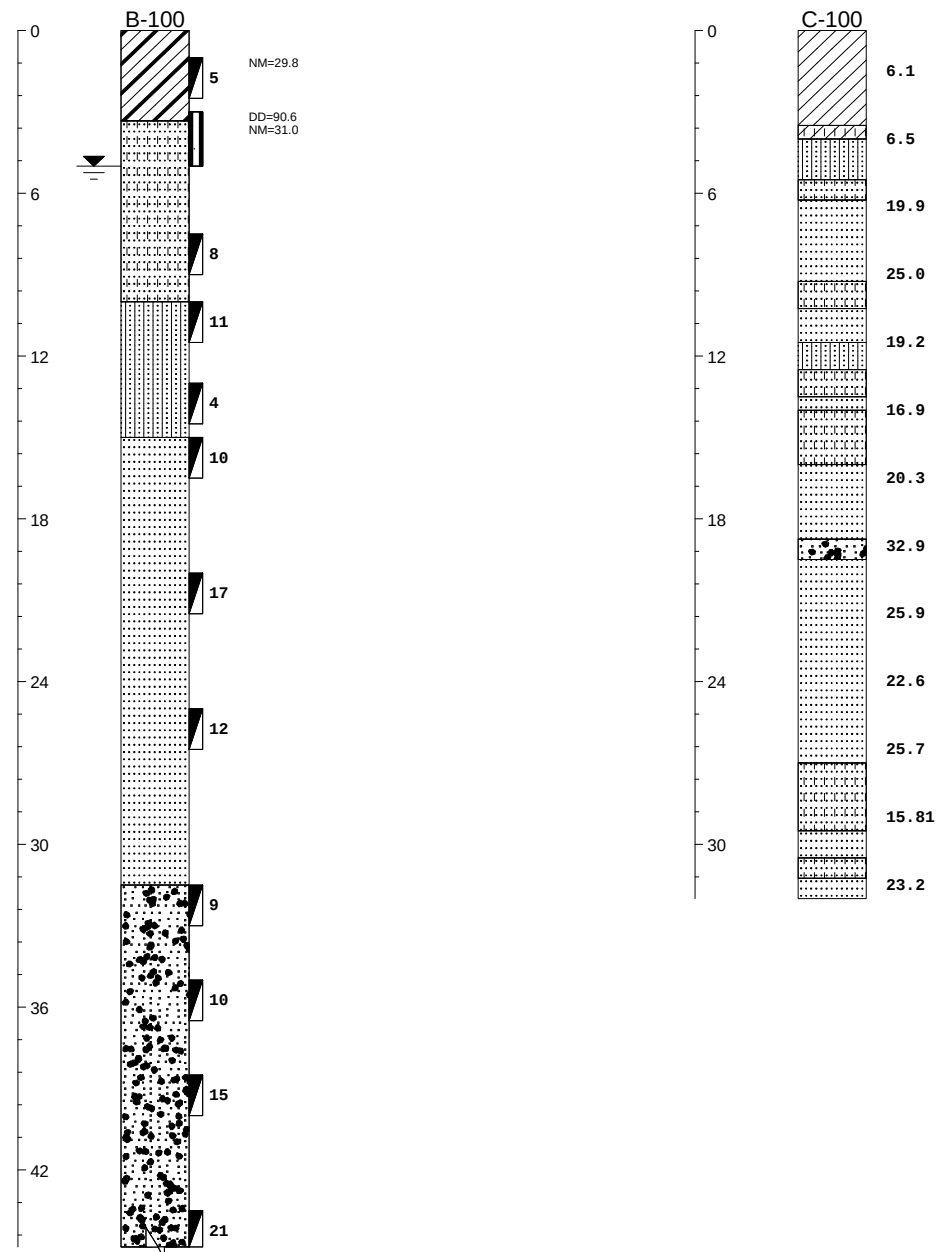
Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

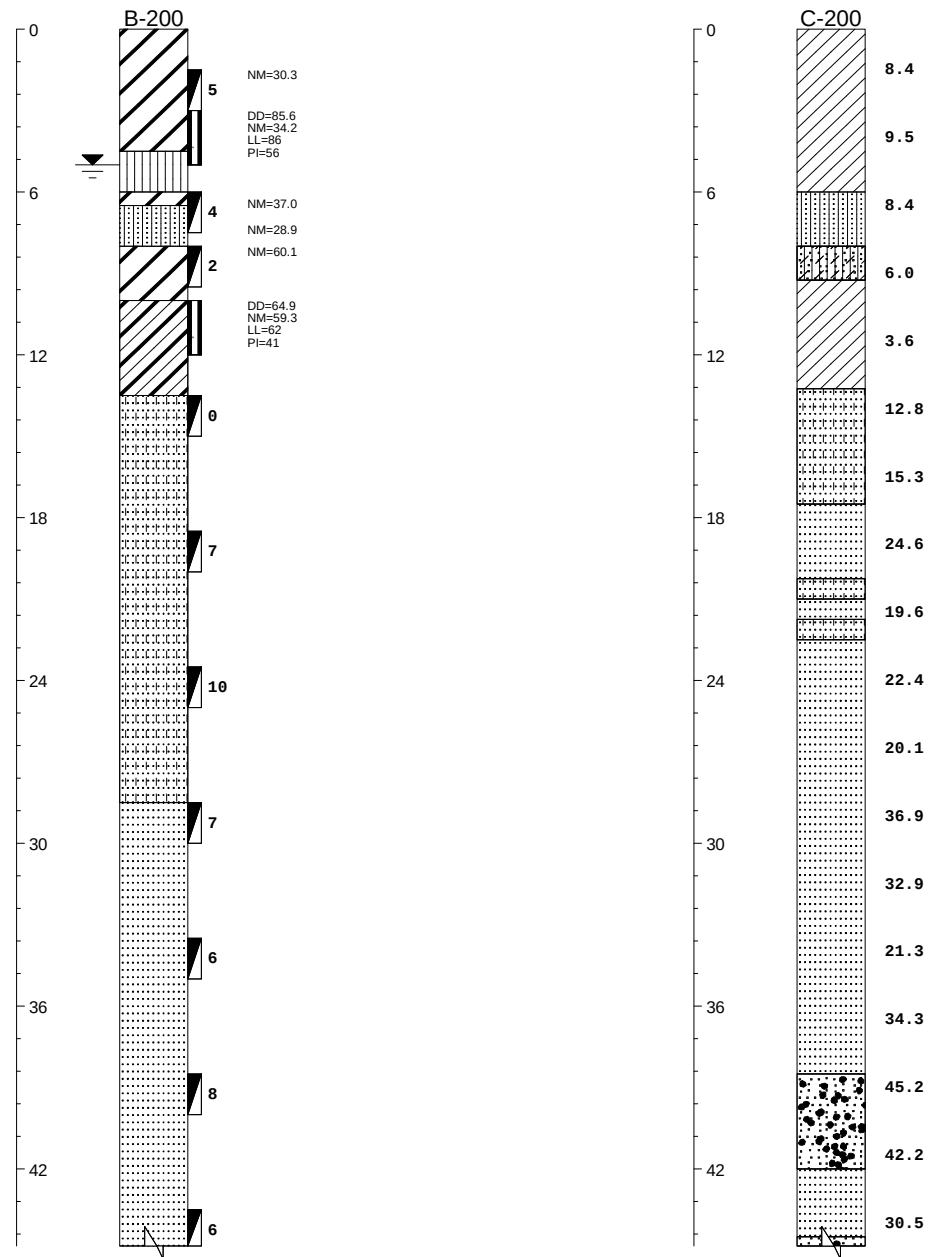
Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

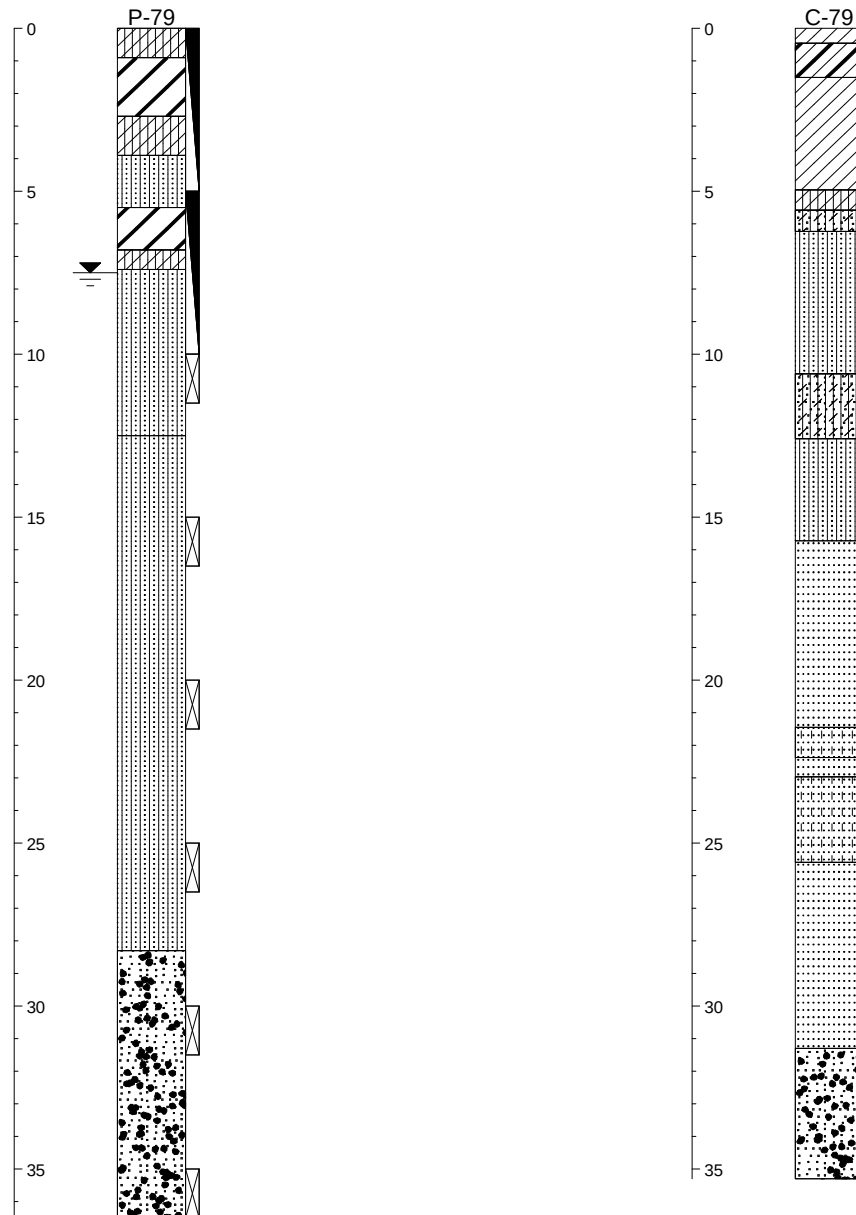
Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

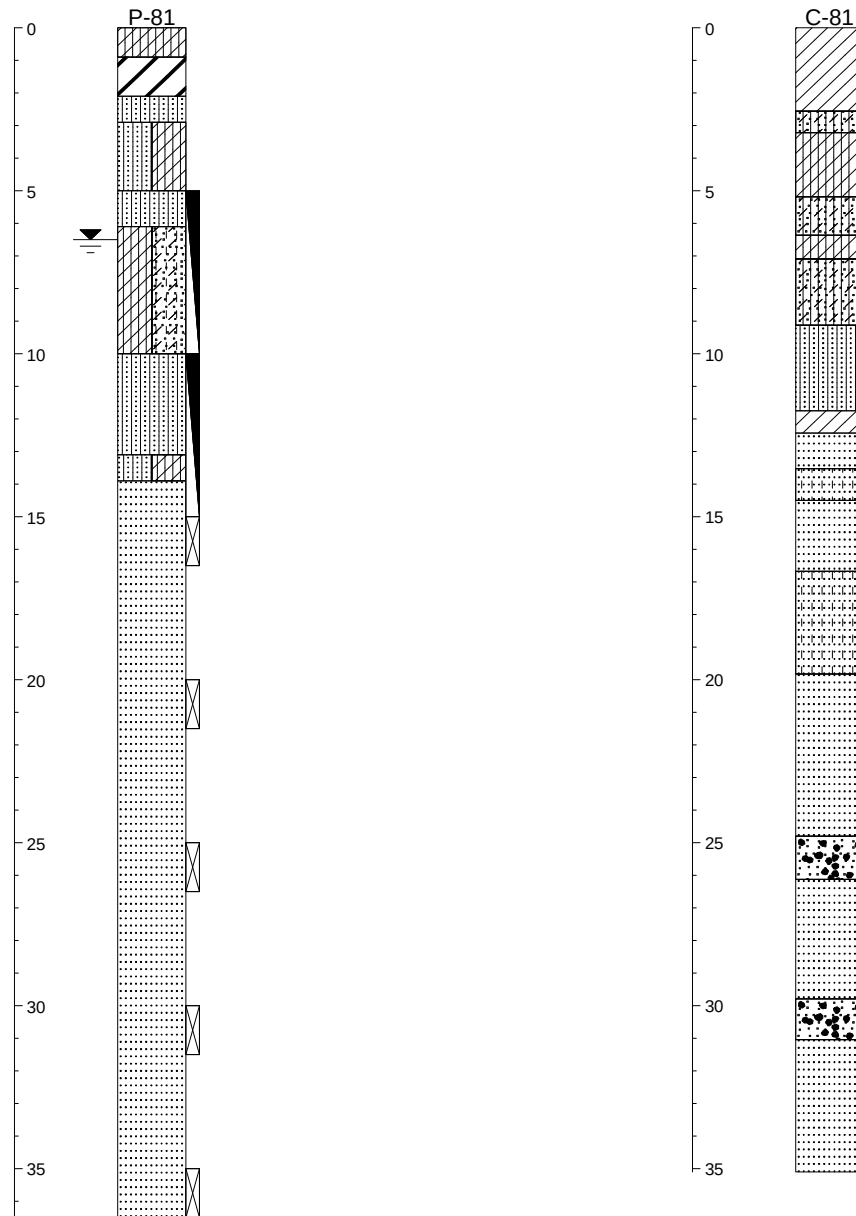
Labadie Power Plant UWL DSI



REITZ & JENS, INC.

LOG OF BORINGS

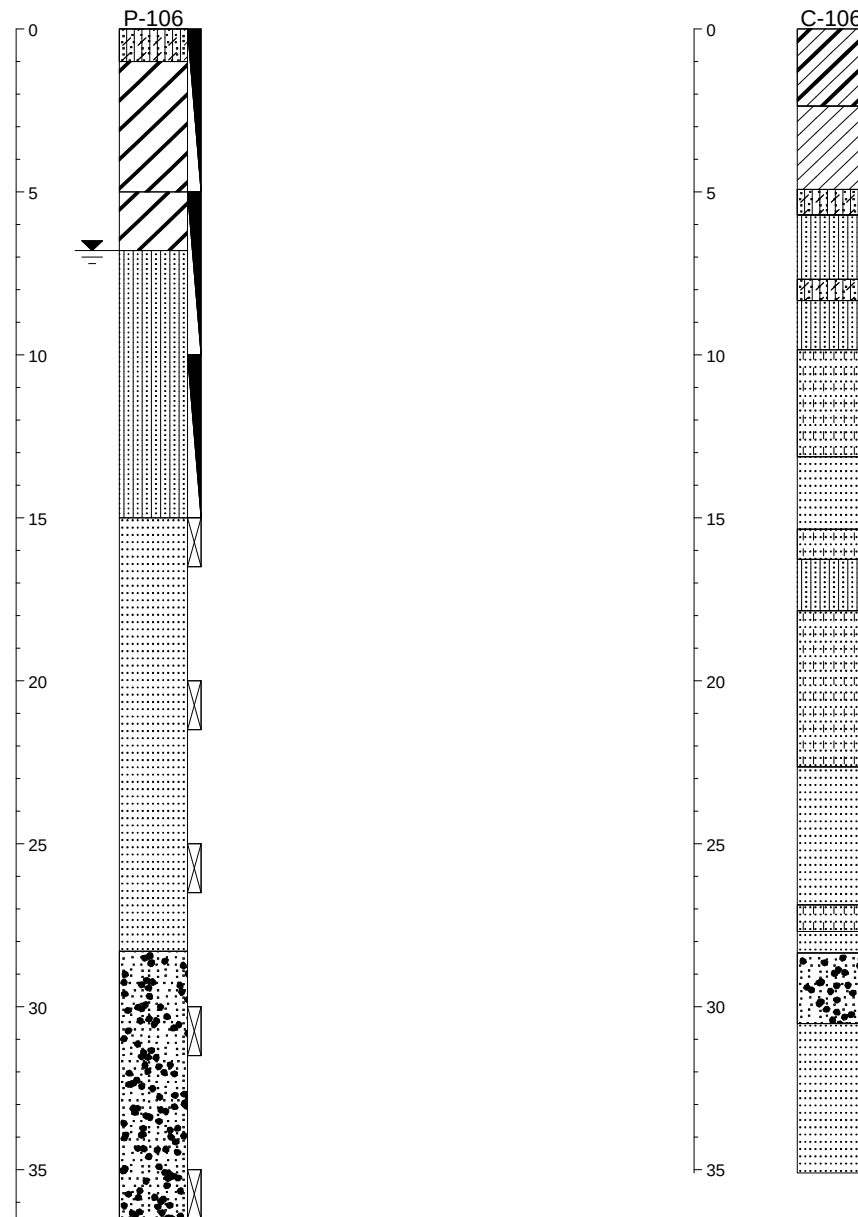
Labadie Power Plant UWL DSI



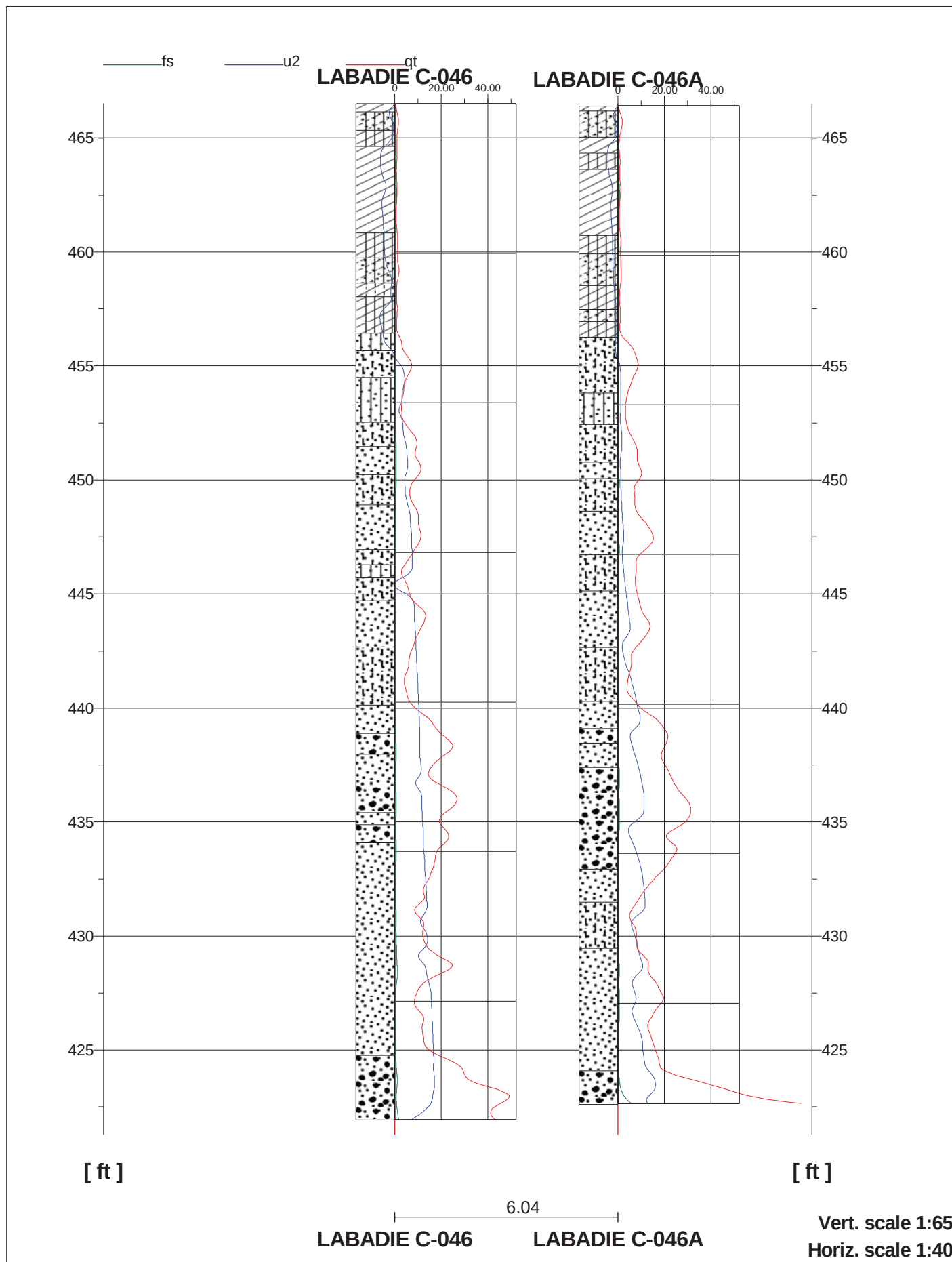
REITZ & JENS, INC.

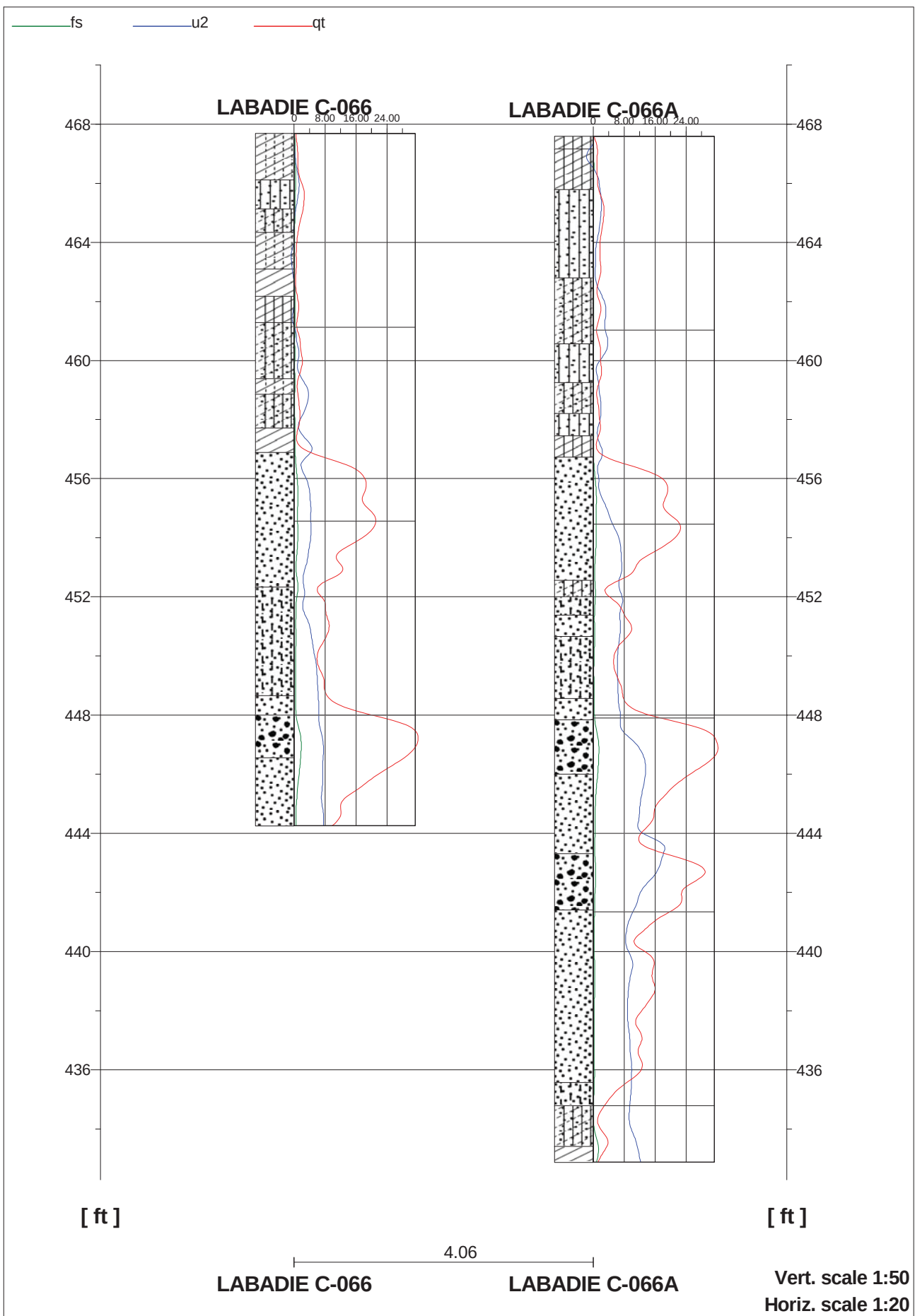
LOG OF BORINGS

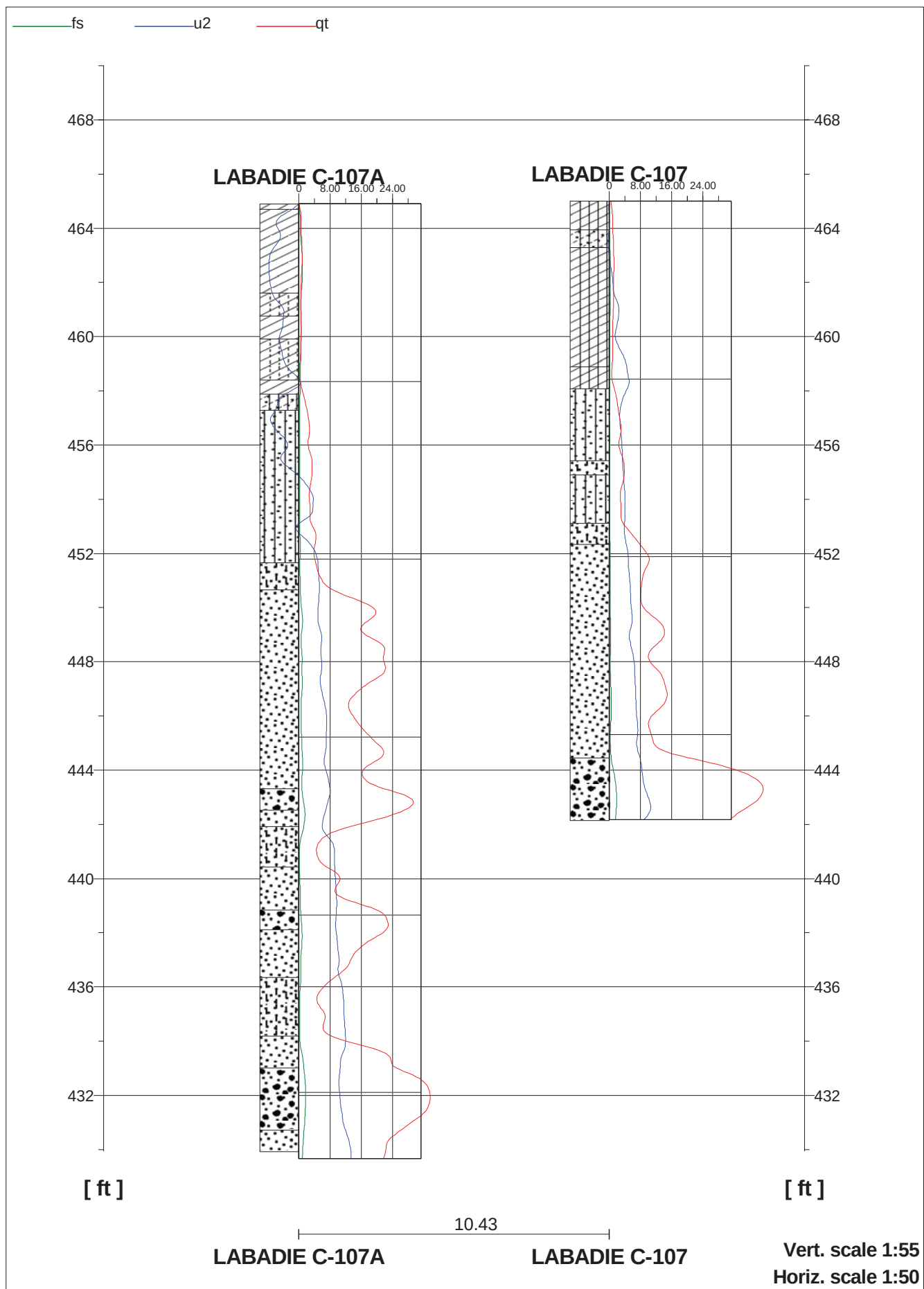
Labadie Power Plant UWL DSI

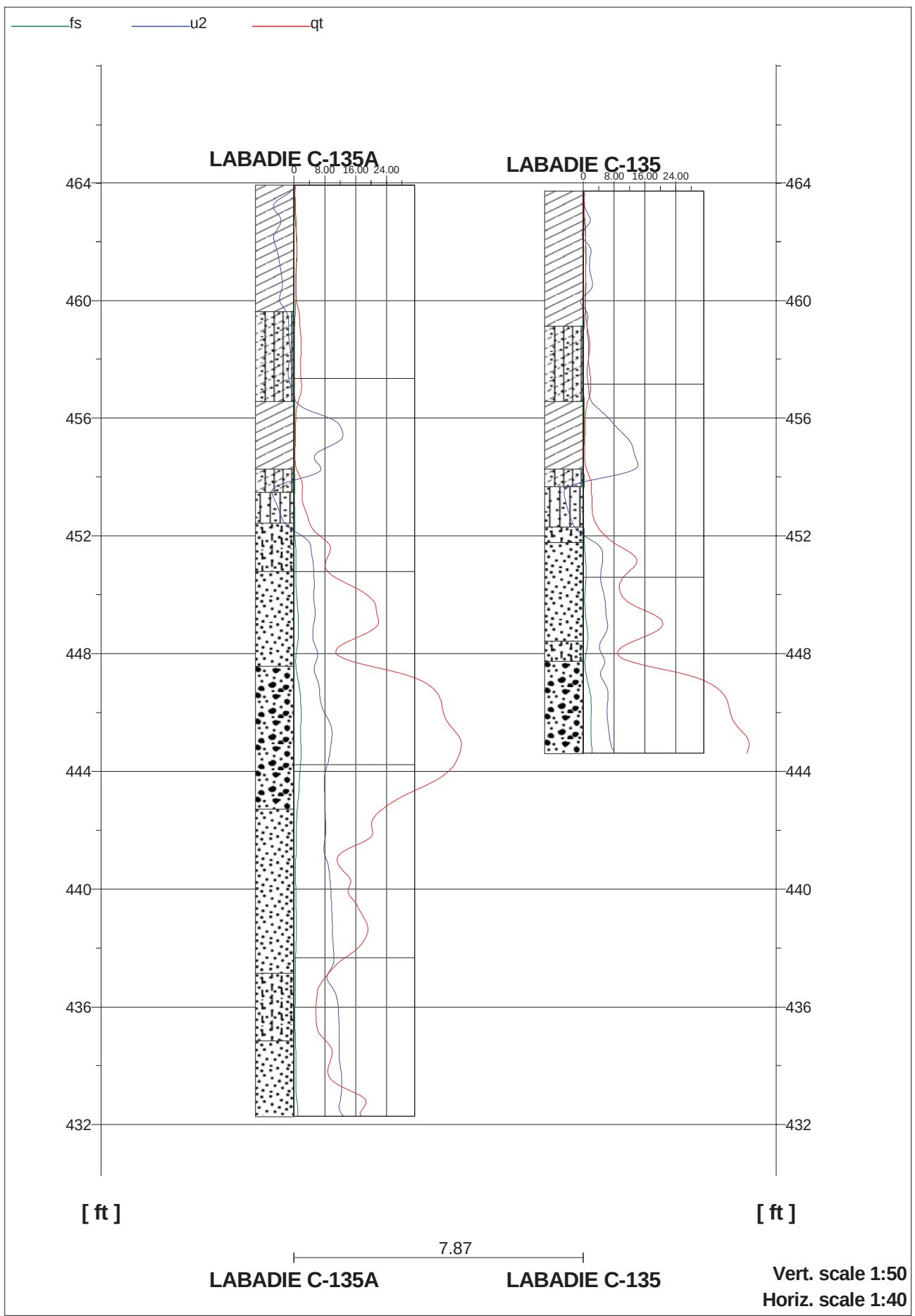


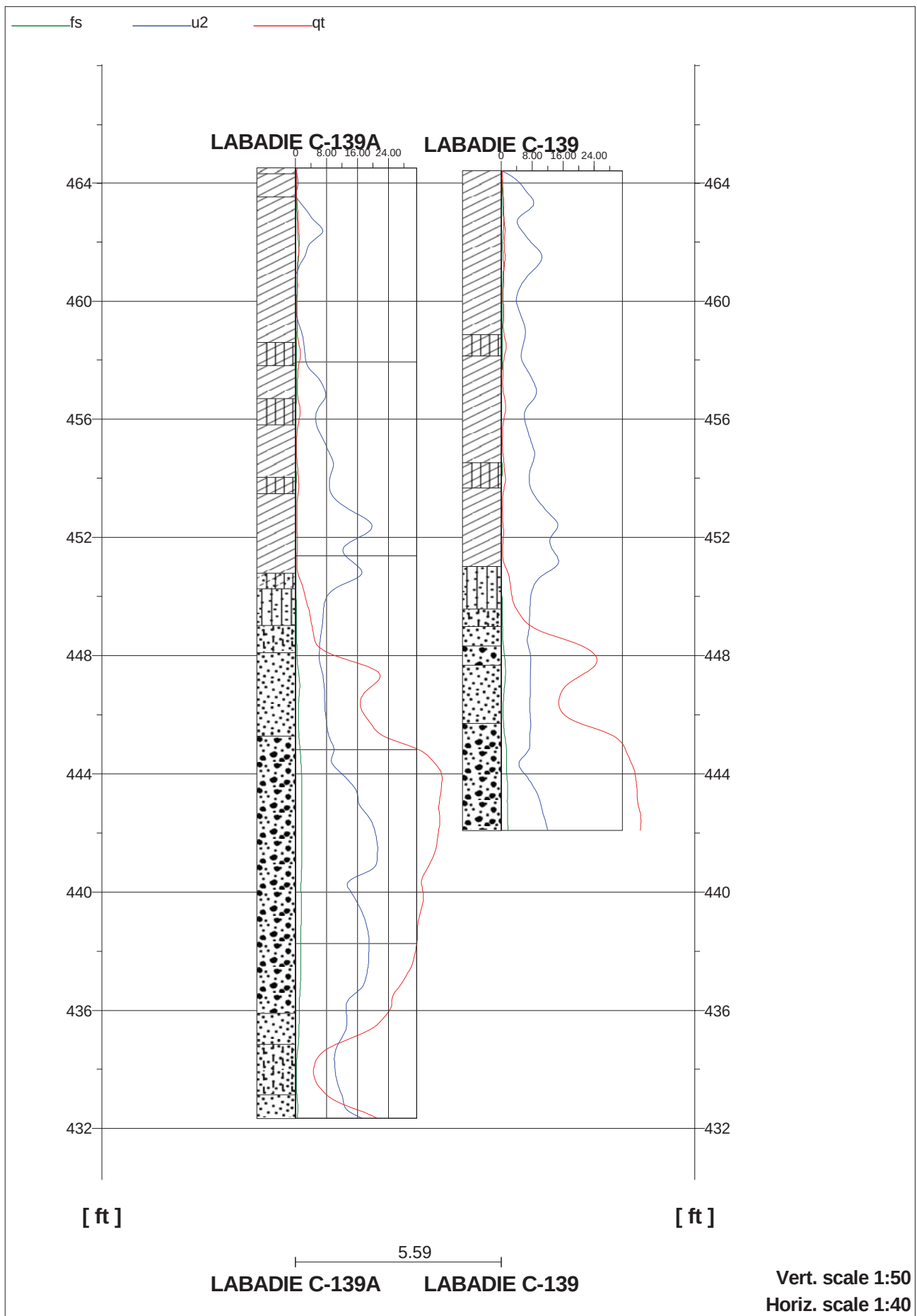
REITZ & JENS, INC.

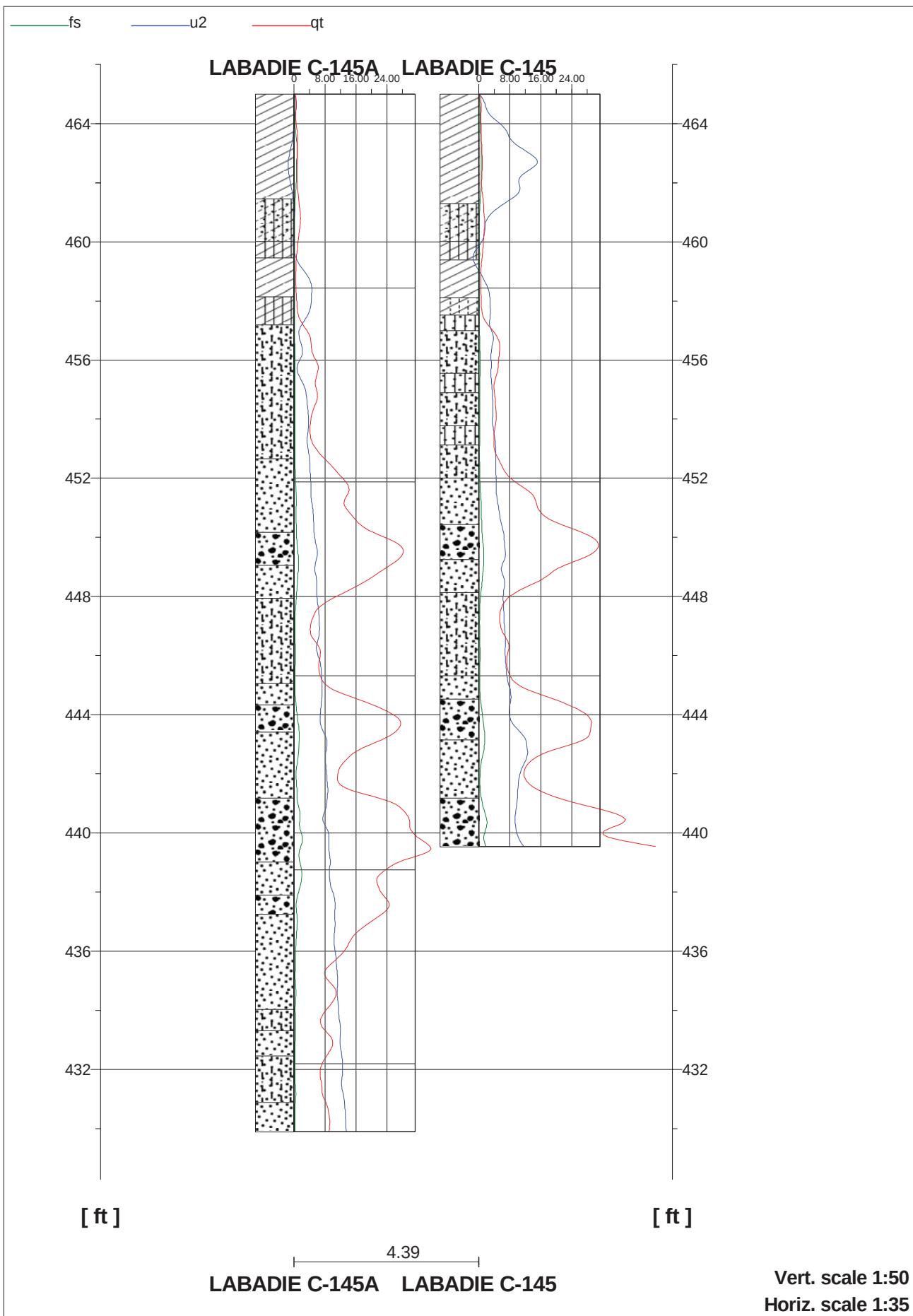


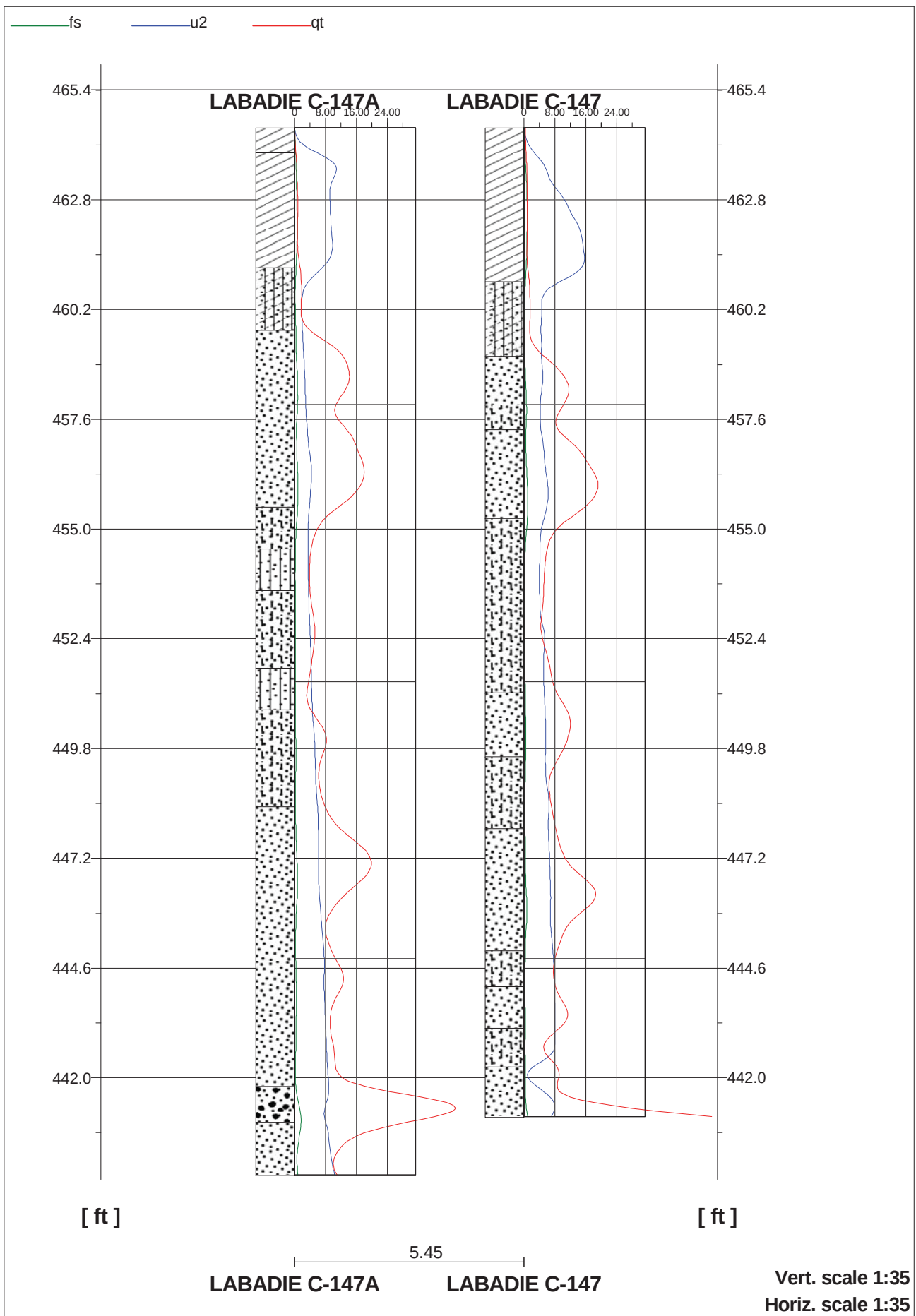


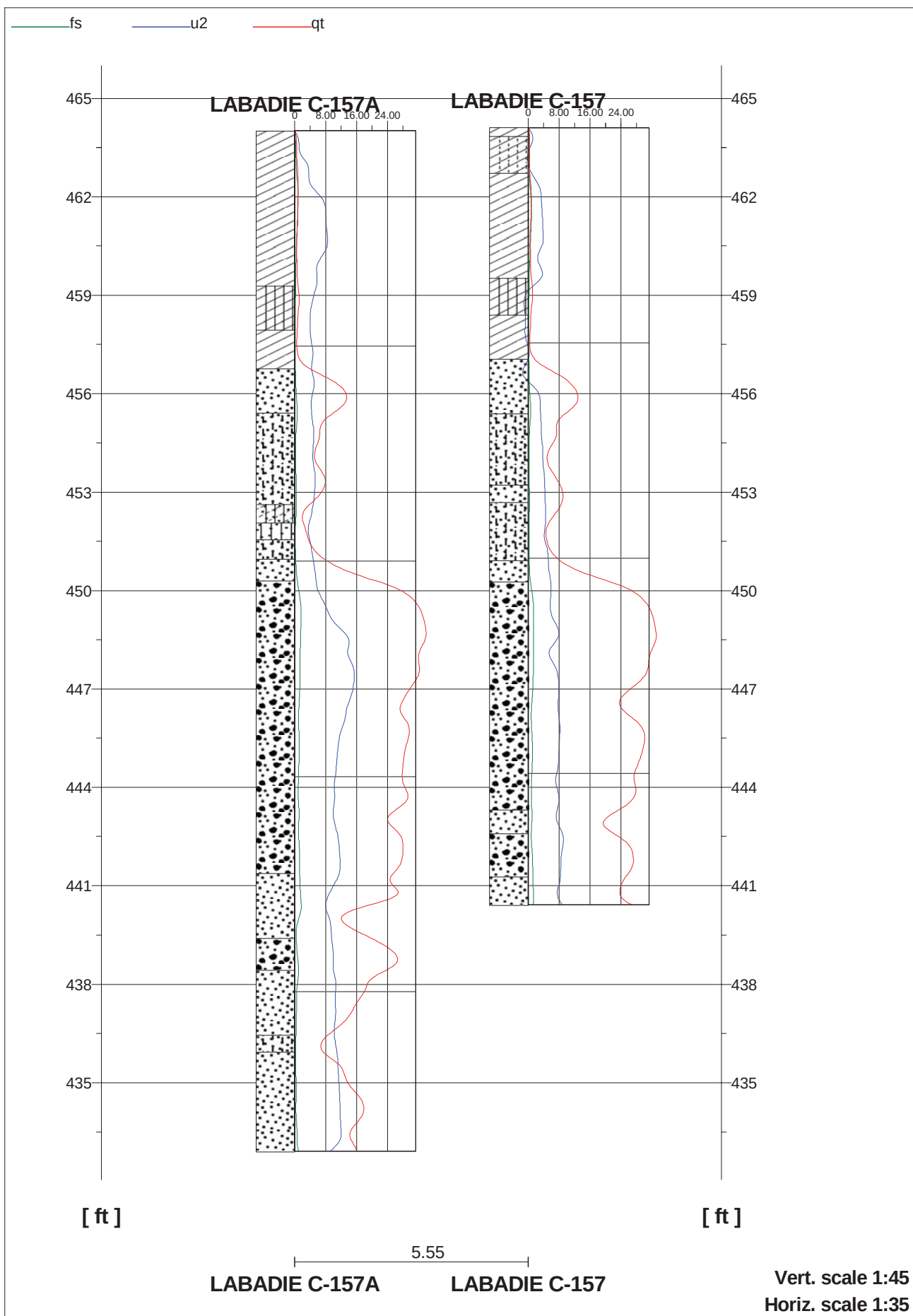


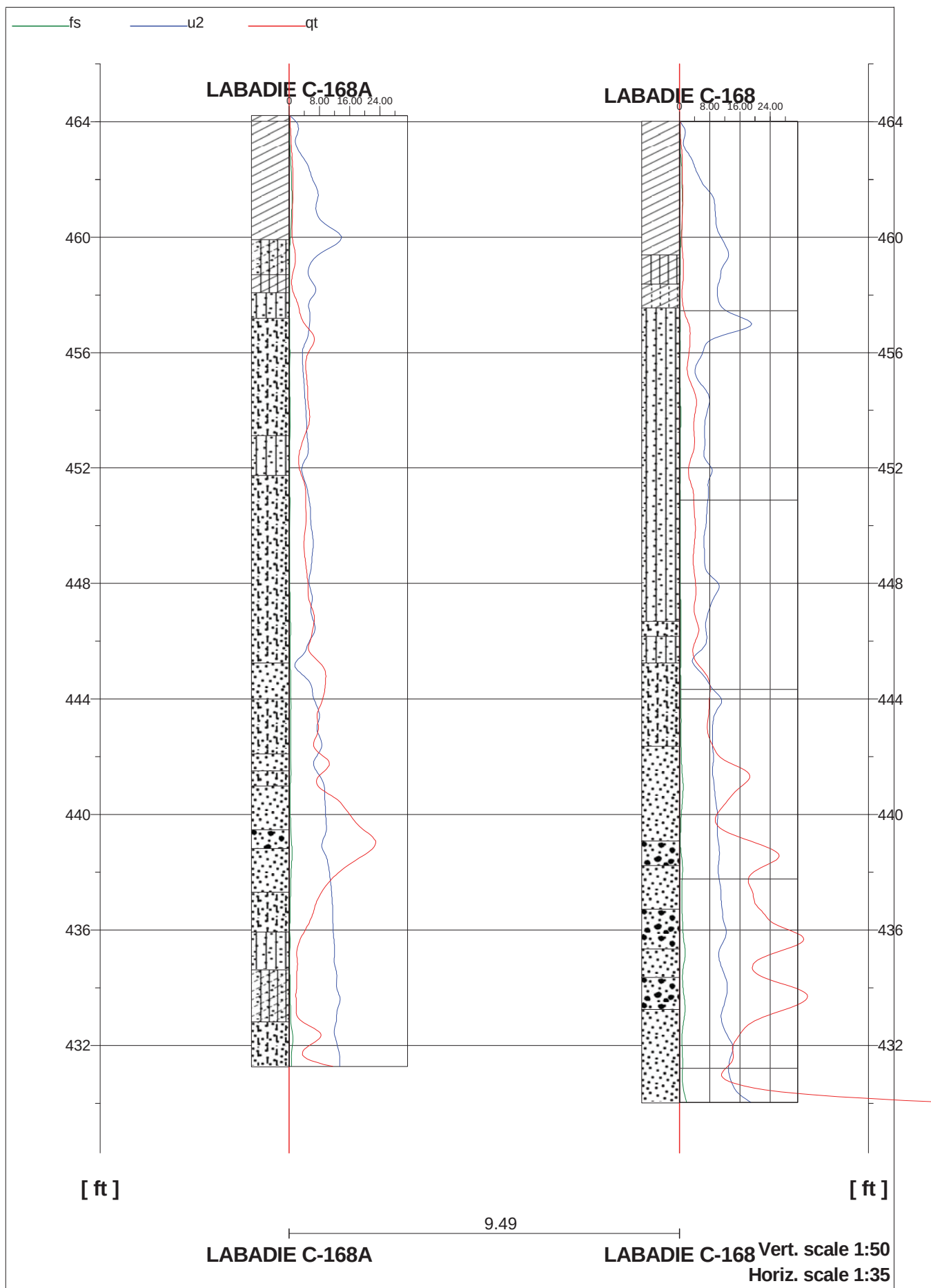


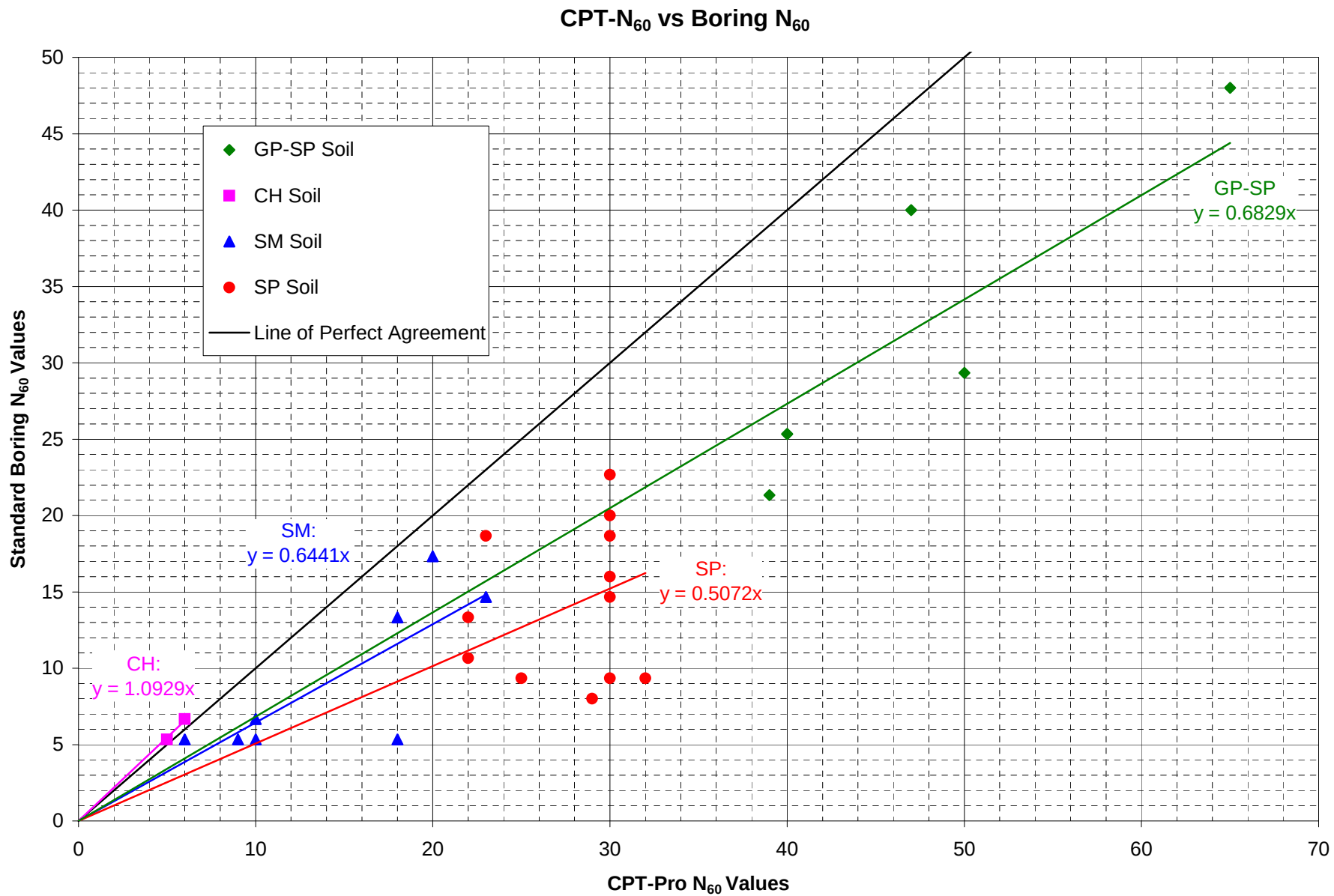










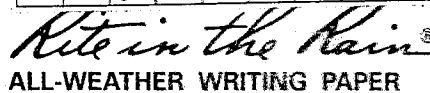


Appendix 3

Field Notes

Detailed Site Investigation
Proposed Utility Waste Disposal Area
Ameren Labadie Power Plant

Prepared by: GREDELL Engineering Resources, Inc.



Page Pattern		Cover Options	
Left Page	Right Page	Polydura Cover	Fabrioid Cover
Columnar	1/4" Grid	Item No. 550	Item No. 550F

[illegible]

Location LABADIE Date 9/14/09
Project / Client R & J DSI

ON SITE: 7:00 am
Max's Enterprises
Doug Hunziker
Ryan Hunziker
Robert Nixon
Safety Training 7:15 - 7:45
mtg w/ S. Zimar - Provide HASP,
Drug Screening + OSHA Certs.
Show drlrs source of water.
Unload rig + equipment @ 8:30
Mob to first hole @ 9:05
(P-33)

Location Labadie Date 9/14
Project / Client R+S DSI
Clear / Sunny / 70's / Dry

P-33 Rig up: 9:40 Begin: 9:42 End: 3:50
CS to 12.5'

0' - 1.4' CS, moist, ~~med~~, lt br
1.4' - 2.3' St, lam, ϕ 5 clay lam, lt gy
2.3' - 6.8' Clay, SC, cohesive, ~~st~~ w/ S
silt layers 1" - 3", ol gy, contorted
beds / scorr @ 6.0'; scorr lower contact
6.8' - 8.2' Clay, fat, to silt, lam, ol gy (wtr 8.2')
8.2' - 11.6' // Clay + St, lam, lt gy, wet
11.6' - 12.5' Sand, wet, F-gr, silty, lt gy
Rig + SS + resume @ ~~10:15~~ 10:45
John Eimer visit 10:30

15' - 16.5' ϕ 10/1 rec 17"/18" F Sand
w/ tr clay
20' - 21.5' 2/6/5 rec 10"/18" F Sand w/
tr clay lt br / med gy
25' - 26.5' 2/3/3 rec 7"/18" F Sand/
C Sand w/ lignite @ 26'
30' - 31.5' 6/8/6 rec 13"; C Sand / VC
Sand w/ gravel (2-4 mm)
35' - 36.5' suck up to ~ 33' (wash out w/ tritic)
4/2/5, rec 8" // F + VC
Sand med gy Lunch 12:45 -
1:15

Location Labadie Date 9/14
Project / Client R+S DSI

Well Construction Notes

2" Sch 40 PVC, Set base ~ 34.8'
Sand (20/40) Trench to 21.7', use 240 #
S. Sand (^{30/70}50/100) Trench to 20.5', use 50 #
Bent Grout (20-30%) to CS
use 91 g (calc 52g)
(30 g PW)
8 1/4" OD - 2" PVC = 2.6 g/ft hole
Travis here @ 1:45
D. Binz here @ 10:30

done @ 3:50

Leave Hole @ 4:05

Location Labadie Date 9/14 -15
Project / Client R+J DSI

P-35 Rigup: 4:20 Begin: 4:22 End: 10:25
CS to 11.5

0 - 1.3' Silt // CS, Lat Gy
1.3 - 3.2' Clay, 0.1 Gy, plastic
3.2 - 4.3' SC // Clay, 0.1 Gy
4.3 - 4.8' Silt, Lat Gy
4.8 - 6.2' Clay, 0.1 Gy, firm, plastic
8.2' - 10.2' // St + Clay, wtr @ 8.5'
NR 6-8' ? + NR 11.5 - 15.0'
10.2 - 11.5' VF Sand w/ clay, wet
Break down rods
Done for day @ 4:50
Leave site @ 5:05

9/15/09

Resume @ 7:15 w/ SS w/ clay low
15' - 16.5' 0/0/1 rec 9" F Sand, 0.1 Gy
20' - 21.5' 2/3/1 rec 12" F Sand / M-C Sand
25' - 26.5' 2/3/2 rec 18" Med gy w/ clay low
Fine Sand / Coarse sand w/ gr
30' - 31.5' (suck up - 3') wash out +
resume @ 8:09
2/2/4 rec 15" M sand / VC Sand
w/ Gravel
35' - 36.5' 3/2/4 rec 10" M-C Sand

Location Labadie Date 9/15
Project / Client R+J DSI
9/15 - Cloudy, spotty rain, 70's, dry

Wash out well to seat auger catcher,
difficulty in keeping interior of auger
sand free, suck up persists w/ removing rods
drop PVC, suck up ~ 7', wash out to ~ 35'

Well Construction Notes

* 2" Sch 40 PVC, Set base ~ 33.0'
P. Sand to 20.6', use 250 #
S. Sand to 19.3', use 50 #
Best Slurry, use 52 g (calc r = 49 g)
PW = 50 g
Natural Sand - 1' at base
could not wash down to 35' due to constant
flaming sand

Leave Hole @ 10:35

Location Labadie Date 9/15
 Project / Client R+J DSI

P-29 Begin 10:56 End 2:15

CS to 13.6' (N/SS)

0' - 0.9' CS, med bn

0.9' - 1.3' Silt, lt bn, x lam

1.3' - 3.6 Clay, clay, plastic
 Shelby Tube 2' - 4'

3.6 - 5.9 SC, clay

5.9 - 10.2 11st + Clay, lam, med 6.9'

10.2 - ~~13.0~~ 13.0' CH (fat clay "blue"
 gumbo) w/ iron nodules ★

13.0' - 13.6' 1/1 VF / st / Clay, med bn

13.6' - 15.0' N/R

Dave H here @ 11:30

Lunch 11:30 - 12:00

Resume N/SS @ 12:20

15.0 - 16.5' (0/0/0) (WOT) Rec 6" "Blue"
 Clay w/ Tr VF Sand

20.0 - 21.5' 2/4/4 Rec 18" Clay to 20.6'
 F Sand below

25.0 - 26.5' 2/2/2 Rec 18" M Sand / C Sand
 w/ clay seam at base

30.0 - 31.5' 7/5/5 Rec 18" M Sand / C Sand
 w/ gravel, Tr clay at contact

35.0 - 36.5' 9/4/5 Rec 16" C-VC Sand
 1:15 w/ small gravel 104R 5/1

Location Labadie Date 9/15
 Project / Client R+J DSI

Wash out WSA's for sand & ensure base
 at 35', sand sock up to ~30' when returning
 catcher

Well Constr. Notes

~~CS to 13.6'~~

2" Sch 40 PVC, set base ~ 35.0'

P. Sand to 22.3', use 225 lb

S. Sand to 20.8', use 50 lb.

Best Slurry to GS, use 45 g
 (Calc vol = 53 g)

PW = 35 g

clean up / leave
 hole @ 2:45

at 2:00 Travis rides w/ mo Gas to verify the
 location of pipeline & Rick

2"

Location Labadie DSI Date 9/15
 Project / Client R+J

P-36 Begin: 3:11 End: 5:00

CS to 11'

0'-1.0' CS/Silt

1.0'-1.6' Clay, llk bn, firm plastiz

1.6'-2.6' SC, dk bn

2.6'-6.6' Silt // CS, lam yw bn

6.6'-107 (NR 7.2-10') lam wet clay + silt
 Wtr 6.6'

10-15 Push, recover 1' VF/F Sand, dry

SS

all w/ to 1
 clay

15'-16.5' - 4/7/11 Rec 18" Fine Sand, wet

20'-21.5' - 1/0/0 Rec 7" Fine Sand, wet

25'-26.5' - 5/4/6 Rec 11" Fine Sand, wet

30'-31.5' - 13/8/5 Rec 7" Fine Sand, wet

35'-36.5' - 0/2/5 Rec 13" F/M Sand,

base 3" ga gy F sand w/ clay

Poss. Clay/VF Sand at base !!

25.0
 3.4

Location Labadie DSI Date 9/15
 Project / Client R+J

Well Const. Notes

2" Sch 40 PVC, set base ~ 35.3'

P. Sand (20/40) to 22.0', use 100 lb

S. Sand to 20.0', use 50 lb

Best Slurry to GS, use 66 g

Calc vol ~ 51 g

PW = 30 g

* Lots of sand collapse while sanding
 + extracting augers.

Clean up / leave hole @ 5:30

leave site 5:50

Location Labadie DSI Date 9/16Project / Client R+J

On Site 7:15; Clear, 70's, day

P-24 Begin c 7:25 End 10:20

CS to 11.1

0' - 1.3' CS/Silt (TS) wind blown

1.3' - 2.3' Clay, plastic, dk lgn

2.3' - 3.1' Silt w/CS, lgt bn, friable, Ø

3.1' - 4.2' CS/Silt, m bn, moist, lam

4.2' - 54' Lam Silt/Clay, X lam, d gy

50' - 100' Recover 1.3' (As Above)

10.0' - 15.0' Recover 0.8' (0.3' As Above)

0.5' VF Sand/Fine Sand

wtr ~ 13.0'

SS

15' - 16.5' 3/9/16 Recover 18" F Sand, tr clay Ø

20' - 21.5' 2/5/5 Rec 11"; F Sand, lam tr clay Ø

25' - 26.5' 1/0/1 Rec 7"; As Above

30' - 31.5' 6/3/1 Rec 8"; F Sand w/MSand Ø

35' - 36.5' 12/3/5 Rec 18" F Sand / M Sand

Ø, w/ C-VC (Spars) Sand

No color change at
base abn P-36!Location Labadie DSI Date 9/16Project / Client R+J

Visitors: D. Binz 8:45 - 2:45

Drop Expansion Drum to seat keeper @ TD
Flush hole & retract, sand @ 30', wash
down to 35'

Well Cont Notes

2" Sch 40 PVC, Set base ~ 35.0'

P. Sand to 22.0', use 225 lb

S. Sand to 20.8', use 50 lb

Bent Slurry to CS, use 49 g

(Calc Vol = 53 g)

PW ~ 35g

Go to mtg 10:00 - 10:50 w/ JE
& DBDrills break down & move to
next hole 10:20

10:35 Chris Vierlether, MONE, onsite.

25
3.8

Location Labadie DSI Date 9/16Project / Client R + J

Visitors - Chris V (DSLS) 10:45 - 5:30

P-17 Begin: 11:00 End: 1:15

CS to 11.8'

0' - 0.9' CS/Silt (TS)

0.9' - 1.8' St/VF Clay Lam, lt/med Bn

1.8' - 3.1' SC dk bn, plastic

3.1' - 4.6' St/SC lam

4.6' - VF/F Sand, lt bn

5-10' Recover 1.5' VF Sand, wet
at base (8.5' - 10.0')10-15' Recover 1.8' F Sand, Ø, lt gy
dry (10-11.8')

SS

15-16.5' 0/6/13 Rec 14" Fine Sand, wet
Ø w/ tr clay20-21.5' 4/7/12 Rec 14" VF/F Sand /
Lam Silty VF Sand @ 21'

25'-26.5' 1/0/2 Rec 10" F Sand, tr clay

30-31.5' 13/5/4 Rec 18"+ F Sand w/ Tr
C sand at base35'-36.5' 19/8/6 Rec 18"+ F Sand, bn
Firm / DenseLocation Labadie DSI Date 9/16Project / Client R + J

Well Casing Notes

2" Sch 40 PVC, set base ~ 35.0'

P. Sand to 22.4', use 225 lbs

S. Sand to 20.9', use 50 lbs

But Slurry to GS, use 45 g
(Calc Vol = 53 g)

P.W. = 30 g

Man to next hole @ 1:20

9 1/2"

Labadie DSI

9/16

R+J

P-12	Begin: 1:40	End: 4:15
CS to 8.9'		
0'-0.8'	CS/Silt (TS)	
0.8'-1.3'	Clay, brown, high plasticity, trace roots damp	
1.3'-2.3'	Clayey silt, light brown, damp	
2.3'-3.5'	same as previous w/ clay laminate	
3.5'-4.8'	Fine sand w/ traces silt and clay, tan, grading moist	
4.8'-5.0'	Silty clay, brown, damp, plastic,	
5-10'	Recover 2.7' (5.0-7.7')	
5.0-5.9	SC, dk bn	
5.9-6.7	Clay dk bn	
6.7-7.7'	1/2 Clay / NF sand, lean, lt bn	
10-15'	Recover 1' F Sand, dry SS	
15'-16.5'	1 1/2" nec 13", F-M Sand, clean, Ø, lat bn	
20-21.5'	6/4" nec 12", F-M Sand	
25-26.5'	1 1/2" nec 6" M. Sand / sty F Sand / gn gy w/ clay?	
30-31.5'	5/4" nec 11" M Sand, gn gy w/ clay balls	
35-36.5'	12/12/8 nec 18" C Sand / VC Gravelly Sand	

Labadie DSI

9/16

R+J

Set keeper, flood hole, remove expander +
 box well at 34' (didn't add wtr,
 ~ 8' sucker, - wash out)

Well Const Notes

2" Sch 40 PVC, set box ~ 33.8'

P. Sand to 21.0', use 200 lbs

S. Sand to 19.5', use 45 lbs

But Slurry to GS, use 46 g

(Calc Vol = 50 g)

PW = 25 g

Natural Sand 31' - 33.8'!

clean up / leave hole @ 4:30

9/12/8

4"

Location Labadie DSE Date 9/16-9/17
 Project / Client R+J

P.15 Begin: 4:40 End: 9/17 8:50

CS to 5.9 (10?)

0'-1.5' F Sand, 1st bn

1.5'-1.8' VF // Silt, Lam

1.8'-3.4' CS, thin bed, olgy

3.4'-4.2' Clay, dk bn, firm, plastic

4.2'- SC, med bn,

5-10' Reamer 0.9 as above, none

// Silt, Clay, VF Sand

SS

10-11.5' 2/2/2 rec 18" wet 10.5'; // St +

VF Sand w/ clay lams

15-16.5' 1/0/4 rec 8" F Sand w/ clay seams

Leach hole 5:20 / Leave Site 5:30

~~20-21.5'~~ K Resume at 7:30 9/17 **

20-21.5' 1/0/1 rec 8" VF Sty Sand w/ clay
lams, olgy

25-26.5' 3/3/1 rec 11" F Sand / M Sand w/ clay
balls, olgy

30-31.5' 5/5/4 rec 11" M Sand, MS, w/
Tr gravel

35-36.5' 19/12/5 rec 18" M Sand, Ø
clean

Location Labadie DSE Date 9/17
 Project / Client R+J DGLS
 On Site 7:00 Visitors Chris V. 8:30

Well Const. Notes

Sch 40 2" PVC, set back ~ 35.0'

P. Sand (20/40) to 22.3', use 150 lb

S. Sand to 20.8', use 50 lb

But Slurry Grout to GS, use ~~30~~ 53,

(Calc Vol = 53 g)

PW = 30g

Sand collapse back augers not
permitting p sand to drop out
from interior

Clean up / Leave hole 9:00

$$10 \frac{1}{2} \text{ cu } \frac{25}{4.2} = 20$$

Location Labadie DSI Date 9/17
 Project / Client R+S

P-20 Begin 9:30 End 11:30

CS to 10

0-5' (Recover 2.8')

0-1.5' Silt/CS

1.0-2.0' VF/F Sand, lgt bn, dry

2.0-2.8' CS w/ VF Sand

(2.8-5.0' NR)

5-10' (Recover 0.9')

5-5.9' //VF Sand/Silt/Clay, nipek lam -
 vthin bdd

~~10-11.5' 0/1/2 rec 9.9' VF Sand/Silt~~
~~etc. with thin bdd~~

~~15-16.5' 0/1/1 rec 18"~~

10-11.5' 0/1/2 SC, Silt/Clay, moist

15-16.5' 0/0/1 rec 10" SC / VF/F Sand 16.2'
 wet!

20-21.5' 0/0/1 rec 12" CS / VF-F Sand

25-26.5' 0/2/2 rec 0" No Sample
 Assume UF Sand

30-31.5' 11/8/6 rec 18" VF/F Sand, clean, dry

35-36.5' 12/17/16 rec 18" VF/F Sand / C Sand
 ~ 36.2'

Location Labadie DSI Date 9/17
 Project / Client R+S

Pull rods, ~ 6" Suckup

Well Canot Notes

2" Sch 40 PVC, ext base ~ 34.8'

P. Sand to 22.0', use 225 lb

S. Sand to 20.1', use 50 lb

Best Slurry to GS, use 63 g

(Calc Vol = 51g) 3" 12" F

PW = 25 g

Leave hole 11:45

Lunch 11:30 - 12:00

12
 17
 16

Location Labadie DSI Date 9/17Project / Client R+S

Visitor - Dan Banz 11:30 - 4:45

P-27 Begin: 12:20 End: 2:25

CS to 6.4'

0'-0.6' Silt (TS)

0.6'-1.0' VF Sand

1.0'-2.0' Silt/VF Sand, Lam

2.0'-3.7' Clay/SC w/ 1"-2" seams
silt + VF Sand, dk bn

3.7'-6.4' As Above

NR 6.4 - 10.0'

10-11.5' 3/3/4 Rec 17" VF Sand, x lam

15-16.5' WOH (0/0/0) Rec 5" VF Sand w/
clay balls20-21.5' 0/1/4 Rec 11" VF/F Sand w/ clay
layer 20.7'25-26.5' 4/1/1 Rec 12" F Sand w/ clay
balls, lignite at base (C Sand?)

30-31.5' 9/5/4 Rec 18"+ F Sand, Ø

35-36.5' 18/9/6 Rec 18"+ F Sand, Ø
gy gr at baseLocation Labadie DSI Date 9/17Project / Client R+S

John Eimer - 12:45 - 1:00

Pvll Center rods, ~ 2' sand suck up

Well Const Notes

2" Sch 40 PVC, set base 35.2'P. Sand to 24.9', use 340 lbsS. Sand to 20.3', use 50 lbsBent Elong to GS, use 42 g

(Calc Vol = 50 g)

PW = 40 g

clean up / leave hole
e* VC Sand noted on lead auger -
not noted from split spoon

12"

Location Labadie DSI Date 9/17/09
 Project / Client R+S

Shawn

P-43 Begin: 3:05 End: 5:20

CS to 7.2'

0'-5' (Recover 2.8')

0-1' Silt, bn

1'-1.3' VF Sand, dry, 1st bn

1.3'-2.8' SC/CS w/ clay layers
 dk bn

5'-10' (Recover 2.2')

5'-7' CS/Clay

7-7.2' VF Sand

SS

10-11.5' 1/1/3 rec 13" ; silt; bn/stal
 gray; wet

15-16.5' WON rec 8" clay w/ gray F-M Sand
 find w/ clay inside (?)

20-21.5' 1/4/7 rec 18" F-M Sand, steel gy
 w/ clay balls & m bn clay seams
 0.3" thick

25-26.5' 4/2/2 rec 18" A> Above Clay
 // F-M "Blue" Sand, Clay Plastic
 (brown? cut-bank??)

30-31.5' 4/4/2 rec 16", M Sand / C-VC
 Sand w/ S gravel

Location Labadie DSI Date 9/17
 Project / Client R+S

35-36.5' 5/3/3 rec 18" C-VC

Sand, steel gy w/ tr gravel

Pull rods to set CS; suck up ~ 2'
 can't wash down to TD

Well Const Notes

2" Sch 40 PVC, set base ~ 34.8'

P. Sand to 21.8', use 200 lbs

S. Sand to 20.1', use 50 lbs

Bur. Slurry to GS, use 35 g
 (Calc Vol = 51 g)

PW = 35 g

Top off Wells

5:30 - 6:30

P-33 29 g

P-17 15 g

P-35 19 g

P-12 20 g

P-29 20 g

P-15 12 g

P-36 20 g

P-20 12 g

P-24 18 g

P-27 10 g

n. 36003

2'

Cleanup/lean stc @ 6:45

Location Labadie DSI Date 9/18
 Project / Client R+S

On Site: 7:00 Clear, dry, 70's

P-45 Begin: 7:35 End: 10:10

CS to 9.4'

0' - 1.2' Silty/VF Sand, x lam, lat bn

1.2' - 6.0' Clay/SC + CS, plastic, CH
 toward base, dk bn

6.0' - 9.4' As Above, more clay, lam
 wet ~ 9'

SS

10 - 11.5' 1/2/5 rec 14" VF Sty Sand, m bn
 wet, lam

15 - 16.5' 0/0/3 rec 11" Clay/CS (slough?) /
 VF Sand, sty, as above

20 - 21.5' 2/4/3 rec 12" VF Sty Sand /
 F gy sand @ 21'

25 - 26.5' 3/5/8 rec 14" F Sand, Ø
 lat gy

30 - 31.5' 4/5/7 rec 18" + F Sand /
 F Sand/Clay, med bn

35 - 36.5' 4/4/4 rec 18" + F-M Sand /
 F Sand/Clay > 36', C-VC

Sand at base

8:45

Location Labadie DSI Date 9/18
 Project / Client R+S

Visitors: JoAnn Thue 10:15 - 11:30

Expander snagged 5' bgs on HSA,
 lift 5' to inspect, bad balk, re-water
 to 35' + clean out ID HSA + set riser

Well Const Notes:

2" Sch 40 PVC, set base to 34.8'

P. Sand to 21.5', vx 1.75 lb

S. Sand to 19.6', vx 50 lb

Bent Slump to 65, vx 60 g

(Calc Vol = 50 g)

PW = 40 g

Shelby Tube 3'-5' (10' offset W)
 (#2) (see P-29 9/15)

clean up / leave hole @ 10:25

13 1/2"

Location Labadre DSI Date 9/18Project / Client R+JDon Bink 12:15

P-47 Begin: 10:30 End: 1:15

CS to 7.7'

0' - 1.3' Silt, lt bn

1.3' - 2.2' SC, ol gy

2.2' - 4.2' Clay, lean, stiff, dk bn

4.2' - 5.0' Silt w/ VF Sand, lt bn

5.0' - 5.9' Clay / SC dk bn

5.9' - 7.2' lean st, wet 6.5'

7.2' - 7.7' VF Sand, lt bn, dry

SS

10' - 11.5' 2/2/1 rec 11" VF sty Sand w/

clay layers

15' - 16.5' 0/1/7 rec 10" CS-silt / VF gy

sand, Ø

20' - 21.5' 3/3/3 rec 13" VF sty Sand /

C sand w/ gravel @ 21' (sharp contact)

25' - 26.5' 5/8/16 rec 11" F-C Sand

30' - 31.5' 5/5/7 rec 12" C Sand w/

gravel

35' - 36.5' 5/1/2 rec 7" C Sand w/ VF

Sand at base

Location Labadre DSI Date 9/18Project / Client R+JP-47 - set expander, remove rods,
4' sand suck up, wash down + set riser

Well Casing Notes

2" Sch 40 PVC, set base ~ 34.9'P. Sand to 21.8', vx 200 lbsS. Sand to 20.4', vx 50 lbsBest Slurry to CS, vx 56 g
(Calc Vol = 52 g)

PW = 50 g

3 1/2"

Delve to install 9/13 Prot Cfg set
in concrete. Have TD over after

Rep SS

Grout

Monday

Invert

CS Blunt

Me leave site @ 1:45

Location Labadie Date 9/30Project / Client R+S DSIClear, dry, 50's

visitors - Chris V (DGLO) leave @ 11:15
 On site for weekly mtg w/ Annun
 (J. Eimer) & to startup 4" hole

Weekly mtg

Attending:

Jeff Fouse / John Eimer

- CPT 10/12 rub date
- Review Lake locations on map
- Provide HASP Data's
- ZZ walls in
- 10/7 next mtg
- Swine Flw

Copies of Recent drg logs w/ Jeff

- Break on SPT's! (stagger)

mtg over 11:15 am

Jeff leaves site

Location Labadie Date 9/30 31Project / Client R+S DSIVisitors - Chris V:

Back to job site @ 11:20

Finished P-155

Set up on P-130 / done 12:55

Trans notes

Trailer key / USACE map / Newmann spec

1/2 hr lunch, set up on 2nd 4"
 hole @ 1:30

P-144 Begin: 1:40 End: 4:40

sample w/ 8 1/4" HSA to 35'

trip out of hole & re-enter ✓

10 1/4" HSA w/ hand plug

@ 3:15

Est Grnt 3.5 g/LF (10 1/4" / 4")

Est Sand 46 # / LF (" ")

New Grnt Tub 15 g" (325 g capacity)

No difficulties noted w/ 4"

P-104 Begin: 5:00

use 8 1/4" SPT's down to 35'

@ 6:00 pull auger, leave hole

@

Leave Site @ 6:30

Location Labadie Date 10/1Project / Client Rx 5 DSICloudy, damp, sleet spotty rain

On Site 7:00

Load samples - Travis stake remaining
 7 PZ's on Heitzel, put temp covers
 on PZ's due to chance heavy rain,

* Delay delg due to lightning 7:30 -

Visitors -

✱

Resume P-104 @

Top off PZ's 7' apart while waiting
 on weather

P-102	12g ✓	P-116	16g ✓
P-155	10g ✓	P-118	16g ✓
P-170	16g ?	P-90	12g ✓
	16g !		

Rained out !

w/ Scott King to discuss well
 development

Leave site

@ 11:20

Location Labadie Date 10/7Project / Client Rx 5 DSISunny, 40's, wet ground conditions

On Site @ 9:00

On Site for weekly progress mtg +
 to assist Scott King w/ initial
 well development

Progress mtg Notes (10:00 - 10:45)

Attending: John Eimer, JoAnn Thee
 Jeff Pouse, Mike Carlson

To jobsite @ 11:05, on P-22
 (4" well)

Discuss 2nd rig w/ Dave H + manager
 issues in light of bad weather
 impending in order to maintain
 schedule

Chris V (DGLS) on site

Scott King performing initial WL's
 + soundings

Get Concrete for above grades

DPL doing above grades

Scott + I develop P-33 (3:00 - 3:45)

Leave Site 4:10

In TX 6:00

Labadie

10/12

R+S DSI

Muddy, PC, 40's

P-40 Burn: 7:57 End: 10:59

CS to 15'

0-5' (Reamer 4.5')

0-1.2' SC // Silt, dk bn, moist
slit plastic1.2'-2.2' SC 7/8 silt, dk bn
plastic, moist

2.2'-4.0' Clay, plastic, dk bn

4.0'-6.1' SC, dk bn // ol bn, plastic

5-10' (Reamer 4')

6.1'-6.5' CS, color as above

6.5'-6.9' Silt, lam, lat Bn

6.9'-8.8' // Silt & Clay, soft, moist
lam, ol gy - med bn8.8'-14.5' As above, distinct color change
across sharp contact to
steel gray ("gumbo" color)

10'-15' (Reamer 2.8')

14.5'-15.0' F Sand, wet, or-bn

SS 15-16.5' WOH 18", F Sand, ^{wet} 9/10 gr / Tr Clay20-21.5' 3/0/2 12", F-M Sand / C-VC
Gravelly Sand below 21'25-26.5' 2 1/4 / 6 8" M-C Sand, Tr gr
& clay

Labadie

10/12

R+S DSI

Visitors: Scott King 8:40-

Well Construction Notes

2" Sch 40 PVC, set base ~ 34.8'

P Sand to 20.5', vx 150 lb Natural

S Sand to 18.8', vx 30 lb

Best Shown to GS, vx 49 g

Calc Vol = 48 g

PW = 38 g

Clean Up 11:00 - 11:10

Scott developing P-38

Clb Cut Arrives ~ 10:30 (No lighter!)

Leave Hole @ 11:15

→ SS Notes (cont)

30-31.5' 8/7/10 5" F-M Sand as above w/
Tr gr

35'-36.5' 4/3/4 18" C-VC Sand w/ gr

2 1/2" 9 1/2"

Trans on Site @ 1:00

P-31 Begin: 12:00 End:

CS to 15'

0-0.9' CS (topsoil) dk bn

0.9-1.4' Silty VF Sand, Lam, lat bn

1.4-2.5' Clay, plastic, firm, dk bn

2.5-3.1' Clay w/ layers lat bn silt 1" to 2"

3.1-4.4' Clay, plastic, firm, dk bn

4.4-9.2' SC, med. dk bn, plastic,

moist

9.2'-12.0' 1/2 Silty, VF Sand, Clay, Lam, med
bn / clay

12.0'-15.0' F Sand - M Sand, al gy, wet
carb frags 14.3'

SS 15'-16.5' 2/2/3 Recover 12"

F Sand, WS, wet

20-21.5' 3/1/1 Recover 17"

F Sand (as above), VF Sty Sand

steel gy @ 21' sharp contact

25-26.5' 0/1/3 Recover 18" +, F Sand

w/ steel gy silt / VF Sand w/ clay

@ 26.2'

30-31.5' 1/2/1 Recover 18" +, F Sand

w/ steel gy silt / VF Sand / plas

al gy, rmb @ 31-31.5'

SS (crit)

35'-36.5' 1/4/13 Recover 18" +

C-VC Sand w/ Tr F Sand
at top

Well Construction Notes

(see Travis' notes)

4" Sch 40 PVC w/ 10. slot

at base @ 34.5'

Leave Site @ 3:00

In J/L @ 4:45

Location Labadie Date 10/14Project / Client R+S DSI

Overcast, mud, 40'

On Site @ 1:00 for weekly progress

mtg w/ Arner + R+S

Attending: 2:30-3:30

M. Carlson

J. Fouse

J. Eimer

Notes: New wells drilled:

10/5 - 104, 167

10/12 - 40, 31, 189

10/6 - 42

10/13 - 65, 67, 69

10/7 - 22

10/14 - 51,

10/8-9 Rained Out (Total = 35)

1) Distribute Progress Rpt

2) Copies Daily Safety Mtgs

3) R+S for Samples to R+S

4) Club Cart w/ R+S

5) New Daily Logs to R+S?

Jeff review access/mud conditions

+ stop by rig on P-49 (mud 50/50)

w/ Scott H on Well Development

(get notes)

w/ Promis + daily crew on work status

Leave Site @ 4:20

In J/C 6:05

Location Labadie Date 10/20/09Project / Client R+S DSI

P/C, 50', wet ground - Week 6

On Site 10:15

Mtg re Cultural Resource Survey

Scheduled for 11:00 - JoAnn Thue,

Paul Reitz, Jeff Fouse,

Review Development Notes w/ Scott King

* Timeouts/Travel Time

Max's here w/ new helpers @ 11:00

Wells Developed

10/15 - P-47, 45

10/19 - P-43, 59, 63, 77, 75

~~mtg~~ Order New 2" Pump

To D-100 (P-93) @ 12:38 - 1:30

* Drwg Screen

* Invoice

* Progress Rpt

Not Drd - P-61 (4")

Not Completed - P-19 (4"), P-144 (4")

P-65, P-67, P-69

In J/C 4:30

38/36

Location Labadie Date 10/21
 Project / Client R+J DSI
P/C, 50's, drying

On Site @ 9:20 for Proj Mgr Mtg
 w/ Annen + R+J

- Progress Rpt
- New Dtg Personnel
- Well Count
- CPT Schedule
- Jar Samples
- Access

10:00-

John Einar Jeff Fouse
 Ken Kintz Mike Carlson

- Survey Wells/TB's (Staking) X
- Monthly WL's
- Central Boring

Sound P-22 : 37.50' btoe (TD)

To Dels (on P-99)

Leave Site @ 2:30
 In J/C 4:30

Location Labadie Date 10/28
 Project / Client R+J DSI
P/C, Mvd, 50's

R+J on site w/ CPT + ATV for
 TB's (w/ Terra Drill)

- DGLS on site to review
 CPT's (Chris V; Bart Pierce;
 Blake S)
- Bart relays Public Inquiry
 From Peter P.
- Review CPT Progress w/ DGLS
 + Kyle (Ken out to site)
- Review TB Progress w/ R+J
 (B-26)
- Review Pz Progress w/ Travis
 (Finished P-187 VF-F Sand w/
 A wood chunks/fangs Top/Bottom)
 To set up on P-79 Row w/ my
 orders to burn down w/o SS
- Drawdown Test Notes
- P-42; WL: 8.66' btoe TD: 37.40'
 @ 1:31 btoe
- qt hole @ 2:37
- Pump rate 0.26 g/s (16 g/m)
- 5 min test
- SWL 60" → 48" (Good!)
- Water purged 90 g
- Discuss sampling techniques w/ DGLS (grab
 DGLS leave site ~ 4:30 vs SS)

Location Labadie Date 10/28
 Project / Client R+J DSI

20-slot
 Well Recovery Test - P-42 (Test 2)
 SWL ~~60.562~~" btw 60.762" btw
 5 min test (5:21 - 5:26)

90 gal
 Stable Man Reading +/- 48.176"
 Recover back to 60.3 @ 1 minute
 Good test!

No Data Recovery!

Learn SATC 6:15

Location Labadie Date 10/29
 Project / Client R+J DSI
 P/C, Mud, 50's

On site to resume preliminary aquifer testing. @ 7:00 am

Max's / Travis set up on P-106 @ 8:05

R+J CPT on site @ 7:30, set up
 on C-30/C-34

R+J TB's on site @ 7:40; set up
 on B-26

Prelim Aquifer Test Notes

P-53 @ 8:17

Broken
 Jumps!

10-slot Initial W.L. 7:57' btw TD: 37.03' btw
 muddy

Start test 8:43, pump water 16 gpm

8:45 discontinue

~~Emergency~~ Disconnecting, stop test & re-run
 as test 8" transducer at slightly deeper
 depth 104.52 @ 9:39 - 9:44

max depress 74.7 (5 min)

Pump ~ 122 g

90% Rebound < 20 sec

Final WL 7.57' btw @ 9:57

TD: 37.10' btw

Location LabadieDate 10/29Project / Client R+J DSI

Aquifer Testing (cont)

P-57 Initial W.L. = 7.71' btl @ 10:05

10' slot No Lock! TD: 37.28' btl

Insert Pump/Transducer + begin test

@ 10:15 (5 min test @ 16 gpm)

SWL 100.7"

Max Suppress: 89.8"

End: 10:20

Recover to SWL ~ 13 sec

Rained out! Leave Site 11:20
In J/C 1:30

26:40

Location LabadieDate 11/2Project / Client R+J DSISunny, 50's, mud

Leave J/C @ 5:30

On Site @ 7:30

Doug M, Ryan N, Bill D (Max's)

on site loading trailer in preparation
for well completions @ 8:30- Review wells to be grouted &
completed

- Tailgate mtg @ 7:45 am

Scott King on site @ 8:30 am to
Develop Wells

Set Scott up on P-40 w/ bailer

Ken Kartz visit 9:15-9:30

I set up to complete development
on P-53 (Purge 38 g)

Pump rate = 16 gpm (pump 3 m)

Initial W.L. = 5.08' btl @ 10:00

Pump 40 g done @ 10:10 SWL = same

P-57 Resume Development

Need to Purge 87 g (~ 5.4 m)

Initial W.L. = 5.36' btl @ 10:17

Pump 6 m (76 g) @ 10:26

Location Labadie Date 11/2Project / Client R+S DSI

Well Development Notes

P-19 (4") TD: 37.33' btoc

Initial WL 6.17' btoc @ 10:46

Purge Vol (Calc) = 163 g (~10 min)

56.00 Pump 10.5 m = 168 g
done @ 11:07 SWL = ~~6.19'~~P-144 (4") TD: ~~37.48'~~ btoc (rwd)

Initial WL 3.29' btoc @ 11:37

Purge Vol (Calc) = 211 g (13.2 m)

46.30 Pump 15 m = 240 g

done @ 12:05

TD = 37.52'

Scott finish P-51, set up on P-49 @ 12:30

CPT rig on C-46, visit w/ Chris - (R+S)

Shared log data on surrounding hole

Kyle is apparently doing the interpretation

Throw-out bearing on Rig out, down for

repairs - 11:30 - 5:30

Visit TB rig; on B-12 @ 1:50

B-100 (to Butrock)

Scott on P-55 develop @ 3:10

Location Labadie Date 11/2Project / Client R+S DSI

Completion/Great Notes

P-9 (4") 0g Completed 11/3

P-61 (4") - Completed 11/3

P-67 - 10/21? Yes - completed

P-69 - 10/21? Yes - completed

P-71 - Completed 11/3

P-79 - Completed 11/3

P-81 (4") - Completed 11/3

P-93 - 0g Completed 11/3

P-95 3g, Completed 11/3

P-97 5g, Completed 11/3

P-99 5g, Completed 11/3

P-104 (4") (Inaccessible) 0g Completed 11/3

P-120 (4")

P-140 - 10g - Completed!

P-187 (Inaccessible)

P-87 9g - Completed!

Well Development Notes

P-9 (NOT completed) (4") TD: 37.93' vent
btoc

Initial W.L. 7.65' btoc @ 2:34

Purge Vol (Calc) = 166 g (~10 m)

Pump 10.7 m (171 g)

done @ 3:00

Leave Site 4:10 / In s/c 6:00

Location Labadie Date 11/4Project / Client Rx J DSISunny, 10-15 mph wind, drying

On Site: 9:24

Attend Project Mgt Mtg - 10:00 - 10:30

Kyle Kocher, Ken Kintz

Mike Carlson

Safety Issues - None

Mapower - Cultural Resources

Schedule - Rain M-W??

Visit w/ Kyle K until 11:00

Review hole locations/access West side

of drainage - cannot currently drive

in 30-40' of drainage. Can //

further away. Most hole locations

here on dry ground

Utility Clearances checked.

P-73; wires ~ 40' ag; 25' E

P-128; lines ~ 34' ag; ~ 35' E

P-165; lines ~ 46' ag; ~ 25' E

(Under water)

done w/ utility check @ 12:00

With Scott on Well Development

@ 12-1:00

Visit w/ TB + DGLS (Chris + Blake)

til 2:15

Location Labadie Date 11/4Project / Client Rx J DSI

Talk to Scott - wells developed today

155, 65, 67 (on to 69)

11/3 - 132, 189, 167

Visit w/ Travis on P-112 til 3:15

"Gluy Facies" clay 11'-15'.

1/2 Lunch

Check on Ryan w/ B-53 (Support truck

repair)

Back to P-112 + watch install P2;

discuss Aquifer Testing w/ Chris V

Leave Site w/ Ryan @ 5:00

Location Labadie Date 11/5
 Project / Client R & S DSI
Sunny, lat wind, 50's, dry

On Site @ 6:00

ATV down w/ starter - run to replace.

Set Mobile B-53 on P-73(4") @ 7:54

P-73(4") Begin: 8:18 End: 2:04

Auger to 0.5'

CS to 8'

Chris V here @ 8:11; Blake S

0-5' (Recover 4.2') here @ 9:00

0-1.6' CS, M Bn, soft, plastic

1.6'-2.2' Silty, Lt Bn, ren-c, dry

2.2'-3.5' Clay dk b, plastic, fat

3.5'-4.4' SC/Silty, gn-bn, soft, wet

4.4'-5.8' VF Sand, Silty, wet, indistinct bdy

5-8' (Recover 2.6')

4.9-6.3' VF Sand as above, sat!

6.3'-6.6' SC, plastic gn-bn

6.6'-7.5' F Sand, Lt Bn

SS

10'-11.5' 1/2/5 Recover 14", 7" F Sand/

7" Plastic Clay, m bn

15'-16.5' 2/2/7 Recover 18" + 3" F sand

as above w/ clay plug 16.2'-16.3'

9/2L 5.5"

Location Labadie Date 11/5
 Project / Client R & S DSI

P-73 (can't)

SS 20-21.5' 0/3/4 Recover 18" +
 F Sand as above w/ 5 Sty
 strokes

25-26.5' 2/1/5 Recover 18" +

F Sand as above w/ another clay
 plug 26.2-26.3'

30-31.5' 9/26/50+ Recover 18+

Fine Sand to 31.2' (as above)

Coarse Sand w/ gravels 31.2-31.5'

35-36.5' 10/5/9 Recover 18+

Fine Sand to 36' (as above)

Coarse Sand w/ C gravels +
 carb matter

Prill sample of bottom Auger
 @ 10:55

Set up w/ 1 1/2" HSA to near hole +
 set well @ 11:20

Well Construction Notes

4" Sch 40 PVC w/ 20-slot

Set down @ 34.0'

P. Sand (11/20) to 21.0', use 275 #

S. Sand (30/70) to 19.3', use 75 #

But Slurry to GS, use 46 #

(Calc V = 68 g PW = 40 g)

Location Labadie Date 11/5
 Project / Client R + J DSI

Eat Lunch 2:00-2:30

Dave to get water to set up on P-88

Ryan + Travis back from parts run 2:26

Discuss DGLS comments (mt, w/ Paul Reitz @ 2:45

P-88 (2") Begin: 3:00 End:

CS to 7'

0-5' Recover 3.3'

0-2.5' SC med br - gn br, soft, slit plastic

2.5-5.0' S.12/VF Sand

5-7' Recover 2.0'

5.0-6.5' VF Sand, as above, sat!

6.5-7.0' F Sand, Med Br saturated

SS

7-8.5' 3/3/6 Recover 11" VF-F Sand

w/ clay seam 2", med br, sat

10-11.5' 2/2/2 Recover 18" VF-F

Sand as above w/ clay seam 2"

15-16.5' 3/2/5 Recover 18", F Sand,

Clean, lit br

20-21.5' 7/19/50+ Recover 18" F Sand

as above

Location Labadie Date 11/5
 Project / Client R + J DSI

5 +

P-88 (Cont) 7

25-26.5' 7/7/50+ Recover 18" F Sand, as above

30-31.5' 1/2/4 Recover 16" F Sand w/ VF Gravelly Sand 31.2-31.5'

35-36.5' 1/6/10 Recover 12" F Sand w/ VF Gravelly Sand bottom 8"

Mtg w/ Paul R, Jo Ann, Chris, Jason, Travis, Mike C 4:30-5:00

Well Construct Notes

2" Sch 40 PVC, Set base ~ 35.0'

Riser Locking in hole; up ~ 1.0'

~~P Sand (20/40) to 1' use~~
~~S Sand to 1' use~~

Casing still coming up hole. Ryan thinks catcher didn't open

Completely due to gravelly sand at TD. Decide to trip out of hole + burn down w/ plug

Leave site @ 5:45

Location Labadie Date 11/6
 Project / Client R+J DSI
Sunny, 60's, drying On Site 6:15

P-88 (Cont')

Back to hole to turn HSA's w/ cutter plug
 + set well: @ 7:38

Well Const. Notes

2' Sch to PVC 1/2" slit; Set down 4.8'

P Sand (20/40) to 22.0', use 275 #

S Sand to 20.8', use 40 #

But Slurry to GS, use 32 g

(Calc Vol = 53 g)

PW = 60 g

4" Done 9:32 / Leave Hole @ 9:50

Location Labadie Date 11/6
 Project / Client R+J DSI

P-142 (2") Begin: 10:56 End: 3:00

CS to 9' (0.5 + 5.9)

0-0.7' SC, ol br, slit plastic

0.7-2.3 Clay, dk br, plastic, Tr silt seams

2.3-3.2 SC // CS, mottled dk br / lt br, soft

3.2-5.9' Clay, dk br to 4.5', or overtones
 below to 5.9'; cohesive, plastic

5.9-8.3' // Silt + Plastic Clay, silt is lam
 w/ VF Sand lams, some v thin bds

"gley" plastic clay, all clay v.
 plastic, "gumbo" < 1' thick
 sharp contacts w/ // silt + VF sand

~~SS~~ 8.3-9.0' F Sand, hot Brown, sharp
 contact w/ above, clean, wet

SS

10-11.5' 1/0/1 Recover 16" Fine Sand, lt
 br, wet, clean, to 11.3', plastic
 m br clay to 11.5'

15-16.5' 4/2/1 Recover 12" Fine Sand, clean
 as above

20-21.5' 8/10/27 Recover 18" ⁺ Fine Sand,
 as above

Location Labadie Date 11/6Project / Client R+J DSI

P-142 (Cont)

SS 25-26.5' 4/4/13 Recover 18" +

Fine Sand, As Above w/ TR

Lg (10mm) gravel at base

20-21.5' 9/16/24 Recover 14" F Sand

w/gy color, granules at base - ^{feldspar} granite

35-36.5' 3/1/5 Recover 10" F Sand

w/ clay layer upper 5";

remainder VC Sand

@ 12:30

Well Const Notes

2" Sch 40 PVC (10-Skt); Set base ~ 35.1'

Needed to pull auger + burn down w/ plug

due to clay buildup + lg gravel in auger head

P Sand to 22.1' use 300 #

S Sand to 20.1' use 50 #

But Shing to GS, use 21 #

Calc Vol = 51 g

PW = 63 g

done 3:00

Leave site @ 3:20

Y₂ hr LunchLocation Labadie Date 11/6Project / Client R+J DSI~~9:15~~

Ryan repairing CME (sit up on P-128)

Dave run to get parts / starter

Bill to repair bearing on Support Truck

Help Bill w/ tools - clean up

work area 4:30-5:30

Travis sample P-128 (CME running!)

Back to truck - stage out / unload

Wait for Dave w/ starter.

Scott King in ~ 5:30 (4 wells developed)

Leave Site @ 6:00

Location Labadie Date 11/7
 Project / Client RJS DSI

On Site: 6:15

Travis, Dave, Doug, Ryan, Bill, Ryan N
 Travis/Ryan to finish up P-128

Dave/Doug to set up on P-122
 To Fields @ 7:00

4" Well Inventory

Riser - 28

10-Slot - 4

20-Slot - 2

No access to P-122, decide to set up
 on P-146 - almost stuck! Inaccessible
 try for P-114 on East side project.
 Also very soft + inaccessible. No
 place for B-53 to go!

Leave Travis to finish up P-128
 + govt up other wells completed in
 that area.

Leave Site @ 8:30

In 3/L 10:15

Location Labadie Date 11/9
 Project / Client RJS DSI

Weather: Cloudy, 0-5 wind, drying, 60's

On Site: 9:00

Present: Max's @ 9:30, Dave, Doug,
 Ryan, Ryan N, Bill

Visitors: None

Safety Mtg @ 10:50

Repair Flat on club cart, load up
 rigs/pumpout vehicles + go w/ Dave
 in Club Cart to check out hole locations
 @ 10:07 both P-146 + P-156
 appear accessible, as does P-83 + P-85

Decide to set CME on 146 + 53 on
 P-156 @ 10:35

Travis D on site @ 11:15 (to log P-156)

Location Labadie Date 11/9
 Project / Client R+S DSI

P-146 CME 750 Ryan H 2"

Begin 11:13 End 1:28

CS to 10.0 (0-5; 4' Recover; 5-10; 2 1/2' more)

0-2.8' Clay, dk ol bn, plastic, stiff

2.8'-4.3' CS, soft, slt plastic, ol gy, wet at base

4.3'-10.0 VF Silty Sand, ol gy, wet, carb matter, ^{Faint} lens, saturated, clean

SS

10-11.5' WOH Recover 16", 5" VF Silty Sand
 as above / 11" "gray" colored
 silt / VF sand / clay fine lens

15-16.5' WOH Recover 16" VF-F Sand,
 on gy (almost "gray" colored) clean

20-21.5' 4/7/10 Recover 16", 13" VF-F Sand
 as above w/ clay plug near base, lower
 3" Gravelly M-C Sand w/ angular
 clasts up to 5 mm carb matter

25-26.5' 7/6/5 Recover 18" + VF-F Sand
 as above w/ bottom 5" Sandy
 Gravel, ang clasts up to 10-20"

30-31.5' 10/8/6 Recover 18", VF-F Sand as
 above w/ bottom 7" consisting of
 gravelly sand (grain size appears
 to minor VF-F, prev M sand)

Location Labadie Date 11/9
 Project / Client R+S DSI

P-146 (cont)

35-36.5' 10/5/7; Recover 18" As Above
 w/ 7" VC gravelly sand at base

Pull Rods to set well

Well Const Notes 2" Sch 40 PVC
 Set base - 34.8'

P. Sand to 25 ', vx 225 # natural ^{12.1'} 18-25'

S. Sand to 18.0 ', vx 25 "

But Slurry to GS, vx 30 g (expanding)

Calc Vol = 46 g

PW = 34 g

Done @ 1:28

clean up / leave hole @ 2:08

Grab Samples Gravelly Sand 25' + 35'

⊕ bag lg pebbles 2-4 cm oblates

Load up supplies for 2" (P-148) w/

Ford, guys eat quick lunch, check

w/ Travis on P-156

To P-148 @ 2:10

Location Labadie Date 11/9Project / Client R+S DSI

P-148 (2")

Begin: 3:00 End: 5:15

Notes: Decide to offset 60' W due
to wet ground conditions (support
truck stuff ~ 45 minutes, decide to drill
as is to reduce weight)

CS to 7'

0-3.5' Clay, dk bl bn, stiff, plastic firm

3.5'-3.9' CS/ISC on gy, soft

3.9-4.8' Silty/CS/ISC, slt lams, S VF Sand
soft4.8'-7.0' VF Silty Sand, lgt brown,
saturated, soft

SS

10-11.5' 0/2/3 Recover 13" VF-F Sand
w/ S granules lower 6", lgt bn, wet15'-16.5' 9/16/20 Recover 18" VF-F Sand
as above ^{sharp} color change to "gley"
lower 13", grain size the same!20-21.5' 13/24/29 Recover 18" AS Above
w/ lower 7" "gley" colored VF-F
Silty SandLocation Labadie Date 11/9Project / Client R+S DSI

13 24

P-148 (cont) - CS

25-26.5' 3/3/5 Recover 13"

upper 5" Lgt Bn VF-F Sand as above
lower 8" VC Gravelly Sand w/ pebbles
20 mm, med lgt gy

30-31.5' 9/3/2 Recover 13"

8" "Gley" F Sand w/ S granules
5" VC Gravelly Sand med lgt gy

35-36.5' 8/4/10 Recover 18"

AS Above w/ lower 8" VC
Gravelly Sand, med lgt gy

Pull Rods/Load Hole

Wall Const Notes (2" Sch 40 PVC)

Set beam ~ 34.7'

P Sand (20/40) to 21.5' use 225 #

S Sand (50/100) to 20.3' use 30 #

Bart Slurry to GS, use 30 g

Calc Vol = 52 g

PWR = 36 g

done 5:15

clean up / leave hole @ 5:27

↳ get support truck unstack

leave site @ 5:45

Location LebadieDate 11/10Project / Client R-J DSICloudy, 20-25 West Wind
50's, dry inOn Site @ 6:15 Trans, Dave, Dan,
Ramon, Ryan N, Bill

Visitors: Blake Snodgrass, DGLS

B-53 to resume on P-83

I scout out hole locations

P-179 - wet! inaccessible!!

P-169 - very soft & not currently accessible

P-134 - double

Repair Generator(s), add oil, adjust
clutch on 750 & to 134 @ 8:15

CME 750/Ryan

P-134 (2") Begin: 8:30 End: 10:35

CS to 8.5'

0-1.0' CS, dk ol bn, soft

1.0-2.8' Clay, dk bn, stiff, plastic

2.8-3.5' SC, dk bn, soft, slt plastic

3.5-6.8' Clay, dk ol bn, plastic

6.8-7.8' Silt/Clay/UF Sand, faint lms, saturated! lt bn

7.8-8.5' VF-F Sand, Lt Bn, Clean, wet

SS

10-11.5' 0/0/1 Recover 18" + VF-F Sand,
lt bn, cleanLocation LebadieDate 11/10Project / Client R-J DSI

P-134 (cont)

15-16.5' 1/2/2 Recover 18"; VF-F

Sand as above

20-21.5' 0/2/5 Recover 18", 8" VF-F

Sand as above ~1/10" VC Sand,

med gy across gradual contact

25-26.5' 3/2/2 Recover 13", 11" VF-F

Sand as above ~1/2" VC Gravelly Sand
at base

30-31.5' 9/3/2 Recover 14", 4" F Sand

~1/10" VC Gravelly Sand below

35-36.5' 7/13/25 Recover 18" + F Sand as

above ~1/10" VC Gravelly Sand

Flush hole to set well

2" Sol 40 PRC, set base ~ 34.9'

P Sand to 24', use 150 #

S Sand to 18.3', use 25 #

Best Slurry to GS, use 30 g

Calc Vol = 47 g

PW = -0- (20, est)

clean up / leave hole @ 10:44

Location Labadie Date 11/10Project / Client R+J DSI

P-122 (2") CME 750 Ryan

Begin: 11:22 End 2:16

CS to 13'

0-1.2' CS, dk bn, soft

1.2-4.6 Clay, dk bn stiff/plastic ~ 3' w/
ol gy color4.6-9.7' Silt // Clay // VF Sand, gy gr to ol gy
laminated, soft, wet ~ 5'

9.7-11.5' Clay "gley" very plastic

11.5-13.0' Gley-colored highly interlaminated
Silt / Clay / VF-F Sand 1/4 F Sand at base

SS

15-16.5' 0/0/2 Recover 17" "gley" colored
VF-F Silt, Sand20-21.5' 7/7/8 Recover 18" VF-F Sand
lt brown25-26.5' 5/4/4 Recover 18" VF-F Sand
lt brown30-31.5' 11/25/45 Recover 18" F Sand w/
R M + C sand, lt brown35-36.5' 1/2/5 Recover 13", 5" F Sand
as above, lower 8" C-VL sand
w/ A 2-4 mm granules
e 1:25Location Labadie Date 11/10Project / Client R+J DSI

P-122 (cont)

Well Const. Notes - 2" Sch 40 PVC
Set base ~ 35.2'P. Sand to 21.1', use 275 # (20/40)S. Sand to 20.1', use 25 # (50/100)But Slurry to GS, use 30 g

Calc Vol = 51 g

PW = 42 g

done e 2:16

clean up + leave hole e 2:36

Water Source temporarily shut down
while loading equipment for next
hole. Slight delay (20 min).Take ATV CME 750 + set up on P-136 (4")
via N-S offset due south from C-123
on East side drainage ditch. Ground
soft but to location w/ only support
truck being towed last 80'.

Location Labadie Date 11/10Project / Client R+J DSI

1.3

P-136 (4") CME 750 w/ Ron H, kniller

Begin: 3:48 End: 11/11 9:06 am

CS to 13.5

0-1.5' Clay, dk bn, stiff, plastic

1.5-6.7' Silt/Clay + CS, 1st bot/1st of gy
soft, wet ~ 5'6.7'-9.2' Silt/VF-F Sand/Clay, ol gy - mod bn,
laminated, Fe nodules/mottles9.2-12.2' Silt/Clay, "Gley", highly plastic
laminated12.2-13.5' VF Silty Sand, "Gley", laminated
SS15-16.5' WOH Recover 16" "Gley" colored
VF-F Sand20-21.5' 2/0/1 Recover 18" + "Gley"
colored M-C sand25-26.5' 1/1/1 Recover 18" "Gley" colored
M-C Sand w/ Tr granules/pbbles30-31.5' 3/3/6 Recover 16" Fine Sand
1st brown w/ 3" VL Gravelly Sand
at base35-36.5' 8/7/9 Recover 18" + M Sand
1st brown w/ 15 mm gravel frag
at baseLocation Labadie Date 11/10Project / Client R+J DSILeave hole for day due to lack
of daylight. Pull NSA's +
leave hole @ 5:20

Leave Site @ 5:45

Location Labadie Date 11/11Project / Client R + J DSI

Sunny, 50's, drying, light wind 0-5

On Site 6:15

Bill D needs to go home on account of family emergency. Dave to drive him to Ft. Scott & be back ASAP. Man down! Need another dr's helper. Down to one rig due to manpower

Reset on P-136 (4") to Sat. Well @ 7:00 am

Ream w/ 10 1/4" HSA's to TD (35')

Well Const Notes (4" Sch 40 10-slot)

Set base ~ 34.7'

P. Sand to 21.6', use 425 #

S. Sand to 20.0', use 75 #

But Slurry to GS, use 68 g 17"

Calc Vol = 70 g

PW = 70 g

Done @ 9:06

Cleanup, leave hole @ 9:15

Back-drag support truck out of mud.

Location Labadie Date 11/11Project / Client R + J DSI

Visitors: None

Project Status Mtg w/ Ken K 10⁰⁰ - 10²⁰

Get Scott K unstuck w/ Club Car (between P-112 & C-113 - low area!) @ 10:45

Run to trailer for supplies @ 10:55

Back to P-124 (CME drlg w/ Ryan & Travis) @ 11:20

Label sample jars & fill out field logs 11:20 - 1:00

Restake P-126 further south (irrigation wheels) @ 1:15

To assist Scott K w/ development @ 1:30

P-81 12 gen w/ diff generator!

159 g (Calc) ~ 13 1/2 min

Begin @ 2:22 End @ 2:35:30

P-104

150 g (Calc) ~ 13 min

Begin @ 4:29:40 - 4:42:40

Pump quit working! Repair(?) & back to well @ 4:27

P-31 No lock! 157 g (Calc) (13 min)

Begin 5:04 End 5:24

variable pump speed (clogged?)

Vol Project 165 g

Leave Site @ 5:45

Labadie

11/12

R+J DSI

Sunny, 30's (hi 60), lt wind, drying

On Site @ 6:09

Present: Travis, Ryan H, Doug H, Ryan N, Scott K

Visitors: Chris V @ 12:30

Lead up & Arlos to P-114; Scott & I to

develop 4" wells before after

P-61 Base 37.62' btoe / 37.53' btoe

Calc Vol = 159 g

Begin @ 8:24 End: 8.41 (170 g)

Pump Rate @ 5 g / 30 s = 10 gpm (17 min)

P-73 (Not Completed) Grant - 2' bgs

Base 36.70' btoe (before) 36.84' btoe after

Calc Vol = 146 g (16 min)

Begin @ 9:04 End @ 9:20

Pump Rate @ 10 gpm

P-128 (Not Completed) Grant - 3' bgs

Base 36.13' btoe (37.39' btoe after)

Calc Vol 180 g (20 min) 200 g

Begin 9:37:30 End 9:57:30

Pump Rate 10 gpm

Dave H here @ 9:30

Check out P-165 location: looks passable 11/14

Check out P-177 location: Close to passable

Labadie

11/12

R+J DSI

To P-114 to check on Trev. 3 / CME @ 10:30

w/ Dave & B-53 to setup on P-138 @ 11:00

P-138 (2") Dave H / Mark B-53

offset hole ~ 75' due E due to access issues.

Begin: 11:10 End: 4:00

CS to 11.5'

0'-6.5' Clay, dk d bn, S SC streaks, plastic, firm

6.5'-8.4' silt/clay + SC, lam - vth Lbd, lt bn - d gr, wet ~ 6', sharp contact below

8.4'-11.0' "Gley" facies; high plastic clay w/ S silt lams

11.0'-11.5' "Gley" VF Silty Sand SS

15-16.5' 1/3/4 Recover 7"; 5" Gley Clay 1/2" Gley VF Silty Sand

20-21.5' 2/3/4 Recover 18"

9" VF-F "Gley" Sand, Clean, Clay Balls

9" VF-IF Sand w/ A Carb lams & silt lams, "Gley" facies

Location Labadie Date 11/12Project / Client R+J DSI

5.9

P-138 (cont)

25-26.5' 5/9/8 Recover 10", 3"
VF-F "Gley" Sand / 7" VF-F Sand w/
A blk carb lens + clay balls "Gley"

30-31.5' 7/7/13 Recover 13", 7"
VF-F "Gley" Sand / 6" VF-F Sand
w/ carb matrix + clay balls "Gley"

35-36.5' 5/3/4 Recover 11"; VF-F
"Gley" Sand, bottom 1" "Gley" M-C
Sand

Pull Rods, Clean hole Dave decide to
wash rotary to clean hole bottom, cty's
include VC Sand! No good, rods
still 1' above TD, clean out again
sand suck up to ~ 30'; pull augers
+ burn down w/ plug @ 2:50

Well Corist Notes (2" Sch 40 PVC)

Set base ~ 34.4'

P. Sand to 21.2', var 22.5 #

S. Sand to 19.3', var 50 #

Bent Slurry to GS, var 25 g 7" 10 1/2"

Coke Vol = 49g

PW = 44g

done @ 4:00

Leave hole @ 4:48 505

Location Labadie Date 11/13Project / Client R+J DSI

PC / 30's am / 60's pm, drying, 1st wind 0-5 mph

On Site: 6:15

Crew: Travis, Dave H, Dany H, Ryan H, Ryan N

Visitors

Completions / Greet to be done (7-4" / 12-2")

P-73 (4") - 0 - Completed, 5-2 9-3

P-88 - 0 - Completed, No lock

✓ P-128 (4") 12g

P-142 - 0 - Completed, No lock

✓ P-83 - 4g

✓ P-85 (4") - 5g

✓ P-114 (4") - 8g

✓ P-120 (4") - 10g

✓ P-122 - 7.5g

✓ P-124 - 11g

✓ P-126 (4") - 16g

✓ P-134 - 9g

✓ P-136 (4") - 8g

P-138

P-146

P-148

P-152

P-156

P-187 - 0 - Completed, No lock

✓ P-165 - 5g

P-128 - Completed, No lock

Location Labadie Date 11/13Project / Client R+D DSI

Trans w/ Ryan + CME to do P-165 @ 7:20
 Done to Groot holes
 Me to inspect remaining hole locations for access.

Report Finding to Paul R + Tom G
 @ 9:45 (maybe 5 remaining accessible)

Add discussions w/ Paul about access
 @ 10:00 - 10:45.

D-1's finishing P-165 @ 10:50

Material Inventory

2" Screen - H 12 6" P Ram - 4

2" Riser - 20 23 (7 wells)

4" Screen - 0

4" Riser - 11

Trans w/ Ryan / CME to set up on P-158 @ 12:20

Mc w/ Dave / B-53 to set up on P-177

P-177 (2") w/ Dave H + B-53

Begin: 1:05 End: 4:30

CS to 13.8'

0-3.3' Clay, dkol bn, stiff plastic

3.3-5.1' SL, med bn, soft, slit plastic, wet w/

5.1-8.1' 1/2 Silt/Clay/CS gray - ol bn, wet
 low - thin bedded, grad contact
 w/ below

Location Labadie Date 11/13Project / Client R+D DSI

8.1'-12.5' "Gley" facies; Silt/Clay, high plastic
 alt beds 4"-9" thick; sharp contact
 w/ below

12.5'-13.5' "Gley" facies, VF Silt, Sand, faint

13.5'-13.8' + lens
 "Gley" VF-F Clay Sand
 SS

15-16.5' 11/4 Recover 15" "Gley"-colored
 VF-F Sand, clean

20-21.5' 4/9/21 Recover 18" "Gley" colored
 VF-F Sand, clean

25-26.5' 3/4/5 Recover 15", 13" VF-F
 "Gley" Sand as above w/ lower 2"
 C Sand w/ gravel 2-10 mm

30-31.5' 1/9/50 Recover 18" VF-F Sand
 "Gley" as above w/ 6" VC Gravelly
 Sand at base, up to 20 mm⁺

35-36.5' 10/11/50 Recover 18" VF-F Sand
 "Gley" as above w/ bottom 7" VC
 Gravelly Sand;

done @ 2:48

Pull rods, need to overdrill due to
 sand suck up in Augers. Burn
 down w/ center plug + set
 well @ 3:40

5/7

Location Labadie Date 11/13
 Project / Client R+J DSI

P-177 Well Const Notes

2" Sch 40 PVC w/ 10' SS / 6' slit
 Set base @ 34.6'

P. Sand to 21.6', use 175 # natural!

S. Sand to 20.0', use 50 #

Bath Slurry to GS, use 21 g 6 1/2" 7 1/2"

Calc Vol = 51 g

PW = 41 g

done @ 4:30

clean up / leave hole @ 4:54

SHELBY TUBE 2' - 4'

leave site @ 5:25

Location Labadie Date 11/14
 Project / Client R+J DSI
P/C, 40's - 60's, 1st wind, drying

On Site: 6:10

Present: Travis, Dave H, Darryl H, Ryan H
 Ryan N

Visitors

Travis w/ CME / Ryan to attempt set up
 on P-150 @ 6:40

Dave to get concrete for completions @ 6:45

Mike cleanup & organize trailer & materials
 @ 6:45 - 7:15

Paperwork 7:15 - 8:30

Need 5 boxes CME gas!

w/ Dave to do completions

P-83 @ 8:40 2"

P-85 @ 9:00 4"

Get stuck! Wait for CME to finish

P-150 @ 10:00

Back to trailer, load samples & generator
 w/ Travis

ATV stuck pulling Dave's truck out
 due to coming in from soft side!

B-53 also likely stuck

unload / sort samples
 @ 2:55

Leave Site 10:55

In J/C 1:15

Labadie

12/12

R+S DSI

P/C, 30', F-T

On Site @ 7:30

Mauls - Doug / Bill / Ryan N

Visitors -

P. 173 Begin 7:30 End 11:27

C5 to 10'

0-5', Recover 2' / 5'-10' Recover 2.6'

0-3' NR

3.0'-3.9' Clay, dk bn, plastic, stiff

3.9'-4.2', Silt, yw bn

4.2'-? SC/CS/Clay, yw bn/ol gy
moist

7.4'-9.7' gy gy - mud bn st // clay // VF Sand, thin bed

9.7'-10.0' "Gley" // st // clay // VF Sand w/ br matter
GW @ 7.8'

SS

10-11.5' 0/1/3 Recover 12", F Sand

Clean, lat bn (rusty), TR Gravel + C Sand

15-16.5' 1/2/5 Recover 18" +; 9" AS

Above / M-C w/ C gravel / 9"

"Gley" colored VF-F Sand

across sharp contact

10"



Labadie

12/12

R+S DSI

SS (cont)

20'-21.5 0/6/9 Recover 18" +;

VF-F Sand / M-C Sand w/ Common
gravel lower 0.2' "Gley" to Med gy

25-26.5' 2/3/4; Recover 18" ;

As above, F-m Sand, more 1st gy
def "Gley" bottom 3" w/ Common
gravel

30-31.5' 8/11/23 Recover 18" +;

As above w/ lower 10" definite

"Gley" F Sand / VF Sand

35-36.5' 17/14/9 Recover 18" As Above

w/ lower 8" "Gley" F-m Sand w/ 1, Ls
gravel frag at base 30' m (crushed)

Well Construct Notes

2" Sch 40 PVC; Set base w 35.0'

P Sand to 22.1', use 300 #

S Sand to 20.9', use 50 #

But Slurry to G.S., use 45 #

Calc Vol = 53g done @ 11:27

PW = 50g

Leave hole @ 11:35

Clean / Tracked up 4"

Leave site @ 1:00 In SL 3:25

Location Labadie Date 12/14Project / Client R+J DSI

P/C, wet, 40's, dropping temps & S wind 10's

On Site, 7:30

Accompanied by: Frank Phillips

Visitors

Trans on site ~ 10:30

Max's on site ~ 11:30

On site to conduct aquifer testing

P-42 WL: 10:52' btoc @ 8:46 am

9:20 Pump Rate: 10 gpm

Begin level ~ 6.1

HydroStatic (HS) ~ 5.5'

End test @ 9:26 (5 min)

P-22 WL: 12.36' btoc @ 9:41

Begin @ 9:47 level ~ 5.99

Pump Rate ~ 10 gpm

HS ~ 0.35'

End Test @ 9:52 (5 min)

P-9 WL 15.60' btoc @ 10:15

Begin @ 10:23 level ~ 7.28

Pump Rate ~ 10 gpm

HS ~ 0.4'

End time @ 10:28 (5 min)

Location Labadie Date 12/14Project / Client R+J DSI

Aquifer Testing Cont.

P-31 (from P-9 due S across corn)

WL 11.23' btoc @ 10:42

Begin @ 10:47:30 level 11.67'

Pump Rate ~ 10 gpm

HS ~ 0.6'

End time @ 10:52:30

P-19 WL 11:43' btoc @ 11:23

Begin @ 11:29 level 6:06

Pump Rate ~ 10 gpm

HS ~ 0.5'

End time @ 11:34 (5 min)

P-114 WL 5.64' btoc @ 12:02

Begin @ 12:11 level 10.79

Pump Rate ~ 10 gpm

HS ~ 0.56'

End Time @ 12:16 (5 min)

P-126 WL 7.62' btoc @ 12:40

Begin @ 12:48:30 level 9.78

Pump Rate ~ 10 gpm

HS ~ 1.2'

End time @ 12:54 (5 1/2 min)

Location Labadie Date 12/14Project / Client R+S DST

1302

Aqua-Teking Cont. ↘ Also 4" Cap!

P-85 (Concrete Pad needs repair)

WL 5.95' btoe @ 1:13

Begin @ 1:18³⁰ Level ~ 7.9'

Pump Rate ~ 10.7 gpm

HS ~ 0.4'

End time @ 1:23³⁰

P-144 WL 7:02' btoe @ 2:01

Begin @ 2:06 Level 9:42'

Pump Rate ~ 10.7 gpm

HS ~ 0.7'

End time @ 2:11

P-120 WL 6.94' btoe @ 2:28

Begin @ 2:33²⁰ Level 7.39

Pump Rate ~ 10 gpm

HS ~ 0.5'

End time @ 2:38²⁰

P-104 WL 7.62' btoe @ 3:21

Begin @ 3:26 Level 6.8'

Pump Rate ~ 10 gpm

HS ~ 0.8'

End time @ 3:31

clear B. & K
leave
@ 4:00Location Labadie Date 12/15Project / Client R+S DST

Clear, 20's, frozen, N wind 10-15 mph

On Site: 6:30

Accompanied by F. Phillips, T. Doll

Doug H.; Bill D., Ryan N

Visitors

Delin to locate on remaining 2 wells
@ 7:50

P-165 WL 6.60' btoe @ 8:22

Begin @ 8:31:30 Level 6.61'

Pump Rate ~ 10 gpm

HS ~ 0.5'

End time @ 8:36:30

P-128 Pad needs repair!

W.L. 8.96' btoe @ 8:48

Begin @ 8:54 Level 8:45

Pump Rate ~ 10 gpm

HS ~ 0.7"

End Time @ 8:59

Aquifer Testing Con't

P-73 W.L. 10.62' btoc @ 9:12

Begin @ 9:16 Level: 6:49'

Pump Rate ~ 9.8 gpm

H.S. ~ 0.44'

End @ 9:21

P-61 W.L. 9.43' btoc @ 9:36

Begin @ 9:41 Level: 8.32'

Pump Rate ~ 9.8 gpm

H.S. ~ 0.5'

End @ 9:46

P-81 W.L. 10.27' btoc @ 10:04

Begin @ 10:10:30 Level 7.37'

~~Pump Rate ~~~~~H.S. ~~~~~End @~~

Pump Quit Working, Buy New Pump

W.L. 10.27' btoc @ 2:55 + Resume

Begin @ 3:15 Level 7.44'

Pump Rate ~ 17.5 gpm (new pump)

H.S. ~ 0.65'

End @ 3:20

P-136

W.L. 6.12' btoc @ 3:38

Begin @ 3:42 Level: 6.63'

Pump Rate ~ 17.5 gpm

H.S. ~ 2.6'

End @ 3:47

Clean up

Leave site @ 4:38

"Rite in the Rain"
ALL-WEATHER WRITING PAPER



ALL-WEATHER ENVIRONMENTAL FIELD BOOK

CREDELL Engineering Resources, Inc.

ENVIRONMENTAL ENGINEERING LAND - AIR - WATER

TRAVIS A. DOLL, R.E.H.S.
ENVIRONMENTAL GEOLOGIST

Telephone (573) 659-9078

Facsimile (537) 659-9079

E-mail: travisd@ger-inc.biz

1505 East High Street, Jefferson City, Missouri 65101
PRINTED ON RECYCLED STOCK

This book is printed on "Rite in the Rain" All-Weather Writing Paper - A unique paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather. For best results, use a pencil or an all-weather pen.

Specifications for this book:

Page Pattern		Cover Options	
Left Page	Right Page	Polydura Cover	Fabrikoid Cover
Columnar	1/4" Grid	Item No. 550	Item No. 550F

CONTENTS

PAGE	REFERENCE	DATE
3	Contractor Safety Training	6/4/09
4-5	Mtg. w/ Ameren & R&J and Field Staking	9/3/09
6	Drill P-47 & well completions	9/10/09
7-11	Drill P-63 & P-59	9/21/09
12-14	Drill P-38 & well completions	9/22/09
15-17	Drill P-75, P-77 & P-90 P-102	9/28/09
18-20	Drill P-102, P-116, P-118 & P-155	9/29/09
21-23	Drill P-155, P-130, P-144 & P-104	9/30/09
24	Field Stake Piezometers	10/01/09
25-29	Drill P-104 & P-167, Field Stake	10/05/09
30-33	Drill P-42	10/06/09
34-37	Drill P-22, Field Stake well Completions	10/07/09
38-39	RAIN OUT	10/08/09
40-42	Drill P-31 & P-189	10/12/09
43-46	Drill P-67, P-65 & P-69	10/13/09
47-50	Drill 51, P-55 & P-49	10/14/09

Reference Page Index

147	Error codes, Hazardous classifications, Container types
148	Sampling guidelines (Liquids)
149	Sampling guidelines (Solids)
150	Approximate Volume of Water in Casing or Hole, Ground Water Monitoring Well
151	PVC Pipe casing tables
152	Soil Classification
153	Soil Classification
154	Conversions (Length, Weight, Volume, Temp, etc.)
155	Conversions (Concentrations, Volume/Flow or Time, Velocity, Acceleration)
156	Maximum Concentration of Contaminants for the Toxicity Characteristic

CONTENTS

PAGE	REFERENCE	DATE
51-54	Drill P-132, P-57 & P-53	10/15/09
55-57	Drill P-53, P-19, & Well Completions	10/16/09
58-62	Well Completions & Field Staking	10/19/09
63-65	Drill P-9, P-93 & P-95	10/20/09
66-69	Drill P-97, P-99 & P-71	10/21/09
70-72	Well Completions & Drill P-120	10/22/09
73-75	Drill P-61 & P-87	10/26/09
76-77	Drill P-140	10/27/09
78-80	Drill P-187, P-79, & P-81	10/28/09
81	Drill P-106	10/29/09
82-85	Drill P-108 & Well Completions	11/03/09
86-88	Drill P-108, P-110 & P-112	11/04/09
89-92	Well Completions	11/05/09
93-95	Drill P-128 & P-142 (mcc)	11/06/09
96-97	Drill P-128 & Well Completions	11/07/09
98-99	Drill P-156 & P-83	11/09/09
100-102	Drill P-83 & P-85	11/10/09
103-105	Field Staking, Drill P-124 & P-126	11/11/09
106-107	Drill P-114 & P-152	11/12/09
108-109	Drill P-165 & P-168, Field Staking	11/13/09
110-111	Drill P-150 & Well Completions	11/14/09
112-	Well Completions, Well Development,	11/16/09
146	P-201, P-199, P-169, P-171, P-179, P-181, P-141, P-193, P-164, P-197, P-162, P-160...	01/06/10

Location _____

Date 06/04/09

3

Project / Client

Ameren UE Labadie

1015	- Arrive onsite for contractor safety training with Mike Carlson and site second in command.
	WEATHER: WARM, 70°F, MOSTLY SUNNY, MILD, CALM
1049	- TAD completed safety training
1052	- Begin site reconnaissance with mcc and Ameren UE employee John Eimer. Observed survey markers and previously installed monitoring wells. Corn planted throughout majority of site at ~ 24" height. Center pivot irrigation onsite. Observed the irrigation supply well ~ 100 yds from the intersection of Davis Rd and Labadie Bottom Road. Observed gas pipeline and electrical overhead lines.
1138	- Drop off John Eimer at his office. Visit with John in his office about his contact information and communication methods.
1148	- Off site.
	James Daw

TRAVIS DOLL

- 745 - Arrive onsite to meet John Enmer and Paul Reitz at John Enmer's office.
- 700 - So Ann Thoe onsite for coordination of field staking meeting.
- 708 - Complete meeting and ride with Paul Reitz to the piezometer locations to determine current crops/harvesting and correct water levels from P-1, P-2, and P-3. Water levels gauged by Mr. Reitz.

PZ	SWL
P-1	16.65
P-2	11.86
P-3	11.69

Discussed utility locate placement with John Emer Jo AnThoe and Lachelle Gas (Steve). Drove back to Emer's office.

- 28 Begin field staking. Ground is dry.
00 John Emer and Glenn Ludy (Enbridge) on site. Informed John F was finished staking for the day and will meet him back at the office.
22 Talk with John about water, trailer and supply. LOCATIONS, OFFSITE
GROSS DOW

WEATHER: WARM, SOFT CALM, MILD, PARTLY CLOUDY

Piezometers Field Staked	
P-9 - Sandy Soil	P-102 - 1' grass/corn stubble
P-22	P-118 - "
P-33	P-116 - "
P-12	P-130 - "
P-17	P-141 - "
P-19	P-155 - "
P-24	P-167 - "
P-29	
P-36	
P-35	
P-38 - S of LBR	
P-40 - N of LBR	
P-42 - N of LBR	
P-47	
P-45	
P-43	
P-63	
P-61	
P-59	
P-77	
P-75	
P-90	
P-104 - 1' grass/corn stubble	

Location Americus-LE-Labadie Date 9/18/09

Project / Client Reitz & Jens

WEATHER: WARM, 80°F, MOSTLY SUNNY, 5-10 MPH NEW WIND, NO WIND

30 - Mike Carlson and Dan Binz offsite. Move off of P-47 and prepare for completions of the piezometers

	PZ	W.L.	T.D.	Growth	Add. Comment
51	P-33	14.89'	37.58'	7g	Dan Binz back onsite
118	P-35	14.15'	36.61'	0g	CORRECTED! No 3-Plug
25	P-29	14.52'	37.73'	5g	
32	P-36	14.61'	37.60'	10g	
40	P-27	15.87'	38.00'	10g	
48	P-24	15.07'	37.84'	10g	
55	P-17	16.08'	37.77'	10g	
105	P-12	16.14'	36.99'	10g	
114	P-15	16.60'	37.70'	13g	

120 - Completed steel casings, j-plugs and locks for above wells. Dan Binz offsite.

156 - Max's finished unloading supplies and securing trailer. Dan Binz offsite.

200 - Offsite. CT John Eimer informing him of demobilization.

~~Grants Don~~

Location Americus-LE-Labadie Date 9/21/09

Project / Client Reitz & Jens

WEATHER: WARM 70°F, HEAVY FOG, CALM, HUMID, HEAVY RAIN OVER WEEKEND

0855 - TAD arrive onsite. Max's crew to be here at 0930 hours. Load truck with materials.

0955 - Complete 3rd utility locate renewal. Send via email to John Eimer, Mike Carlson and Dave Hunziker.

1000 - CT Doug Hunziker, Max's, to get ETR. Left voice message.

1026 - Max's Enterprises onsite, Doug Hunziker, Robert Hixon and Ryan Hunziker.

1049 - CT Mike Carlson. Informed his fields are wet and soft; however we will try setting up on P-63 and monitor field settings. He said just be sure to stay within a 12' path.

1115 - Support vehicle became stuck on way to P-63. ATV drill rig used to pull vehicle to P-63.

1125 - John Eimer onsite. Complete tailgate safety mtg. 1130 - Eimer offsite.

~~Grants Don~~

Location Americus - Labadie Date 09/21/09
 Project / Client Reitz & Jens

PZ-63	Begin: 1131	End: 1422
2S	Rec	Sample Description
-1.1'	5/5'	Silt, H. brn, soft, wet, 10YR 4/2
-4.1'	1-Grab	Clay w/ silt, brn, firm, plastic, moist, 10YR 3/2
-4.5'		Very fine sand, tan, loose, damp, 10YR 5/2
-5.5'		Silt w/ trace clay & very fine sand, soft, moist, 10YR 3/3

REVERSE DEPTHS / DESC. 0-5'

6.4'	2.2/5'	Clay w/ silt, brn, firm, plastic, moist, 10YR 3/2
1-7'		Silt w/ trace very fine sand, wet, perched wt, 1t. brn., soft, 10YR 4/3
7.25'		1t. brn., soft, 10YR 4/3
7.25'	2-Grab	Clay, H. brn, highly plastic, firm, moist, 10YR 4/2
5-8.2'		Fine sand w/ trace silt & clay, soft, wet, H. brn, apparent wt, 10YR 4/2
-11.8'	2.8/5'	Fine sand w/ trace very fine sand, Fe' staining, soft, wet, tan, 10YR 4/3
-12.8'		Fine sand, gray, wet, soft, Clay 1 3/1

S	Rec	Sample Description
16.5'	0/0/1	3 Clay w/ trace fine sand and silt, wet, soft, H. brn., 15.5' 10YR 4/3
		Very fine sand gray, soft, wet, 16" Clay 1 3/1

Chris Dow

Location Americus - Labadie Date 09/21/09
 Project / Client Reitz & Jens

WEATHER: WARM, 80°F, MOSTLY SUNNY, 5 MPH EAST WIND, HUMID

SS	Rec	Sample	Description	Cont: P-63
20-21.5'	3 1/3	4	Fine sand and clay/silt, tan, soft, wet, 20.5' 10YR 4/2	
		Load hole w/ H ₂ O	Medium to coarse sand, gray, soft, wet, Clay 1 3/1	
25-26.5'	2 1/3	5	Medium to coarse sand, gray, firm, wet, Clay 1 3/1	
			25.75'	
			Coarse sand, gray, soft, wet, w/ trace fine/medium sand, 26' 10YR 4/1	
			Clay w/ silt and fine sand, 10YR 4/2	
			1t. brn, soft, wet, 26.1'	
			Coarse sand w/ medium/fin. Fine sand, trace gravel, soft, wet, 26.3' 10YR 4/1	
30-31.5'	6 1/4	6	Fine sand, soft, wet, H. gray, 30.5' 10YR 4/1	
			grading to coarse sand	
			30.7' w/ interbedded clay 10YR 4/2	
			Coarse sand w/ medium and fine sand, H. gray, soft, wet, 30.9' 10YR 4/1	

Chris Dow

Location American UE - Labadie Date 09/21/09
Project / Client Reitz & Sons

FS	Rec.	Sample	Description Cont: P-63
-36.5'	12" 2/1/4	7	Medium sand w/ fine sand, lt. gray, sat. wet, 35.5', 10YR 4/1 grading coarse sand, 35.6' grading coarse sand w/ trace gravel 35.7', interbedded 10YR 4/2 clay 35.8', and grading back to coarse sand 35.9', 10YR 4/1

Well Construction Notes: P-63

2" Sch 40 PVC, set base ~ 34.9'
P. Sand to 22.0', use 190 lb 20/40
S. Sand to 19.8', use 50 lb 30/70
Bent. Slurry to GS, use 50 g
(Calc. Vol = 50.5g) $D_i = 2.5"$ $D_f = 9.5"$
PW = 50g

30- Cleanup/Leavehole

40- Begin drilling P-59. See boring log
for description

58- Max's takes lunch break.

62- Restart drilling P-59.

77- Finished drilling P-59.

James D.

Location American UE - Labadie Date 09/21/09
Project / Client Reitz & Sons

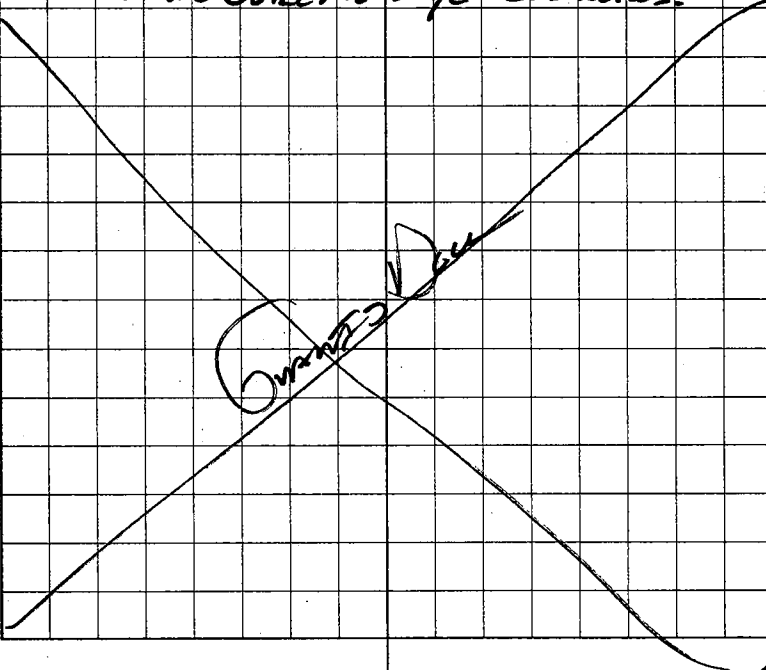
11

Well Construction Notes: P-59

2" Sch 40 PVC, set base ~ 35.3'
P. Sand to 22.2', use 225 lb 20/40
S. Sand to 20.9', use 50 lb 30/70
Bent. Slurry to GS, use 46 g
(Calc. Vol = 53') $D_i = 8.5"$ $D_f = 15"$
PW = 38g

1740- Cleanup/Leavehole

1800 Offsite. Call John Emer and
leave voice message re: status.



Location AmericanE-Labadie Date 09/22/09

Project / Client Reitz & Jens

WEATHER: WARM 105°F MOSTLY CLOUDY, CALM, HUMID, HEAVY RAIN LAST EVENING

100 - Arrive onsite. Doug, Ryan Hunsicker and Robert Hixon onsite. Recon farm fields to get status of standing water.

PHOTO LOG:

- 1) NE, P-40 location in standing water.
- 2) N, P-40 location in standing water.
- 3) W, P-403 and path in standing water.

1710 - Heisel/Newman farm access road south of LBR very muddy and almost become stuck in Greder 2-wheel drive truck.

720 - Setup on P-38.

734 - Complete tailgate safety meeting.

735 - Begin drilling on P-38.

745 - John Eimer and Rich Hill onsite. John stated the generator for Max's must have a GFI. He said he is going to get a GFI for them to use.

859 - Chris Vetter, MNR onsite.

707 - John Eimer onsite/offsite w/ GFI.

05 - CF Mike Carlson. He stated he is considering pulling off the site due to the saturated conditions. He wants me to call him once we are finished w/ P-38.

Graves Don

Location AmericanE-Labadie

Date 09/22/09

13

Project / Client Reitz & Jens

WEATHER: WARM, 75°F, MOSTLY SUNNY, CALM, HUMID

Well Construction Notes: P-38 2256

2" Sch 40 PVC set base ~ 34.6'

P. Sand to 21.5', use 21.5' 16 20/40

S. Sand to 19.3', use 5000 16 30/70

Bent. Slurry to GS, use 70 g

(Calc. Vol = 49 g) $O_i = 3"$ $O_r = 13"$

PW = 40 g

1035 - Finished drilling, sanding and grouting P-38.

1040 - CF Mike Carlson. Informed him that P-40 still has standing water around the location/stake. He stated to plan on demobilizing and to have Max's install temporary protective casings around all remaining unprotected wells. Mike asked me to call him prior to demob.

1045 - Chris Vetter, MNR offsite.

1050 - CME 750 Drill Rig will not start.

1108 - PHOTO LOG CONT:

4) SE, P-38 ground after drilling

5) S, P-38 ground after drilling.

6) NE, P-40 location in standing water.

1113 - Max's got drilling started.

Graves Don

Location Americus - Labadie

Date _____

09/21/09

Project / Client Leitz & Jens

Location

Date _____

15

Project / Client

- 114 - Max begins setting temporary protective casings, j-plugs and locks on all remaining uncompleted well heads.
P-43, P-45, P-47, P-59, P-63, P-38, P-20
- 120 PHOTO LOG CONT:
1) WEST P-38 location after drilling
- 143 - Finished setting temporary casings.
- 205 - Finished unloading support vehicle. Secure site. Off site
- 303 - CT Rich Hill, Const. Safety Amercon, to inform him we were off site for the remainder of the week.

~~James D~~

Location AmerenUE-Labadie Date 09/21/09
Project / Client Reitz & Sens

- 14 - Max's begins setting temporary protective casings, j-plugs and locks on all remaining uncompleted well heads.
P-43, P-45, P-47, P-59, P-63, P-38, P-20
- 20 PHOTO LOG CONT:
7) WEST P-38 location after drilling
- 43 - Finished setting temporary casings.
- 45 - Finished unloading support vehicle. Secure site. Offsite
- 03 - CT Rich Hill, Const. Safety Ameren, to inform him we were offsite for the remainder of the week.

~~James D~~

Location AmerenUE-Labadie Date 09/28/09¹⁵
Project / Client Reitz & Sens

WEATHER: COOL 50°F CLEAR SKIES, MILD, BREEZY GROUND & FIELDS ARE

- 0630 - Arrive onsite to continue OSI field work.
- 0655 - Max's Enterprises onsite. Doug & Ryan Hunziker and Robert Nixon
- 0700 - CME 750 drill rig's battery is dead. Max's begins jump starting.
- 0725 - Setup on P-75
- 0730 - CFM. McCarlson. Checked on status of ground conditions and activities.
- 0745 - Conduct tailgate safety meeting.
- 0750 - Begin drilling P-75

~~James D~~

Location Amerence-Labadie Date 09/28/09

Project / Client Reitz & Jens

WEATHER: WARM, 60°F CLEAR SKIES, MILD, GUST-
Y WINDS 30 MPH

Well Construction Notes: P-75

1" Sch 40 PVC, set base at 34.8

1/40 P. Sand to 21.5' use 250 lb

7/10 S. Sand to 20.2' use 40 lb

Int. Slurry to GS, use 49 g

(Calc. Vol. = 51.5 g) $D_i = 3"$ $D_F = 10"$

$W = 31g$

135- Finished drilling sand, and grouting P-75

00- Setup on P-77.

10- Begin drilling P-77.

Well Construction Notes: P-77

1" Sch 40 PVC set base at 35' ²¹²

1/40 P. Sand to 21.4' use 216 lb

7/10 S. Sand to 19.9' use 38 lb

Int. Slurry to GS, use 53 g

(Calc. Vol. = 51 g) $D_i = 8.5"$ $D_F = 16"$

$W = 31g$

130- Chris Verrether, MNR, on site.

145- Finished drilling, sand, and grouting P-77.

00- Setup on P-90.

120- Begin drilling on P-90.

Chris Verrether

Location Amerence-Labadie Date 09/28/09¹⁷

Project / Client Reitz & Jens

Well Construction Notes: P-90

5" Sch 40 PVC, set base at 35'

29/40 P. Sand to 21.2' use 225 lb

39/70 S. Sand to 20' use 60 lb

Bent. Slurry to GS, use 53 g

(Calc. Vol. = 51 g) $D_i = 3"$ $D_F = 10.5"$

$W = 31g$

1700- Finished drilling, sand, and grouting P-90

1715- Begin drilling P-102.

1720- Chris Verrether off site.

1750- Finished drilling for day on P-102.

Sample to 15' bgs.

1815- Off site for the day CT John Eimer
about departure.

Chris Verrether

Location AmerenUE-Labadie Date 09/29/09

Project / Client Reitz & Sons

WEATHER: COOL, 50°F, CLEAR SKIES, MILD, BREEZY

- 045 - Arrive onsite for DST Fieldwork
055 - Max's Enterprises arrive onsite.
Doug & Ryan Hunziker Robert Hixon
125 - Setup on P-102 to resume drilling.
130 - Conduct tailgate safety meeting.
138 - Resume drilling on P-102.
140 - Drill string and sand catch opener
became stuck in HSAs when pulling
drill string out. Required hoist to
remove. Coarse sands were on the
sand catch opener when removed.

Well Construction Notes: P-102

"Sch 40 PVC, set base at 34.7'

140 P. Sand to 21', use 200 lb

170 S. Sand to 19.8', use 40 lb

ent. Slurry to GS, use 49 g

(Calc. Vol. = 50.5 g) $D_i = 10"$ $D_o = 17"$

$D = 31g$

24 - Chris Violette, MONE, onsite.

45 - Finished drilling, sand, and grouting P-102.
Sands still heaving in HSAs during tremb
method of filter packs
Grouts Done

Location AmerenUE-Labadie Date 09/29/09 19

Project / Client Reitz & Sons

WEATHER: COOL, 65°F, CLEAR SKIES, MILD, 15-20 MPH
WIND FROM NW

- 1011 - Setup on P-116. Max's back to plant
to fill up w/water.
1038 - Begin drilling on P-116.

Well Construction Notes: P-116

2" Sch 40 PVC, set base at 35'

240 P. Sand to 21.5', use 225 lb

300 S. Sand to 19.8', use 40 lb

Bent Slurry to GS, use 49 g

(Calc. Vol. = 50.5 g) $D_i = 3"$ $D_o = 10"$

PW = 25g

1215 - Robert Hixon offsite to buy lunch.

1248 - Robert Hixon back onsite.

1325 - Finished drilling, sand, and grouting P-116.

1340 - Setup on P-118. Max's goes to plant to
fill up w/water.

1405 - Begin drilling on P-118.

1510 - John Eimer onsite to monitor safety.

1515 - John Eimer offsite.

1638 - Finished drilling, sand, and grouting P-118.

1650 - Setup on P-155.

1704 - Begin drilling on P-155.

1816 - Unload. Offsite

Grouts Done

Location America UE - Labadie Date 09/29/09

Project / Client Reitz & Sons

Well Construction Notes: P-118

2" Sch 40 PVC, set base at 35.2'

3/40 P. Sand to 21.7, use 225 lb

3/40 S. Sand to 19.9, use 50 lb

Bent. Slurry to GS, use 60 g

(Calc. Vol. = 51 g) $D_i = 10"$ $D_o = 18.5"$

PW = 28g

1830 - CT John Eimer about departure.

~~Graves Don~~

Location America UE - Labadie Date 09/30/09 21

Project / Client Reitz & Sons

WEATHER: 60-80°F, HEAVY FOG, HUMID, CALM

0640 - Arrive onsite for DST Fieldwork

0650 - Max's Enterprises onsite.

Doug & Ryan Hunziker, Robert Hixon

0711 - Setup on P-155 to resume drilling.

0730 - Conduct tailgate safety meeting.

0731 - Resume drilling on P-155.

Well Construction Notes: P-155

2" Sch 40 PVC, set base at 34.8'

20/40 P. Sand to 21.5', use 250 lb

30/40 S. Sand to 19.9', use 40 lb

Bent Slurry to GS, use 42 g

(Calc. Vol. = 51 g) $D_i = 4.5"$ $D_o = 10.5"$

PW = 38g

0923 - Chris Vierthel, MO PR, onsite.

0925 - Dave Hunziker, Jeff Fause, and Mike

Carlson onsite.

0941 - Finished drilling, sand and grading P-155.

0945 - Mike Carlson & Jeff Fause offsite

to safety/progress mtg. w/ John Eimer.

0953 - Setup on P-130

1018 - Begin drilling on P-130.

1125 - Mike Carlson back onsite from meeting.

Graves Don

Location AmerenUE-Labadie Date 09/30/09

Project / Client Reitz & Sons

WEATHER: WARM 70°F, MOSTLY SUNNY, MILD, WINDY
FROM SE ~ 5 MPH

Well Construction Notes: P-130

"Sch 40 PVC, set base at 34.9'

40 P. Sand to 21', use 240 lb

70 S. Sand to 19.5', use 50 lb

ent. Slurry to GS, use 32* g

(Calc. Vol. = 50 g) $D_i = 9.5"$ $D_o = 14"$

W-44

17 - Mike Carlson and Robert Hixon offsite to
buy lunch.

40 - Chris Viereither offsite.

45 - Mike Carlson and Robert Hixon onsite.

50 - Finished drilling sand and grouting P-130.

Dave Hunziker stated the grout depth
is actually 6" = *42 g

20 - Setup on P-144 First 4" Well

30 - Begin drilling on P-144.

46 - Finished drilling/sampling w/ 8.25" augers.

65 - Begin drilling w/ 10" (6.75") I.D. on P-144.

33 - Finished augering down to 35' on P-144.

18 - Finished adding sand to P-144.

40 - Finished drilling sand and grouting P-144.

51 - Setup on P-104

James Dow

Location AmerenUE-Labadie Date 09/30/09

23

Project / Client Reitz & Sons

Well Construction Notes: P-144

4" Sch 40 PVC, set base at 34.7', 20-Slot

10 P. Sand to 21.7', use 300 lb

30 S. Sand to 20', use 80 lb

Bent Slurry to GS, use 52 g

(Calc. Vol. = 69 g) $D_i = 5"$ $D_o = 8.5"$

PW = 96 g

1700 - Begin drilling on P-104

1715 - ~ Chris Viereither, MONE, onsite.

1810 - Finished drilling for day on P-104.

Drilled to 35' w/ 8.25-inch augers.

1830 - Made Ent. offsite and Chris Viereither

1840 - Offsite.

1842 - Call to John Elmer about departure.

James Dow

Date ~~3/4~~ 10/01/09

Project / Client Reitz & Sons

WEATHER: COOL, 100% OVERCAST, HUMID, SCATTERED
RAIN SHOWERS, THUNDERSTORMS IN FORECAST

040 - Arrive onsite for DSI Fieldwork.

045 - Mike Carlson on site.

55- Max's Enterprises onsite. Dave Doug
and Ryan Hunziker, Robert Hixon

20- Mike Carlson returns to P-104 to resume drilling, while I continue field staking along the western area of the Heisel property.

PIEZOMETERS FIELD STAKED

P-189

A-177

P-165

p-142

315 Lost satellite coverage for GPS and
could not continue locate of Piezometers.

25- Head back to construction trailer to wait out thunderstorms/lightening.
Prep. soil sample bottles/labels.

00- Max's Enterprises offsite and sent home
due to rain.

15 - Off site and go back to hotel to check-out for week.

Group Don

Discussion

D

Project / Client

25

Location AmerenUE-Labadie Date 10/01/09
Project / Client Reitz & Sons

WEATHER: COOL, 40°F, OVERCAST, HUMID, SCATTERED
RAINY SHOWERS, THUNDERSTORMS IN FORECAST

- 040 - Arrive onsite for DSI fieldwork.
045 - Mike Carlson onsite.
55 - Max's Enterprises onsite. Dave, Doug
and Ryan Hunziker, Robert Hixon
20 - Mike Carlson returns to P-104 to
resume drilling, while I continue
field staking along the western
area of the Heisel property
PIEZOMETERS FIELD STAKED
P-109
P-177
P-165
P-142

- 315 - Lost satellite coverage for GPS and
could not continue locate of Piezometers.
25 - Head back to construction trailer to
wait out thunderstorms/lightening.
Prep. soil sample bottles/labels.
00 - Max's Enterprises offsite and sent home
due to rain.
15 - Offsite and go back to hotel to check
out for week.

James Dow

Location AmerenUE-Labadie Date 10/05/09²⁵
Project / Client Reitz & Sons

WEATHER: COLD, 40°F, LIGHT FOG, DAMP, CALM

- 0635 - Arrive onsite for DSI fieldwork.
Observed flat tire on 10.25"
Auger trailer.
0639 - CF Doug Hunziker to inform
him of flat tire prior to them
arriving onsite.
0650 - Max's Enterprises onsite.
Doug & Ryan Hunziker, Robert Hixon
0705 - Conduct tailgate safety meeting.
0718 - Support truck for Max's became stuck
in field enroute to P-104.
0745 - Max's uses drilling rig to pull support
vehicle to P-104.

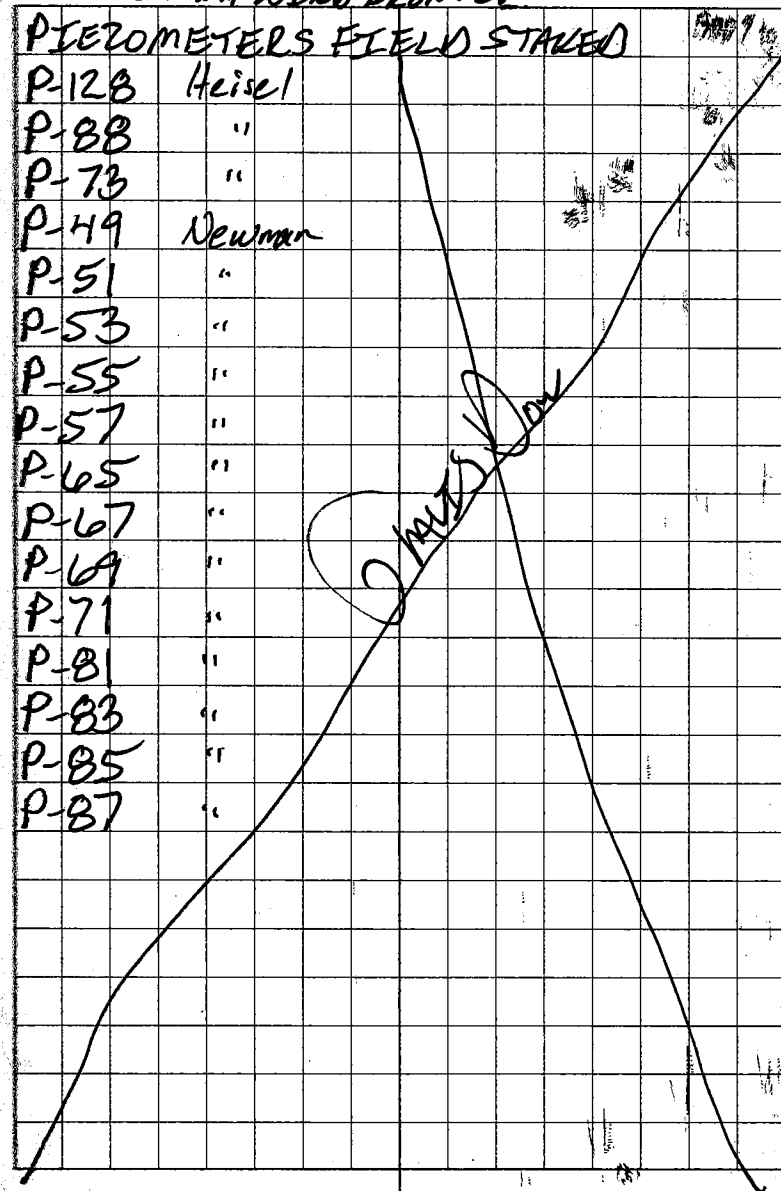
PHOTO LOG

- 1) EAST, cuts created from support
vehicle & drilling rig to P-104
 - 2) EAST, same as previous
 - 3) WEST, cuts created from support
vehicle
 - 4) WEST, same as previous.
- 0750 - CF Mike Carlson. Informed him of
the drilling rig becoming stuck enroute
to P-104.
0755 - Begin 10.25" augers/drilling on P-104
James Dow

Location AmeienuE-Labadie Date 10/05/09
 Project / Client Reitz & Jens

Location AmeienuE-Labadie Date 10/05/09 27
 Project / Client Reitz & Jens

WEATHER: WARM, 45°F CLEAR SKIES, MILD.
 5-10 MPH WIND FROM SE



Well Construction Notes: P-104
 "Sch 40 PVC, set base at 34.8' 20-slot
 20 P. Sand to 21.25' use 425 lb
 40 S. Sand to 19.8' use 75 lb
 ent. Slurry to GS use 90 g
 (Calc. Vol. = 69 g) $O_i = 14.5" O_f = 20.5"$
 $U = 39g$

335- Finished drilling, sand, and grouting P-104.
 340 - Max's uses drill rig to pull support track
 from P-104, back to farm access road.
 Drill rig's clutch is not working effectively
 requiring the rig to be shut down,
 placed in gear, and then restarting.
 However, the battery and/or starter is
 preventing the rig from starting continuously.

313 Setup on P-1167.
 323 Begin drilling on P-1167.
 340 Clutch going out on rig, which is not allowing
 the rotary table to engage/turn. Max's
 begins to adjust/troubleshoot the clutch.
 305 Begin field staking while Max's dis-
 assembles the clutch/broken pressure plate.
 Guss Jon

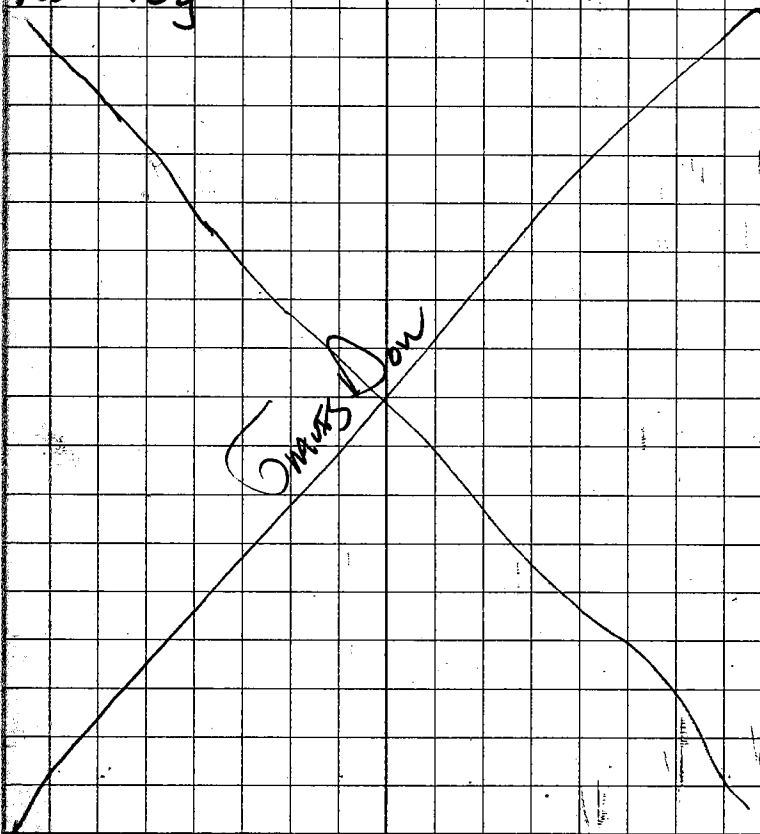
Location AmerenUE - Labadie Date 10/05/09
Project / Client Reitz & Jens

Location AmerenUE - Labadie Date 10/05/09 29
Project / Client Reitz & Jens

- 227 - Max's Enterprises offsite to find replacement parts for drill rig.
00 - John Emer onsite. Informed him of drill rig breaking down.
05 - John Emer offsite.
146 - Max's Enterprises onsite.
05 - CF Mike Carlson. Informed him Max's just returned and that I was still field staking. Told him I will call him once I get an idea of the repair estimated time.
19 - Finished field staking
20 - CF John Emer. Stated MCI called him and stated we have clearance from them for drilling.
22 - Max's repaired the broken pressure plate on the clutch.
25 - Resume drilling on P-167.
12 - Sand heaving into augers during the tremieing of sand.
143 - Finished drilling sand and grouting P-167.
100 - CF Mike Carlson to give status. Offsite.
105 - CF John Emer informed him were offsite

Grout Down

Well Construction Notes: P-167
2" Sch 40 PVC 10-Slot, set base at 35'
29/10 P. Sand to 21.8', use 140 lb
30/10 S. Sand to 20.2', use 40 lb
Bent. Slurry to GS, use 90-42 g
(Calc. Vol. = 5170 g) $\Delta_i = 7$ $\Delta_f = 13$
PW = 48 g



30 Location AmerenUE-Labadie Date 10/06/09
Project / Client Reitz & Jens

WEATHER: COOL, OVERCAST, HEAVY RAIN AND LIGHTNING

- 0645- Arrive onsite for OSI Fieldwork.
0705- Max's Enterprises onsite. Doug & Ryan Hunziker, Robert Hixon.
0724- CF Mike Carlson. Informed him of heavy rain and lightning. He stated Max's Enterprises will not be sent back to Ft. Scott today, so if they need to head back to the hotel they can to wait out the weather.
0745- Recon. the site. P-42 may be able to be drilled later today. The Newman wells along Labadie Bottom Road are ~30' off the road and the corn stubble fields feel soft and are holding water between the rows. Doug Hunziker stated they will rot up the fields if entered.
0755- Max's Enterprises offsite until further notice to wait out rain/lightning.
1758- VMT Mike Carlson. Informed him of plan for the day. Offsite.
150- Arrive onsite to monitor weather/site conditions.

Gmrs Don

31 Location AmerenUE-Labadie Date 10/06/09
Project / Client Reitz & Jens

WEATHER: WARM 70°F OVERCAST, INTERMITTENT LIGHT RAIN, SOME WIND FROM SW

- 1148- CF Paul Reitz. He stated not to enter the Newman property until further notice. Informed him that I fieldstaked a portion of the property yesterday but did not create ruts in the soil. He also stated to not be conversive with the public about our activities and to refer the public to Geneva Bowser.
1155- CF Mike Carlson. Informed him of our plan to begin drilling on P-42, and about Paul Reitz's phone conversation. He stated that Mike Scott King will not be onsite today.
1203- CF Chris Dickerther, MWR, and he was considering mobilizing to the site today or tomorrow.
1210- Max's Enterprises onsite.
1230- Setup on A-42. Move to S. of LBR.
PHOTO LOG
1) EAST ruts in ditch near P-40 from joy riders.
2) WEST ruts in ditch near P-40 from joy riders.

Gmrs Don

Location Americus E-Labadie Date 10/06/09Project / Client Leitz & Sens

WEATHER: WARM, 70°F OVERCAST, GUSTY WINDS FROM SW 25 MPH, HUMID

- 1255- Conduct tailgate safety meeting.
- 1258- Begin drilling P-42. Moved the staked location of the well to the south side of Labadie Bottom Rd. to stay in west-east trend w/ P-38 and P-40. Well location placed 30' from center of Labadie Bottom Rd. to stay out of assumed R.O.W.
- 1426- Finished drilling/sampling P-42 w/ 8.25" HSAs. Convert to 10.25" HSAs. Move back to equip. storage location to change to 10.25" HSAs, trailer, fill water and get well materials.
- 1510- Resumed drilling w/ 10.25" HSAs on P-42.
- 1525- Chris Vierrether, MDNR, on site.

Well Construction Notes: P-42

1" Sch. 40 PVC 20 slot set base at 34.8'

to P. Sand to 21.3', use 425 lb

to S. Sand to 20', use 62 lb

ent. Slurry to GS, use 105 g

(Calc. Vol. = 69 g $D_1 = 4"$ $D_F = 11"$)

W = 48g

GAMES DON

Location Americus E-Labadie Date 10/06/09Project / Client Leitz & Sens

- 1709- Finished drilling, sand, and grouting P-42
- 1725- Move trailer back to equipment storage area and begin disconn. of both sets of augers. Park the drill rig on farm access road since fields are too wet and P-40 is along the road (Labadie Bottom Road).
- 1730- Chris Vierrether off site.
- 1745- Max's Enterprises and I off site.
- 1746- CT John Eimer about departure.

GAMES DON

Location AmericanE-Labadie Date 10/07/09

Project / Client Reitz & Jens

WEATHER: COLD, 45°F, CLEAR SKIES, CALM

- 653- Arrive onsite for DSI Fieldwork.
- 655- Max's Enterprises onsite. Doug & Ryan Hunziker, Robert Hixon.
- 703- Conduct tailgate safety meeting.
- 715- Place temporary protective casing and j-plug on P-107. Place j-plug on P-144, P-104 and P-42.
- 745- CT Mike Carlson. Informed him we are setting up on P-22, but we will be orienting the drill rig N-S due to the ditch and wet ground conditions. He mentioned that we may be installing additional grout and cement pads around the temporary protective casings this afternoon.
- 815- Begin drilling on P-22.
- 834- Chris Virether, MOW2, onsite.
- 1115- Risk w/ Mo Natural Gas onsite to discuss locate clearance.
- 1139- Finished drilling w/ 8.25" HSA's and sampling on P-22.
- 43- Max's back to equipment storage area to get 10.25" HSA trailer.
- 1110- Max's back to P-22 w/ HSA's.
GROSS Don

Location AmericanE-Labadie Date 10/07/09 35

Project / Client Reitz & Jens

WEATHER: WARM, 65°F, CLEAR SKIES, CALM, (MID)

- Well Construction Notes: P-22
- 4" Sch 40 PVC 20-Slot, set base at 35'
- 1st 20' P. Sand to 21.5', use 375 lb
- 2nd 10' S. Sand to 19.8', use 75 lb
- Bent. Slurry to GS use 75 g
- (Calc. Vol. = 69 g) $D_i = 12"$ $D_o = 17"$
- PH = 36g
- 1019- Begin leaning P-22 w/ 10.25" HSA's to 35' bgs
- 1020- Scott King onsite to gauge cell. Assist Scott w/ measuring P-22 w.l. & T.O. while drillers auger/ream P-22.
- 1032- Back from P-22.
- 1104- Mike Carlson onsite.
- 1142- Finished drilling, sand, and grouting P-22. Go back to storage area to unload trailer and begin prep. to complete wellheads.
- ~1200- Chris Virether offsite.
- 1225- Mike Carlson & Robert Hixon offsite to buy concrete/lunch in Washington.
- 1245- CT John Eimer about people shooting
GROSS Don

Location AmerenUE-Labadie Date 10/07/09
 Project / Client Reitz & Jens

Location AmerenUE-Labadie Date 10/07/09
 Project / Client Reitz & Jens

37

145 Cont. - guns at targets on old Heisel land.

	PZ	Growth Add	Comments
302	P-167	9g	Concrete, j-plug & lock
330	P-155	6g	"
345	P-130	5g	"
400	P-118	10g	"
415	P-116	10g	"
440	P-102	6g	"
149	P-104	26g	Growth Added ONLY, NO PC
159	P-90	8g	Concrete, j-plug & lock
516	P-77	10g	"
552	P-75	19g	"
609	P-63	9g	"
621	P-59	11g	"
640	P-47	17g	"
655	P-45	20g	"
672	P-43	16g	"
712	P-42	20g	Growth Added ONLY NO PC
720	P-20	15g	Concrete, j-plug & lock
730	P-22	15g	Growth Added ONLY, NO PC
735	P-38	21g	Concrete, j-plug & lock

~~Trans Don~~

1430 - John Emerson site. Gave him copies of the daily safety records and tailgate safety meetings from 10/05-10/06/09.

1432 - John Emerson offsite.

1445 - Chris Viernether on site.

1460 - Mike Carlson offsite.

1710 - Chris Viernether offsite.

1744 - Finished well completions.

1819 - Unload trailers / truck and offsite.

1821 - CT John Emerson about departure.

~~Trans Don~~

Location AmerenUE-Labadie Date 10/08/09

Project / Client Reitz & Jens

WEATHER: COOL 55°F OVERCAST, LIGHT RAIN & THUNDERSTORMS IN AREA, RAINING, LIGHTNING

152 - Arrive onsite to cont. OSI fieldwork.

Max's Enterprises onsite: Doug & Ryan Hurricker Robert Hixon.

100 - Survey the field conditions from the overnight rain. Standing water present in fields and Labadie Bottom Road is soft to drive on.

Observed a rain gauge on Survey Marker AUELBE 004, which has 5-inches of rain, but did not have a starting point to gauge.

21 - CT Mike Carlson. Informed him that the site is very wet due to heavy rains overnight. I estimated ~ 1" rain based on water accumulated in empty bucket overnight. Mike stated to send Max's Enterprises home and for me to head to the office to end the week.

49 - CT Fred at M & M Carts to postpone delivery of Club Cart until Monday 10/12/09 @ 1100 hours. He asked us to call first thing Monday morning if we need to cancel. (636) 379-8243

Gross Dow

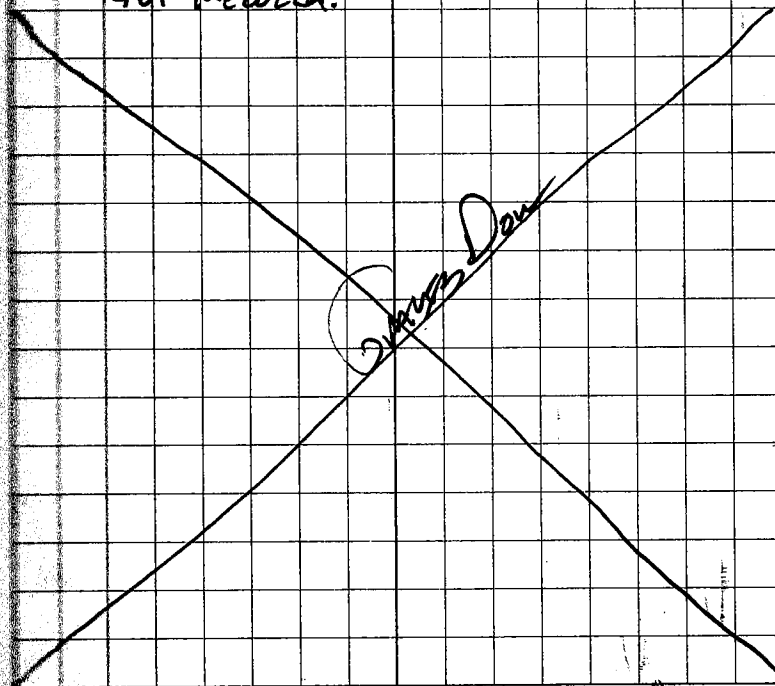
Location AmerenUE-Labadie Date 10/08/09 39

Project / Client Reitz & Jens

0800 - Move gas powered generator outside mobile office due to excessive gas fumes in office. Locked generator w/ cable lock to mobile office and covered w/ plastic and sheet metal lean-to.

0810 - Max's Enterprises and I offsite.

0811 - CT John Eimer about departure for the week.



AmerenUE - Labadie

10/12/09

Reitz & Jens

WEATHER: COOL, 50°F OVERCAST, MILD, 5 MPH
WIND FROM EAST

1255- Arrive onsite for OSI fieldwork and to relieve Mike Carlson. Scott King onsite at construction trailer. Assist Scott w/ pump troubleshooting and fuse issues w/ club cart.

1320- Locate Mike and Mar's Enterprises setup on P-31. Doug & Ryan Hunziker, Robert Hixon onsite.

Well Construction Notes: P-31

4" Sch 40 PVC 10-Slot, set base 35'

20/40 P. Sand to 21.2', use 350 lb

30/70 S. Sand to 20', use 100 lb

Bent. Slurry to GS, use 28 ³⁵ g

(Calc. Vol. = 51 g) $D_i = 10"$ $D_o = 15"$

PW = 50g

1436- Mike Carlson offsite. Scott King is developing wells.

1510- Finished drilling, sand and grouting P-31

1544- CT/RCF Mike Carlson. Informed him that P-9 & P-19 4" piezometers w. 11 likely require 20-slot screen which we don't have in supply; therefore we are going Gravel Now

AmerenUE - Labadie

10/12/09

Reitz & Jens

1544- Cont. - to move down to P-189 since it is a 2" piezometer and the Explorer pipeline has been marked.

1600- Setup on P-189. Road and ground are very wet. Support truck is requiring towing by drill rig down farm access Rd.

1628- Drill rig and support truck arrive at P-189.

1632- Begin drilling on P-189

Well Construction Notes: P-189

2" Sch 40 PVC 10-Slot, set base at 34.8'

20/40 A. Sand to 21', use 100 ~~lb~~ lb

30/70 S. Sand to 19', use 25 lb

Bent. Slurry to GS, use 28 g

(Calc. Vol. = 48 g) $D_i = 14"$ $D_o = 18"$

PW = 25g

1825- Sands heaving into HSA's while adding primary filter pack & secondary filter pack.

1900- Finished drilling, sand & grouting P-189
Gravel Now

Location AmeriUE - Labadie Date 10/12/09
People / Crew Reitz & Jens

- 1900 - Cont. - Leave support truck and drill rig at P-189 due to the fact it would take at least 30 minutes to pull back to Labadie Bottom Road and it is dark. Have Max's Enterprises ride in Gredevl vehicle for evening / tomorrow morning.
- 1915 - Finished securing site/unloading. Max's Enterprises, Scott King and I offsite.
- 1918 - CT John Elmer to inform him of departure.

~~Cross Dow~~

AmeriUE - Labadie 10/13/09
Reitz & Jens
WEATHER: COLD, 45°F, OVERCAST, BREEZY.

- 0655 - Arrive onsite for DSI Fieldwork along with Max's Enterprises: Doug & Ryan Humziker, Robert Hixon
- 0700 - Conduct tailgate safety meeting.
- 0705 - Arrive at P-189 to pull support truck with drill rig back to Labadie Bottom Road.
- 0725 - CT Mike Carlson. Informed him the farm access road between Hedsel & Newman former properties is becoming very difficult to traverse with drill rig & support truck due to deep mud/ruts; especially at the wetland crossing near P-189. Recommended we move to Newman property until road can be graded/ruts smoothed. He stated we have access to Newman's and said we can start on the P-65 row. He is also going to find out if we can access the P-49 row from Labadie Bottom Road. Informed him a Shelby tube was not collected on P-189.

AmerenUE-Labadie

10/13/09

Reitz & Jens

0725-Cont. - since significant thickness of clay was not observed.

0814- Setup on P-65

0843- Begin drilling on P-65

Well Construction Notes: P-65

2" Sch 40 PVC 10-slot set base at 34.9'

20/40 P. Sand to 21.7', use 260 lb

30/70 S. Sand to 20.3', use 50 lb

Bent. Slurry to GS, use 77 g

(Calc. Vol. = 52 g) $D_i = 3.5"$ $D_F = 14.5"$

PW = 40g

1125- Finished drilling, sand and grouting P-65
Light rain beginning to fall.

1130- Support truck became stuck on P-65
trying to turn around to get water
for next piezometer/drilling. Drilling
rig used to pull support truck back to
Labadie Bottom Rd.

1200- Setup on P-67

1220- Begin drilling on P-67.

~~James Don~~

AmerenUE-Labadie

10/13/09

Reitz & Jens.

WEATHER: CLOUD, 45°F, OVERCAST, RAINING,
LIGHT WIND

Well Construction Notes: P-67

2" Sch 40 PVC 10-slot, set base at 35'

20/40 P. Sand to 21.4', use 150 lb

30/70 S. Sand to 20.25', use 50 lb

Bent. Slurry to GS, use 49 g

(Calc. Vol. = 52 g) $D_i = 10"$ $D_F = 17"$

PW = 40g

1457- Finished drilling, sand, and grouting
P-67.

1519- Setup on P-69.

1525- Begin drilling on P-69

Well Construction Notes: P-69

2" Sch 40 PVC 10-slot, set base at 35'

20/40 P. Sand to 21.3', use 250 lb

30/70 S. Sand to 20.3', use 50 lb

Bent. Slurry to GS, use 39 g

(Calc. Vol. = 52 g) $D_i = 12.5"$ $D_F = 18"$

PW = 40g

1607- CF Scott King. Stated he was done
developing wells for the day and
leaving the site.

James Don

Location AmerenUE-Labadie

Date 10/13/09

Project / Client Reitz & Jens

1737 - Finished drilling, sand, and grouting
A-69.

1835 - Secure site/unload and depart
for day.

1838 - CT John Eimer about departure.

~~CRANKS DOWN~~

Location AmerenUE-Labadie

Date 10/14/09

Project / Client Reitz & Jens

WEATHER: COLD 40°F, OVERCAST, LIGHTS RAIN,
CALM

0650 - Arrive onsite for DSI Fieldwork.
Max's Enterprises onsite: Robert
Hixon, Doug & Ryan Hunziker.

0700 - Recon. site w/ Doug to survey
effect of overnight rain. Water
standing in fields and draining
over Labadie Bottom Rd in 3
locations. Piezometers P-49 and
P-51 may be able to be accessed
from Labadie Bottom Rd, but not
from Farm access Rd.

0711 - CT Mike Carlson. Asked him if we have
approval to enter the Newman
property from Labadie Bottom
Rd for the P-49 row of piezometers.
He said yes we have approval and
we can move the staked locations
15' from edge of Labadie Bottom Rd,
but to record distance moved.

0725 - Conduct tailgate safety meeting.

0731 - Setup on P-51. Moved stake 3'
north.

0813 - Begin drilling on P-51.

CRANKS DOWN

Location AmerenUE-Labadie

Date 10/14/09

Project / Client Reitz & Sons

Well Construction Notes: P-51

2" Sch 40 PVC 10-Slot, set base at 35'20/40 P. Sand to 21.6', use 150 lb30/70 S. Sand to *18.7', use 50 lbBent. Slurry to GS use 35 g(Calc. Vol. = 48 g) $D_i = 7"$ $D_F = 12"$

PW = 40g

1000 - CT Mike Carlson. Gave him status of drilling activities on P-51. Informed him we can likely install 3 piezometer today, but that would complete the 2" accessible wells from Labadie Bottom Road. Mike stated he should be onsite this afternoon for the weekly safety meeting.

1005 - Scott King onsite.

1020* Secondary filter pack sand could not fall out of HSA's fast enough during tremoring. Notard sand was collapsing in the borehole as HSA's were being removed.

1045 - Finished drilling, sand and grouting P-51.

1100 - Setup on P-55. Move stake 7' north.

Gm 4th Don

Location AmerenUE-Labadie

Date 10/14/09

Project / Client Reitz & Sons

WEATHER: COLD 45°F OVERCAST INTERMITTENT LIGHT RAIN, 10-15 MPH WIND FROM NE

1105 - Support truck became stuck on P-55 during setup. Attempt pulling truck w/ drill rig and Gredell truck but unsuccessful.

1120 - Begin drilling on P-55

Well Construction Notes: P-55

2" Sch 40 PVC 10-Slot set base @ 34.8'20/40 P. Sand to 21.5', use 275 lb30/70 S. Sand to 19.7', use 50 lbBent. Slurry to GS use 60 g(Calc. Vol. = 50 g) $D_i = 11"$ $D_F = 19.5"$

PW = 40g

1325 - Finished drilling, sand, & grouting P-55.

1332 - Setup on P-49. Max's Enterprises offsite for lunch & fuel. Moved staked location 25' north. Go to Construction office.

1335 - Mike Carlson onsite.

1420 - Mike Carlson leaves for safety mtg.

1428 - Max's Enterprises onsite.

1508 - Begin drilling on P-49.

~1520 - Mike Carlson, John Eimer and Jeff

Gm 4th Don

Location AmerenUE-Labadie

Date 10/14/09

Project / Client Reitz & Jens

1520-Cont. - Fouse onsite.

1530- John Eimer and Scott Fouse offsite.

1610- Mike Carlson offsite to home office.

Well Construction Notes: P-49

2" Sch 40 PVC 10-slot, set base @ 35'20/40 P. Sand to 21.3', use 275 lb30/70 S. Sand to 19.5', use 50 lbBent. Slurry to GS, use 49 g(Calc. Vol. = 50 g) $D_i = 3"$ $D_F = 10"$

PW = 38g

1708- Finished drilling, sand, & grouting P-49.

1742- Finished unloading, decon. augers and offsite. Scott & King unloading and will check/clock out in a few minutes.

1748- CT John Eimer about departure.

~~Summary Done~~

Location AmerenUE-Labadie

Date 10/15/09

Project / Client Reitz & Jens

WEATHER: COLD, 45°F, OVERCAST, DRIZZLE.

0653- Arrive onsite for DSI Fieldwork.

Max's Enterprises onsite: Robert Hixon, Doug & Ryan Hunziker.

0714- Conduct tailgate safety meeting.

0734- Stake P-132 & setup. Support truck is stuck down to the hitch.

0800- Begin drilling on P-132

Well Construction Notes: P-132

2" Sch 40 PVC 10 slot, set base @ 35'20/40 P. Sand to 21.3', use 260 lb30/70 S. Sand to 20', use 45 lbBent. Slurry to GS, use 35 g(Calc. Vol. = 51 g) $D_i = 6"$ $D_F = 11"$

PW = 56g

0915- Observe Scott King onsite developing wells.

0930- CF Mike Carlson. Due to the wetness of the fields, Mike stated to try drilling P-53 or P-57 along LBR next, and use the 10-slot screen in these piezometers.

1006- Finished drilling, sand & grouting P-132.

Summary Done

- 1025 - John Emmer & Rich Hill on site driving LBR taking pictures of disturbed soil areas around piezometers.
- 1045 - Max's Enterprises pulled support truck back to LBR. Back to equipment storage to get materials, water, and 10.25" HSAs for drilling 4" piezometers.
- 1103 - Setup on P-57. Move stake 7' South to be 30' from LBR center R.O.W.
- 1125 - Begin drilling on P-57.
- 1230 - Scott King stated he was leaving the site for the day.

SHELBY TUBE SAMPLE → P-57, 1-3'

- 1240 - Last split spoon on P-57, 35-36.5' became stuck w/ in HSAs. Tried pulling drill string/sample string out but HSAs came/moved with it. Beg. backing out of hole while removing HSAs to free the split spoon/drill string.

Jim & Don

Well Construction Notes: P-57
 4" Sch 40 PVC 10-slot, set base @ 34.8'
 20' to P. Sand to 21.4', use 400 lb
 30' to S. Sand to 19.4', use 100 lb
 Bent. Slurry to GS, use 70 g
 (Calc. Vol. = 67 g) $D_i = 13"$ $D_F = 23"$
 DW = 69 g

- 1451 - Finished drilling, sand & grouting P-57.
- 1507 - Take Robert Hixon to Labadie Market to get lunch while Doug & Ryan get water & materials, then setup on P-53. Move stake 8' North.
- 1528 - Back on site at P-53.
- 1550 - Begin drilling on P-53.
- 1658 - Finished drilling w/ 8.25" HSAs on P-53. Protect open borehole w/ 10.25" HSA by connecting to drill string. Go back to construction trailer to unload, prepare water & clean HSAs for tomorrow.
- 1659 - CT Mike Carlson. Gave him status of activity and asked him for plan of action for tomorrow. He said
 Grues Don

Location Americus-LabadieDate 10/15/09Project / Client Reitz & Sons

1659-Cont.- we should complete P-53 tomorrow install another 4-inch piezometer picking from P-9, P-19 and P-61 due to the saturated soil conditions elsewhere in the OSI boundary. He would also like for us to complete as many accessible 2" wells that we can to finish up the week.

1751 - Finished loading water and mixing bentonite. Offsite.

1756- CT Sohn Eimer about departure.

~~UNIT 5 DOW~~

Location Americus-LabadieDate 10/16/09Project / Client Reitz & Sons

WEATHER: COLD, 45°F OVERCAST, HUMID, DRIZZLE, LIGHT WIND

0652 - Arrive onsite for OSI Fieldwork.

Max's Enterprises onsite: Robert Hixon, Doug & Ryan Hunziker.

0715 - Setup on P-53 to begin reaming of hole w/ 10.25" HSA.

0717 - Conduct tailgate safety meeting.

0728 - Begin reaming out hole on P-53.

Well Construction Notes: P-53

4" Sch 40 PVC 10-Slot, set base @ 35'

20/40 P. Sand to 21.2', use 350 lb

20/70 S. Sand to 20', use 50 lb

Bent. Slurry to GS, use 63 g

(Calc. Vol. = 69 g) $D_i = 5"$ $D_f = 14"$

PW = 53g

0818 - Sohn Eimer onsite. Gave him tailgate safety meeting checklists and Daily Safety Records from 10/14-10/16.

0830 - Sohn Eimer offsite.

0852 - Man in LP1DD-154, White Ford Truck stopped by and asked what we were drilling for. Informed him that we were doing a geological investigation for ~~UNIT 5 DOW~~

Location AmerenUE - Labadie Date 10/16/09
Project / Client Reitz & Jens

0852-CONT.- Ameren. He asked if Ameren owned all this land we were on. I informed him the land we are drilling on is owned by Ameren.

0900- Kyle Kocher, Reitz & Jens, onsite to look at farm access roads. He stated they are considering placing fabric and rock down in the low areas of the road.

0902- Finished drilling, sand & grouting on P-53

0912- Setup on P-19

0920- Begin drilling on P-19.

1000- Mr. Turnstall onsite w/a contracted company for Ameren to look at the farm roads for estimate for gravel.

Well Construction Notes: P-19

4" Sch. 40 PVC 10-Slot, set base @ 34.8'

20/40 P. Sand to 21.1', use 390 lb

20/70 S. Sand to 19.9', use 50 lb

Bent. Slurry to GS, use 70 g

(Calc Vol. = 69 g) $O_i = 13"$ $O_f = 23"$

PW = 53g

Miss Don

Location AmerenUE - Labadie Date 10/16/09
Project / Client Reitz & Jens

WEATHER: COLD, 45°F, OVERCAST, INTERMITTENT
LIGHT RAIN, 10 MPH WIND FROM NORTH

1155- Finished drilling, sand, and grouting
P-19

1215- Leave P-19 and Max's Enterprises prepares for 3- 2" protective casing completions and grouting installed wells from this week along Labadie Bottom Road.

	PZ	Grout Add	Comments
1234	P-40	18g	Add Prot. Casing, Conc. Lock, Plug
1247	P-42	17g	GROUT ADD ONLY
1249	P-49	20g	Add Prot. Casing, Conc. Lock, Plug No concrete pack added too wet on ground
1257	P-51	8g	Add Prot. Casing, Conc. Lock, Plug
1308	P-53	11g	GROUT ADD ONLY
1315	P-55	23g	Add Prot. Casing, Conc. Lock, Plug
1322	P-57	24g	GROUT ADD ONLY

1400- Finished unloading trucks and secure site. Max's Enterprises offsite.

1406- CT John Eimer informing him that I was and Max's are offsite.

Miss Don

Location AmerenUE-Labadie Date 10/19/09Project / Client Reitz & JensWEATHER: COOL, 50°F, CLEAR SKIES, CALM,
MILD

1835- Arrive onsite for OSI Fieldwork.

845- Scott King onsite.

859- CF Mike Carlson. Informed him that I was planning on starting with P-9 and then P-10 to finish up the gaps on the Heisel property. Then hopefully start the piezometers between the wetland and the transmission lines on the west side of the Heisel property. I also informed him that I would attempt performing completions on the already installed piezometers by 10/20/09 due to the forecast of rain on 10/21/09.

930- Max's Enterprises onsite: Doug & Ryan Hunziker.

932- CT Mike Carlson. Informed him that Max's were onsite; however, they are without an employee to help w/ drilling; therefore, they would like to construct pads/completions today so that they can have/wait until a 3rd employee arrives tomorrow morning. Mike stated he was not privy of this information from Max's, but that it should be OK as long as we are making progress.

Gross Don

Location AmerenUE-Labadie Date 10/19/09Project / Client Reitz & Jens

0935- Mr. M. Bolt Cart onsite to pick up Reitz & Jens Club Cart.

0945- Conduct tailgate safety meeting.

1030- Finished helping Max's unload sand and bentonite from support truck to stockpile.

1035- John Elmer & Kenny Kintz (his replacement) onsite. I asked John what the recommended setback is from the overhead transmission lines on the Heisel-West location. John stated 20-40' minimum, but he recommended 40'. John also stated that we could use Ameren stockpile next time we needed to unload pallets of sand.

1040- John & Kenny off site.

1058- Max's finished loading support truck w/ H₂O and starting drilling to use for mixing grout.

1108- Begin surface completions of piezometers

1125- Borrow socket set from Ameren w/ John Elmer signout for Max's 4" inside the pipe PVC cutter.

Gross Don

Location AmerenUE - Labadie Date 10/14/09
 Project / Client Reitz & Jens

Location AmerenUE - Labadie Date 10/14/09 61
 Project / Client Reitz & Jens

WEATHER: WARM 70°F CLEAR SKIES, MILK
 WIND FROM SOUTH 10-15 MPH

1210 - Provide Max's Enterprises w/ table
 to record time, piezometer, grout
 depth, and comments to complete
 while I drive to Gray Summit to
 pickup bags of concrete for them.

1216 - Off site to Gray Summit.

1251 - Arrive onsite from Gray Summit.

1400 - Begin Field Staking, after getting stuck.

PIEZOMETERS FIELD STAKED

P-93 - Newman P-138 - Newman ^{very soft} Soil Surface

P-95 - " " P-187 - In standing H₂O

P-97 - " " P-146 - Fallow

P-99 - " " P-148 - Fallow

P-106 - " " P-156 - "

P-108 - " " P-169 - "

P-110 - " " P-171 - "

P-112 - " "

P-114 - " "

P-120 - " "

P-122 - " "

P-124 - Soil Surface Soft

P-126 - Newman

P-134 - " Fallow "

P-136 - Newman - CS

OB	PZ	Grout Add	Comments
108	P-31	24g	6" PVC Casing, Cap, Plug, Lock, Conc.
156	P-22	10g	"
227	P-19	30g	GROUT ADDED, Lock & j-plug
243	P-42	0g	6" PVC Casing, Cap, Plug, Lock, Conc.
302	P-53	8g	Completed, has broken j-plug
315	P-57	8g	6" PVC Casing, Cap, Plug, Lock, Conc.
335	P-49	0g	4" Steel casing, Conc., Lock, J-plug
550	P-144	12g	6" PVC Casing, Cap, Plug, Lock, Conc.
616	P-189	0g	Completed, needs lock
651	P-132	12g	4" Steel Casing, Cap, Conc., J-plug ^{NO} Lock
712	P-65	12g	Grout Added, j-plug

~~Summit Down~~

~~Summit Down~~

Location Ameron UE - Labadie Date 10/14/09
Project / Client Reitz & Jens

- 129 - CF Doughanizer. He stated the oil plug is missing from the drill rig. They are going to leave the site to go buy a new oil plug at an auto parts store.
- 132 - Max's Enterprises onsite.
- 130 - Drill rig cannot pull support truck through the wetland crossing on farm access rd. near P-189. Connect Bredell GMC to drill rig, which is connected to support truck, to remove support truck from the road.
- 45 - Finished field staking for the day.
- 200 - Unload concrete from truck and equipment.
- 325 - Max's Enterprises, Scott King and I onsite.
- 29 - CT John Elmer about departure.

~~Gravis Dow~~

Location Ameron UE - Labadie Date 10/20/09 63
Project / Client Reitz & Jens

WEATHER: COOL, 50°F, PARTLY CLOUDY,
MILD, CALM

- 0642 - Arrive onsite for OSI Fieldwork.
- 0655 - Max's Enterprises onsite: Doug & Ryan Hunziker.
- 0706 - Conduct tailgate safety meeting.
- 0715 - Setup on P-9. Crew working on the farm access road south of LBR. The drill rig was left overnight along the farm access road.
- 0750 - Max's Enterprises arrives at P-9. They had to wait for bulldozer to finish clearing farm access road in order to exit.
- 0802 - Begin drilling on P-9.
- 0810 - Scott King onsite to fuel UTV.

Well Construction Notes: P-9

4" Sch 40 PVC 20-Slot, set base @ 34.8'

10/20 A. Sand to 21.25', use 375 lb

30/70 S. Sand to 19.3', use 90 lb

Bent. Slurry to GS, use 77 g

(Calc. Vol. = 67 g) $\bar{O}_i = 25\% F = 13.5'$

PW = 56g

1120 - Dave Hunziker onsite.

Gravis Dow