

# Apollo 11's Translunar Trajectory

GET (hour)	GMT (date/time)	T since Perigee (hour)	True Anomaly (deg)	Radius Vector (m)	Flight Path		Equatorial Coordinates		Magnetic Coordinates		VAB Coordinates	
					Angle (deg)	Velocity (m/s)	Long, $\alpha$ (deg)	Lat, $\delta$ (deg)	Long. (deg)	Lat. (deg)	L (radii)	B/Bo ----
2.83694	7/16/69 16:22	0.04417	14.9087	6,711,964	7.367	10,834	15.0416	9.9204	173.4855	8.8090	1.07882	1.11092
2.85361	7/16/69 16:23	0.06083	20.3408	6,810,170	10.051	10,755	19.8640	12.5933	177.4077	12.3280	1.11999	1.22637
2.87028	7/16/69 16:24	0.07750	25.5926	6,936,626	12.645	10,655	24.6209	15.0938	181.2982	15.6666	1.17442	1.38551
2.88694	7/16/69 16:25	0.09417	30.6373	7,089,340	15.136	10,538	29.2945	17.4004	185.1530	18.7966	1.24166	1.59107
2.90361	7/16/69 16:26	0.11083	35.4529	7,266,048	17.513	10,408	33.8643	19.4985	188.9634	21.6964	1.32103	1.84536
2.92028	7/16/69 16:27	0.12750	40.0262	7,464,386	19.770	10,267	38.3120	21.3824	192.7201	24.3541	1.41168	2.14962
2.93694	7/16/69 16:28	0.14417	44.3516	7,681,998	21.904	10,119	42.6218	23.0539	196.4130	26.7659	1.51254	2.50334
2.95361	7/16/69 16:29	0.16083	48.4297	7,916,609	23.915	9,965	46.7807	24.5204	200.0316	28.9349	1.62236	2.90373
2.97028	7/16/69 16:30	0.17750	52.2659	8,166,076	25.805	9,810	50.7788	25.7937	203.5656	30.8695	1.73976	3.34539
2.98694	7/16/69 16:31	0.19417	55.8689	8,428,425	27.580	9,654	54.6096	26.8882	207.0054	32.5817	1.86325	3.82043
3.00361	7/16/69 16:32	0.21083	59.2500	8,701,862	29.245	9,499	58.2692	27.8197	210.3422	34.0864	1.99132	4.31882
3.02028	7/16/69 16:33	0.22750	62.4216	8,984,780	30.806	9,345	61.7566	28.6044	213.5682	35.3995	2.12248	4.82912
3.03694	7/16/69 16:34	0.24417	65.3968	9,275,752	32.270	9,195	65.0731	29.2584	216.6774	36.5378	2.25532	5.33932
3.05361	7/16/69 16:35	0.26083	68.1891	9,573,521	33.643	9,049	68.2221	29.7968	219.6651	37.5179	2.38857	5.83768
3.07028	7/16/69 16:36	0.27750	70.8113	9,876,984	34.931	8,906	71.2081	30.2338	222.5283	38.3558	2.52112	6.31360
3.08694	7/16/69 16:37	0.29417	73.2760	10,185,182	36.142	8,768	74.0373	30.5823	225.2654	39.0668	2.65202	6.75809
3.10361	7/16/69 16:38	0.31083	75.5950	10,497,277	37.280	8,634	76.7163	30.8541	227.8762	39.6651	2.78052	7.16422
3.12028	7/16/69 16:39	0.32750	77.7794	10,812,545	38.351	8,505	79.2524	31.0593	230.3618	40.1636	2.90603	7.52720
3.13694	7/16/69 16:40	0.34417	79.8396	11,130,359	39.361	8,381	81.6530	31.2073	232.7244	40.5743	3.02813	7.84429
3.15361	7/16/69 16:41	0.36083	81.7850	11,450,175	40.314	8,260	83.9259	31.3060	234.9669	40.9079	3.14654	8.11462
3.17028	7/16/69 16:42	0.37750	83.6245	11,771,524	41.215	8,144	86.0784	31.3624	237.0930	41.1739	3.26110	8.33885
3.18694	7/16/69 16:43	0.39417	85.3660	12,094,001	42.067	8,033	88.1181	31.3827	239.1068	41.3809	3.37175	8.51886
3.20361	7/16/69 16:44	0.41083	87.0169	12,417,257	42.875	7,925	90.0518	31.3722	241.0130	41.5364	3.47852	8.65742
3.22028	7/16/69 16:45	0.42750	88.5840	12,740,989	43.641	7,822	91.8864	31.3353	242.8161	41.6472	3.58148	8.75784
3.23694	7/16/69 16:46	0.44417	90.0734	13,064,938	44.368	7,722	93.6282	31.2761	244.5212	41.7190	3.68075	8.82380
3.25361	7/16/69 16:47	0.46083	91.4908	13,388,879	45.060	7,626	95.2834	31.1980	246.1331	41.7571	3.77649	8.85905
3.27028	7/16/69 16:48	0.47750	92.8412	13,712,618	45.719	7,533	96.8574	31.1039	247.6567	41.7661	3.86888	8.86733
3.28694	7/16/69 16:49	0.49417	94.1293	14,035,990	46.347	7,444	98.3558	30.9963	249.0967	41.7498	3.95811	8.85223
3.30361	7/16/69 16:50	0.51083	95.3594	14,358,851	46.947	7,357	99.7833	30.8775	250.4576	41.7117	4.04436	8.81709
3.32028	7/16/69 16:51	0.52750	96.5355	14,681,079	47.519	7,274	101.1445	30.7493	251.7440	41.6550	4.12783	8.76498
3.33694	7/16/69 16:52	0.54417	97.6612	15,002,567	48.067	7,194	102.4438	30.6133	252.9600	41.5822	4.20871	8.69871
3.35361	7/16/69 16:53	0.56083	98.7396	15,323,226	48.592	7,116	103.6850	30.4709	254.1098	41.4956	4.28717	8.62076
3.37028	7/16/69 16:54	0.57750	99.7739	15,642,979	49.095	7,041	104.8719	30.3234	255.1970	41.3973	4.36339	8.53333
3.38694	7/16/69 16:55	0.59417	100.7669	15,961,760	49.577	6,968	106.0078	30.1717	256.2254	41.2890	4.43753	8.43835
3.40361	7/16/69 16:56	0.61083	101.7210	16,279,514	50.040	6,898	107.0960	30.0167	257.1983	41.1723	4.50974	8.33749
3.42028	7/16/69 16:57	0.62750	102.6386	16,596,194	50.486	6,830	108.1392	29.8593	258.1189	41.0485	4.58017	8.23219
3.43694	7/16/69 16:58	0.64417	103.5219	16,911,761	50.914	6,764	109.1402	29.7000	258.9903	40.9189	4.64894	8.12370
3.45361	7/16/69 16:59	0.66083	104.3730	17,226,182	51.326	6,700	110.1016	29.5395	259.8153	40.7843	4.71617	8.01305
3.47028	7/16/69 17:00	0.67750	105.1935	17,539,431	51.724	6,638	111.0256	29.3781	260.5964	40.6457	4.78198	7.90113
3.48694	7/16/69 17:01	0.69417	105.9854	17,851,486	52.107	6,578	111.9145	29.2164	261.3362	40.5039	4.84647	7.78869
3.50361	7/16/69 17:02	0.71083	106.7500	18,162,330	52.477	6,519	112.7701	29.0547	262.0370	40.3595	4.90974	7.67635
3.52028	7/16/69 17:03	0.72750	107.4890	18,471,950	52.834	6,463	113.5944	28.8932	262.7009	40.2132	4.97187	7.56461
3.53694	7/16/69 17:04	0.74417	108.2037	18,780,335	53.180	6,408	114.3891	28.7324	263.3300	40.0655	5.03294	7.45391
3.55361	7/16/69 17:05	0.76083	108.8953	19,087,478	53.514	6,354	115.1559	28.5723	263.9261	39.9168	5.09302	7.34457
3.57028	7/16/69 17:06	0.77750	109.5651	19,393,375	53.837	6,302	115.8961	28.4131	264.4910	39.7674	5.15219	7.23687
3.58694	7/16/69 17:07	0.79417	110.2141	19,698,025	54.150	6,251	116.6112	28.2551	265.0264	39.6178	5.21049	7.13103
3.60361	7/16/69 17:08	0.81083	110.8433	20,001,426	54.453	6,202	117.3026	28.0984	265.5338	39.4683	5.26799	7.02722
3.62028	7/16/69 17:09	0.82750	111.4538	20,303,580	54.747	6,154	117.9714	27.9430	266.0147	39.3190	5.32474	6.92556
3.63694	7/16/69 17:10	0.84417	112.0465	20,604,491	55.033	6,107	118.6188	27.7891	266.4704	39.1703	5.38079	6.82614
3.65361	7/16/69 17:11	0.86083	112.6221	20,904,162	55.310	6,062	119.2458	27.6367	266.9021	39.0222	5.43617	6.72903
3.67028	7/16/69 17:12	0.87750	113.1814	21,202,599	55.579	6,017	119.8534	27.4860	267.3112	38.8750	5.49092	6.63426
3.68694	7/16/69 17:13	0.89417	113.7253	21,499,809	55.840	5,974	120.4426	27.3368	267.6986	38.7288	5.54509	6.54186
3.70361	7/16/69 17:14	0.91083	114.2544	21,795,799	56.094	5,932	121.0142	27.1894	268.0654	38.5838	5.59871	6.45183
3.72028	7/16/69 17:15	0.92750	114.7693	22,090,576	56.341	5,890	121.5691	27.0437	268.4127	38.4399	5.65180	6.36414
3.73694	7/16/69 17:16	0.94417	115.2707	22,384,150	56.582	5,850	122.1080	26.8998	268.7413	38.2974	5.70440	6.27879
3.75361	7/16/69 17:17	0.96083	115.7591	22,676,530	56.816	5,811	122.6316	26.7576	269.0522	38.1562	5.75652	6.19574
3.77028	7/16/69 17:18	0.97750	116.2351	22,967,724	57.044	5,772	123.1407	26.6172	269.3460	38.0165	5.80820	6.11496
3.78694	7/16/69 17:19	0.99417	116.6993	23,257,744	57.267	5,735	123.6358	26.4785	269.6237	37.8783	5.85945	6.03639
3.80361	7/16/69 17:20	1.01083	117.1520	23,546,600	57.483	5,698	124.1176	26.3416	269.8859	37.7416	5.91030	5.95999
3.82028	7/16/69 17:21	1.02750	117.5937	23,834,301	57.695	5,662	124.5867	26.2065	270.1332	37.6065	5.96077	5.88571
3.83694	7/16/69 17:22	1.04417	118.0250	24,120,860	57.901	5,627	125.0435	26.0731	270.3665	37.4729	6.01086	5.81349
3.85361	7/16/69 17:23	1.06083	118.4461	24,406,286	58.102	5,592	125.4886	25.9415	270.5861	37.3409	6.06060	5.74329
3.87028	7/16/69 17:24	1.07750	118.8575	24,690,592	58.299	5,558	125.9225	25.8116	270.7928	37.2106	6.11001	5.67504
3.88694	7/16/69 17:25	1.09417	119.2596	24,973,787	58.491	5,525	126.3456	25.6834	270.9871	37.0819	6.15908	5.60868
3.90361	7/16/69 17:26	1.11083	119.6527	25,255,884	58.678	5,493	126.7583	25.5569	271.1695	36.9548	6.20785	5.54416
3.92028	7/16/69 17:27	1.12750	120.0371	25,536,894	58.862	5,461	127.1611	25.4320	271.3404	36.8293	6.25632	5.48143
3.93694	7/16/69 17:28	1.14417	120.4132	25,816,827	59.041	5,430	127.5543	25.3088	271.5003	36.7054	6.30450	5.42042
3.95361	7/16/69 17:29	1.16083	120.7812	26,095,696	59.216	5,400	127.9384	25.1873	271.6497	36.5831	6.35240	5.36109
3.97028	7/16/69 17:30	1.17750	121.1414	26,373,511	59.387	5,370	128.3135	25.0673	271.7890	36.4624	6.40003	5.30337
3.98694	7/16/69 17:31	1.19417	121.4941	26,650,284	59.555	5,341	128.6802	24.9490	271.9186	36.3433	6.44740	5.24722
4.00361	7/16/69 17:32	1.21083	121.8396	26,926,025	59.720	5,312	129.0387	24.8322	272.0388	36.2258	6.49452	5.19258
4.02028	7/16/69 17:33	1.22750</										

4.05361	7/16/69 17:35	1.26083	122.8351	27,747,174	60.192	5,229	130.0677	24.4909	272.3466	35.8824	6.63443	5.03725
4.07028	7/16/69 17:36	1.27750	123.1540	28,018,901	60.344	5,202	130.3961	24.3801	272.4326	35.7710	6.68062	4.98817
4.08694	7/16/69 17:37	1.29417	123.4668	28,289,651	60.492	5,176	130.7177	24.2707	272.5110	35.6610	6.72658	4.94037
4.10361	7/16/69 17:38	1.31083	123.7736	28,559,435	60.637	5,150	131.0327	24.1628	272.5818	35.5525	6.77234	4.89380
4.12028	7/16/69 17:39	1.32750	124.0748	28,828,264	60.780	5,125	131.3412	24.0562	272.6454	35.4455	6.81788	4.84843
4.13694	7/16/69 17:40	1.34417	124.3704	29,096,148	60.920	5,100	131.6436	23.9510	272.7020	35.3398	6.86323	4.80420
4.15361	7/16/69 17:41	1.36083	124.6605	29,363,097	61.057	5,075	131.9400	23.8472	272.7519	35.2355	6.90838	4.76109
4.17028	7/16/69 17:42	1.37750	124.9455	29,629,121	61.192	5,051	132.2306	23.7446	272.7952	35.1326	6.95333	4.71905
4.18694	7/16/69 17:43	1.39417	125.2254	29,894,230	61.324	5,028	132.5156	23.6434	272.8323	35.0310	6.99810	4.67804
4.20361	7/16/69 17:44	1.41083	125.5004	30,158,435	61.454	5,004	132.7951	23.5434	272.8633	34.9308	7.04269	4.63804
4.22028	7/16/69 17:45	1.42750	125.7706	30,421,744	61.582	4,981	133.0694	23.4447	272.8883	34.8318	7.08709	4.59901
4.23694	7/16/69 17:46	1.44417	126.0362	30,684,168	61.707	4,959	133.3386	23.3472	272.9077	34.7342	7.13131	4.56092
4.25361	7/16/69 17:47	1.46083	126.2973	30,945,717	61.830	4,937	133.6028	23.2509	272.9216	34.6377	7.17537	4.52373
4.27028	7/16/69 17:48	1.47750	126.5541	31,206,398	61.951	4,915	133.8623	23.1558	272.9301	34.5425	7.21925	4.48742
4.28694	7/16/69 17:49	1.49417	126.8066	31,466,222	62.070	4,893	134.1171	23.0618	272.9334	34.4485	7.26296	4.45196
4.30361	7/16/69 17:50	1.51083	127.0549	31,725,198	62.187	4,872	134.3674	22.9690	272.9318	34.3557	7.30651	4.41732
4.32028	7/16/69 17:51	1.52750	127.2993	31,983,334	62.302	4,851	134.6133	22.8773	272.9252	34.2641	7.34990	4.38346
4.33694	7/16/69 17:52	1.54417	127.5397	32,240,640	62.415	4,831	134.8549	22.7867	272.9139	34.1736	7.39313	4.35038
4.35361	7/16/69 17:53	1.56083	127.7763	32,497,124	62.526	4,810	135.0924	22.6972	272.8981	34.0842	7.43620	4.31803
4.37028	7/16/69 17:54	1.57750	128.0093	32,752,795	62.636	4,790	135.3259	22.6087	272.8778	33.9959	7.47912	4.28641
4.38694	7/16/69 17:55	1.59417	128.2386	33,007,661	62.744	4,771	135.5555	22.5213	272.8532	33.9087	7.52188	4.25548
4.40361	7/16/69 17:56	1.61083	128.4644	33,261,731	62.850	4,751	135.7813	22.4349	272.8244	33.8225	7.56450	4.22522
4.42028	7/16/69 17:57	1.62750	128.6868	33,515,013	62.954	4,732	136.0034	22.3495	272.7915	33.7374	7.60696	4.19561
4.43694	7/16/69 17:58	1.64417	128.9059	33,767,514	63.057	4,714	136.2219	22.2651	272.7546	33.6533	7.64928	4.16664
4.45361	7/16/69 17:59	1.66083	129.1217	34,019,243	63.158	4,695	136.4369	22.1816	272.7140	33.5702	7.69146	4.13827
4.47028	7/16/69 18:00	1.67750	129.3344	34,270,208	63.257	4,677	136.6485	22.0991	272.6696	33.4880	7.73350	4.11050
4.48694	7/16/69 18:01	1.69417	129.5439	34,520,417	63.355	4,659	136.8568	22.0175	272.6215	33.4068	7.77539	4.08330
4.50361	7/16/69 18:02	1.71083	129.7505	34,769,876	63.452	4,641	137.0618	21.9369	272.5699	33.3266	7.81714	4.05666
4.52028	7/16/69 18:03	1.72750	129.9541	35,018,594	63.547	4,623	137.2637	21.8571	272.5149	33.2473	7.85876	4.03056
4.53694	7/16/69 18:04	1.74417	130.1549	35,266,577	63.641	4,606	137.4626	21.7782	272.4565	33.1688	7.90024	4.00498
4.55361	7/16/69 18:05	1.76083	130.3528	35,513,834	63.733	4,589	137.6585	21.7002	272.3949	33.0913	7.94159	3.97991
4.57028	7/16/69 18:06	1.77750	130.5480	35,760,371	63.825	4,572	137.8514	21.6230	272.3300	33.0146	7.98280	3.95532
4.58694	7/16/69 18:07	1.79417	130.7406	36,006,196	63.914	4,555	138.0415	21.5467	272.2621	32.9388	8.02388	3.93122
4.60361	7/16/69 18:08	1.81083	130.9305	36,251,314	64.003	4,539	138.2289	21.4712	272.1912	32.8637	8.06483	3.90758
4.62028	7/16/69 18:09	1.82750	131.1179	36,495,734	64.090	4,522	138.4135	21.3965	272.1173	32.7896	8.10565	3.88438
4.63694	7/16/69 18:10	1.84417	131.3028	36,739,462	64.177	4,506	138.5955	21.3226	272.0406	32.7161	8.14635	3.86163
4.65361	7/16/69 18:11	1.86083	131.4853	36,982,504	64.261	4,491	138.7749	21.2495	271.9610	32.6435	8.18691	3.83929
4.67028	7/16/69 18:12	1.87750	131.6654	37,224,867	64.345	4,475	138.9518	21.1772	271.8788	32.5717	8.22735	3.81737
4.68694	7/16/69 18:13	1.89417	131.8431	37,466,557	64.428	4,459	139.1263	21.1056	271.7939	32.5006	8.26767	3.79584
4.70361	7/16/69 18:14	1.91083	132.0186	37,707,581	64.510	4,444	139.2983	21.0347	271.7064	32.4302	8.30786	3.77471
4.72028	7/16/69 18:15	1.92750	132.1919	37,947,946	64.590	4,429	139.4680	20.9646	271.6163	32.3605	8.34793	3.75395
4.73694	7/16/69 18:16	1.94417	132.3630	38,187,656	64.670	4,414	139.6355	20.8952	271.5238	32.2916	8.38788	3.73355
4.75361	7/16/69 18:17	1.96083	132.5319	38,426,719	64.748	4,399	139.8006	20.8265	271.4289	32.2233	8.42770	3.71351
4.77028	7/16/69 18:18	1.97750	132.6988	38,665,139	64.825	4,385	139.9636	20.7585	271.3316	32.1557	8.46741	3.69382
4.78694	7/16/69 18:19	1.99417	132.8636	38,902,924	64.902	4,370	140.1245	20.6912	271.2321	32.0888	8.50699	3.67446
4.80361	7/16/69 18:20	2.01083	133.0265	39,140,079	64.977	4,356	140.2833	20.6245	271.1302	32.0225	8.54646	3.65543
4.82028	7/16/69 18:21	2.02750	133.1873	39,376,609	65.052	4,342	140.4400	20.5585	271.0262	31.9569	8.58581	3.63672
4.83694	7/16/69 18:22	2.04417	133.3463	39,612,521	65.125	4,328	140.5947	20.4932	270.9200	31.8918	8.62505	3.61832
4.85361	7/16/69 18:23	2.06083	133.5033	39,847,819	65.198	4,315	140.7474	20.4285	270.8118	31.8274	8.66416	3.60021
4.87028	7/16/69 18:24	2.07750	133.6586	40,082,510	65.270	4,301	140.8983	20.3644	270.7014	31.7636	8.70316	3.58240
4.88694	7/16/69 18:25	2.09417	133.8120	40,316,598	65.341	4,287	141.0472	20.3009	270.5891	31.7004	8.74205	3.56488
4.90361	7/16/69 18:26	2.11083	133.9636	40,550,089	65.411	4,274	141.1944	20.2381	270.4748	31.6377	8.78082	3.54763
4.92028	7/16/69 18:27	2.12750	134.1136	40,782,988	65.480	4,261	141.3397	20.1758	270.3586	31.5756	8.81948	3.53064
4.93694	7/16/69 18:28	2.14417	134.2618	41,015,300	65.549	4,248	141.4832	20.1141	270.2405	31.5140	8.85803	3.51393
4.95361	7/16/69 18:29	2.16083	134.4083	41,247,031	65.616	4,235	141.6251	20.0530	270.1206	31.4530	8.89646	3.49746
4.97028	7/16/69 18:30	2.17750	134.5532	41,478,185	65.683	4,222	141.7652	19.9925	269.9989	31.3925	8.93479	3.48125
4.98694	7/16/69 18:31	2.19417	134.6965	41,708,768	65.749	4,210	141.9037	19.9326	269.8754	31.3325	8.97300	3.46528
5.00361	7/16/69 18:32	2.21083	134.8383	41,938,784	65.814	4,197	142.0406	19.8732	269.7502	31.2731	9.01110	3.44954
5.02028	7/16/69 18:33	2.22750	134.9785	42,168,237	65.879	4,185	142.1758	19.8143	269.6233	31.2141	9.04909	3.43404
5.03694	7/16/69 18:34	2.24417	135.1171	42,397,134	65.943	4,173	142.3096	19.7560	269.4947	31.1556	9.08697	3.41876
5.05361	7/16/69 18:35	2.26083	135.2543	42,625,477	66.006	4,161	142.4417	19.6982	269.3646	31.0976	9.12474	3.40369
5.07028	7/16/69 18:36	2.27750	135.3901	42,853,273	66.068	4,149	142.5724	19.6409	269.2328	31.0400	9.16241	3.38884
5.08694	7/16/69 18:37	2.29417	135.5244	43,080,525	66.130	4,137	142.7016	19.5841	269.0995	30.9829	9.19997	3.37420
5.10361	7/16/69 18:38	2.31083	135.6572	43,307,239	66.191	4,125	142.8294	19.5279	268.9647	30.9262	9.23741	3.35976
5.12028	7/16/69 18:39	2.32750	135.7887	43,533,417	66.251	4,114	142.9557	19.4721	268.8283	30.8700	9.27476	3.34552
5.13694	7/16/69 18:40	2.34417	135.9189	43,759,066	66.311	4,102	143.0807	19.4169	268.6905	30.8142	9.31199	3.33147
5.15361	7/16/69 18:41	2.36083	136.0477	43,984,188	66.370	4,091	143.2043	19.3621	268.5513	30.7588	9.34912	3.31760
5.17028	7/16/69 18:42	2.37750	136.1752	44,208,789	66.428	4,079	143.3265	19.3078	268.4107	30.7038	9.38615	3.30392
5.18694	7/16/69 18:43	2.39417	136.3014	44,432,872	66.486	4,068	143.4474	19.2539	268.2687	30.6492	9.42307	3.29042
5.20361	7/16/69 18:44	2.41083	136.4264	44,656,442	66.543	4,057	143.5671	19.2005	268.1253	30.5950	9.45988	3.27709
5.22028	7/16/69 18:45	2.42750	136.5501	44,879,503	66.600	4,046	143.6855	19.1476	267.9806	30.5412	9.49659	3.26393
5.23694	7/16/69 18:46	2.44417	136.6726	45,102,058	66.656	4,035	143.8026	19.0951	267.8346	30.4877	9.53320	3.25094
5.25361	7/16/69 18:47	2.46083	136.7938	45,324,112	66.712	4,025	143.9185					

5.40361	7/16/69 18:56	2.61083	137.8345	47,300,667	67.186	3,932	144.9101	18.5936	266.3081	29.9721	9.89361	3.12930
5.42028	7/16/69 18:57	2.62750	137.9448	47,517,914	67.236	3,922	145.0149	18.5457	266.1493	29.9223	9.92909	3.11789
5.43694	7/16/69 18:58	2.64417	138.0541	47,734,701	67.286	3,913	145.1187	18.4981	265.9894	29.8728	9.96447	3.10661
5.45361	7/16/69 18:59	2.66083	138.1624	47,951,030	67.335	3,903	145.2215	18.4509	265.8285	29.8235	9.99976	3.09544
5.47028	7/16/69 19:00	2.67750	138.2698	48,166,904	67.384	3,894	145.3233	18.4041	265.6666	29.7745	10.03494	3.08440
5.48694	7/16/69 19:01	2.69417	138.3762	48,382,328	67.432	3,884	145.4242	18.3576	265.5037	29.7257	10.07003	3.07347
5.50361	7/16/69 19:02	2.71083	138.4816	48,597,304	67.480	3,875	145.5241	18.3115	265.3398	29.6773	10.10501	3.06266
5.52028	7/16/69 19:03	2.72750	138.5861	48,811,836	67.528	3,865	145.6230	18.2658	265.1750	29.6291	10.13990	3.05196
5.53694	7/16/69 19:04	2.74417	138.6897	49,025,926	67.575	3,856	145.7211	18.2204	265.0093	29.5811	10.17469	3.04136
5.55361	7/16/69 19:05	2.76083	138.7924	49,239,578	67.621	3,847	145.8182	18.1753	264.8426	29.5334	10.20938	3.03088
5.57028	7/16/69 19:06	2.77750	138.8942	49,452,795	67.667	3,838	145.9145	18.1306	264.6750	29.4859	10.24397	3.02049
5.58694	7/16/69 19:07	2.79417	138.9952	49,665,580	67.713	3,829	146.0099	18.0862	264.5065	29.4386	10.27847	3.01021
5.60361	7/16/69 19:08	2.81083	139.0953	49,877,937	67.758	3,820	146.1044	18.0422	264.3371	29.3916	10.31286	3.00003
5.62028	7/16/69 19:09	2.82750	139.1945	50,089,867	67.803	3,811	146.1981	17.9985	264.1669	29.3448	10.34716	2.98994
5.63694	7/16/69 19:10	2.84417	139.2929	50,301,374	67.847	3,802	146.2910	17.9551	263.9958	29.2982	10.38137	2.97995
5.65361	7/16/69 19:11	2.86083	139.3905	50,512,462	67.892	3,794	146.3830	17.9120	263.8239	29.2518	10.41547	2.97006
5.67028	7/16/69 19:12	2.87750	139.4873	50,723,132	67.935	3,785	146.4742	17.8693	263.6511	29.2056	10.44948	2.96025
5.68694	7/16/69 19:13	2.89417	139.5832	50,933,388	67.979	3,776	146.5646	17.8268	263.4776	29.1596	10.48339	2.95054
5.70361	7/16/69 19:14	2.91083	139.6784	51,143,233	68.022	3,768	146.6543	17.7847	263.3032	29.1138	10.51721	2.94091
5.72028	7/16/69 19:15	2.92750	139.7728	51,352,669	68.064	3,759	146.7431	17.7429	263.1281	29.0682	10.55093	2.93136
5.73694	7/16/69 19:16	2.94417	139.8664	51,561,699	68.106	3,751	146.8312	17.7013	262.9522	29.0228	10.58456	2.92190
5.75361	7/16/69 19:17	2.96083	139.9593	51,770,326	68.148	3,743	146.9186	17.6601	262.7755	28.9776	10.61809	2.91253
5.77028	7/16/69 19:18	2.97750	140.0514	51,978,552	68.190	3,734	147.0052	17.6191	262.5981	28.9325	10.65152	2.90323
5.78694	7/16/69 19:19	2.99417	140.1428	52,186,381	68.231	3,726	147.0911	17.5785	262.4200	28.8876	10.68486	2.89401
5.80361	7/16/69 19:20	3.01083	140.2335	52,393,815	68.272	3,718	147.1762	17.5381	262.2411	28.8429	10.71810	2.88487
5.82028	7/16/69 19:21	3.02750	140.3235	52,600,856	68.312	3,710	147.2607	17.4980	262.0616	28.7983	10.75125	2.87580
5.83694	7/16/69 19:22	3.04417	140.4127	52,807,507	68.352	3,702	147.3444	17.4582	261.8813	28.7539	10.78431	2.86680
5.85361	7/16/69 19:23	3.06083	140.5013	53,013,770	68.392	3,694	147.4275	17.4187	261.7004	28.7097	10.81727	2.85788
5.87028	7/16/69 19:24	3.07750	140.5892	53,219,649	68.431	3,686	147.5099	17.3794	261.5187	28.6656	10.85013	2.84903
5.88694	7/16/69 19:25	3.09417	140.6764	53,425,145	68.470	3,678	147.5916	17.3404	261.3364	28.6216	10.88290	2.84025
5.90361	7/16/69 19:26	3.11083	140.7629	53,630,261	68.509	3,671	147.6726	17.3017	261.1535	28.5778	10.91558	2.83154
5.92028	7/16/69 19:27	3.12750	140.8488	53,835,000	68.548	3,663	147.7531	17.2632	260.9699	28.5342	10.94817	2.82289
5.93694	7/16/69 19:28	3.14417	140.9340	54,039,364	68.586	3,655	147.8328	17.2250	260.7856	28.4906	10.98066	2.81431
5.95361	7/16/69 19:29	3.16083	141.0186	54,243,355	68.624	3,648	147.9119	17.1871	260.6007	28.4472	11.01305	2.80579
5.97028	7/16/69 19:30	3.17750	141.1025	54,446,975	68.661	3,640	147.9905	17.1494	260.4153	28.4039	11.04536	2.79733
5.98694	7/16/69 19:31	3.19417	141.1858	54,650,228	68.699	3,633	148.0683	17.1119	260.2292	28.3608	11.07757	2.78894
6.00361	7/16/69 19:32	3.21083	141.2685	54,853,115	68.736	3,625	148.1456	17.0748	260.0425	28.3177	11.10969	2.78060
6.02028	7/16/69 19:33	3.22750	141.3506	55,055,638	68.772	3,618	148.2223	17.0378	259.8552	28.2748	11.14171	2.77233
6.03694	7/16/69 19:34	3.24417	141.4321	55,257,800	68.809	3,611	148.2984	17.0011	259.6673	28.2320	11.17365	2.76411
6.05361	7/16/69 19:35	3.26083	141.5130	55,459,603	68.845	3,603	148.3739	16.9646	259.4789	28.1893	11.20549	2.75595
6.07028	7/16/69 19:36	3.27750	141.5933	55,661,049	68.881	3,596	148.4488	16.9284	259.2899	28.1466	11.23724	2.74784
6.08694	7/16/69 19:37	3.29417	141.6731	55,862,141	68.916	3,589	148.5232	16.8924	259.1003	28.1041	11.26890	2.73979
6.10361	7/16/69 19:38	3.31083	141.7522	56,062,880	68.952	3,582	148.5970	16.8566	258.9102	28.0617	11.30046	2.73179
6.12028	7/16/69 19:39	3.32750	141.8308	56,263,270	68.987	3,575	148.6703	16.8211	258.7195	28.0194	11.33194	2.72385
6.13694	7/16/69 19:40	3.34417	141.9089	56,463,310	69.021	3,568	148.7430	16.7858	258.5284	27.9772	11.36332	2.71595
6.15361	7/16/69 19:41	3.36083	141.9864	56,663,005	69.056	3,561	148.8151	16.7507	258.3367	27.9351	11.39461	2.70811
6.17028	7/16/69 19:42	3.37750	142.0633	56,862,356	69.090	3,554	148.8867	16.7158	258.1444	27.8930	11.42581	2.70032
6.18694	7/16/69 19:43	3.39417	142.1397	57,061,365	69.124	3,547	148.9578	16.6812	257.9517	27.8511	11.45692	2.69257
6.20361	7/16/69 19:44	3.41083	142.2156	57,260,034	69.158	3,540	149.0284	16.6467	257.7585	27.8092	11.48794	2.68487
6.22028	7/16/69 19:45	3.42750	142.2910	57,458,364	69.191	3,533	149.0985	16.6125	257.5648	27.7674	11.51886	2.67722
6.23694	7/16/69 19:46	3.44417	142.3658	57,656,359	69.225	3,526	149.1681	16.5785	257.3705	27.7256	11.54970	2.66961
6.25361	7/16/69 19:47	3.46083	142.4401	57,854,020	69.258	3,520	149.2371	16.5447	257.1759	27.6839	11.58045	2.66205
6.27028	7/16/69 19:48	3.47750	142.5140	58,051,349	69.290	3,513	149.3057	16.5111	256.9807	27.6423	11.61111	2.65454
6.28694	7/16/69 19:49	3.49417	142.5873	58,248,348	69.323	3,506	149.3738	16.4778	256.7851	27.6008	11.64167	2.64706
6.30361	7/16/69 19:50	3.51083	142.6601	58,445,019	69.355	3,500	149.4414	16.4446	256.5890	27.5593	11.67215	2.63963
6.32028	7/16/69 19:51	3.52750	142.7325	58,641,363	69.387	3,493	149.5085	16.4116	256.3924	27.5179	11.70254	2.63225
6.33694	7/16/69 19:52	3.54417	142.8043	58,837,383	69.419	3,487	149.5752	16.3788	256.1954	27.4766	11.73284	2.62490
6.35361	7/16/69 19:53	3.56083	142.8757	59,033,081	69.451	3,480	149.6414	16.3462	255.9980	27.4353	11.76304	2.61759
6.37028	7/16/69 19:54	3.57750	142.9466	59,228,457	69.482	3,474	149.7071	16.3139	255.8001	27.3940	11.79316	2.61032
6.38694	7/16/69 19:55	3.59417	143.0170	59,423,515	69.513	3,468	149.7724	16.2817	255.6019	27.3528	11.82319	2.60309
6.40361	7/16/69 19:56	3.61083	143.0870	59,618,256	69.544	3,461	149.8372	16.2497	255.4031	27.3116	11.85314	2.59590
6.42028	7/16/69 19:57	3.62750	143.1565	59,812,681	69.575	3,455	149.9016	16.2178	255.2040	27.2705	11.88299	2.58875
6.43694	7/16/69 19:58	3.64417	143.2256	60,006,792	69.605	3,449	149.9655	16.1862	255.0045	27.2295	11.91275	2.58163
6.45361	7/16/69 19:59	3.66083	143.2943	60,200,592	69.636	3,443	150.0291	16.1548	254.8045	27.1884	11.94243	2.57455
6.47028	7/16/69 20:00	3.67750	143.3624	60,394,082	69.666	3,436	150.0921	16.1235	254.6042	27.1474	11.97202	2.56751
6.48694	7/16/69 20:01	3.69417	143.4302	60,587,263	69.696	3,430	150.1548	16.0924	254.4035	27.1065	12.00152	2.56050