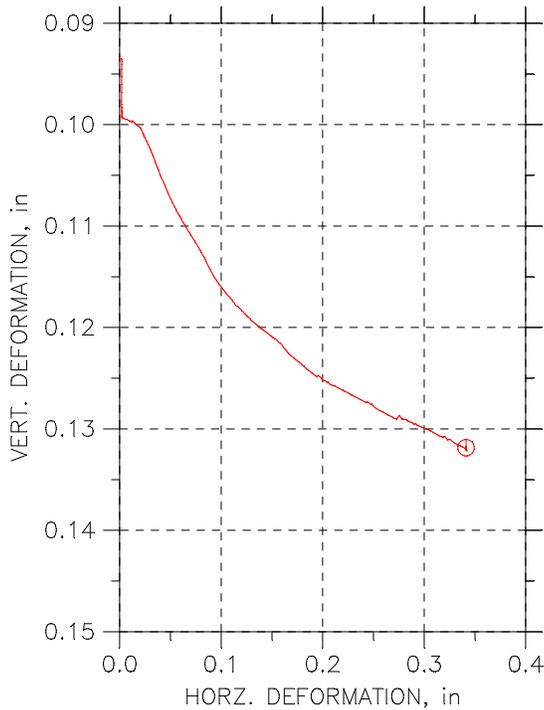
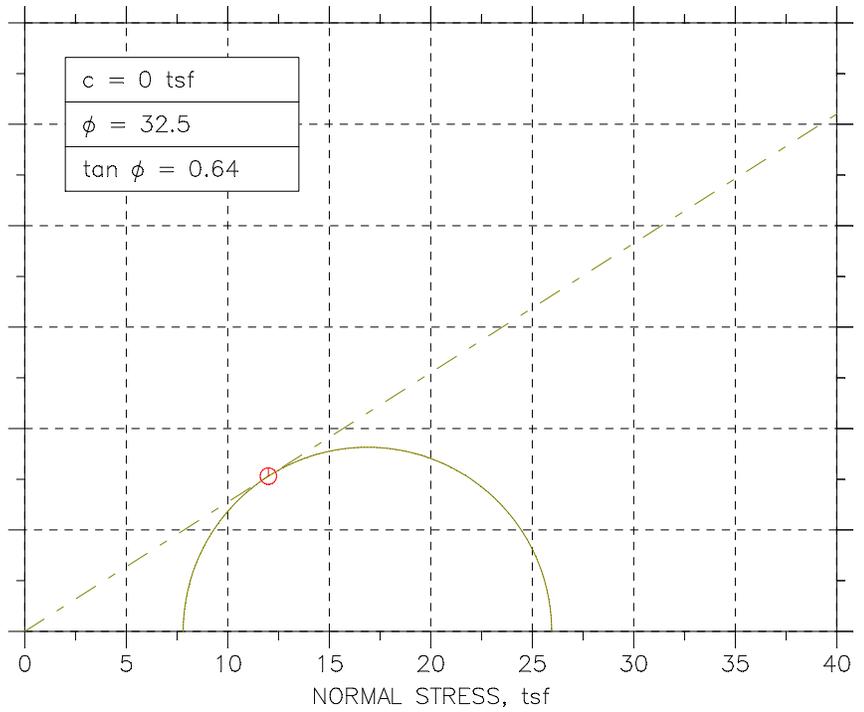
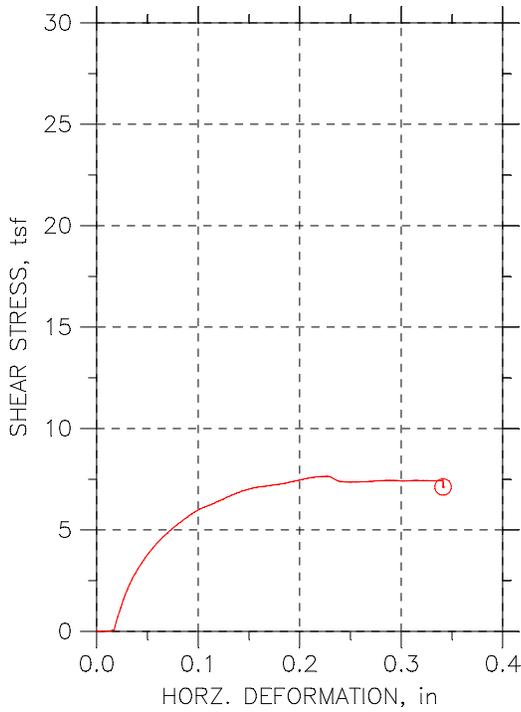


DIRECT SHEAR TEST REPORT



Symbol	⊖		
Test No.	5742109BS5D		
Sample No.	OST-5		
Shape	Circular		
Initial	Dimension, in	2.3642	
	Area, in ²	4.3898	
	Height, in	0.93543	
	Water Content, %	19.39	
	Dry Density, pcf	108.7	
	Saturation, %	95.65	
	Void Ratio	0.54561	
	Consol. Height, in	0.84214	
	Consol. Void Ratio	0.39146	
Final	Water Content, %	12.18	
	Dry Density, pcf	126.5	
	Saturation, %	100.01	
	Void Ratio	0.32775	
	Normal Stress, tsf	12	
	Max. Shear Stress, tsf	7.6519	
	Ult. Shear Stress, tsf	7.1195	
	Time to Failure, min	4773.9	
	Disp. Rate, in/min	4.0945e-005	
	Measured Specific Gravity	2.69	
	Liquid Limit	19	
	Plastic Limit	15	
	Plasticity Index	4	

Project: KINGSTON COAL	
Location: TN	
Project No.: 60095742	
Boring No.: 09-109B S-5	
Sample Type: 3" OST	
Description: SILTY F-M SAND TRACE CLAY - LIGHT BROWN (SM)	
Remarks: TEST PERFORMED AS PER ASTM D 3080	

DIRECT SHEAR TEST DATA

Project: KINGSTON COAL
 Boring No.: 09-109B S-5
 Sample No.: OST-5
 Test No.: 5742109BS5D

Location: TN
 Tested By: BCM
 Test Date: 04/07/09
 Sample Type: 3" OST

Project No.: 60095742
 Checked By: WPQ
 Depth: 30.5' -33.0'
 Elevation:

Soil Description: SILTY F-M SAND TRACE CLAY - LIGHT BROWN (SM)
 Remarks: TEST PERFORMED AS PER ASTM D 3080

Step: 1 of 1

	El apsed Time min	Vertical Stress tsf	Vertical Di spl acement in	Hori zontal Stress tsf	Hori zontal Di spl acement in	Cumul ati ve Di spl acement in
1	0.00	12	0.09341	0	0	0
2	0.15	12	0.09354	0.0004335	0.002116	0.002116
3	0.40	12	0.09373	0.0008671	0.002116	0.002116
4	0.90	12	0.09404	0.001301	0.001975	0.001975
5	1.90	12	0.09453	0.001734	0.001975	0.001975
6	3.90	12	0.09521	0.002168	0.001975	0.001975
7	7.90	12	0.09602	0.002168	0.001975	0.001975
8	15.90	12	0.09685	0.002168	0.001975	0.001975
9	35.90	12	0.09773	0.002168	0.001834	0.001834
10	48.90	12	0.09803	0.002168	0.001975	0.001975
11	63.90	12	0.09824	0.002601	0.001975	0.001975
12	78.90	12	0.09842	0.002601	0.001975	0.001975
13	93.90	12	0.09855	0.002601	0.001975	0.001975
14	108.90	12	0.09864	0.002601	0.001975	0.001975
15	123.90	12	0.09869	0.002601	0.001975	0.001975
16	138.90	12	0.09879	0.002601	0.001975	0.001975
17	153.90	12	0.09884	0.002601	0.002116	0.002116
18	168.90	12	0.09888	0.003035	0.002116	0.002116
19	183.90	12	0.099	0.003035	0.002116	0.002116
20	198.90	12	0.09902	0.003035	0.002116	0.002116
21	213.90	12	0.09907	0.003035	0.002116	0.002116
22	228.90	12	0.09909	0.003035	0.002257	0.002257
23	243.90	12	0.09912	0.003035	0.002116	0.002116
24	258.90	12	0.09919	0.003035	0.002116	0.002116
25	273.90	12	0.09921	0.003035	0.002116	0.002116
26	288.90	12	0.09925	0.003035	0.002116	0.002116
27	303.90	12	0.09926	0.003035	0.002257	0.002257
28	318.90	12	0.09929	0.003035	0.002116	0.002116
29	333.90	12	0.09932	0.003035	0.002257	0.002257
30	348.90	12	0.0993	0.003035	0.002257	0.002257
31	363.90	12	0.09932	0.003035	0.002257	0.002257
32	378.90	12	0.09932	0.003468	0.002257	0.002257
33	393.90	12	0.09932	0.003468	0.002257	0.002257
34	408.90	12	0.09935	0.003468	0.002257	0.002257
35	423.90	12	0.09936	0.002601	0.002257	0.002257
36	438.90	12	0.09936	0.002601	0.002257	0.002257
37	453.90	12	0.09937	0.003035	0.002398	0.002398
38	468.90	12	0.09939	0.003468	0.003245	0.003245
39	483.90	12	0.0994	0.003902	0.004091	0.004091
40	498.90	12	0.09945	0.004335	0.004938	0.004938
41	513.90	12	0.09949	0.005202	0.005643	0.005643
42	528.90	12	0.09947	0.005636	0.006207	0.006207
43	543.90	12	0.0995	0.006503	0.007054	0.007054
44	558.90	12	0.09954	0.00737	0.0079	0.0079
45	573.90	12	0.09959	0.009104	0.008747	0.008747
46	588.90	12	0.09961	0.01344	0.009452	0.009452
47	603.90	12	0.09964	0.01821	0.0103	0.0103
48	618.90	12	0.09971	0.02038	0.01114	0.01114
49	633.90	12	0.09971	0.02211	0.01185	0.01185
50	648.90	12	0.09961	0.02645	0.01256	0.01256
51	663.90	12	0.0997	0.02905	0.01326	0.01326
52	678.90	12	0.09975	0.03208	0.01411	0.01411
53	693.90	12	0.09988	0.05506	0.01495	0.01495
54	708.90	12	0.09994	0.05983	0.01566	0.01566
55	723.90	12	0.1	0.0685	0.01636	0.01636
56	738.90	12	0.1001	0.08194	0.01721	0.01721
57	753.90	12	0.1001	0.2003	0.01778	0.01778
58	768.90	12	0.1002	0.3217	0.01848	0.01848
59	783.90	12	0.1002	0.4361	0.01904	0.01904
60	798.90	12	0.1002	0.5319	0.01961	0.01961
61	813.90	12	0.1003	0.6304	0.02017	0.02017
62	828.90	12	0.1004	0.7236	0.02074	0.02074
63	843.90	12	0.1005	0.8155	0.0213	0.0213
64	858.90	12	0.1006	0.9078	0.02201	0.02201
65	873.90	12	0.1008	0.9997	0.02257	0.02257
66	888.90	12	0.1009	1.098	0.02328	0.02328
67	903.90	12	0.101	1.187	0.0237	0.0237
68	918.90	12	0.1011	1.149	0.02384	0.02384
69	933.90	12	0.1012	1.161	0.02398	0.02398
70	948.90	12	0.1013	1.294	0.02455	0.02455
71	963.90	12	0.1014	1.406	0.02525	0.02525
72	978.90	12	0.1015	1.505	0.02582	0.02582
73	993.90	12	0.1016	1.595	0.02652	0.02652
74	1008.90	12	0.1017	1.678	0.02709	0.02709
75	1023.90	12	0.1019	1.759	0.02779	0.02779
76	1038.90	12	0.102	1.844	0.02836	0.02836
77	1053.90	12	0.1022	1.927	0.02906	0.02906
78	1068.90	12	0.1023	2.008	0.02977	0.02977
79	1083.90	12	0.1025	2.088	0.03033	0.03033

80	1098. 90	12	0. 1027	2. 172	0. 03104	0. 03104
81	1113. 90	12	0. 1028	2. 25	0. 03174	0. 03174
82	1128. 90	12	0. 103	2. 317	0. 03245	0. 03245
83	1143. 90	12	0. 1032	2. 396	0. 03315	0. 03315
84	1158. 90	12	0. 1033	2. 47	0. 03386	0. 03386
85	1173. 90	12	0. 1035	2. 543	0. 03456	0. 03456
86	1188. 90	12	0. 1037	2. 614	0. 03527	0. 03527
87	1203. 90	12	0. 1039	2. 687	0. 03597	0. 03597
88	1218. 90	12	0. 1041	2. 752	0. 03668	0. 03668
89	1233. 90	12	0. 1043	2. 813	0. 03753	0. 03753
90	1248. 90	12	0. 1045	2. 872	0. 03823	0. 03823
91	1263. 90	12	0. 1047	2. 934	0. 03894	0. 03894
92	1278. 90	12	0. 1049	2. 997	0. 03964	0. 03964
93	1293. 90	12	0. 1051	3. 06	0. 04035	0. 04035
94	1308. 90	12	0. 1053	3. 118	0. 04105	0. 04105
95	1323. 90	12	0. 1054	3. 177	0. 0419	0. 0419
96	1338. 90	12	0. 1056	3. 234	0. 0426	0. 0426
97	1353. 90	12	0. 1057	3. 295	0. 04345	0. 04345
98	1368. 90	12	0. 1059	3. 355	0. 04416	0. 04416
99	1383. 90	12	0. 1061	3. 416	0. 045	0. 045
100	1398. 90	12	0. 1063	3. 474	0. 04571	0. 04571
101	1413. 90	12	0. 1065	3. 526	0. 04641	0. 04641
102	1428. 90	12	0. 1067	3. 581	0. 04726	0. 04726
103	1443. 90	12	0. 1068	3. 636	0. 04796	0. 04796
104	1458. 90	12	0. 107	3. 69	0. 04881	0. 04881
105	1473. 90	12	0. 1072	3. 744	0. 04952	0. 04952
106	1488. 90	12	0. 1073	3. 798	0. 05036	0. 05036
107	1503. 90	12	0. 1075	3. 847	0. 05121	0. 05121
108	1518. 90	12	0. 1077	3. 894	0. 05191	0. 05191
109	1533. 90	12	0. 1078	3. 944	0. 05262	0. 05262
110	1548. 90	12	0. 108	3. 993	0. 05347	0. 05347
111	1563. 90	12	0. 1081	4. 046	0. 05431	0. 05431
112	1578. 90	12	0. 1083	4. 097	0. 05516	0. 05516
113	1593. 90	12	0. 1084	4. 142	0. 05586	0. 05586
114	1608. 90	12	0. 1086	4. 183	0. 05671	0. 05671
115	1623. 90	12	0. 1088	4. 23	0. 05756	0. 05756
116	1638. 90	12	0. 1089	4. 27	0. 05826	0. 05826
117	1653. 90	12	0. 109	4. 325	0. 05897	0. 05897
118	1668. 90	12	0. 1091	4. 372	0. 05981	0. 05981
119	1683. 90	12	0. 1093	4. 416	0. 0608	0. 0608
120	1698. 90	12	0. 1095	4. 452	0. 06151	0. 06151
121	1713. 90	12	0. 1096	4. 498	0. 06235	0. 06235
122	1728. 90	12	0. 1097	4. 537	0. 06306	0. 06306
123	1743. 90	12	0. 1098	4. 579	0. 06391	0. 06391
124	1758. 90	12	0. 11	4. 624	0. 06475	0. 06475
125	1773. 90	12	0. 1101	4. 663	0. 0656	0. 0656
126	1788. 90	12	0. 1103	4. 701	0. 06645	0. 06645
127	1803. 90	12	0. 1104	4. 739	0. 06715	0. 06715
128	1818. 90	12	0. 1106	4. 778	0. 06814	0. 06814
129	1833. 90	12	0. 1107	4. 813	0. 06884	0. 06884
130	1848. 90	12	0. 1108	4. 851	0. 06969	0. 06969
131	1863. 90	12	0. 111	4. 891	0. 07054	0. 07054
132	1878. 90	12	0. 1111	4. 925	0. 07138	0. 07138
133	1893. 90	12	0. 1112	4. 961	0. 07209	0. 07209
134	1908. 90	12	0. 1113	4. 993	0. 07293	0. 07293
135	1923. 90	12	0. 1114	5. 027	0. 07364	0. 07364
136	1938. 90	12	0. 1116	5. 064	0. 07449	0. 07449
137	1953. 90	12	0. 1117	5. 1	0. 07533	0. 07533
138	1968. 90	12	0. 1118	5. 135	0. 07618	0. 07618
139	1983. 90	12	0. 112	5. 169	0. 07703	0. 07703
140	1998. 90	12	0. 1121	5. 199	0. 07773	0. 07773
141	2013. 90	12	0. 1123	5. 231	0. 07858	0. 07858
142	2028. 90	12	0. 1124	5. 261	0. 07942	0. 07942
143	2043. 90	12	0. 1126	5. 297	0. 08027	0. 08027
144	2058. 90	12	0. 1127	5. 331	0. 08112	0. 08112
145	2073. 90	12	0. 1129	5. 362	0. 08182	0. 08182
146	2088. 90	12	0. 113	5. 39	0. 08267	0. 08267
147	2103. 90	12	0. 1131	5. 418	0. 08352	0. 08352
148	2118. 90	12	0. 1133	5. 444	0. 08422	0. 08422
149	2133. 90	12	0. 1135	5. 479	0. 08507	0. 08507
150	2148. 90	12	0. 1136	5. 514	0. 08591	0. 08591
151	2163. 90	12	0. 1138	5. 539	0. 08676	0. 08676
152	2178. 90	12	0. 114	5. 573	0. 08761	0. 08761
153	2193. 90	12	0. 1142	5. 6	0. 08845	0. 08845
154	2208. 90	12	0. 1143	5. 626	0. 08916	0. 08916
155	2223. 90	12	0. 1144	5. 656	0. 08986	0. 08986
156	2238. 90	12	0. 1146	5. 693	0. 09071	0. 09071
157	2253. 90	12	0. 1147	5. 724	0. 09156	0. 09156
158	2268. 90	12	0. 1149	5. 751	0. 0924	0. 0924
159	2283. 90	12	0. 115	5. 775	0. 09311	0. 09311
160	2298. 90	12	0. 1151	5. 798	0. 09395	0. 09395
161	2313. 90	12	0. 1152	5. 825	0. 09466	0. 09466
162	2328. 90	12	0. 1154	5. 856	0. 09551	0. 09551
163	2343. 90	12	0. 1155	5. 88	0. 09635	0. 09635
164	2358. 90	12	0. 1156	5. 904	0. 0972	0. 0972
165	2373. 90	12	0. 1157	5. 924	0. 09805	0. 09805
166	2388. 90	12	0. 1158	5. 945	0. 09875	0. 09875
167	2403. 90	12	0. 1159	5. 97	0. 0996	0. 0996
168	2418. 90	12	0. 116	5. 995	0. 1003	0. 1003
169	2433. 90	12	0. 1161	6. 022	0. 1011	0. 1011
170	2448. 90	12	0. 1162	6. 039	0. 102	0. 102
171	2463. 90	12	0. 1164	6. 055	0. 1028	0. 1028
172	2478. 90	12	0. 1165	6. 071	0. 1037	0. 1037
173	2493. 90	12	0. 1166	6. 092	0. 1044	0. 1044
174	2508. 90	12	0. 1167	6. 109	0. 1052	0. 1052

175	2523. 90	12	0. 1168	6. 125	0. 1061	0. 1061
176	2538. 90	12	0. 1169	6. 143	0. 1068	0. 1068
177	2553. 90	12	0. 1169	6. 157	0. 1076	0. 1076
178	2568. 90	12	0. 117	6. 168	0. 1085	0. 1085
179	2583. 90	12	0. 1171	6. 184	0. 1093	0. 1093
180	2598. 90	12	0. 1172	6. 2	0. 11	0. 11
181	2613. 90	12	0. 1173	6. 216	0. 1109	0. 1109
182	2628. 90	12	0. 1175	6. 235	0. 1117	0. 1117
183	2643. 90	12	0. 1175	6. 252	0. 1126	0. 1126
184	2658. 90	12	0. 1177	6. 269	0. 1133	0. 1133
185	2673. 90	12	0. 1178	6. 282	0. 1141	0. 1141
186	2688. 90	12	0. 1179	6. 3	0. 115	0. 115
187	2703. 90	12	0. 1179	6. 32	0. 1158	0. 1158
188	2718. 90	12	0. 1179	6. 343	0. 1165	0. 1165
189	2733. 90	12	0. 118	6. 364	0. 1174	0. 1174
190	2748. 90	12	0. 1181	6. 384	0. 1182	0. 1182
191	2763. 90	12	0. 1182	6. 399	0. 1189	0. 1189
192	2778. 90	12	0. 1183	6. 415	0. 1198	0. 1198
193	2793. 90	12	0. 1184	6. 429	0. 1205	0. 1205
194	2808. 90	12	0. 1184	6. 448	0. 1213	0. 1213
195	2823. 90	12	0. 1185	6. 468	0. 1222	0. 1222
196	2838. 90	12	0. 1187	6. 487	0. 123	0. 123
197	2853. 90	12	0. 1187	6. 5	0. 1239	0. 1239
198	2868. 90	12	0. 1188	6. 519	0. 1246	0. 1246
199	2883. 90	12	0. 1188	6. 536	0. 1254	0. 1254
200	2898. 90	12	0. 1189	6. 554	0. 1261	0. 1261
201	2913. 90	12	0. 119	6. 575	0. 127	0. 127
202	2928. 90	12	0. 1191	6. 598	0. 1277	0. 1277
203	2943. 90	12	0. 1191	6. 622	0. 1285	0. 1285
204	2958. 90	12	0. 1193	6. 63	0. 1294	0. 1294
205	2973. 90	12	0. 1194	6. 649	0. 1302	0. 1302
206	2988. 90	12	0. 1194	6. 663	0. 1309	0. 1309
207	3003. 90	12	0. 1195	6. 683	0. 1318	0. 1318
208	3018. 90	12	0. 1195	6. 703	0. 1325	0. 1325
209	3033. 90	12	0. 1196	6. 723	0. 1333	0. 1333
210	3048. 90	12	0. 1197	6. 737	0. 1342	0. 1342
211	3063. 90	12	0. 1198	6. 749	0. 135	0. 135
212	3078. 90	12	0. 1198	6. 767	0. 1357	0. 1357
213	3093. 90	12	0. 1199	6. 785	0. 1366	0. 1366
214	3108. 90	12	0. 1199	6. 805	0. 1374	0. 1374
215	3123. 90	12	0. 12	6. 82	0. 1381	0. 1381
216	3138. 90	12	0. 1201	6. 834	0. 139	0. 139
217	3153. 90	12	0. 1201	6. 848	0. 1397	0. 1397
218	3168. 90	12	0. 1202	6. 86	0. 1405	0. 1405
219	3183. 90	12	0. 1203	6. 878	0. 1414	0. 1414
220	3198. 90	12	0. 1203	6. 896	0. 1421	0. 1421
221	3213. 90	12	0. 1204	6. 913	0. 1429	0. 1429
222	3228. 90	12	0. 1204	6. 927	0. 1438	0. 1438
223	3243. 90	12	0. 1205	6. 933	0. 1445	0. 1445
224	3258. 90	12	0. 1205	6. 94	0. 1453	0. 1453
225	3273. 90	12	0. 1206	6. 95	0. 146	0. 146
226	3288. 90	12	0. 1206	6. 963	0. 1469	0. 1469
227	3303. 90	12	0. 1207	6. 978	0. 1477	0. 1477
228	3318. 90	12	0. 1208	6. 99	0. 1484	0. 1484
229	3333. 90	12	0. 1209	7. 002	0. 1493	0. 1493
230	3348. 90	12	0. 1209	7. 015	0. 1501	0. 1501
231	3363. 90	12	0. 121	7. 027	0. 1508	0. 1508
232	3378. 90	12	0. 121	7. 036	0. 1517	0. 1517
233	3393. 90	12	0. 1211	7. 047	0. 1524	0. 1524
234	3408. 90	12	0. 1211	7. 06	0. 1532	0. 1532
235	3423. 90	12	0. 1212	7. 068	0. 1539	0. 1539
236	3438. 90	12	0. 1213	7. 076	0. 1548	0. 1548
237	3453. 90	12	0. 1213	7. 085	0. 1555	0. 1555
238	3468. 90	12	0. 1214	7. 089	0. 1563	0. 1563
239	3483. 90	12	0. 1215	7. 1	0. 1572	0. 1572
240	3498. 90	12	0. 1215	7. 107	0. 1579	0. 1579
241	3513. 90	12	0. 1216	7. 115	0. 1587	0. 1587
242	3528. 90	12	0. 1216	7. 12	0. 1594	0. 1594
243	3543. 90	12	0. 1218	7. 125	0. 1601	0. 1601
244	3558. 90	12	0. 1219	7. 129	0. 161	0. 161
245	3573. 90	12	0. 122	7. 126	0. 1617	0. 1617
246	3588. 90	12	0. 1221	7. 138	0. 1625	0. 1625
247	3603. 90	12	0. 1222	7. 141	0. 1632	0. 1632
248	3618. 90	12	0. 1223	7. 14	0. 1641	0. 1641
249	3633. 90	12	0. 1224	7. 141	0. 1648	0. 1648
250	3648. 90	12	0. 1225	7. 149	0. 1656	0. 1656
251	3663. 90	12	0. 1225	7. 155	0. 1663	0. 1663
252	3678. 90	12	0. 1226	7. 162	0. 1672	0. 1672
253	3693. 90	12	0. 1227	7. 174	0. 1679	0. 1679
254	3708. 90	12	0. 1228	7. 18	0. 1687	0. 1687
255	3723. 90	12	0. 1228	7. 182	0. 1694	0. 1694
256	3738. 90	12	0. 1229	7. 186	0. 1703	0. 1703
257	3753. 90	12	0. 123	7. 19	0. 171	0. 171
258	3768. 90	12	0. 123	7. 197	0. 1718	0. 1718
259	3783. 90	12	0. 1231	7. 205	0. 1725	0. 1725
260	3798. 90	12	0. 1232	7. 211	0. 1735	0. 1735
261	3813. 90	12	0. 1232	7. 215	0. 1742	0. 1742
262	3828. 90	12	0. 1233	7. 22	0. 1749	0. 1749
263	3843. 90	12	0. 1233	7. 224	0. 1758	0. 1758
264	3858. 90	12	0. 1234	7. 232	0. 1766	0. 1766
265	3873. 90	12	0. 1235	7. 24	0. 1773	0. 1773
266	3888. 90	12	0. 1235	7. 246	0. 1782	0. 1782
267	3903. 90	12	0. 1236	7. 249	0. 179	0. 179
268	3918. 90	12	0. 1237	7. 254	0. 1797	0. 1797
269	3933. 90	12	0. 1238	7. 259	0. 1806	0. 1806

270	3948. 90	12	0. 1238	7. 266	0. 1814	0. 1814
271	3963. 90	12	0. 1239	7. 271	0. 1821	0. 1821
272	3978. 90	12	0. 124	7. 281	0. 183	0. 183
273	3993. 90	12	0. 124	7. 286	0. 1838	0. 1838
274	4008. 90	12	0. 1241	7. 296	0. 1847	0. 1847
275	4023. 90	12	0. 1242	7. 303	0. 1855	0. 1855
276	4038. 90	12	0. 1242	7. 311	0. 1862	0. 1862
277	4053. 90	12	0. 1243	7. 319	0. 1871	0. 1871
278	4068. 90	12	0. 1244	7. 332	0. 1878	0. 1878
279	4083. 90	12	0. 1244	7. 336	0. 1886	0. 1886
280	4098. 90	12	0. 1245	7. 352	0. 1895	0. 1895
281	4113. 90	12	0. 1246	7. 359	0. 1903	0. 1903
282	4128. 90	12	0. 1246	7. 364	0. 1912	0. 1912
283	4143. 90	12	0. 1247	7. 371	0. 1919	0. 1919
284	4158. 90	12	0. 1248	7. 386	0. 1927	0. 1927
285	4173. 90	12	0. 1248	7. 396	0. 1936	0. 1936
286	4188. 90	12	0. 1249	7. 402	0. 1943	0. 1943
287	4203. 90	12	0. 1247	7. 414	0. 1952	0. 1952
288	4218. 90	12	0. 1247	7. 424	0. 196	0. 196
289	4233. 90	12	0. 1248	7. 427	0. 1968	0. 1968
290	4248. 90	12	0. 1249	7. 436	0. 1976	0. 1976
291	4263. 90	12	0. 125	7. 451	0. 1985	0. 1985
292	4278. 90	12	0. 1251	7. 458	0. 1992	0. 1992
293	4293. 90	12	0. 1252	7. 465	0. 2	0. 2
294	4308. 90	12	0. 1252	7. 475	0. 2009	0. 2009
295	4323. 90	12	0. 1253	7. 481	0. 2017	0. 2017
296	4338. 90	12	0. 1252	7. 488	0. 2026	0. 2026
297	4353. 90	12	0. 1253	7. 499	0. 2033	0. 2033
298	4368. 90	12	0. 1254	7. 509	0. 2041	0. 2041
299	4383. 90	12	0. 1254	7. 521	0. 205	0. 205
300	4398. 90	12	0. 1255	7. 531	0. 2058	0. 2058
301	4413. 90	12	0. 1256	7. 536	0. 2067	0. 2067
302	4428. 90	12	0. 1256	7. 543	0. 2074	0. 2074
303	4443. 90	12	0. 1256	7. 548	0. 2082	0. 2082
304	4458. 90	12	0. 1257	7. 557	0. 2091	0. 2091
305	4473. 90	12	0. 1257	7. 569	0. 2099	0. 2099
306	4488. 90	12	0. 1258	7. 576	0. 2108	0. 2108
307	4503. 90	12	0. 1257	7. 581	0. 2116	0. 2116
308	4518. 90	12	0. 1258	7. 587	0. 2125	0. 2125
309	4533. 90	12	0. 1258	7. 593	0. 2132	0. 2132
310	4548. 90	12	0. 1259	7. 599	0. 214	0. 214
311	4563. 90	12	0. 1259	7. 609	0. 2149	0. 2149
312	4578. 90	12	0. 126	7. 617	0. 2157	0. 2157
313	4593. 90	12	0. 126	7. 619	0. 2165	0. 2165
314	4608. 90	12	0. 126	7. 619	0. 2174	0. 2174
315	4623. 90	12	0. 1261	7. 625	0. 2181	0. 2181
316	4638. 90	12	0. 1261	7. 627	0. 2189	0. 2189
317	4653. 90	12	0. 1262	7. 629	0. 2198	0. 2198
318	4668. 90	12	0. 1262	7. 631	0. 2206	0. 2206
319	4683. 90	12	0. 1263	7. 638	0. 2215	0. 2215
320	4698. 90	12	0. 1263	7. 636	0. 2223	0. 2223
321	4713. 90	12	0. 1264	7. 64	0. 223	0. 223
322	4728. 90	12	0. 1264	7. 639	0. 224	0. 224
323	4743. 90	12	0. 1265	7. 641	0. 2247	0. 2247
324	4758. 90	12	0. 1265	7. 647	0. 2256	0. 2256
325	4773. 90	12	0. 1265	7. 652	0. 2264	0. 2264
326	4788. 90	12	0. 1266	7. 643	0. 2271	0. 2271
327	4803. 90	12	0. 1267	7. 64	0. 2278	0. 2278
328	4818. 90	12	0. 1267	7. 635	0. 229	0. 229
329	4833. 90	12	0. 1267	7. 619	0. 2298	0. 2298
330	4848. 90	12	0. 1268	7. 606	0. 2305	0. 2305
331	4863. 90	12	0. 1268	7. 584	0. 2315	0. 2315
332	4878. 90	12	0. 1268	7. 566	0. 2323	0. 2323
333	4893. 90	12	0. 1269	7. 535	0. 2332	0. 2332
334	4908. 90	12	0. 1269	7. 514	0. 234	0. 234
335	4923. 90	12	0. 127	7. 492	0. 2347	0. 2347
336	4938. 90	12	0. 127	7. 474	0. 2356	0. 2356
337	4953. 90	12	0. 1271	7. 452	0. 2364	0. 2364
338	4968. 90	12	0. 1271	7. 435	0. 2373	0. 2373
339	4983. 90	12	0. 1272	7. 416	0. 2383	0. 2383
340	4998. 90	12	0. 1272	7. 401	0. 239	0. 239
341	5013. 90	12	0. 1272	7. 392	0. 2398	0. 2398
342	5028. 90	12	0. 1273	7. 384	0. 2407	0. 2407
343	5043. 90	12	0. 1273	7. 384	0. 2415	0. 2415
344	5058. 90	12	0. 1274	7. 383	0. 2424	0. 2424
345	5073. 90	12	0. 1274	7. 38	0. 2432	0. 2432
346	5088. 90	12	0. 1273	7. 371	0. 2441	0. 2441
347	5103. 90	12	0. 1274	7. 365	0. 2448	0. 2448
348	5118. 90	12	0. 1274	7. 361	0. 2457	0. 2457
349	5133. 90	12	0. 1275	7. 36	0. 2465	0. 2465
350	5148. 90	12	0. 1276	7. 362	0. 2473	0. 2473
351	5163. 90	12	0. 1275	7. 363	0. 2481	0. 2481
352	5178. 90	12	0. 1276	7. 357	0. 249	0. 249
353	5193. 90	12	0. 1277	7. 354	0. 2498	0. 2498
354	5208. 90	12	0. 1278	7. 354	0. 2507	0. 2507
355	5223. 90	12	0. 1279	7. 356	0. 2515	0. 2515
356	5238. 90	12	0. 128	7. 361	0. 2522	0. 2522
357	5253. 90	12	0. 128	7. 363	0. 2531	0. 2531
358	5268. 90	12	0. 1281	7. 361	0. 2541	0. 2541
359	5283. 90	12	0. 1281	7. 362	0. 2548	0. 2548
360	5298. 90	12	0. 1282	7. 355	0. 2556	0. 2556
361	5313. 90	12	0. 1282	7. 364	0. 2563	0. 2563
362	5328. 90	12	0. 1282	7. 365	0. 2572	0. 2572
363	5343. 90	12	0. 1283	7. 364	0. 258	0. 258
364	5358. 90	12	0. 1283	7. 364	0. 2589	0. 2589

365	5373. 90	12	0. 1284	7. 37	0. 2597	0. 2597
366	5388. 90	12	0. 1284	7. 369	0. 2606	0. 2606
367	5403. 90	12	0. 1285	7. 368	0. 2613	0. 2613
368	5418. 90	12	0. 1285	7. 377	0. 2621	0. 2621
369	5433. 90	12	0. 1286	7. 377	0. 263	0. 263
370	5448. 90	12	0. 1286	7. 376	0. 2638	0. 2638
371	5463. 90	12	0. 1286	7. 375	0. 2647	0. 2647
372	5478. 90	12	0. 1287	7. 379	0. 2654	0. 2654
373	5493. 90	12	0. 1287	7. 379	0. 2662	0. 2662
374	5508. 90	12	0. 1288	7. 386	0. 2671	0. 2671
375	5523. 90	12	0. 1288	7. 389	0. 2679	0. 2679
376	5538. 90	12	0. 1288	7. 393	0. 2686	0. 2686
377	5553. 90	12	0. 1289	7. 399	0. 2694	0. 2694
378	5568. 90	12	0. 1289	7. 4	0. 2703	0. 2703
379	5583. 90	12	0. 129	7. 403	0. 2711	0. 2711
380	5598. 90	12	0. 129	7. 406	0. 2718	0. 2718
381	5613. 90	12	0. 129	7. 409	0. 2727	0. 2727
382	5628. 90	12	0. 129	7. 412	0. 2734	0. 2734
383	5643. 90	12	0. 1288	7. 413	0. 2742	0. 2742
384	5658. 90	12	0. 1287	7. 416	0. 2751	0. 2751
385	5673. 90	12	0. 1287	7. 416	0. 2759	0. 2759
386	5688. 90	12	0. 1289	7. 421	0. 2768	0. 2768
387	5703. 90	12	0. 129	7. 424	0. 2776	0. 2776
388	5718. 90	12	0. 1291	7. 426	0. 2783	0. 2783
389	5733. 90	12	0. 129	7. 433	0. 2792	0. 2792
390	5748. 90	12	0. 1291	7. 433	0. 28	0. 28
391	5763. 90	12	0. 1291	7. 433	0. 2809	0. 2809
392	5778. 90	12	0. 129	7. 429	0. 2817	0. 2817
393	5793. 90	12	0. 1291	7. 434	0. 2826	0. 2826
394	5808. 90	12	0. 1291	7. 436	0. 2833	0. 2833
395	5823. 90	12	0. 1292	7. 444	0. 2841	0. 2841
396	5838. 90	12	0. 1293	7. 447	0. 2848	0. 2848
397	5853. 90	12	0. 1292	7. 451	0. 2857	0. 2857
398	5868. 90	12	0. 1293	7. 447	0. 2865	0. 2865
399	5883. 90	12	0. 1294	7. 443	0. 2874	0. 2874
400	5898. 90	12	0. 1293	7. 45	0. 2881	0. 2881
401	5913. 90	12	0. 1294	7. 446	0. 2889	0. 2889
402	5928. 90	12	0. 1295	7. 447	0. 2898	0. 2898
403	5943. 90	12	0. 1296	7. 444	0. 2906	0. 2906
404	5958. 90	12	0. 1295	7. 442	0. 2913	0. 2913
405	5973. 90	12	0. 1295	7. 446	0. 2922	0. 2922
406	5988. 90	12	0. 1296	7. 445	0. 293	0. 293
407	6003. 90	12	0. 1297	7. 437	0. 2939	0. 2939
408	6018. 90	12	0. 1297	7. 441	0. 2946	0. 2946
409	6033. 90	12	0. 1297	7. 446	0. 2954	0. 2954
410	6048. 90	12	0. 1298	7. 434	0. 2963	0. 2963
411	6063. 90	12	0. 1298	7. 427	0. 2971	0. 2971
412	6078. 90	12	0. 1298	7. 427	0. 2978	0. 2978
413	6093. 90	12	0. 1299	7. 426	0. 2987	0. 2987
414	6108. 90	12	0. 1299	7. 419	0. 2995	0. 2995
415	6123. 90	12	0. 1299	7. 418	0. 3002	0. 3002
416	6138. 90	12	0. 13	7. 413	0. 301	0. 301
417	6153. 90	12	0. 13	7. 413	0. 3019	0. 3019
418	6168. 90	12	0. 13	7. 412	0. 3027	0. 3027
419	6183. 90	12	0. 1301	7. 41	0. 3036	0. 3036
420	6198. 90	12	0. 1301	7. 416	0. 3043	0. 3043
421	6213. 90	12	0. 1302	7. 417	0. 3051	0. 3051
422	6228. 90	12	0. 1302	7. 418	0. 306	0. 306
423	6243. 90	12	0. 1302	7. 421	0. 3067	0. 3067
424	6258. 90	12	0. 1303	7. 424	0. 3075	0. 3075
425	6273. 90	12	0. 1303	7. 422	0. 3082	0. 3082
426	6288. 90	12	0. 1304	7. 427	0. 3091	0. 3091
427	6303. 90	12	0. 1304	7. 432	0. 3099	0. 3099
428	6318. 90	12	0. 1305	7. 433	0. 3106	0. 3106
429	6333. 90	12	0. 1305	7. 439	0. 3115	0. 3115
430	6348. 90	12	0. 1305	7. 441	0. 3123	0. 3123
431	6363. 90	12	0. 1306	7. 443	0. 313	0. 313
432	6378. 90	12	0. 1306	7. 447	0. 3139	0. 3139
433	6393. 90	12	0. 1307	7. 448	0. 3146	0. 3146
434	6408. 90	12	0. 1307	7. 449	0. 3154	0. 3154
435	6423. 90	12	0. 1307	7. 448	0. 3163	0. 3163
436	6438. 90	12	0. 1308	7. 439	0. 317	0. 317
437	6453. 90	12	0. 1308	7. 435	0. 3178	0. 3178
438	6468. 90	12	0. 1307	7. 429	0. 3187	0. 3187
439	6483. 90	12	0. 1308	7. 429	0. 3195	0. 3195
440	6498. 90	12	0. 1308	7. 431	0. 3202	0. 3202
441	6513. 90	12	0. 1308	7. 434	0. 3211	0. 3211
442	6528. 90	12	0. 1309	7. 438	0. 3218	0. 3218
443	6543. 90	12	0. 131	7. 431	0. 3226	0. 3226
444	6558. 90	12	0. 1311	7. 429	0. 3235	0. 3235
445	6573. 90	12	0. 1311	7. 435	0. 3242	0. 3242
446	6588. 90	12	0. 1311	7. 438	0. 325	0. 325
447	6603. 90	12	0. 131	7. 436	0. 3259	0. 3259
448	6618. 90	12	0. 1311	7. 427	0. 3266	0. 3266
449	6633. 90	12	0. 1312	7. 432	0. 3274	0. 3274
450	6648. 90	12	0. 1313	7. 426	0. 3283	0. 3283
451	6663. 90	12	0. 1313	7. 423	0. 329	0. 329
452	6678. 90	12	0. 1314	7. 429	0. 3298	0. 3298
453	6693. 90	12	0. 1314	7. 429	0. 3305	0. 3305
454	6708. 90	12	0. 1315	7. 427	0. 3314	0. 3314
455	6723. 90	12	0. 1315	7. 426	0. 3322	0. 3322
456	6738. 90	12	0. 1316	7. 421	0. 3331	0. 3331
457	6753. 90	12	0. 1316	7. 42	0. 3338	0. 3338
458	6768. 90	12	0. 1316	7. 426	0. 3346	0. 3346
459	6783. 90	12	0. 1317	7. 434	0. 3353	0. 3353

460	6798. 90	12	0. 1317	7. 434	0. 3362	0. 3362
461	6813. 90	12	0. 1317	7. 435	0. 337	0. 337
462	6828. 90	12	0. 1318	7. 433	0. 3379	0. 3379
463	6843. 90	12	0. 1318	7. 435	0. 3386	0. 3386
464	6858. 90	12	0. 1319	7. 437	0. 3394	0. 3394
465	6873. 90	12	0. 1319	7. 44	0. 3401	0. 3401
466	6888. 90	12	0. 1319	7. 439	0. 341	0. 341
467	6903. 90	12	0. 132	7. 343	0. 3414	0. 3414
468	6918. 90	12	0. 132	7. 288	0. 3414	0. 3414
469	6933. 90	12	0. 1321	7. 257	0. 3414	0. 3414
470	6948. 90	12	0. 1321	7. 237	0. 3414	0. 3414
471	6963. 90	12	0. 1321	7. 216	0. 3414	0. 3414
472	6978. 90	12	0. 1321	7. 197	0. 3414	0. 3414
473	6993. 90	12	0. 1321	7. 179	0. 3414	0. 3414
474	7008. 90	12	0. 1321	7. 162	0. 3414	0. 3414
475	7023. 90	12	0. 1321	7. 149	0. 3414	0. 3414
476	7038. 90	12	0. 1321	7. 136	0. 3414	0. 3414
477	7053. 90	12	0. 1321	7. 125	0. 3413	0. 3413
478	7068. 90	12	0. 1321	7. 116	0. 3413	0. 3413
479	7083. 90	12	0. 1319	7. 108	0. 3414	0. 3414
480	7098. 90	12	0. 1318	7. 104	0. 3413	0. 3413
481	7113. 90	12	0. 1317	7. 105	0. 3413	0. 3413
482	7128. 90	12	0. 1317	7. 109	0. 3413	0. 3413
483	7143. 90	12	0. 1318	7. 112	0. 3413	0. 3413
484	7158. 90	12	0. 1318	7. 116	0. 3413	0. 3413
485	7173. 90	12	0. 1318	7. 118	0. 3413	0. 3413
486	7186. 38	12	0. 1319	7. 12	0. 3413	0. 3413