___ rocscience



Project3
Rocfall3 Analysis Report
Created on 09/08/2025 22:01:44
Software Version: Rocfall3 1.017

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Project3

Project Summary

Project Name: Project3

Date Created: Created on 09/08/2025 22:01:44

Project Settings

Units: Metric (m, kg, kJ)
Analysis Type: Lump Mass

Consider Rotational Velocity: Yes
Scale Rn By Velocity: No
Scale Rn By Mass: No
Use Spheres v1.005 and earlier: No

Frictional Dissipation Method: Maximum energy dissipation

Couple normal and tangential impulses: Yes

Statistics

Sampling Method: Latin-Hypercube

Pseudo-random Numbers: Pseudo Use Custom Seed: No

Solver Options

Maximum Steps per Rock:20000Stopped Velocity Cutoff (m/seconds):0.1Normal Velocity Cutoff (m/seconds):0.1Maximum Timestep (seconds):0.01

Material Properties

Hard	
Colour:	
Normal Restitution:	0.5 (Normal, sd=0.04)
Tangential Restitution:	0.9 (Normal, sd=0.04)
Friction Angle (°):	30
Soft	
Colour:	
Normal Restitution:	0.3 (Normal, sd=0.04)
Tangential Restitution:	0.8 (Normal, sd=0.04)
Friction Angle (°):	30

Seeder Properties

Seeder Property 1	
Colour:	
Number of Rocks:	200
Distribution:	Over All Rock Groups
Translatio	nal Velocity
Translational Velocity (m/seconds):	0
Translational Velocity Orientation:	Trend/Plunge
Trend (°):	0
Plunge (°):	0
	al Velocity
Rotational Velocity (°/seconds):	0
Rotational Velocity Orientation:	Trend/Plunge
Trend (°):	0
Plunge (°):	0
Group 1	
Mass (kilograms):	1000
Density (kilograms/m3):	2700
Seeder Property 2	
Colour:	20
Number of Rocks:	20
Distribution:	Over All Rock Groups
	onal Velocity
Translational Velocity (m/seconds):	1.5 (Normal, sd=0.3)
Translational Velocity Orientation:	Trend/Plunge
Trend (°):	225 (Normal, sd=5) 0
Plunge (°):	-
Rotational Velocity (°/seconds):	al Velocity
Rotational Velocity Orientation:	Trend/Plunge
Trend (°):	0
Plunge (°):	0
Group 1	
Mass (kilograms):	1000
Density (kilograms/m3):	2700
benoity (Miogramo).	2700

Seeders

Line Seeder 1

Type: Line

Assigned Property: Seeder Property 1
Elevation: Height Above Surface

Height Above Surface (m): 5

Point Seeder 1

Type: Point

Assigned Property: Seeder Property 2 Elevation: On Surface

Seeder Coordinates

Line Seeder 1

Point	X	Υ	Z
0:	160067.008	3058765.402	2124.319
1:	160065.407	3058767.088	2122.357
2:	160064.923	3058767.598	2122.442
3:	160063.429	3058769.172	2123.419
4:	160061.94	3058770.741	2126.96
5:	160061.696	3058770.998	2127.068
6:	160060.733	3058772.013	2127.21
7:	160059.951	3058772.837	2127.223
8:	160058.168	3058774.715	2127.157
9:	160056.526	3058776.445	2126.94
10:	160055.964	3058777.036	2127.726
11:	160054.188	3058778.908	2128.193
12:	160053.277	3058779.868	2129.173
13:	160052.704	3058780.471	2129.212
14:	160051.937	3058781.279	2128.447
15:	160048.265	3058785.148	2126.787
16:	160047.042	3058786.436	2126.661
17:	160045.721	3058787.829	2127.494
18:	160045.32	3058788.251	2128.293
19:	160040.518	3058793.31	2128.643
20:	160038.904	3058795.011	2128.482
21:	160038.575	3058795.357	2128.532
22:	160035.366	3058798.738	2129.293
23:	160033.479	3058800.726	2129.559
24:	160032.07	3058802.211	2129.525
25:	160030.632	3058803.726	2129.491
26:	160028.817	3058805.638	2130.007
27:	160027.256	3058807.283	2129.862
28:	160022.194	3058812.616	2128.676
29:	160021.189	3058813.675	2127.947
30:	160021.011	3058813.862	2127.953
31:	160020.761	3058814.126	2128.378
32:	160017.551	3058817.508	2129.366
33:	160017.034	3058818.053	2129.253
34:	160015.333	3058819.844	2128.888
35:	160010.951	3058824.462	2129.97
36:	160010.431	3058825.009	2129.99
37:	160010.187	3058825.267	2130.001
38:	160009.843	3058825.629	2130.049
39:	160007.116	3058828.502	2129.468
40:	160005.425	3058830.283	2129.99
41:	160002.436	3058833.432	2129.996
42:	160001.972	3058833.922	2129.204
43:	160001.023	3058834.922	2129.275
44:	160000.539	3058835.431	2129.536

45:	159998.894	3058837.164	2129.226
46:	159995.874	3058840.346	2129.379
47:	159995.404	3058840.841	2129.279
48:	159995.22	3058841.035	2129.201
49:	159994.948	3058841.322	2129.556
50:	159992.206	3058844.211	2130.326
51:	159991.313	3058845.151	2130.054
52:	159987.103	3058849.587	2130.077
53:	159985.41	3058851.37	2129.951
54:	159985.314	3058851.471	2129.956
55:	159985.065	3058851.734	2129.962
56:	159981.736	3058855.241	2129.994
57:	159981.216	3058858.8	2129.885
58:	159980.628	3058862.813	2129.941
59:	159980.602	3058862.994	2129.85
60:	159980.578	3058863.154	2129.641
61:	159980.506	3058863.649	2129.939
62:	159979.531	3058870.313	2129.753
63:	159978.696	3058876.019	2129.506
64:	159978.605	3058876.641	2129.446
65:	159978.602	3058876.656	2129.101
66:	159978.259	3058879.001	2129.423
67:	159977.21	3058886.17	2129.287
68:	159976.975	3058887.777	2129.26
69:	159976.116	3058893.645	2129.449
70:	159975.983	3058894.555	2129.479
71:	159975.785	3058895.91	2129.983
72:	159975.571	3058897.373	2129.715
73:	159975.031	3058901.06	2129.455
74:	159974.879	3058902.099	2128.903
75:	159974.542	3058904.405	2129.98
76:	159973.87	3058908.992	2130.049
77:	159973.706	3058910.114	2129.159
78:	159973.065	3058914.497	2128.193
79:	159972.814	3058916.209	2128.067
80:	159972.377	3058919.198	2126.904
81:	159972.047	3058921.453	2128.608
82:	159971.481	3058925.319	2129.988
83:	159971.254	3058926.87	2130.061
84:	159971.126	3058927.743	2130.134
85:	159970.766	3058930.207	2129.399
86:	159970.08	3058934.892	2129.492
87:	159969.573	3058938.36	2128.803
88:	159968.829	3058943.442	2130.167
89:	159968.414	3058946.278	2130.167
90:	159968.356	3058946.673	2130.167
91:	159968.032	3058948.887	2130.064
92:	159968.077	3058950.625	2129.988
93:	159968.094	3058951.291	2129.711
94:	159968.103	3058951.654	2129.397
95:	159968.12	3058952.304	2129.663
96:	159968.241	3058957.029	2128.144
97:	159968.266	3058958.003	2128.151

98:	159968.334	3058960.657	2127.182
99:	159968.364	3058961.837	2127.758
100:	159968.598	3058970.974	2129.737
101:	159968.653	3058973.088	2129.697
102:	159968.861	3058981.223	2129.699
103:	159968.889	3058982.309	2128.169
104:	159968.921	3058983.546	2129.041
105:	159968.971	3058985.494	2129.276
106:	159968.988	3058986.168	2129.357
107:	159969.105	3058990.731	2129.378
108:	159969.143	3058992.198	2127.14
109:	159969.168	3058993.171	2126.659
110:	159969.195	3058994.233	2127.446
111:	159969.332	3058999.59	2127.276
112:	159969.424	3059003.161	2128.789
113:	159969.537	3059007.579	2128.621
114:	159969.623	3059010.919	2127.901
115:	159969.644	3059011.763	2125.737
116:	159969.699	3059013.88	2125.849
117:	159969.817	3059018.502	2126.474
118:	159969.873	3059020.674	2128.28
119:	159969.921	3059022.564	2128.242
120:	159970.032	3059026.868	2128.337
121:	159970.182	3059032.743	2127.853
122:	159970.252	3059035.475	2128.064
123:	159970.316	3059037.965	2128.993
124:	159970.956	3059038.713	2128.034
125:	159976.053	3059044.672	2126.763
126:	159976.117	3059044.748	2126.704
127:	159976.9	3059045.663	2124.186
128:	159979.747	3059048.992	2124.391
129:	159980.383	3059049.735	2123.854
130:	159981.184	3059050.672	2123.601
131:	159982.65	3059052.385	2118.337
132:	159982.781	3059052.539	2118.347
133:	159989.69	3059060.617	2119.29
134:	159990.052	3059061.041	2119.485
135:	159991.642	3059062.9	2124.054
136:	159991.863	3059063.158	2124.332
137:	159993.521	3059065.097	2126.415
138:	159994.581	3059066.336	2126.311
139:	159996.218	3059068.25	2126.696
140:	159997.963	3059070.291	2125.297
141:	159998.669	3059071.115	2125.911
142:	159999.719	3059072.344	2125.541
143:	160000.189	3059072.894	2125.371
144:	160001.36	3059074.262	2127.384
145:	160001.89	3059074.881	2127.271
146:	160004.481	3059077.911	2127.477
147:	160006.311	3059080.052	2128.649
148:	160007.607	3059081.566	2129.558
149:	160008.27	3059082.341	2129.555
150:	160009.707	3059084.021	2127.728

151:	160011.585	3059086.218	2126.402
152:	160012.711	3059087.534	2128.917
153:	160015.723	3059091.056	2128.096
154:	160017.873	3059093.57	2127.705
155:	160018.863	3059094.728	2125.732
156:	160019.804	3059095.827	2125.934
157:	160019.819	3059095.868	2125.965
158:	160021.188	3059099.589	2126.61
159:	160022.485	3059103.117	2127.318
160:	160024.174	3059107.709	2126.765
161:	160024.605	3059108.881	2126.502
162:	160025.11	3059110.253	2127.204
163:	160025.687	3059111.822	2126.877
164:	160026.731	3059114.661	2126.391
165:	160028.383	3059119.151	2126.156
166:	160028.539	3059119.576	2126.05
167:	160028.627	3059119.814	2126.09
168:	160030.216	3059124.135	2125.957
169:	160032.003	3059128.994	2125.807
170:	160032.242	3059129.643	2125.938
171:	160033.949	3059134.284	2126.349
172:	160034.58	3059136	2126.541
173:	160034.632	3059136.14	2126.591
174:	160034.78	3059136.544	2127.631
175:	160035.961	3059139.755	2128.697
176:	160036.559	3059141.38	2128.607
177:	160037.498	3059143.934	2126.556
178:	160038.677	3059147.138	2126.756
179:	160039.076	3059148.223	2126.707
180:	160040.057	3059150.889	2127.999
181:	160040.238	3059151.382	2127.902
182:	160040.278	3059151.49	2128.189
183:	160041.72	3059155.412	2128.51
184:	160042.615	3059157.846	2129.735
185:	160043.492	3059160.23	2129.801
186:	160044.167	3059162.065	2128.779

Point Seeder 1

Point	X	Y	Z
0:	160366	3059160	2099

Summary Results

Run Properties

Туре	Max	
Total Kinetic Energy (kJ):	980.271	
Translational Kinetic Energy (kJ):	940.36	
Rotational Kinetic Energy (kJ):	201.408	
Translational Kinetic Velocity (kJ):	43.367	
Rotational Kinetic Velocity (kJ):	4081.28	

Stopping Reason

Error:	0
Max Compute Steps:	0
Edge of Model:	0
Stopped:	220
Hit Barrier:	0

Path Results Summary

		<i>1</i>		
ID	Travel Time (s)	Events	Stopping Reason	Total Runout Distance (m)
0:	14.014	95	Stopped	175.481
1:	11.546	77	Stopped	149.713
2:	12.409	83	Stopped	144.988
3:	14.032	93	Stopped	130.074
4:	12.875	86	Stopped	148.122
5:	13.666	91	Stopped	139.519
6:	9.072	63	Stopped	128.151
7:	13.245	91	Stopped	148.929
8:	12.666	86	Stopped	150.207
9:	13.212	89	Stopped	139.519
10:	14.437	98	Stopped	146.664
11:	12.786	90	Stopped	168.369
12:	12.946	86	Stopped	135.445
13:	12.125	81	Stopped	137.734
14:	13.542	92	Stopped	181.545
15:	13.456	90	Stopped	145.05
16:	11.313	77	Stopped	145.128
17:	13.122	89	Stopped	133.185
18:	14.31	95	Stopped	148.122
19:	3.17	24	Stopped	5.245
20:	11.131	74	Stopped	143.975
21:	15.04	101	Stopped	135.837
22:	11.742	78	Stopped	131.985
23:	12.935	88	Stopped	151.339
24:	15.128	98	Stopped	161.72
25:	13.115	91	Stopped	171.378
26:	13.657	92	Stopped	165.059
27:	14.375	97	Stopped	156.029
28:	16.206	106	Stopped	164.962
29:	13.144	88	Stopped	148.921
30:	12.448	86	Stopped	154.328
31:	16.347	112	Stopped	145.859
32:	12.983	88	Stopped	146.776
33:	15.769	105	Stopped	155.325
34:	13.31	92	Stopped	141.861
35:	15.546	104	Stopped	182.054
36:	14.569	98	Stopped	145.35
37:	14.221	98	Stopped	146.51
38:	12.942	88	Stopped	157.015
39:	12.25	82	Stopped	141.888
40:	15.07	102	Stopped	145.04
41:	11.357	77	Stopped	153.964
42:	14.02	92	Stopped	131.046
43:	15.062	100	Stopped	135.437
44:	3.049	24	Stopped	5.032
			• •	
45:	14.691	96	Stopped	136.519

46:	14.428	96	Stopped	146.647
47:	13.467	91	Stopped	145.651
48:	15.877	106	Stopped	147.462
49:	13.303	90	Stopped	164.572
50:	12.977	88	Stopped	151.305
51:	13.027	92	Stopped	140.859
52:	14.919	101	Stopped	164.944
53:	3.25	24	Stopped	5.529
54:	13.97	92	Stopped	152.747
55:	13.324	89	Stopped	156.162
56:	11.783	78	Stopped	135.024
57:	8.933	60	Stopped	52.911
58:	13.655	91	Stopped	150.438
59:	13.819	93	Stopped	179.838
60:	15.757	109	Stopped	158.106
61:	14.083	94	Stopped	140.087
62:	15.118	102	Stopped	151.901
63:	13.088	86	Stopped	153.091
64:	14.438	98	Stopped	146.711
65:	14.455	97	Stopped	154.505
66:	11.136	76	Stopped	156.316
67:	15.045	99	Stopped	157.777
68:	12.872	86	Stopped	144.676
69:	14.638	98	Stopped	155.263
70:	14.019	94	Stopped	145.207
71:	15.888	106	Stopped	152.426
72:	13.846	92	Stopped	166.082
73:	2.941	22	Stopped	5.335
74:	12.452	85	Stopped	164.282
75:	18.451	124	Stopped	143.13
76:	16.435	108	Stopped	145.963
77:	13.418	89	Stopped	162.252
78:	15.612	103	Stopped	189.8
79:	3.395	26	Stopped	5.393
80:	12.201	83	Stopped	145.532
81:	11.842	79	Stopped	133.574
82:	12.493	85	Stopped	150.307
83:	11.785	84	Stopped	150.797
84:	15.633	106	Stopped	146.495
85:	15.269	108	Stopped	154.968
86:	10.821	79	Stopped	141.028
87:	13.035	87	Stopped	163.265
88:	13.788	95	Stopped	160.009
89:	10.711	74	Stopped	143.096
90:	12.438	87	Stopped	151.059
91:	12.944	87	Stopped	146.067
92:	12.353	83	Stopped	146.461
93:	12.015	80	Stopped	147.156
94:	14.315	95	Stopped	147.942
95:	15.712	105	Stopped	156.36
96:	13.06	87	Stopped	171.018
97:	13.042	86	Stopped	134.973
98:	13.711	98	Stopped	162.027

99:	16.774	110	Stopped	155.663
100:	11.594	78	Stopped	152.839
101:	19.937	139	Stopped	135.516
102:	11.966	78	Stopped	144.893
103:	11.738	78	Stopped	142.618
104:	14.194	94	Stopped	144.273
105:	12.874	87	Stopped	148.274
106:	14.548	95	Stopped	173.599
107:	11.868	80	Stopped	140.737
108:	12.856	87	Stopped	140.21
109:	15.356	102	Stopped	157.884
110:	3.175	25	Stopped	5.716
111:	14.157	95	Stopped	153.96
112:	15.458	102	Stopped	149.115
113:	12.765	84	Stopped	141.806
114:	12.011	81	Stopped	151.519
115:	12.155	82	Stopped	136.391
116:	11.13	75	Stopped	148.918
117:	13.008	86	Stopped	140.757
118:	16.638	111	Stopped	142.106
119:	12.805	87	Stopped	145.032
120:	12.506	85	Stopped	146.963
121:	14.488	96	Stopped	141.686
122:	13.04	88	Stopped	156.334
123:	3.133	25		5.46
124:	12.253	81	Stopped	145.697
			Stopped	
125:	12.879	85	Stopped	151.379
126:	16.26	110	Stopped	157.174
127:	14.275	96	Stopped	161.785
128:	11.718	78	Stopped	145.544
129:	15.432	101	Stopped	141.245
130:	13.879	94	Stopped	145.819
131:	13.563	89	Stopped	167.147
132:	12.062	83	Stopped	164.219
133:	11.507	77	Stopped	145.541
134:	13.757	93	Stopped	153.253
135:	13.816	95	Stopped	165.571
136:	15.035	101	Stopped	145.554
137:	14.728	100	Stopped	173.077
138:	14.465	103	Stopped	140.762
139:	12.199	83	Stopped	152.66
140:	13.444	90	Stopped	140.301
141:	16.415	111	Stopped	185.146
142:	15.021	103	Stopped	159.221
143:	10.208	69	Stopped	148.629
144:	16.354	111	Stopped	173.526
145:	11.845	78	Stopped	142.5
146:	13.026	87	Stopped	155.503
147:	11.185	79	Stopped	147.326
148:	12.645	87	Stopped	150.522
149:	13.095	88	Stopped	148.39
150:	11.67	78	Stopped	137.789
151:	12.433	84	Stopped	154.636

150.	12.47	01	Chammad	150.075
152:	13.47	91	Stopped	150.075
153:	3.35	25	Stopped	5.432
154:	12.642	83	Stopped	149.538
155:	12.547	87	Stopped	138.636
156:	3.604	28	Stopped	5.526
157:	13.384	89	Stopped	166.524
158:	3.038	24	Stopped	5.034
159:	14.041	94	Stopped	140.991
160:	2.994	24	Stopped	5.38
161:	11.497	78	Stopped	149.466
162:	15.216	106	Stopped	179.301
163:	13.915	94	Stopped	161.653
164:	12.345	83	Stopped	132.039
165:	13.773	95	Stopped	152.762
166:	13.272	91	Stopped	162.378
167:	12.914	86	Stopped	144.166
168:	12.787	85	Stopped	149.817
169:	13.73	95	Stopped	147.072
170:	11.828	78	Stopped	144.771
171:	15.835	105	Stopped	162.635
172:	15.456	104	Stopped	182.27
173:	14.01	94	Stopped	140.165
174:	15.025	100	Stopped	183.166
175:	13.311	96	Stopped	152.183
176:	13.229	91	Stopped	153.084
177:	11.701	79	Stopped	148.733
178:	15.8	108	Stopped	163.178
179:	12.121	80	Stopped	149.876
180:	14.164	96	Stopped	165.275
181:	13.907	93	Stopped	146.826
182:	13.115	89	Stopped	141.171
183:	12.371	83	Stopped	147.98
184:	11.274	75	Stopped	148.001
185:	13.648	93	Stopped	149.868
186:	13.44	89	Stopped	144.56
187:	12.103	82	Stopped	149.457
188:	13.649	91	Stopped	138.387
189:	13.133	91	Stopped	146.191
190:	16.338	114	Stopped	154.591
191:	23.462	158	Stopped	145.855
192:	14.572	97	Stopped	149.367
193:	17.659	117	Stopped	147.096
194:	13.589	90	Stopped	153.711
195:	14.96	98	Stopped	146.6
196:	14.715	99	Stopped	165.881
197:	11.826	80	Stopped	152.036
198:	12.185	83	Stopped	153.152
199:	11.983	80	Stopped	144.61
200:	12.999	92	Stopped	70.504
201:	10.903	78	Stopped	73.398
202:	16.885	116	Stopped	125.829
203:	11.762	85	Stopped	66.931
204:	11.892	80	Stopped	123.142

Project3				Monday, 08 September 2025
205:	11.301	77	Stopped	71.094
206:	11.937	80	Stopped	119.423
207:	12.01	81	Stopped	125.056
208:	13.196	90	Stopped	68.569
209:	12.575	85	Stopped	70.299
210:	11.882	82	Stopped	128.589
211:	15.327	106	Stopped	130.817
212:	12.773	87	Stopped	136.538
213:	16.817	112	Stopped	129.156
214:	19.506	127	Stopped	115.185
215:	12.11	82	Stopped	68.633
216:	12.902	88	Stopped	68.391
217:	17.511	120	Stopped	130.044

Stopped

Stopped

85

104

218:

219:

12.576

15.492

124.889

73.134