

ATTACHMENT A

Design Verification

Ginna Station

Containment Foundation Mat Analysis

ROCHESTER GAS AND ELECTRIC CORPORATION

89 EAST AVENUE

ROCHESTER, NEW YORK 14649

EWR #5327

Revision 1

June 18, 1991

Prepared By: L. A. Sucheski 6/18/91
Structural Engineer Date

Reviewed By: Paul W. Smith 6/18/91
Structural Engineer Date

Approved By: A. G. Loebl 6/18/91
Manager, Structural Engineering Date

REVISION STATUS SHEET

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Design Review

1.0 Summary Description of the Design

Recent licensing activities relative to Ginna Station license extension have prompted an analytical investigation of the Containment Building. This analysis is made to address the adequacy of the foundation mat to resist upward hydrostatic pressure loads.

2.0 Referenced Documents

Letter "Request For Additional Information (RAI), Concerns Related to the Integrity of Containment at Ginna (TAC No. 67427)" from Allen Johnson, USNRC to Robert Mecredy dated July 9, 1990.

3.0 Discussion

Not applicable.

4.0 Summary

The analysis that was done on STARDYNE is very conservative and shows the mat to be acceptable for water at elevation 265 and slightly overstressed for water at elevation 270. The MSC PAL results confirm the STARDYNE results at elevation 265 and demonstrated, with a less conservative model, that the slab is also adequate for water at elevation 270 for both bending and shear.

5.0 Justification for Manager's Verification

Not applicable.

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DESIGN REVIEW CHECKLIST

	YES	NO
(1) Were the inputs correctly selected and incorporated into design?	<u>X</u>	_____
(2) Are assumptions necessary to perform the design activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent re-verifications when the detailed design activities are completed?	<u>X</u>	_____
(3) Are the appropriate quality and quality assurance requirements specified?	<u>X</u>	_____
(4) Are the applicable codes, standards and regulatory requirements including issue and addenda properly identified and are their requirements for design met?	<u>X</u>	_____
(5) Have applicable construction and operating experience been considered?	<u>X</u>	_____
(6) Have the design interface requirements been satisfied?	<u>X</u>	_____
(7) Was an appropriate design method used?	<u>X</u>	_____
(8) Is the output reasonable compared to inputs?	<u>X</u>	_____
(9) Are the specified parts, equipment and processes suitable for the required application?	<u>N/A</u>	_____
(10) Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?	<u>N/A</u>	_____
(10a) For 10CFR50.49 specified items, are all requirements in sections 4, 5 and 6 of the applicable EEQ-1 forms properly incorporated in the design outputs?	<u>N/A</u>	_____
(11) Have adequate maintenance features and requirements been specified?	<u>N/A</u>	_____

- | | | |
|--|------------|-------|
| (12) Are accessibility and other design provisions adequate for performance of needed maintenance and repair? | <u>N/A</u> | _____ |
| (13) Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life? | <u>N/A</u> | _____ |
| (14) Has the design properly considered radiation exposure to the public and plant personnel? | <u>N/A</u> | _____ |
| (15) Are the acceptance criteria incorporated in the design documents sufficient to allow verification that design requirements have been satisfactorily accomplished? | <u>X</u> | _____ |
| (16) Have adequate pre-operational and subsequent periodic test requirements been appropriately specified? | <u>N/A</u> | _____ |
| (17) Have the characteristics of existing equipment important to the conduct of tests been reviewed to assure the characteristics can meet the test requirements? | <u>N/A</u> | _____ |
| (18) Are adequate handling, storage, cleaning and shipping requirements specified? | <u>N/A</u> | _____ |
| (19) Are adequate identification requirements specified? | <u>N/A</u> | _____ |
| (20) Are requirements for record preparation, review, approval, retention, etc., adequately specified? | <u>X</u> | _____ |
| (21) Are the requirements for fire protection specified in the Design Criteria adequately incorporated in the drawings and specifications? | <u>N/A</u> | _____ |
| (22) Have the Environmental qualification requirements of the Design Criteria, including compliance with QE-328 and 10 CFR 50.49 been satisfied? | <u>N/A</u> | _____ |
| (23) Has design process been performed in accordance with approved RG&E Engineering Procedures? | <u>X</u> | _____ |

[LAS/172]

CHECK CONCRETE SHEAR STRESS

REFER TO PAL2 OUTPUT
(ATTACHMENT 2)

NODE

FORCE

21	37190	54600
41	62800	
61	53220	
81	47860	
101	47860	
121	53220	
141	62800	
161	79520	
181	19150	

SHEAR STRESS

NODE SPACING 30 IN

$$V = 54600 \#$$

SLAB THICKNESS = 24 IN

$$f_v = 54600 / 30 \times 24$$

$$= 76 \text{ PSI}$$

$$f_{v_{all}} = \phi 2 \sqrt{f_c} = 0.85(2) \sqrt{3000}$$

$$= 93 \text{ PSI} \quad \text{SHEAR O.K.}$$

DESIGN ANALYSIS

PAGE 1 of 1

REV. 1

EWR NO. 5327

DATE 6/18/91

ATTACHMENT 2

1: TITLE C/V BASE SLAB GROUNDWATER
2: NODAL POINT LOCATIONS 1
3: 1 0 0.
4: 20 0 340
5: 200 270 340
6: 181 270 0
7: -- BLANK LINE --
8: NODAL POINT LOCATIONS 21
9: 1 20 200 1 20
10: -- BLANK LINE --
11: QUADRILATERAL PLATE TYPE 0 1 24
12: MATERIAL PROPERTIES 3000000 1120000 2.25E-4 0
13: GENERATE CONNECTS 1 20 200 1 20
14: ZERO 1
15: TX ALL
16: TY ALL
17: RZ ALL
18: -- BLANK LINE --
19: ELIMINATE
20: -- BLANK LINE --

--ENTER EDIT COMMAND OR LINE NUMBER--

Replace, Delete, Add, Insert, Copy, Move, Print, Get, Save, Quit

--ENTER EDIT COMMAND OR LINE NUMBER--

Replace, Delete, Add, Insert, Copy, Move, Print, Get, Save, Quit

P

1: TITLE C/V SLAB HYDROSTATIC LOADS

2: DISPLACEMENTS APPLIED 11

3: RA 0.0 1 THROUGH 20 STEP 1

4: RA 0.0 181 THROUGH 200 STEP 1

5: TA 0.0 1 THROUGH 181 STEP 20

6: TA 0.0 20 THROUGH 200 STEP 20

7: RZ 0.0 1 THROUGH 200 STEP 1

8: TZ 0.0 28 THROUGH 29 STEP 1

9: TZ 0.0 168 THROUGH 169 STEP 1

10:

11: PRESSURE LOAD APPLIED 12ED 11

12: 16.6 1 2 22 21 THROUGH 179 180 200 199 STEP 1 1 1 1

13:

14: SOLVE

15: END

--ENTER EDIT COMMAND OR LINE NUMBER--

Replace, Delete, Add, Insert, Copy, Move, Print, Get, Save, Quit

C/V BASE SLAB GROUNDWATER

STATIC ANALYSIS SUBCASE NO. 1 APPLIED FORCES

NODE	DIR	VALUE	NODE	DIR	VALUE	NODE	DIR	VALUE
1	Z T	-2.228E+03	2	Z T	-4.456E+03	3	Z T	-4.456E+03
4	Z T	-4.456E+03	5	Z T	-4.456E+03	6	Z T	-4.456E+03
7	Z T	-4.456E+03	8	Z T	-4.456E+03	9	Z T	-4.456E+03
10	Z T	-4.456E+03	11	Z T	-4.456E+03	12	Z T	-4.456E+03
13	Z T	-4.456E+03	14	Z T	-4.456E+03	15	Z T	-4.456E+03
16	Z T	-4.456E+03	17	Z T	-4.456E+03	18	Z T	-4.456E+03
19	Z T	-4.456E+03	20	Z T	4.010E+04	21	Z T	3.787E+04
22	Z T	-8.912E+03	23	Z T	-8.912E+03	24	Z T	-8.912E+03
25	Z T	-8.912E+03	26	Z T	-8.912E+03	27	Z T	-8.912E+03
28	Z T	-8.912E+03	29	Z T	-8.912E+03	30	Z T	-8.912E+03
31	Z T	-8.912E+03	32	Z T	-8.912E+03	33	Z T	-8.912E+03
34	Z T	-8.912E+03	35	Z T	-8.912E+03	36	Z T	-8.912E+03
37	Z T	-8.912E+03	38	Z T	-8.912E+03	39	Z T	-8.912E+03
40	Z T	8.020E+04	41	Z T	8.020E+04	42	Z T	-8.912E+03
43	Z T	-8.912E+03	44	Z T	-8.912E+03	45	Z T	-8.912E+03
46	Z T	-8.912E+03	47	Z T	-8.912E+03	48	Z T	-8.912E+03
49	Z T	-8.912E+03	50	Z T	-8.912E+03	51	Z T	-8.912E+03
52	Z T	-8.912E+03	53	Z T	-8.912E+03	54	Z T	-8.912E+03
55	Z T	-8.912E+03	56	Z T	-8.912E+03	57	Z T	-8.912E+03
58	Z T	-8.912E+03	59	Z T	-8.912E+03	60	Z T	8.020E+04
61	Z T	8.020E+04	62	Z T	-8.912E+03	63	Z T	-8.912E+03
64	Z T	-8.912E+03	65	Z T	-8.912E+03	66	Z T	-8.912E+03
67	Z T	-8.912E+03	68	Z T	-8.912E+03	69	Z T	-8.912E+03
70	Z T	-8.912E+03	71	Z T	-8.912E+03	72	Z T	-8.912E+03
73	Z T	-8.912E+03	74	Z T	-8.912E+03	75	Z T	-8.912E+03
76	Z T	-8.912E+03	77	Z T	-8.912E+03	78	Z T	-8.912E+03
79	Z T	-8.912E+03	80	Z T	8.020E+04	81	Z T	8.020E+04
82	Z T	-8.912E+03	83	Z T	-8.912E+03	84	Z T	-8.912E+03
85	Z T	-8.912E+03	86	Z T	-8.912E+03	87	Z T	-8.912E+03
88	Z T	-8.912E+03	89	Z T	-8.912E+03	90	Z T	-8.912E+03
91	Z T	-8.912E+03	92	Z T	-8.912E+03	93	Z T	-8.912E+03
94	Z T	-8.912E+03	95	Z T	-8.912E+03	96	Z T	-8.912E+03
97	Z T	-8.912E+03	98	Z T	-8.912E+03	99	Z T	-8.912E+03
100	Z T	8.020E+04	101	Z T	8.020E+04	102	Z T	-8.912E+03
103	Z T	-8.912E+03	104	Z T	-8.912E+03	105	Z T	-8.912E+03
106	Z T	-8.912E+03	107	Z T	-8.912E+03	108	Z T	-8.912E+03
109	Z T	-8.912E+03	110	Z T	-8.912E+03	111	Z T	-8.912E+03
112	Z T	-8.912E+03	113	Z T	-8.912E+03	114	Z T	-8.912E+03
115	Z T	-8.912E+03	116	Z T	-8.912E+03	117	Z T	-8.912E+03
118	Z T	-8.912E+03	119	Z T	-8.912E+03	120	Z T	8.020E+04
121	Z T	8.020E+04	122	Z T	-8.912E+03	123	Z T	-8.912E+03
124	Z T	-8.912E+03	125	Z T	-8.912E+03	126	Z T	-8.912E+03
127	Z T	-8.912E+03	128	Z T	-8.912E+03	129	Z T	-8.912E+03
130	Z T	-8.912E+03	131	Z T	-8.912E+03	132	Z T	-8.912E+03
133	Z T	-8.912E+03	134	Z T	-8.912E+03	135	Z T	-8.912E+03
136	Z T	-8.912E+03	137	Z T	-8.912E+03	138	Z T	-8.912E+03
139	Z T	-8.912E+03	140	Z T	8.020E+04	141	Z T	8.020E+04
142	Z T	-8.912E+03	143	Z T	-8.912E+03	144	Z T	-8.912E+03
145	Z T	-8.912E+03	146	Z T	-8.912E+03	147	Z T	-8.912E+03

148 Z T -8.912E+03	149 Z T -8.912E+03	150 Z T -8.912E+03
151 Z T -8.912E+03	152 Z T -8.912E+03	153 Z T -8.912E+03
154 Z T -8.912E+03	155 Z T -8.912E+03	156 Z T -8.912E+03
157 Z T -8.912E+03	158 Z T -8.912E+03	159 Z T -8.912E+03
160 Z T 8.020E+04	161 Z T 8.020E+04	162 Z T -8.912E+03
163 Z T -8.912E+03	164 Z T -8.912E+03	165 Z T -8.912E+03
166 Z T -8.912E+03	167 Z T -8.912E+03	168 Z T -8.912E+03
169 Z T -8.912E+03	170 Z T -8.912E+03	171 Z T -8.912E+03
172 Z T -8.912E+03	173 Z T -8.912E+03	174 Z T -8.912E+03
175 Z T -8.912E+03	176 Z T -8.912E+03	177 Z T -8.912E+03
178 Z T -8.912E+03	179 Z T -8.912E+03	180 Z T 3.787E+04
181 Z T -4.010E+04	182 Z T -4.456E+03	183 Z T -4.456E+03
184 Z T -4.456E+03	185 Z T -4.456E+03	186 Z T -4.456E+03
187 Z T -4.456E+03	188 Z T -4.456E+03	189 Z T -4.456E+03
190 Z T -4.456E+03	191 Z T -4.456E+03	192 Z T -4.456E+03
193 Z T -4.456E+03	194 Z T -4.456E+03	195 Z T -4.456E+03
196 Z T -4.456E+03	197 Z T -4.456E+03	198 Z T -4.456E+03
199 Z T -4.456E+03	200 Z T -2.228E+03	

STATIC ANALYSIS SUBCASE NO. 1 EXTERNAL FORCES

NODE	DIR	VALUE	NODE	DIR	VALUE	NODE	DIR	VALUE
1	Z T	2.318E+04	1	X R	2.328E+05	1	Y R	-1.667E+05
2	X R	4.055E+05	2	Y R	-1.027E+05	3	X R	2.303E+05
3	Y R	-2.219E+05	4	X R	8.158E+03	4	Y R	-3.270E+05
5	X R	-2.159E+05	5	Y R	-4.041E+05	6	X R	-3.859E+05
6	Y R	-4.437E+05	7	X R	-4.149E+05	7	Y R	-4.298E+05
8	X R	-1.167E+05	8	Y R	-4.816E+05	9	X R	6.151E+05
9	Y R	-6.770E+05	10	X R	1.173E+06	10	Y R	-4.838E+05
11	X R	1.206E+06	11	Y R	-5.990E+05	12	X R	1.012E+06
12	Y R	-6.510E+05	13	X R	6.939E+05	13	Y R	-6.597E+05
14	X R	3.136E+05	14	Y R	-6.352E+05	15	X R	-9.078E+04
15	Y R	-5.817E+05	16	X R	-4.902E+05	16	Y R	-5.010E+05
17	X R	-8.590E+05	17	Y R	-3.944E+05	18	X R	-1.171E+06
18	Y R	-2.619E+05	19	X R	-1.394E+06	19	Y R	-1.249E+05
20	Z T	4.354E+04	20	X R	-7.198E+05	20	Y R	-4.514E+05
21	Z T	-3.719E+04	28	Z T	1.174E+05	29	Z T	3.256E+05
40	Z T	-8.122E+04	41	Z T	-6.280E+04	60	Z T	-5.485E+04
61	Z T	-5.322E+04	80	Z T	-4.588E+04	81	Z T	-4.786E+04
100	Z T	-4.202E+04	101	Z T	-4.786E+04	120	Z T	-4.202E+04
121	Z T	-5.322E+04	140	Z T	-4.588E+04	141	Z T	-6.280E+04
160	Z T	-5.485E+04	161	Z T	-7.952E+04	168	Z T	1.174E+05
169	Z T	3.256E+05	180	Z T	-3.889E+04	181	Z T	-1.915E+04
181	X R	2.328E+05	181	Y R	1.667E+05	182	X R	4.055E+05
182	Y R	1.027E+05	183	X R	2.303E+05	183	Y R	2.219E+05
184	X R	8.158E+03	184	Y R	3.270E+05	185	X R	-2.159E+05
185	Y R	4.041E+05	186	X R	-3.859E+05	186	Y R	4.437E+05
187	X R	-4.149E+05	187	Y R	4.298E+05	188	X R	-1.167E+05
188	Y R	4.816E+05	189	X R	6.151E+05	189	Y R	6.770E+05
190	X R	1.173E+06	190	Y R	4.838E+05	191	X R	1.206E+06
191	Y R	5.990E+05	192	X R	1.012E+06	192	Y R	6.510E+05
193	X R	6.939E+05	193	Y R	6.597E+05	194	X R	3.136E+05
194	Y R	6.352E+05	195	X R	-9.078E+04	195	Y R	5.817E+05
196	X R	-4.902E+05	196	Y R	5.010E+05	197	X R	-8.590E+05

197 Y R 3.944E+05 198 X R -1.171E+06 198 Y R 2.619E+05
199 X R -1.394E+06 199 Y R 1.249E+05 200 Z T 8.587E+04
200 X R -7.198E+05 200 Y R 4.514E+05

STATIC ANALYSIS SUBCASE NO. 1 DISPLACEMENTS

NODE	X TRANS	Y TRANS	Z TRANS	X ROT	Y ROT	Z ROT
2	0.0000E-01	0.0000E-01	-2.8634E-03	0.0000E-01	0.0000E-01	0.0000E-01
3	0.0000E-01	0.0000E-01	-4.8458E-03	0.0000E-01	0.0000E-01	0.0000E-01
4	0.0000E-01	0.0000E-01	-5.6136E-03	0.0000E-01	0.0000E-01	0.0000E-01
5	0.0000E-01	0.0000E-01	-5.0162E-03	0.0000E-01	0.0000E-01	0.0000E-01
6	0.0000E-01	0.0000E-01	-3.1951E-03	0.0000E-01	0.0000E-01	0.0000E-01
7	0.0000E-01	0.0000E-01	-6.8922E-04	0.0000E-01	0.0000E-01	0.0000E-01
8	0.0000E-01	0.0000E-01	1.3005E-03	0.0000E-01	0.0000E-01	0.0000E-01
9	0.0000E-01	0.0000E-01	2.5252E-04	0.0000E-01	0.0000E-01	0.0000E-01
10	0.0000E-01	0.0000E-01	-5.8036E-03	0.0000E-01	0.0000E-01	0.0000E-01
11	0.0000E-01	0.0000E-01	-1.3072E-02	0.0000E-01	0.0000E-01	0.0000E-01
12	0.0000E-01	0.0000E-01	-1.9749E-02	0.0000E-01	0.0000E-01	0.0000E-01
13	0.0000E-01	0.0000E-01	-2.4844E-02	0.0000E-01	0.0000E-01	0.0000E-01
14	0.0000E-01	0.0000E-01	-2.7839E-02	0.0000E-01	0.0000E-01	0.0000E-01
15	0.0000E-01	0.0000E-01	-2.8487E-02	0.0000E-01	0.0000E-01	0.0000E-01
16	0.0000E-01	0.0000E-01	-2.6733E-02	0.0000E-01	0.0000E-01	0.0000E-01
17	0.0000E-01	0.0000E-01	-2.2682E-02	0.0000E-01	0.0000E-01	0.0000E-01
18	0.0000E-01	0.0000E-01	-1.6585E-02	0.0000E-01	0.0000E-01	0.0000E-01
19	0.0000E-01	0.0000E-01	-8.8879E-03	0.0000E-01	0.0000E-01	0.0000E-01
21	0.0000E-01	0.0000E-01	0.0000E-01	-2.3949E-04	-2.0569E-05	0.0000E-01
22	0.0000E-01	0.0000E-01	-3.9501E-03	-2.1059E-04	5.6639E-05	0.0000E-01
23	0.0000E-01	0.0000E-01	-6.9287E-03	-1.3606E-04	1.0445E-04	0.0000E-01
24	0.0000E-01	0.0000E-01	-8.4554E-03	-3.8061E-05	1.5174E-04	0.0000E-01
25	0.0000E-01	0.0000E-01	-8.3144E-03	6.2893E-05	1.9382E-04	0.0000E-01
26	0.0000E-01	0.0000E-01	-6.5428E-03	1.4164E-04	2.3215E-04	0.0000E-01
27	0.0000E-01	0.0000E-01	-3.4919E-03	1.5791E-04	2.6779E-04	0.0000E-01
28	0.0000E-01	0.0000E-01	0.0000E-01	3.2353E-05	2.9879E-04	0.0000E-01
29	0.0000E-01	0.0000E-01	0.0000E-01	-2.6680E-04	3.1141E-04	0.0000E-01
30	0.0000E-01	0.0000E-01	-8.7149E-03	-4.9624E-04	3.1604E-04	0.0000E-01
31	0.0000E-01	0.0000E-01	-1.7428E-02	-5.1131E-04	3.0386E-04	0.0000E-01
32	0.0000E-01	0.0000E-01	-2.4839E-02	-4.2288E-04	2.9273E-04	0.0000E-01
33	0.0000E-01	0.0000E-01	-3.0211E-02	-2.8183E-04	2.7771E-04	0.0000E-01
34	0.0000E-01	0.0000E-01	-3.3152E-02	-1.1456E-04	2.5858E-04	0.0000E-01
35	0.0000E-01	0.0000E-01	-3.3474E-02	6.2761E-05	2.3347E-04	0.0000E-01
36	0.0000E-01	0.0000E-01	-3.1144E-02	2.3792E-04	2.0105E-04	0.0000E-01
37	0.0000E-01	0.0000E-01	-2.6276E-02	3.9967E-04	1.6109E-04	0.0000E-01
38	0.0000E-01	0.0000E-01	-1.9130E-02	5.3594E-04	1.1052E-04	0.0000E-01
39	0.0000E-01	0.0000E-01	-1.0148E-02	6.3233E-04	6.8302E-05	0.0000E-01
40	0.0000E-01	0.0000E-01	0.0000E-01	6.6844E-04	-7.5601E-05	0.0000E-01
41	0.0000E-01	0.0000E-01	0.0000E-01	-3.1379E-04	5.7676E-06	0.0000E-01
42	0.0000E-01	0.0000E-01	-6.0815E-03	-2.8985E-04	6.9915E-05	0.0000E-01
43	0.0000E-01	0.0000E-01	-1.1166E-02	-2.3065E-04	1.3995E-04	0.0000E-01
44	0.0000E-01	0.0000E-01	-1.4755E-02	-1.5524E-04	2.1100E-04	0.0000E-01
45	0.0000E-01	0.0000E-01	-1.6717E-02	-8.2000E-05	2.8517E-04	0.0000E-01
46	0.0000E-01	0.0000E-01	-1.7258E-02	-3.0660E-05	3.6579E-04	0.0000E-01
47	0.0000E-01	0.0000E-01	-1.6985E-02	-2.3700E-05	4.5818E-04	0.0000E-01
48	0.0000E-01	0.0000E-01	-1.7045E-02	-8.3306E-05	5.4772E-04	0.0000E-01

49	0.0000E-01	0.0000E-01	-1.9317E-02	-1.9946E-04	5.6940E-04	0.0000E-01
50	0.0000E-01	0.0000E-01	-2.4956E-02	-2.9029E-04	5.4886E-04	0.0000E-01
51	0.0000E-01	0.0000E-01	-3.1530E-02	-2.9923E-04	4.7479E-04	0.0000E-01
52	0.0000E-01	0.0000E-01	-3.7418E-02	-2.4286E-04	4.2149E-04	0.0000E-01
53	0.0000E-01	0.0000E-01	-4.1591E-02	-1.4232E-04	3.7450E-04	0.0000E-01
54	0.0000E-01	0.0000E-01	-4.3417E-02	-1.4765E-05	3.3166E-04	0.0000E-01
55	0.0000E-01	0.0000E-01	-4.2547E-02	1.2648E-04	2.8824E-04	0.0000E-01
56	0.0000E-01	0.0000E-01	-3.8842E-02	2.7018E-04	2.4112E-04	0.0000E-01
57	0.0000E-01	0.0000E-01	-3.2359E-02	4.0564E-04	1.8868E-04	0.0000E-01
58	0.0000E-01	0.0000E-01	-2.3354E-02	5.2132E-04	1.2937E-04	0.0000E-01
59	0.0000E-01	0.0000E-01	-1.2286E-02	6.0400E-04	6.6891E-05	0.0000E-01
60	0.0000E-01	0.0000E-01	0.0000E-01	6.3775E-04	1.5649E-05	0.0000E-01
61	0.0000E-01	0.0000E-01	0.0000E-01	-4.4419E-04	1.5845E-07	0.0000E-01
62	0.0000E-01	0.0000E-01	-8.2261E-03	-4.2099E-04	5.6853E-05	0.0000E-01
63	0.0000E-01	0.0000E-01	-1.5465E-02	-3.6111E-04	1.1498E-04	0.0000E-01
64	0.0000E-01	0.0000E-01	-2.1286E-02	-2.8583E-04	1.7463E-04	0.0000E-01
65	0.0000E-01	0.0000E-01	-2.5614E-02	-2.1459E-04	2.3746E-04	0.0000E-01
66	0.0000E-01	0.0000E-01	-2.8697E-02	-1.6452E-04	3.0336E-04	0.0000E-01
67	0.0000E-01	0.0000E-01	-3.1073E-02	-1.4882E-04	3.6968E-04	0.0000E-01
68	0.0000E-01	0.0000E-01	-3.3511E-02	-1.7169E-04	4.2527E-04	0.0000E-01
69	0.0000E-01	0.0000E-01	-3.6861E-02	-2.1805E-04	4.4337E-04	0.0000E-01
70	0.0000E-01	0.0000E-01	-4.1389E-02	-2.5043E-04	4.3053E-04	0.0000E-01
71	0.0000E-01	0.0000E-01	-4.6242E-02	-2.3871E-04	3.8745E-04	0.0000E-01
72	0.0000E-01	0.0000E-01	-5.0393E-02	-1.7791E-04	3.4450E-04	0.0000E-01
73	0.0000E-01	0.0000E-01	-5.2988E-02	-7.4894E-05	3.0249E-04	0.0000E-01
74	0.0000E-01	0.0000E-01	-5.3360E-02	5.9164E-05	2.6316E-04	0.0000E-01
75	0.0000E-01	0.0000E-01	-5.1069E-02	2.1195E-04	2.2458E-04	0.0000E-01
76	0.0000E-01	0.0000E-01	-4.5890E-02	3.7081E-04	1.8491E-04	0.0000E-01
77	0.0000E-01	0.0000E-01	-3.7822E-02	5.2247E-04	1.4276E-04	0.0000E-01
78	0.0000E-01	0.0000E-01	-2.7099E-02	6.5231E-04	9.7686E-05	0.0000E-01
79	0.0000E-01	0.0000E-01	-1.4221E-02	7.4309E-04	4.9404E-05	0.0000E-01
80	0.0000E-01	0.0000E-01	0.0000E-01	7.7528E-04	-1.4304E-06	0.0000E-01
81	0.0000E-01	0.0000E-01	0.0000E-01	-5.1645E-04	6.0549E-07	0.0000E-01
82	0.0000E-01	0.0000E-01	-9.5378E-03	-4.9361E-04	2.1600E-05	0.0000E-01
83	0.0000E-01	0.0000E-01	-1.8111E-02	-4.3621E-04	4.3737E-05	0.0000E-01
84	0.0000E-01	0.0000E-01	-2.5311E-02	-3.6460E-04	6.6502E-05	0.0000E-01
85	0.0000E-01	0.0000E-01	-3.1076E-02	-2.9611E-04	9.0253E-05	0.0000E-01
86	0.0000E-01	0.0000E-01	-3.5634E-02	-2.4410E-04	1.1454E-04	0.0000E-01
87	0.0000E-01	0.0000E-01	-3.9428E-02	-2.1625E-04	1.3772E-04	0.0000E-01
88	0.0000E-01	0.0000E-01	-4.3004E-02	-2.1202E-04	1.5596E-04	0.0000E-01
89	0.0000E-01	0.0000E-01	-4.6839E-02	-2.1944E-04	1.6269E-04	0.0000E-01
90	0.0000E-01	0.0000E-01	-5.1008E-02	-2.1720E-04	1.5873E-04	0.0000E-01
91	0.0000E-01	0.0000E-01	-5.5052E-02	-1.8658E-04	1.4529E-04	0.0000E-01
92	0.0000E-01	0.0000E-01	-5.8250E-02	-1.1976E-04	1.2982E-04	0.0000E-01
93	0.0000E-01	0.0000E-01	-5.9885E-02	-1.7736E-05	1.1392E-04	0.0000E-01
94	0.0000E-01	0.0000E-01	-5.9332E-02	1.1316E-04	9.8603E-05	0.0000E-01
95	0.0000E-01	0.0000E-01	-5.6134E-02	2.6323E-04	8.3569E-05	0.0000E-01
96	0.0000E-01	0.0000E-01	-5.0034E-02	4.2071E-04	6.8332E-05	0.0000E-01
97	0.0000E-01	0.0000E-01	-4.1003E-02	5.7225E-04	5.2419E-05	0.0000E-01
98	0.0000E-01	0.0000E-01	-2.9263E-02	7.0279E-04	3.5692E-05	0.0000E-01
99	0.0000E-01	0.0000E-01	-1.5318E-02	7.9526E-04	1.7999E-05	0.0000E-01
100	0.0000E-01	0.0000E-01	0.0000E-01	8.2991E-04	1.3734E-06	0.0000E-01
101	0.0000E-01	0.0000E-01	0.0000E-01	-5.1645E-04	-6.0549E-07	0.0000E-01
102	0.0000E-01	0.0000E-01	-9.5378E-03	-4.9361E-04	-2.1600E-05	0.0000E-01
103	0.0000E-01	0.0000E-01	-1.8111E-02	-4.3621E-04	-4.3737E-05	0.0000E-01

104	0.0000E-01	0.0000E-01	-2.5311E-02	-3.6460E-04	-6.6502E-05	0.0000E-01
105	0.0000E-01	0.0000E-01	-3.1076E-02	-2.9611E-04	-9.0253E-05	0.0000E-01
106	0.0000E-01	0.0000E-01	-3.5634E-02	-2.4410E-04	-1.1454E-04	0.0000E-01
107	0.0000E-01	0.0000E-01	-3.9428E-02	-2.1625E-04	-1.3772E-04	0.0000E-01
108	0.0000E-01	0.0000E-01	-4.3004E-02	-2.1202E-04	-1.5596E-04	0.0000E-01
109	0.0000E-01	0.0000E-01	-4.6839E-02	-2.1944E-04	-1.6269E-04	0.0000E-01
110	0.0000E-01	0.0000E-01	-5.1008E-02	-2.1720E-04	-1.5873E-04	0.0000E-01
111	0.0000E-01	0.0000E-01	-5.5052E-02	-1.8658E-04	-1.4529E-04	0.0000E-01
112	0.0000E-01	0.0000E-01	-5.8250E-02	-1.1976E-04	-1.2982E-04	0.0000E-01
113	0.0000E-01	0.0000E-01	-5.9885E-02	-1.7736E-05	-1.1392E-04	0.0000E-01
114	0.0000E-01	0.0000E-01	-5.9332E-02	1.1316E-04	-9.8603E-05	0.0000E-01
115	0.0000E-01	0.0000E-01	-5.6134E-02	2.6323E-04	-8.3569E-05	0.0000E-01
116	0.0000E-01	0.0000E-01	-5.0034E-02	4.2071E-04	-6.8332E-05	0.0000E-01
117	0.0000E-01	0.0000E-01	-4.1003E-02	5.7225E-04	-5.2419E-05	0.0000E-01
118	0.0000E-01	0.0000E-01	-2.9263E-02	7.0279E-04	-3.5692E-05	0.0000E-01
119	0.0000E-01	0.0000E-01	-1.5318E-02	7.9526E-04	-1.7999E-05	0.0000E-01
120	0.0000E-01	0.0000E-01	0.0000E-01	8.2991E-04	-1.3734E-06	0.0000E-01
121	0.0000E-01	0.0000E-01	0.0000E-01	-4.4419E-04	-1.5845E-07	0.0000E-01
122	0.0000E-01	0.0000E-01	-8.2261E-03	-4.2099E-04	-5.6853E-05	0.0000E-01
123	0.0000E-01	0.0000E-01	-1.5465E-02	-3.6111E-04	-1.1498E-04	0.0000E-01
124	0.0000E-01	0.0000E-01	-2.1286E-02	-2.8583E-04	-1.7463E-04	0.0000E-01
125	0.0000E-01	0.0000E-01	-2.5614E-02	-2.1459E-04	-2.3746E-04	0.0000E-01
126	0.0000E-01	0.0000E-01	-2.8697E-02	-1.6452E-04	-3.0336E-04	0.0000E-01
127	0.0000E-01	0.0000E-01	-3.1073E-02	-1.4882E-04	-3.6968E-04	0.0000E-01
128	0.0000E-01	0.0000E-01	-3.3511E-02	-1.7169E-04	-4.2527E-04	0.0000E-01
129	0.0000E-01	0.0000E-01	-3.6861E-02	-2.1805E-04	-4.4337E-04	0.0000E-01
130	0.0000E-01	0.0000E-01	-4.1389E-02	-2.5043E-04	-4.3053E-04	0.0000E-01
131	0.0000E-01	0.0000E-01	-4.6242E-02	-2.3871E-04	-3.8745E-04	0.0000E-01
132	0.0000E-01	0.0000E-01	-5.0393E-02	-1.7791E-04	-3.4450E-04	0.0000E-01
133	0.0000E-01	0.0000E-01	-5.2988E-02	-7.4894E-05	-3.0249E-04	0.0000E-01
134	0.0000E-01	0.0000E-01	-5.3360E-02	5.9164E-05	-2.6316E-04	0.0000E-01
135	0.0000E-01	0.0000E-01	-5.1069E-02	2.1195E-04	-2.2458E-04	0.0000E-01
136	0.0000E-01	0.0000E-01	-4.5890E-02	3.7081E-04	-1.8491E-04	0.0000E-01
137	0.0000E-01	0.0000E-01	-3.7822E-02	5.2247E-04	-1.4276E-04	0.0000E-01
138	0.0000E-01	0.0000E-01	-2.7099E-02	6.5231E-04	-9.7686E-05	0.0000E-01
139	0.0000E-01	0.0000E-01	-1.4221E-02	7.4309E-04	-4.9404E-05	0.0000E-01
140	0.0000E-01	0.0000E-01	0.0000E-01	7.7528E-04	1.4304E-06	0.0000E-01
141	0.0000E-01	0.0000E-01	0.0000E-01	-3.1379E-04	-5.7676E-06	0.0000E-01
142	0.0000E-01	0.0000E-01	-6.0815E-03	-2.8985E-04	-6.9915E-05	0.0000E-01
143	0.0000E-01	0.0000E-01	-1.1166E-02	-2.3065E-04	-1.3995E-04	0.0000E-01
144	0.0000E-01	0.0000E-01	-1.4755E-02	-1.5524E-04	-2.1100E-04	0.0000E-01
145	0.0000E-01	0.0000E-01	-1.6717E-02	-8.2000E-05	-2.8517E-04	0.0000E-01
146	0.0000E-01	0.0000E-01	-1.7258E-02	-3.0660E-05	-3.6579E-04	0.0000E-01
147	0.0000E-01	0.0000E-01	-1.6985E-02	-2.3700E-05	-4.5818E-04	0.0000E-01
148	0.0000E-01	0.0000E-01	-1.7045E-02	-8.3306E-05	-5.4772E-04	0.0000E-01
149	0.0000E-01	0.0000E-01	-1.9317E-02	-1.9946E-04	-5.6940E-04	0.0000E-01
150	0.0000E-01	0.0000E-01	-2.4956E-02	-2.9029E-04	-5.4886E-04	0.0000E-01
151	0.0000E-01	0.0000E-01	-3.1530E-02	-2.9923E-04	-4.7479E-04	0.0000E-01
152	0.0000E-01	0.0000E-01	-3.7418E-02	-2.4286E-04	-4.2149E-04	0.0000E-01
153	0.0000E-01	0.0000E-01	-4.1591E-02	-1.4232E-04	-3.7450E-04	0.0000E-01
154	0.0000E-01	0.0000E-01	-4.3417E-02	-1.4765E-05	-3.3166E-04	0.0000E-01
155	0.0000E-01	0.0000E-01	-4.2547E-02	1.2648E-04	-2.8824E-04	0.0000E-01
156	0.0000E-01	0.0000E-01	-3.8842E-02	2.7018E-04	-2.4112E-04	0.0000E-01
157	0.0000E-01	0.0000E-01	-3.2359E-02	4.0564E-04	-1.8868E-04	0.0000E-01
158	0.0000E-01	0.0000E-01	-2.3354E-02	5.2132E-04	-1.2937E-04	0.0000E-01



Handwritten marks and scribbles in the top right corner, possibly including the number '2'.