

NCHRP 24-31

LRFD DESIGN SPECIFICATIONS FOR SHALLOW FOUNDATIONS

Final Report
September 2009

APPENDIX D
UML-GTR ShalFound07 DATABASE

Prepared for
National Cooperative Highway Research Program
Transportation Research Board
National Research Council

LIMITED USE DOCUMENT

This Appendix is furnished only for review by members of the NCHRP project panel and is regarded as fully privileged. Dissemination of information included herein must be approved by the NCHRP and Geosciences Testing and Research, Inc.

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Table D-1 Detailed List of Input Parameters in the UML-GTR ShalFound07 Database.

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
1	-	-	-	Dimensions (see figures attached)
2	EmbedmentDepth	Dimensions	m	Embedment Depth
3	Thickness	Dimensions	m	Thickness
4	Length	Dimensions	m	Length
5	Width	Dimensions	m	Width
6	SlopeDistance_A	Dimensions	m	Distance from Footing Edge A to Slope
7	SlopeDistance_B	Dimensions	m	Distance from Footing Edge B to Slope
8	SlopeAngle_A	Dimensions	o	Angle of the slope nearer to edge A of footing (default)
9	SlopeHeight_A	Dimensions	m	Height of the slope nearer to edge A of footing (default)
10	SlopeLength_A	Dimensions	m	Length of the slope nearer to edge A of footing (default)
11	SlopeAngle_B	Dimensions	o	Angle of the slope nearer to edge B of footing
12	SlopeHeight_B	Dimensions	m	Height of the slope nearer to edge B of footing
13	SlopeLength_B	Dimensions	m	Length of the slope nearer to edge B of footing
14	Found_Rough	Dimensions	-	Roughness of footing base (precast/cast in place, also footing material)
15				
16	-	-	-	Footing ShapeID
17	ShapeID	Dimensions	-	ID 30101: Square
18	ShapeID	Dimensions	-	ID 30102: Rectangular
19	ShapeID	Dimensions	-	ID 30103: Circular
20	ShapeID	Dimensions	-	ID 30104: Other (see comments)
21	-	-	-	-
22	-	-	-	SiteConditionID (see figures attached)
23	SiteConditionID	Dimensions	-	ID 40101: Default site condition
24	SiteConditionID	Dimensions	-	ID 40102: Test footing in excavated surface
25	SiteConditionID	Dimensions	-	ID 40103: Test footing on top of slope surface
26	SiteConditionID	Dimensions	-	ID 40104: Test footing with excavation on one side and slope on the other
27	SiteConditionID	Dimensions	-	ID 40105: Test footing embedded in slope
28	-	-	-	-
29	DepthBedrock	Lab_LayerOverall	m	Depth to Bedrock from Ground Level (GL)
30	ElevWatertable	Lab_LayerOverall	m	Depth to Groundwater Table from GL
31	-	-	-	-
32	-	-	-	-
33	-	-	-	-
34	-	-	-	Loads (Failure Loads)
35	FxSDF	Load_AppliedLoads	kN	Static Dead Load Along x-x
36	FySDF	Load_AppliedLoads	kN	Static Dead Load Along y-y
37	FzSDF	Load_AppliedLoads	kN	Static Dead Load Along z-z
38	MxxSDF	Load_AppliedLoads	kN.m	Static Dead Moment About x-x
39	MyySDF	Load_AppliedLoads	kN.m	Static Dead Moment About y-y
40	MzzSDF	Load_AppliedLoads	kN.m	Static Dead Moment About z-z
41	FxSLF	Load_AppliedLoads	kN	Static Live Load Along x-x
42	FySLF	Load_AppliedLoads	kN	Static Live Load Along y-y

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
43	FzSLF	Load_AppliedLoads	kN	Static Live Load Along z-z
44	MxxSLF	Load_AppliedLoads	kN.m	Static Live Moment About x-x
45	MyySLF	Load_AppliedLoads	kN.m	Static Live Moment About y-y
46	MzzSLF	Load_AppliedLoads	kN.m	Static Live Moment About z-z
47	FxDYF	Load_AppliedLoads	kN	Dynamic Load Along x-x
48	FyDYF	Load_AppliedLoads	kN	Dynamic Load Along y-y
49	FzDYF	Load_AppliedLoads	kN	Dynamic Load Along z-z
50	MxxDYF	Load_AppliedLoads	kN.m	Dynamic Moment About x-x
51	MyyDYF	Load_AppliedLoads	kN.m	Dynamic Moment About y-y
52	MzzDYF	Load_AppliedLoads	kN.m	Dynamic Moment About z-z
53	LoadID	Load_AppliedLoads	-	ID for vertical centric, vertical eccentric, inclined centric loadings etc
54	-	-	-	-
55	-	-	-	Load Test results (not only load-settlement)
56	Time	Load_LTD	min	Time
57	Pressure	Load_LTD	kPa	Applied contact pressure
58	FxSD	Load_LTD	kN	Static Dead Load Along x-x
59	FySD	Load_LTD	kN	Static Dead Load Along y-y
60	FzSD	Load_LTD	kN	Static Dead Load Along z-z
61	MxxSD	Load_LTD	kN.m	Static Dead Moment About x-x
62	MyySD	Load_LTD	kN.m	Static Dead Moment About y-y
63	MzzSD	Load_LTD	kN.m	Static Dead Moment About z-z
64	FxSL	Load_LTD	kN	Static Live Load Along x-x
65	FySL	Load_LTD	kN	Static Live Load Along y-y
66	FzSL	Load_LTD	kN	Static Live Load Along z-z
67	MxxSL	Load_LTD	kN.m	Static Live Moment About x-x
68	MyySL	Load_LTD	kN.m	Static Live Moment About y-y
69	MzzSL	Load_LTD	kN.m	Static Live Moment About z-z
70	FxDY	Load_LTD	kN	Dynamic Load Along x-x
71	FyDY	Load_LTD	kN	Dynamic Load Along y-y
72	FzDY	Load_LTD	kN	Dynamic Load Along z-z
73	MxxDY	Load_LTD	kN.m	Dynamic Moment About x-x
74	MyyDY	Load_LTD	kN.m	Dynamic Moment About y-y
75	MzzDY	Load_LTD	kN.m	Dynamic Moment About z-z
76	S_B	Load_LTD	-	Settlement (center and/or average) to Footing Width ratio (S/B)
77	Se_edgeA	Load_LTD	mm	Settlement at edge A of footing
78	Se_edgeB	Load_LTD	mm	Settlement at edge B of footing
79	Se_edgeC	Load_LTD	mm	Settlement at edge C of footing
80	Se_edgeD	Load_LTD	mm	Settlement at edge D of footing
81	Se_zz	Load_LTD	mm	Settlement at center of footing
82	Se_avg	Load_LTD	mm	average Settlement of footing
83	Di_xx	Load_LTD	mm	Displacement in x-direction
84	Di_yy	Load_LTD	mm	Displacement in y-direction
85	Ro_xx	Load_LTD		Rotation about x-axis

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
86	Ro_yy	Load_LTD		Rotation about y-axis
87	Ro_zz	Load_LTD		Rotation about z-axis
88	-	-	-	Detailed Site Subsurface Information
89	Depth	Lab_Layer	m	Depth of layer
90	Description	Lab_Layer	-	Soil Type description
91	-	-	-	-
92	PredSoilType	Lab_LayerOverall	-	Soil Type: 0- Unknown
93	PredSoilType	Lab_LayerOverall	-	Soil Type: 1- Mostly Gravel
94	PredSoilType	Lab_LayerOverall	-	Soil Type: 2- Mostly Sand
95	PredSoilType	Lab_LayerOverall	-	Soil Type: 3- Mostly Silt
96	PredSoilType	Lab_LayerOverall	-	Soil Type: 4- Mostly Clay
97	PredSoilType	Lab_LayerOverall	-	Soil Type: 5- Sand or Gravel over Silt or Clay
98	PredSoilType	Lab_LayerOverall	-	Soil Type: 6- Silt or Clay over Sand or Gravel
99	PredSoilType	Lab_LayerOverall	-	Soil Type: 7- other granular material (see Comments)
100	-	-	-	-
101	-	-	-	Lab Data
102	D10	Lab_Phys	mm	Sieve Sizes: D10
103	D30	Lab_Phys	mm	Sieve Sizes: D30
104	D60	Lab_Phys	mm	Sieve Sizes: D60
105	W	Lab_Phys	%	Moisture Content
106	S	Lab_Phys	%	Degree of Saturation
107	UW_TOT	Lab_Phys	kN/m3	Unit Weights:Total Unit Weight
108	DR	Lab_Phys	%	Relative Density
109	LL	Lab_Phys	%	Atterberg Limits: Liquid Limit
110	PI	Lab_Phys	%	Atterberg Limits: Plasticity Index
111	-	-	-	-
112	v	Lab_Phys	%	Poisson's ratio
113	e	Lab_Phys	%	Void ratio
114	Es	Lab_Phys	kN/m2	Soil modulus
115				
116	SU	Lab_Shear	kN/m2	Shear Strength Data: Undrained, Su
117	Phi	Lab_Shear	o	Shear Strength Data: Drained, Friction Angle
118	C	Lab_Shear	kN/m2	Shear Strength Data: Drained, Cohesion
119	-	-	-	-
120	-	-	-	Sensitivity
121	IV	Lab_Dfrm	-	Consolidation Test Data: Initial Void Ratio
122	CC	Lab_Dfrm	-	Consolidation Test Data: Compression Index
123	CR	Lab_Dfrm	-	Consolidation Test Data: Coefficient of Secondary Consolidation
124	CV	Lab_Dfrm	-	Consolidation Test Data: Coefficient of Consolidation
125	PP	Lab_Dfrm	kN/m2	Consolidation Test Data: Preconsolidation Pressure
126	-	-	-	-
127	-	-	-	-
128	-	-	-	-
129	-	-	-	InSitu Data: PMT
130	Eo	-	kN/m2	PMT Modulus: Overall average

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
131	Eo_1B	-	kN/m2	PMT Modulus: Average over 1B
132	Eo_2B	-	kN/m2	PMT Modulus: Average over 2B
133	Eo_3B	-	kN/m2	PMT Modulus: Average over 3B
134	ER	-	kN/m2	PMT Reload Modulus: Overall average
135	ER_1B	-	kN/m2	PMT Reload Modulus: Average over 1B
136	ER_2B	-	kN/m2	PMT Reload Modulus: Average over 2B
137	ER_3B	-	kN/m2	PMT Reload Modulus: Average over 3B
138	PL	-	kN/m2	PMT Limit Pressure: Overall average
139	PL_1B	-	kN/m2	PMT Limit Pressure: Average over 1B
140	PL_2B	-	kN/m2	PMT Limit Pressure: Average over 2B
141	PL_3B	-	kN/m2	PMT Limit Pressure: Average over 3B
142	PY	-	kN/m2	PMT Yield Pressure: Overall average
143	PY_1B	-	kN/m2	PMT Yield Pressure: Average over 1B
144	PY_2B	-	kN/m2	PMT Yield Pressure: Average over 2B
145	PY_3B	-	kN/m2	PMT Yield Pressure: Average over 3B
146	-	-	-	-
147	-	-	-	-
148	-	-	-	-
149	-	-	-	-
150	-	-	-	InSitu Data: CPT
151	EndBearing	InSitu_CPTData	kN/m2	CPT Tip Resistance
152	SkinFriction	InSitu_CPTData	kN/m2	CPT Skin Friction
153	FrictionRatio	InSitu_CPTData	-	CPT Friction Ratio
154	PorePressure	InSitu_CPTData	kN/m2	CPT Pore Pressure
155	PorePressureRatio	InSitu_CPTData	-	CPT Pore Pressure Ratio
156	-	-	-	-
157	AVGQC	-	kN/m2	CPT Tip Resistance: Overall average
158	QC_1B	-	kN/m2	CPT Tip Resistance: Average over 1B
159	QC_2B	-	kN/m2	CPT Tip Resistance: Average over 2B
160	QC_3B	-	kN/m2	CPT Tip Resistance: Average over 3B
161	AVGFC	-	kN/m2	CPT Skin Friction: Overall average
162	FC_1B	-	kN/m2	CPT Skin Friction: Average over 1B
163	FC_2B	-	kN/m2	CPT Skin Friction: Average over 2B
164	FC_3B	-	kN/m2	CPT Skin Friction: Average over 3B
165	AVGRF	-	%	CPT Friction Ratio: Overall average
166	RF_1B	-	%	CPT Friction Ratio: Average over 1B
167	RF_2B	-	%	CPT Friction Ratio: Average over 2B
168	RF_3B	-	%	CPT Friction Ratio: Average over 3B
169	AVGPORE	-	kN/m2	CPT Pore Pressure: Overall average
170	PORE_1B	-	kN/m2	CPT Pore Pressure: Average over 1B
171	PORE_2B	-	kN/m2	CPT Pore Pressure: Average over 2B
172	PORE_3B	-	kN/m2	CPT Pore Pressure: Average over 3B
173	AVGRU	-	%	CPT Pore Pressure Ratio: Overall average
174	RU_1B	-	%	CPT Pore Pressure Ratio: Average over 1B
175	RU_2B	-	%	CPT Pore Pressure Ratio: Average over 2B

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
176	RU_3B	-	%	CPT Pore Pressure Ratio: Average over 3B
177	-	-	-	-
178	-	-	-	-
179	-	-	-	-
180	-	-	-	InSitu Data: DMT
181	FR_RD_DIAM	InSitu_DMTBorehole	cm	friction reducer diameter
182	BA_DMT	InSitu_DMTBorehole	cm ²	Rod Bearing Area
183	TH_DMT	InSitu_DMTBorehole	cm	Rod Thickness
184	ROD_WT	InSitu_DMTBorehole	kg/m	Rod Mass
185	ROD_DIAM	InSitu_DMTBorehole	cm	Rod Diameter
186	-	-	-	-
187	AVGP0	-	kN/m ²	DMT Corrected A-Pressure: Overall average
188	P0_1B	-	kN/m ²	DMT Corrected A-Pressure: Average over 1B
189	P0_2B	-	kN/m ²	DMT Corrected A-Pressure: Average over 2B
190	P0_3B	-	kN/m ²	DMT Corrected A-Pressure: Average over 3B
191	AVGP1	-	kN/m ²	DMT Corrected B-Pressure: Overall average
192	P1_1B	-	kN/m ²	DMT Corrected B-Pressure: Average over 1B
193	P1_2B	-	kN/m ²	DMT Corrected B-Pressure: Average over 2B
194	P1_3B	-	kN/m ²	DMT Corrected B-Pressure: Average over 3B
195	AVGP2	-	kN/m ²	DMT Corrected C-Pressure: Overall average
196	P2_1B	-	kN/m ²	DMT Corrected C-Pressure: Average over 1B
197	P2_2B	-	kN/m ²	DMT Corrected C-Pressure: Average over 2B
198	P2_3B	-	kN/m ²	DMT Corrected C-Pressure: Average over 3B
199	AVGED	-	kN/m ²	DMT Modulus: Overall average
200	ED_1B	-	kN/m ²	DMT Modulus: Average over 1B
201	ED_2B	-	kN/m ²	DMT Modulus: Average over 2B
202	ED_3B	-	kN/m ²	DMT Modulus: Average over 3B
203	AVGID	-	-	DMT Material Index: Overall average
204	ID_1B	-	-	DMT Material Index: Average over 1B
205	ID_2B	-	-	DMT Material Index: Average over 2B
206	ID_3B	-	-	DMT Material Index: Average over 3B
207	AVGKD	-	-	DMT Horizontal Stress Index: Overall average
208	KD_1B	-	-	DMT Horizontal Stress Index: Average over 1B
209	KD_2B	-	-	DMT Horizontal Stress Index: Average over 2B
210	KD_3B	-	-	DMT Horizontal Stress Index: Average over 3B
211	-	-	-	-
212	-	-	-	-
213	-	-	-	-
214	-	-	-	InSitu Data: SPT
215	BlowCount	-	Blows/0.3m	SPT Blowcount: Overall average
216	N_1B	-	Blows/0.3m	SPT Blowcount: Average over 1B
217	N_2B	-	Blows/0.3m	SPT Blowcount: Average over 2B
218	N_3B	-	Blows/0.3m	SPT Blowcount: Average over 3B
219	-	-	-	-
220	-	-	-	-

Search Parameter ID	Data Label	Data Table	Parameter Unit	Parameter Name
221	-	-	-	-
222	-	-	-	Data Quality
223	-	-	-	-
224	-	-	-	-
225	-	-	-	-
226	-	-	-	-
227	-	-	-	-
228	-	-	-	Define a Pressure for a Given Settlement
229	AppliedPressure	Load_AppliedLoads	kN/m2	Average Contact Pressure
230	-	-	min	Time to Maximum Load
231	-	-	-	-
232	-	-	-	-
233	-	-	-	Define Settlement for a Given Pressure
234	-	-	mm	Measured Settlement
235	-	-	mm	Predicted Settlement
236	-	-	mm	SPT: Anagnostopoulos et al
237	-	-	mm	SPT: Burland and Brubidge
238	-	-	mm	SPT: Meyerhoff
239	-	-	mm	SPT: Parry
240	-	-	mm	SPT: Peck and Bazaraa
241	-	-	mm	SPT: Shultze and Sherif
242	-	-	mm	SPT: Terzaghi and Peck
243	-	-	mm	CPT: Amar
244	-	-	mm	CPT: Meyerhoff
245	-	-	mm	CPT: Schmertmann et al
246	-	-	mm	PMT: Briaud
247	-	-	mm	PMT: Menard and Rousseau
248	-	-	mm	DMT: Schmertmann
249	-	-	-	-
250	-	-	-	-
251	-	-	-	LoadingID
252	LoadID	Load_AppliedLoads	-	ID 50101: vertical centric (only FzSL)
253	LoadID	Load_AppliedLoads	-	ID 50102: one-way inclined (FzSL + [FxSL or FySL])
254	LoadID	Load_AppliedLoads	-	ID 50103: one-way eccentric (FzSL + [MxxSL or MyySL or MzzSL])
255	LoadID	Load_AppliedLoads	-	ID 50104: one-way inclined & one-way eccentric ([FzSL+[FxLL or FyLL] + [MxxSL or MyySL or MzzSL])
256	LoadID	Load_AppliedLoads	-	ID 50105: other complex load combinations
257	LoadID	Load_AppliedLoads	-	ID 50106: other complex load combinations
258	LoadID	Load_AppliedLoads	-	ID 50107: other complex load combinations
259	LoadID	Load_AppliedLoads	-	ID 50108: other complex load combinations

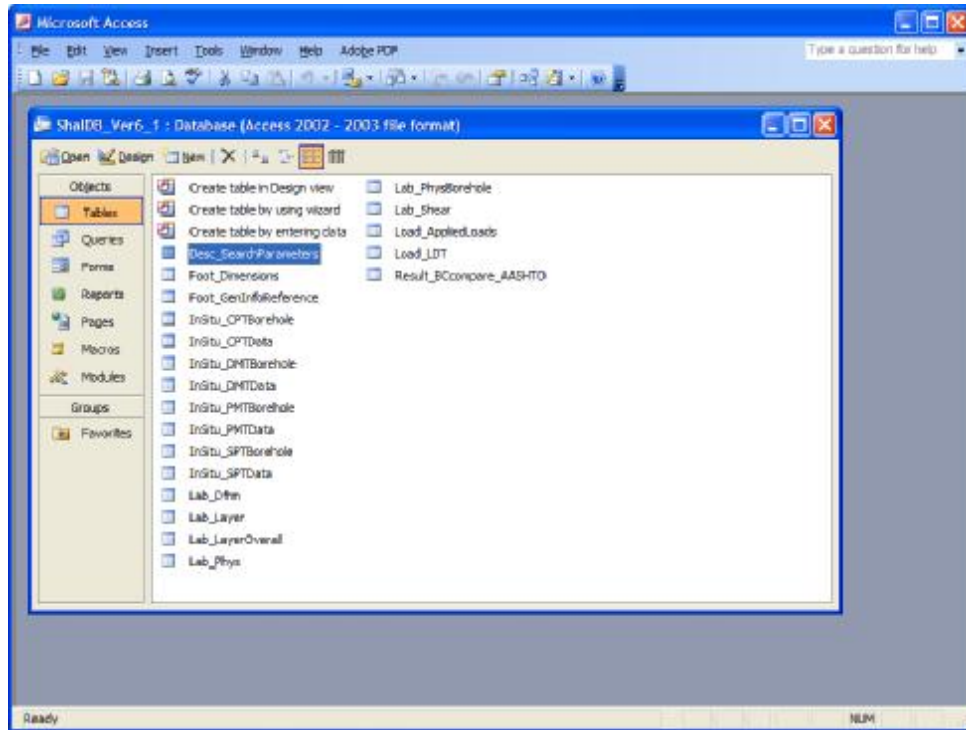


Figure D-1 List of tables in Access file

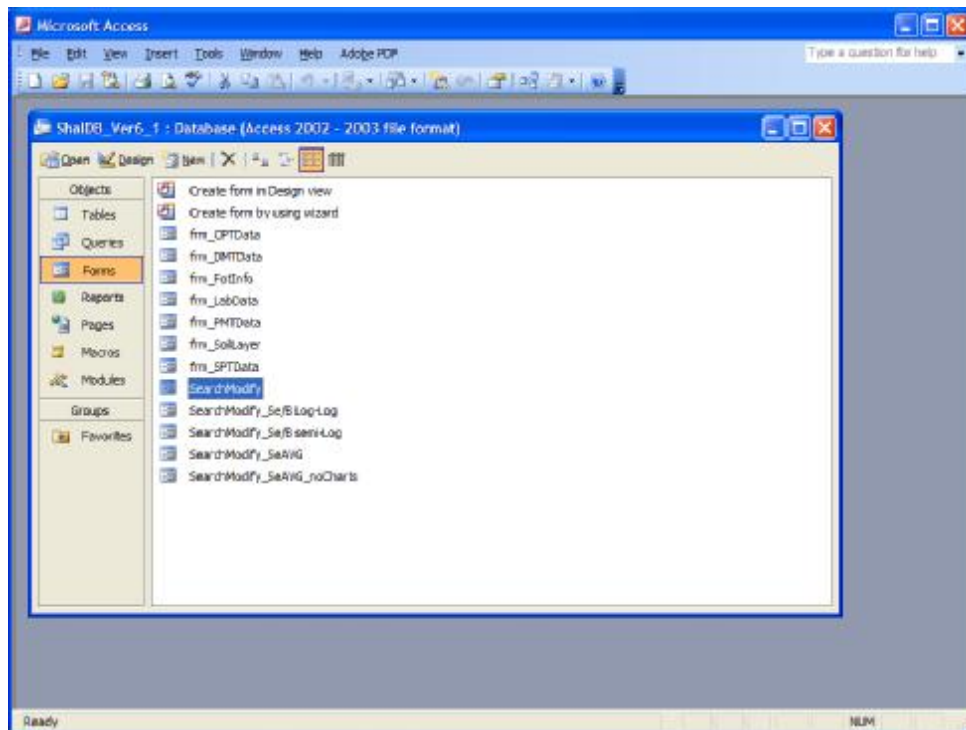


Figure D-2 Forms in Access file. SearchModify form lets the user to access the database.

SearchModify : Form

FOTID: 35 Title: TEXAS A&M UNIVERSITY, RIVERSIDE CAMPUS, 1.0m x 1.0m

Footings Info | SoilLayer | LabTests | SPTdata | Table-CPT | Table-DMT | Table-PMT | Charts-CPT | Charts-DMT | Charts-PMT | LoadTest Results

Footings information

ShapeID: 30101 Length: 0.991 Width: 0.991 Site Condition ID: 40101
Load Condition ID: 50101

units in m

DBSource: FHRA ShaID65.2
ID in source: 35

Reference:
Briaud, J. & Gibbens, R. (1994)
"Predicted and Measured Behavior of
Five Spread Footings on Sand"
Geotechnical Special Publication No.
41, ASCE Specialty Conference:
"Settlement '94", ASCE

Location: City: COLLEGE STATION State: TEXAS Country: U.S.A.

Reference
Comments

Footings
Notes

Record: 35 of 498

Figure D-3 Footing information (for FOTID 35) in SearchModify form

SearchModify : Form

FOTID: 35 Title: TEXAS A&M UNIVERSITY, RIVERSIDE CAMPUS, 1.0m x 1.0m

Footings Info | SoilLayer | LabTests | SPTdata | Table-CPT | Table-DMT | Table-PMT | Charts-CPT | Charts-DMT | Charts-PMT | LoadTest Results

Soil Layer Description:

LayerID	BoreholeID	Depth	USC	Description
133	101	3.5	-	medium dense tan silty fine sand
134	101	7	-	medium dense silty sand w/ clay and gravel
135	101	11	-	medium dense silty sand to sandy clay w/gravel
136	101	33	-	very hard dark clay
(lumber)	0			

Record: 1 of 4

Predominant Soil Type: 2 Borehole elevation: 0 Borehole distance from footing CL:

Comments: Removed overburden voids between 0.5 and 1.5 meters.

Record: 35 of 498

Figure D-4 Site soil information in SearchModify form

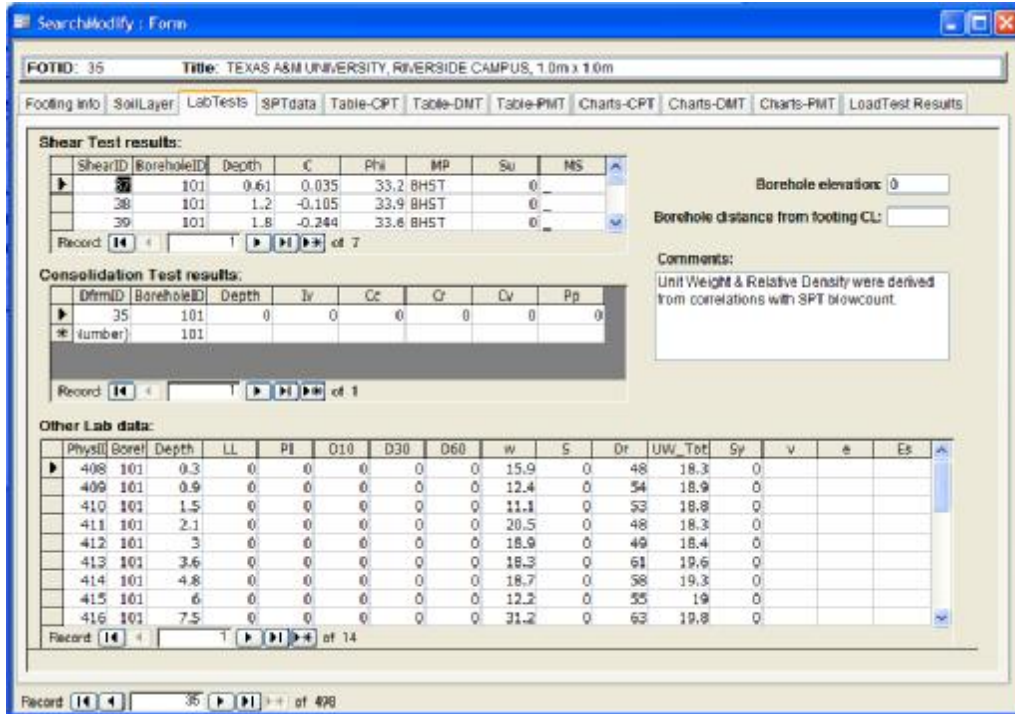


Figure D-5 Lab test results displayed in SearchModify form

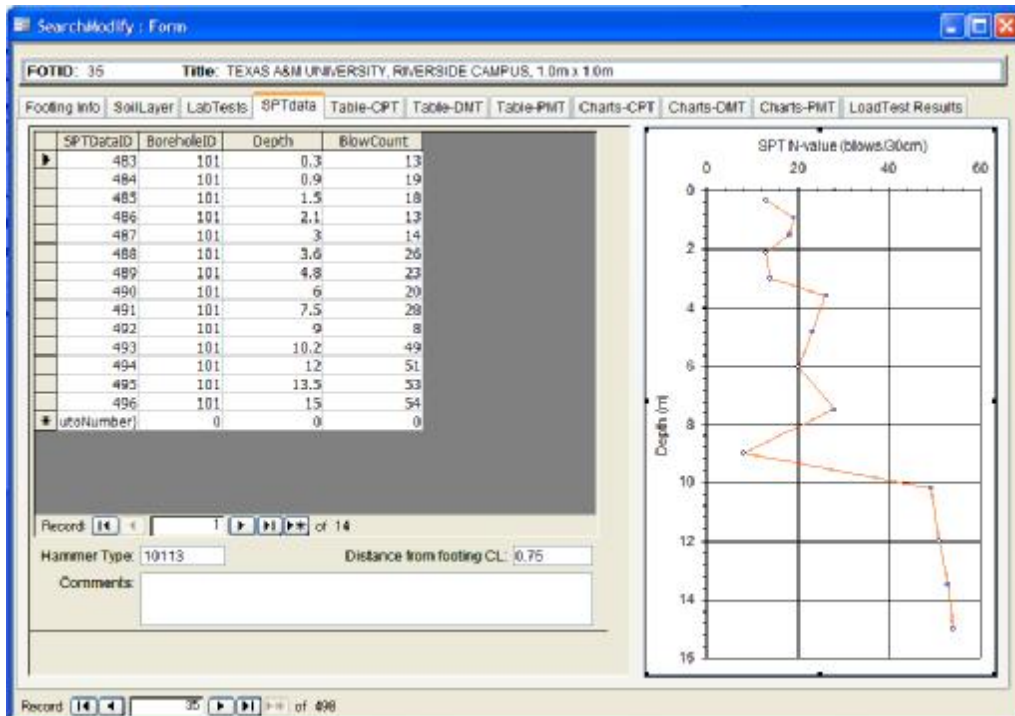


Figure D-6 SPT test data presented in SearchModify form

SearchModify : Form

FOTID: 35 Title: TEXAS A&M UNIVERSITY, RIVERSIDE CAMPUS, 1.0m x 1.0m

Footing Info SoilLayer LabTests SPTdata Table-CPT Table-DMT Table-PMT Charts-CPT Charts-DMT Charts-PMT LoadTest Results

CPTdataID	BoreholeID	Depth	EndBearing	SkinFriction	FrictionRatio	PorePressure	PorePressureRatio
510	101	0	0	0	0	0	0
520	101	0.22	1864.268	0.958	0.2	0	0
521	101	0.24	2354.764	3.832	0.25	0	0
522	101	0.26	2845.26	5.748	0.22	0	0
523	101	0.28	3335.756	5.748	0.26	0	0
524	101	0.3	3727.578	8.622	0.27	0	0
525	101	0.32	4071.5	8.622	0.25	0	0
526	101	0.34	4414.464	11.496	0.24	0	0
527	101	0.36	4758.386	12.454	0.25	0	0
528	101	0.38	5101.35	12.454	0.29	0	0
529	101	0.4	5297.74	12.454	0.34	0	0
530	101	0.42	5444.314	13.412	0.35	0	0
531	101	0.44	5591.846	16.286	0.38	0	0
532	101	0.46	5788.238	19.16	0.42	0	0
533	101	0.48	5984.626	21.076	0.41	0	0
534	101	0.5	6229.874	22.992	0.43	0	0
535	101	0.52	6523.98	26.824	0.45	0	0

Record: 14 of 760

Elevation: Distance from footing CL: 2.25

Comments:

Record: 35 of 498

Figure D-7 CPT test data presented in tabular form in SearchModify form

SearchModify : Form

FOTID: 35 Title: TEXAS A&M UNIVERSITY, RIVERSIDE CAMPUS, 1.0m x 1.0m

Footing Info SoilLayer LabTests SPTdata Table-CPT Table-DMT Table-PMT Charts-CPT Charts-DMT Charts-PMT LoadTest Results

DMTdataID	Borehole	Depth	Thrust	P0	P1	P2	Ed	Id	Kd
35	101	1	20	300	1040	0	25887	2.47	17.6
36	101	1.2	20	262	948	0	23792	2.61	12.84
37	101	1.4	18.6	212	775	0	19529	2.65	8.9
38	101	1.6	19.3	252	940	0	23865	2.73	9.26
39	101	1.8	20	280	990	0	25322	2.8	8.49
40	101	2	21.7	254	1010	0	26233	2.98	7.46
41	101	2.2	23.3	368	1251	0	30642	2.4	9.82
42	101	2.4	23.6	323	1210	0	30788	2.75	7.9
43	101	2.6	25	404	1429	0	35561	2.54	9.13
44	101	2.8	25.5	460	1650	0	41281	2.58	9.65
45	101	3	27.4	482	1570	0	38439	2.4	9.05
46	101	3.2	27	395	1450	0	36617	2.67	7.24
47	101	3.4	25.2	446	1589	0	39678	2.57	7.69
48	101	3.6	25.1	500	1650	0	39896	2.3	8.16
49	101	3.8	25.4	494	1653	0	40224	2.35	7.63
50	101	4	28	585	2050	0	50827	2.5	8.59
51	101	4.2	32.3	651	2110	0	50645	2.24	9.09
52	101	4.4	37.4	783	2490	0	59243	2.18	10.45
53	101	4.6	28.8	581	2030	0	50280	2.49	7.42

Record: 14 of 37

Friction reducer dia (cm): 4.8 Rod Bearing Area (cm²): 12.9 Distance from footing CL: 2.25

Rod Thickness (cm): 1.4 Rod Mass (kg/m): 6.5 Rod dia (cm): 3.7

Comments:

Record: 35 of 498

Figure D-8 DMT test data presented in tabular form in SearchModify form

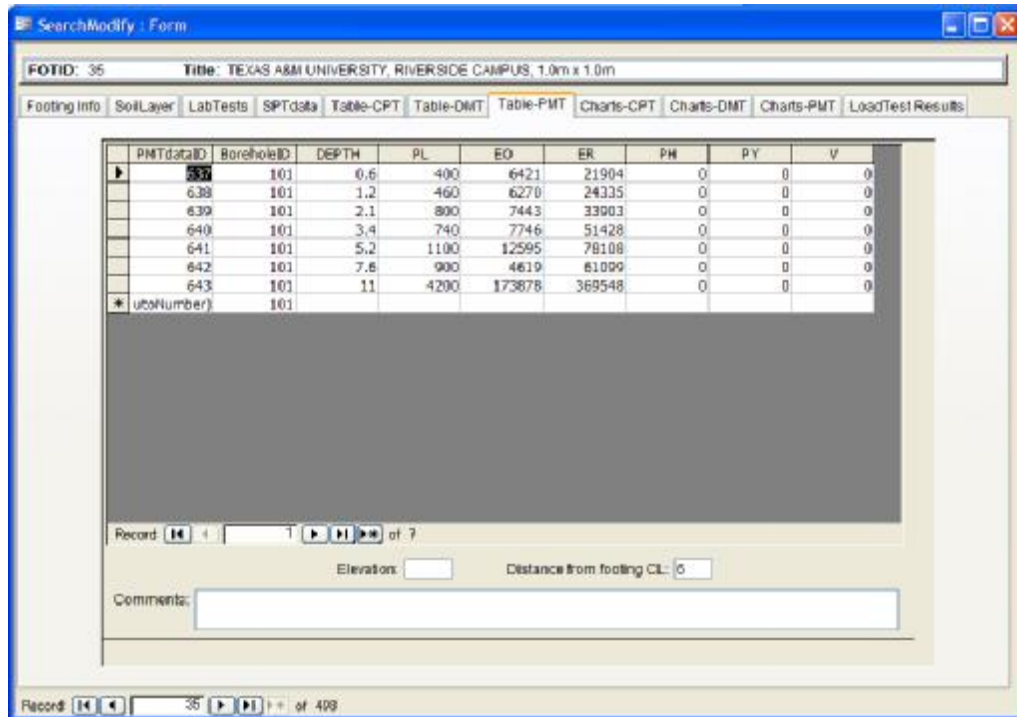


Figure D-9 PMT test data presented in tabular form in SearchModify form

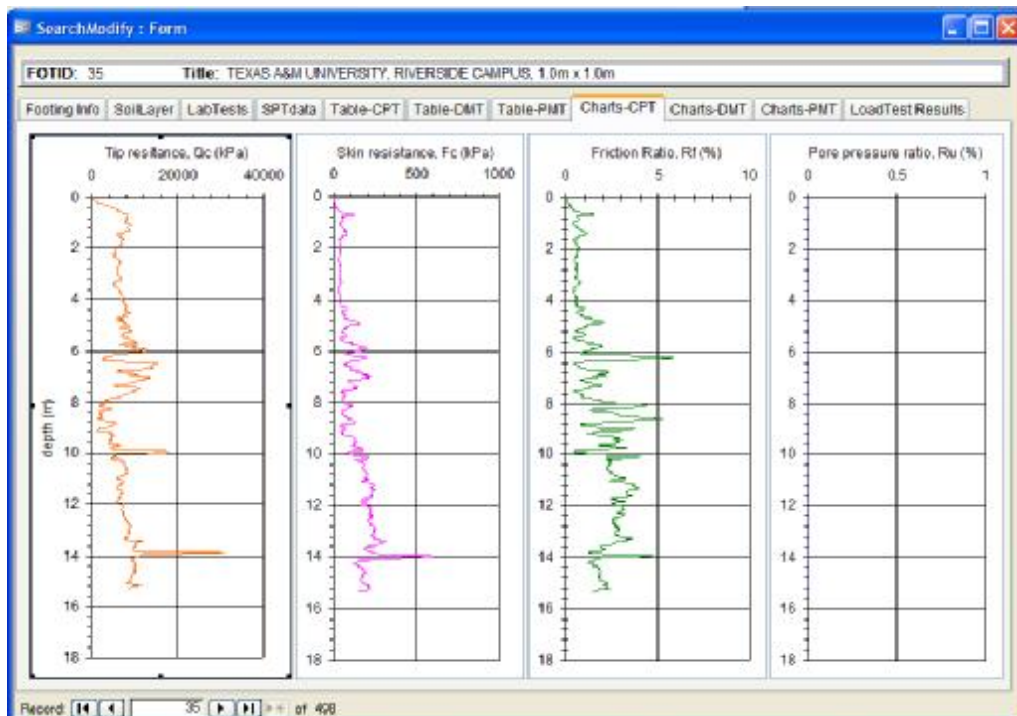


Figure D-10 Charts for CPT tests presented in SearchModify form

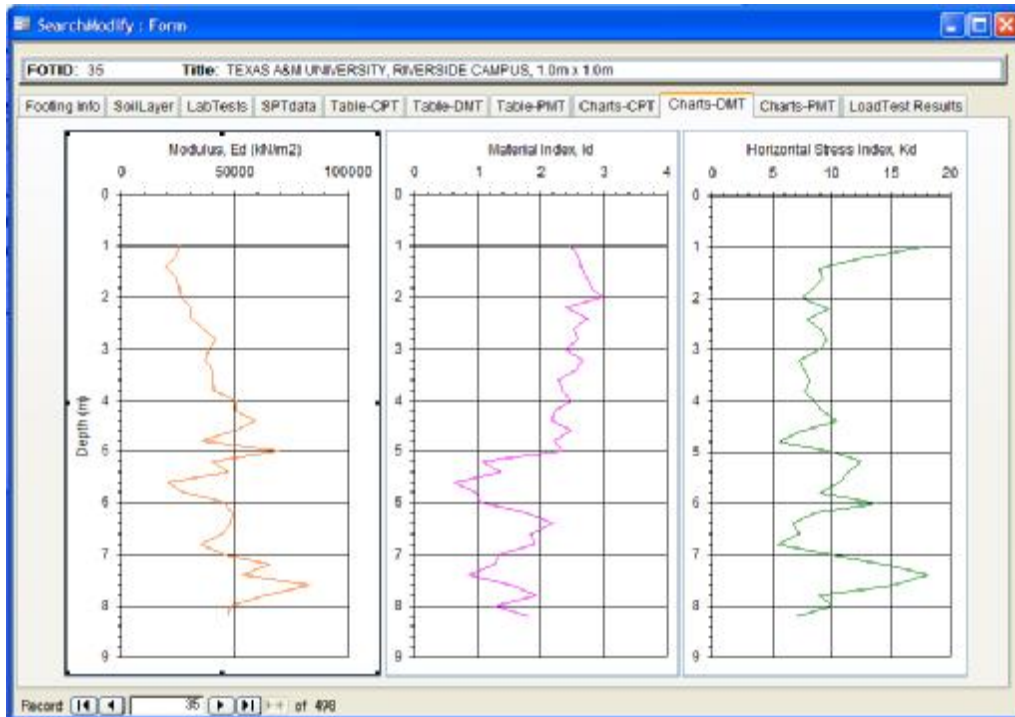


Figure D-11 Charts for DMT tests presented in SearchModify form

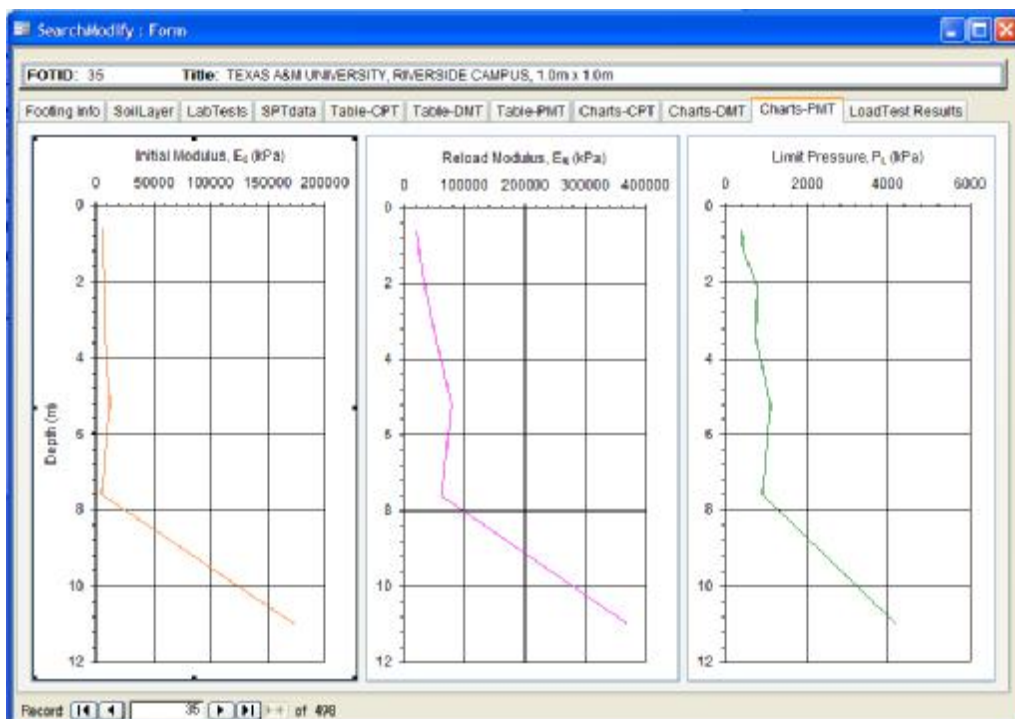


Figure D-12 Charts for PMT tests presented in SearchModify form

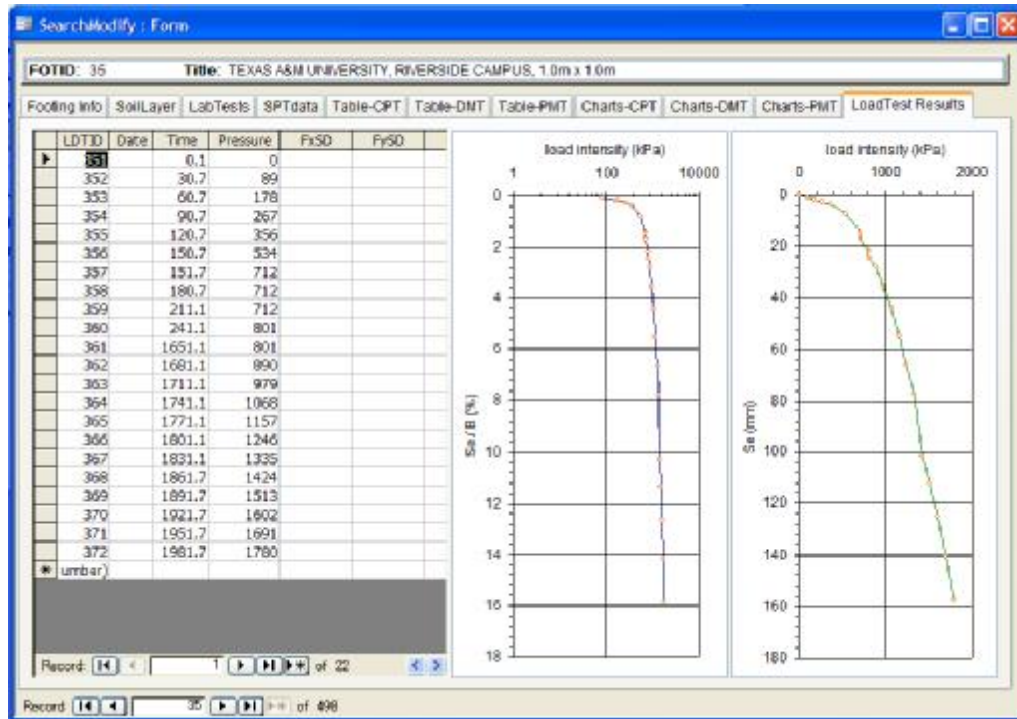


Figure D-13 Table and plot of Load test presented in SearchModify form