

ORLEANS SIDE

STA 589+00

TO

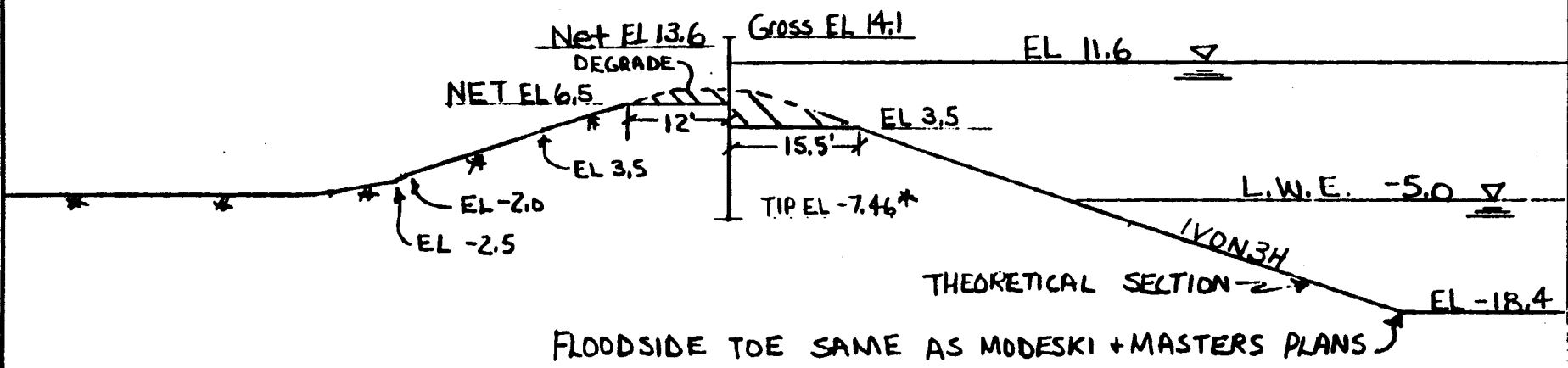
STA 614+00

PROJECT 17th St Outfall Canal
 SUBJECT STA 589+00 To STA 614+00 Orleans

PAGE OF
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 CHECKED BY
 DATE

REVISED 3/88

STA 589+00 TO STA 614+00
ORLEANS SIDE



FLOODSIDE TOE SAME AS MODESKI + MASTERS PLANS

SCALE : 1" = 20'

ELEVATION IN FEET NGVD

Q FILES	ES.	SWL	CASE
Q 6140A	1.0	11.6	S
* Q 6140B	1.5	11.6	S
Q 6140D	1.0	13.6	Q

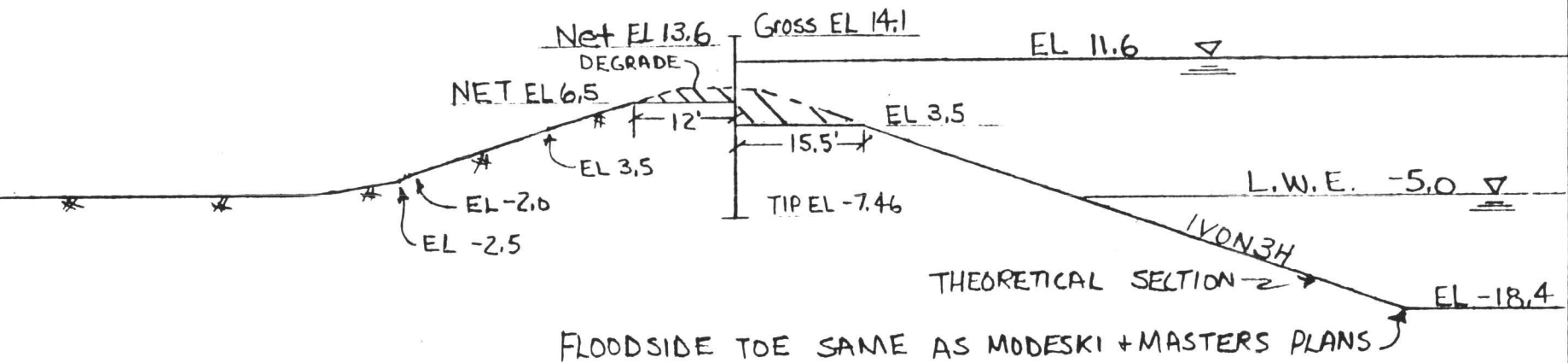
NOTE: TRANSITION FROM STA 614+00 TO STA 615+00

END

REVISED 3/88

PROJECT	17th St Outfall Canal	PAGE	OF	COMPUTED BY	DATE
SUBJECT	STA 589+00 To STA 614+00 Orleans			CHECKED BY	DATE
					2/24/87
					3/28/88

STA 589+00 TO STA 614+00
ORLEANS SIDE



SCALE : 1" = 20'

ELEVATION IN FEET NGVD

ADVANCE COPY
 SUBJECT TO CORRECTION

Q FILES	FS.	SWL	CASE	
Q61401	Q6140A	1.0	11.6	S
Q61402	Q6140B	1.5	11.6	S
Q61403	Q6140D	1.0	13.6	Q

QUAL #
 312BEC

REVISED 3/88

Encl 7c

BEAMS (SHEAR, MOMENT, DEFLECTION)

17TH STR. -Q6140A-SWL=11.6-S CASE-FS=1.0
=1.

THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT
INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS
AS COUNTERCLOCKWISE.

THE MAXIMUM DEFLECTION IS 0.16 INCHES AND OCCURS AT MEMBER COORDINATE
13.60 FT.

Z-22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.
THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

CALCULATED EXTERNAL LOADS

DISTANCE FROM REFERENCE (FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
-2.54	POINT LD	1.62 LBF
-2.54	COUPLE	-41.00 LBF-FT

INPUTTED LOADS

DISTANCE FROM REFERENCE (FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
11.60	CONTN LD	0.00 LBF/SQ FT
10.60	CONTN LD	62.50 LBF/SQ FT
9.60	CONTN LD	125.00 LBF/SQ FT
8.60	CONTN LD	187.50 LBF/SQ FT
7.60	CONTN LD	250.00 LBF/SQ FT
7.00	CONTN LD	287.50 LBF/SQ FT
7.00	CONTN LD	287.50 LBF/SQ FT
6.00	CONTN LD	76.09 LBF/SQ FT
5.64	CONTN LD	0.00 LBF/SQ FT
5.00	CONTN LD	-135.33 LBF/SQ FT
4.00	CONTN LD	-346.74 LBF/SQ FT
3.50	CONTN LD	-452.45 LBF/SQ FT
3.50	CONTN LD	-452.45 LBF/SQ FT
2.50	CONTN LD	-625.06 LBF/SQ FT
2.50	CONTN LD	-625.06 LBF/SQ FT
2.24	CONTN LD	-665.01 LBF/SQ FT
0.08	CONTN LD	0.00 LBF/SQ FT
-2.54	CONTN LD	803.56 LBF/SQ FT
-2.54	CONTN LD	0.00 LBF/SQ FT

58 Z-22 PROPERTIES ARE AS FOLLOWS.

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MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL
CROSS SECTIONAL AREA= ~~6.47~~ SQ IN. ~~3.38~~ 1.84
ELASTIC MODULUS= 29000000. LBF/SQ IN.
DEFLECTION REFERENCE IS AT -13.200
THE MAXIMUM BENDING MOMENT IS 3718.64 LBF-FT AND OCCURS AT 2.80
WHICH HAS THE SHEAR FORCE OF 10.83 LBF.
NO PROBLEM.

73	DISTANCE	SHEAR FOR	SHEAR STR	BENDING MOM	DEFLECTION
74	(FEET)	(LBF)	(LBF/SQIN)	(LBF-FT)	FROM TANG.
75					THRU DEFLE
76					REFERENCE
77					(INCHES)
75	13.600	0.0	0.0	0.0	0.1642
76	13.599	0.0	0.0	0.0	0.1642
77	13.000	0.0	0.0	0.0	0.1548
78	12.000	0.0	0.0	0.0	0.1391
79	11.000	11.2	1.7	2.2	0.1233
80	10.000	80.0	12.4	42.7	0.1076
81	9.000	211.2	32.7	183.1	0.0919
82	8.000	405.0	62.6	486.0	0.0764
83	7.000	661.2	102.2	1013.9	0.0612
84	6.000	843.0	130.3	1783.7	0.0468
85	5.640	856.7	132.4	2090.4	0.0419
86	5.000	813.4	125.7	2629.5	0.0337
87	4.000	572.4	88.5	3340.1	0.0224
88	3.000	124.8	19.3	3704.6	0.0134
89	2.795	10.8	1.7	3718.6	0.0119
90	2.000	-484.5	-74.9	3532.7	0.0070
91	1.000	-921.4	-142.4	2804.2	0.0030
92	0.080	-1051.8	-162.6	1876.4	0.0011
93	0.078	-1051.8	-162.6	1874.3	0.0011
94	0.000	-1050.9	-162.4	1792.4	0.0009
95	-1.000	-872.9	-134.9	804.9	0.0002
96	-2.000	-387.5	-59.9	149.0	0.0000
97	-2.534	-2.4	-0.4	41.0	0.0000
98	-2.536	0.0	0.0	0.0	0.0000
99	-3.000	0.0	0.0	0.0	0.0000
100	-4.000	0.0	0.0	0.0	0.0000
101	-5.000	0.0	0.0	0.0	0.0000
102	-6.000	0.0	0.0	0.0	0.0000
103	-7.000	0.0	0.0	0.0	0.0000
104	-8.000	0.0	0.0	0.0	0.0000
105	-9.000	0.0	0.0	0.0	0.0000
106	-10.000	0.0	0.0	0.0	0.0000
107	-11.000	0.0	0.0	0.0	0.0000
108	-12.000	0.0	0.0	0.0	0.0000
109	-13.000	0.0	0.0	0.0	0.0000
110	-13.199	0.0	0.0	0.0	0.0000
111	-13.200	0.0	0.0	0.0	0.0000

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RUN COMPLETED

11.7 ksi ✓

LIST DRW22

1 100 1 13.6 -13.2 1 -13.2 0 -1

2 200 PZ-22

3 300 29000000 ~~6.47~~ 84.38

EOF..

E..

~~3.38~~
1.84

LIST Q61402

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BEAMS (SHEAR, MOMENT, DEFLECTION)

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5 17TH STR. -Q6140B-SWL=11.6-S CASE-FS=1.5

6 =1.

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8 THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT

9 INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS

10 AS COUNTERCLOCKWISE.

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13 THE MAXIMUM DEFLECTION IS 0.56 INCHES AND OCCURS AT MEMBER COORDINATE

14 13.60 FT.

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18 Z-22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

19

20 THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

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CALCULATED EXTERNAL LOADS

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25	DISTANCE FROM	TYPE OF	MAGNITUDE OF
26	REFERENCE(FT)	LOAD	LOAD

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28 -7.46 POINT LD 14.23 LBF

29 -7.46 COUPLE -7.36 LBF-FT

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INPUTTED LOADS

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34	DISTANCE FROM	TYPE OF	MAGNITUDE OF
35	REFERENCE(FT)	LOAD	LOAD

36

37 11.60 CONTN LD 0.00 LBF/SQ FT

38 10.60 CONTN LD 62.50 LBF/SQ FT

39 9.60 CONTN LD 125.00 LBF/SQ FT

40 8.60 CONTN LD 187.50 LBF/SQ FT

41 7.60 CONTN LD 250.00 LBF/SQ FT

42 6.60 CONTN LD 312.50 LBF/SQ FT

43 6.50 CONTN LD 318.75 LBF/SQ FT

44 6.50 CONTN LD 318.75 LBF/SQ FT

45 5.50 CONTN LD 171.45 LBF/SQ FT

46 4.50 CONTN LD 24.15 LBF/SQ FT

47 4.34 CONTN LD 0.00 LBF/SQ FT

48 3.50 CONTN LD -123.16 LBF/SQ FT

4 3.50 CONTN LD -123.16 LBF/SQ FT

50 2.50 CONTN LD -217.57 LBF/SQ FT

51 1.50 CONTN LD -311.99 LBF/SQ FT

52	0.50	CONTN LD	-406.40	LBF/SQ FT
53	0.00	CONTN LD	-453.61	LBF/SQ FT
54	0.00	CONTN LD	-453.61	LBF/SQ FT
55	-1.00	CONTN LD	-501.25	LBF/SQ FT
56	-2.00	CONTN LD	-548.90	LBF/SQ FT
57	-2.14	CONTN LD	-551.64	LBF/SQ FT
58	-4.14	CONTN LD	0.00	LBF/SQ FT
59	-7.46	CONTN LD	916.22	LBF/SQ FT
60	-7.46	CONTN LD	0.00	LBF/SQ FT

Z-22 PROPERTIES ARE AS FOLLOWS.

MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL
 CROSS SECTIONAL AREA= ~~6.47~~ SQ IN. *3.38 1.84*
 ELASTIC MODULUS= 29000000. LBF/SQ IN.
 DEFLECTION REFERENCE IS AT -13.200

THE MAXIMUM BENDING MOMENT IS 7044.69 LBF-FT AND OCCURS AT -0.20
 WHICH HAS THE SHEAR FORCE OF 3.85 LBF.

DISTANCE (FEET)	SHEAR FOR (LBF)	SHEAR STR (LBF/SQIN)	BENDING MOM (LBF-FT)	DEFLECTION FROM TANG. THRU DEFLE REFERENCE (INCHES)
80	13.600	0.0	0.0	0.5636
81	13.599	0.0	0.0	0.5636
82	13.000	0.0	0.0	0.5380
83	12.000	0.0	0.0	0.4954
84	11.000	11.2	1.7	0.4527
85	10.000	80.0	12.4	0.4101
86	9.000	211.2	32.7	0.3675
87	8.000	405.0	62.6	0.3251
88	7.000	661.2	102.2	0.2830
89	6.000	953.8	147.4	0.2417
90	5.000	1125.2	173.9	0.2016
91	4.336	1157.7	178.9	0.1762
92	4.000	1149.4	177.6	0.1637
93	3.000	1032.8	159.6	0.1286
94	2.000	815.3	126.0	0.0970
95	1.000	503.3	77.8	0.0697
96	0.000	96.9	15.0	0.0472
97	-0.203	3.9	0.6	0.0432
98	-1.000	-380.6	-58.8	0.0295
99	-2.000	-905.6	-140.0	0.0167
100	-3.000	-1355.6	-209.5	0.0082
101	-4.000	-1532.5	-236.9	0.0033
102	-4.140	-1535.3	-237.3	0.0028
103	-4.142	-1535.3	-237.3	0.0028
104	-5.000	-1433.5	-221.6	0.0010
105	-6.000	-1058.6	-163.6	0.0001
106	-7.000	-407.7	-63.0	0.0000
107	-7.460	-15.1	-2.3	0.0000
108	-7.462	0.0	0.0	0.0000
109	-8.000	0.0	0.0	0.0000

11.7 ksi

110	-9.000	0.0	0.0	0.0	0.0000
111	-10.000	0.0	0.0	0.0	0.0000
112	-11.000	0.0	0.0	0.0	0.0000
113	-12.000	0.0	0.0	0.0	0.0000
114	-13.000	0.0	0.0	0.0	0.0000
115	-13.199	0.0	0.0	0.0	0.0000

116	-13.200	0.0	0.0	0.0	0.0000
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120 *RUN COMPLETED*

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EOT..

LIST DRW22

1 100 1 13.6 -13.2 1 -13.2 0 -1

2 200 PZ-22

3 300 290000000 ~~6.47~~ 84.38

EOF..

EOT..

3.38
1.84

LIST Q61403

1

2

BEAMS (SHEAR, MOMENT, DEFLECTION)

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5 17TH STR.-Q6140D-SWL=13.6-Q CASE-FS=1.0

6 =1.

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8 THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT

9 INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS

10 AS COUNTERCLOCKWISE.

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12

13 THE MAXIMUM DEFLECTION IS 0.20 INCHES AND OCCURS AT MEMBER COORDINATE

14 13.60 FT.

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17

18 Z-22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

19

20 THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

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23 CALCULATED EXTERNAL LOADS

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25	DISTANCE FROM	TYPE OF	MAGNITUDE OF
26	REFERENCE(FT)	LOAD	LOAD
28	-0.25	POINT LD	36.58 LBF
29	-0.25	COUPLE	66.86 LBF-FT

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INPUTTED LOADS

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34	DISTANCE FROM	TYPE OF	MAGNITUDE OF
35	REFERENCE(FT)	LOAD	LOAD
37	13.60	CONTN LD	0.00 LBF/SQ FT
38	12.60	CONTN LD	62.50 LBF/SQ FT

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39	11.60	CONTN LD	125.00	LBF/SQ FT
40	10.60	CONTN LD	187.50	LBF/SQ FT
41	9.60	CONTN LD	250.00	LBF/SQ FT
42	8.60	CONTN LD	312.50	LBF/SQ FT
43	7.60	CONTN LD	375.00	LBF/SQ FT
44	6.60	CONTN LD	437.50	LBF/SQ FT
45	6.50	CONTN LD	443.75	LBF/SQ FT
46	6.50	CONTN LD	0.00	LBF/SQ FT
47	6.50	CONTN LD	-556.25	LBF/SQ FT
48	5.50	CONTN LD	-613.75	LBF/SQ FT
49	4.50	CONTN LD	-671.25	LBF/SQ FT
50	3.50	CONTN LD	-728.75	LBF/SQ FT
51	3.50	CONTN LD	-1728.75	LBF/SQ FT
52	3.15	CONTN LD	-1728.75	LBF/SQ FT
53	1.68	CONTN LD	0.00	LBF/SQ FT
54	-0.25	CONTN LD	2271.25	LBF/SQ FT
55	-0.25	CONTN LD	0.00	LBF/SQ FT

58 Z-22 PROPERTIES ARE AS FOLLOWS.

61 MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL
 62 CROSS SECTIONAL AREA= ~~6.47~~ SQ IN. *5.38184*
 63 ELASTIC MODULUS= 29000000. LBF/SQ IN.
 64 DEFLECTION REFERENCE IS AT -13.200

67 THE MAXIMUM BENDING MOMENT IS 5778.50 LBF-FT AND OCCURS AT 4.00
 68 WHICH HAS THE SHEAR FORCE OF 5.00 LBF.

73	DISTANCE	SHEAR FOR	SHEAR STR	BENDING MOM	DEFLECTION
74	(FEET)	(LBF)	(LBF/SQIN)	(LBF-FT)	FROM TANG.
75					THRU DEFLE
76					REFERENCE
77					(INCHES)
75	13.600	0.0	0.0	0.0	0.2026
76	13.599	0.0	0.0	0.0	0.2026
77	13.000	11.2	1.7	2.2	0.1889
78	12.000	80.0	12.4	42.7	0.1660
79	11.000	211.2	32.7	183.1	0.1432
80	10.000	405.0	62.6	486.0	0.1205
81	9.000	661.2	102.2	1013.9	0.0983
82	8.000	980.0	151.5	1829.3	0.0767
83	7.000	1361.2	210.4	2994.7	0.0565
84	6.500	1575.3	243.5	3728.2	0.0471
85	6.000	1290.0	199.4	4445.2	0.0384
86	5.000	676.2	104.5	5433.1	0.0235
87	4.000	5.0	0.8	5778.5	0.0122
88	3.000	-1203.3	-186.0	5300.8	0.0050
89	2.000	-2166.5	-334.8	3517.7	0.0014
90	1.684	-2225.8	-344.0	2819.5	0.0008
91	1.682	-2225.8	-344.0	2815.1	0.0008
92	1.000	-1951.4	-301.6	1360.6	0.0002
93	0.000	-558.3	-86.3	7.5	0.0000
94	-0.244	-38.9	-6.0	-66.8	0.0000
95	-0.246	0.0	0.0	0.0	0.0000

11.7 ksi

96	-1.000	0.0	0.0	0.0	0.0000
97	-2.000	0.0	0.0	0.0	0.0000
98	-3.000	0.0	0.0	0.0	0.0000
99	-4.000	0.0	0.0	0.0	0.0000
100	-5.000	0.0	0.0	0.0	0.0000
✓	-6.000	0.0	0.0	0.0	0.0000
101	-7.000	0.0	0.0	0.0	0.0000
103	-8.000	0.0	0.0	0.0	0.0000
104	-9.000	0.0	0.0	0.0	0.0000
105	-10.000	0.0	0.0	0.0	0.0000
106	-11.000	0.0	0.0	0.0	0.0000
107	-12.000	0.0	0.0	0.0	0.0000
108	-13.000	0.0	0.0	0.0	0.0000
109	-13.199	0.0	0.0	0.0	0.0000
110	-13.200	0.0	0.0	0.0	0.0000

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114 *RUN COMPLETED*

115

LIST DRW22

1 100 1 13.6 -13.2 1 -13.2 0 -1

2 200 PZ-22

3 300 290000000 ^{1.84} ~~6.47~~ 84.38

EOF..

EOT..

~~3.38~~