

NAVIGATION LOG

Cruise I.D. IG-29-4

Year 1978

Leg No. \_\_\_\_\_

TZ +5

OMEGA

OMEGA

(P1)

PG 1 OF 13

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG DEGR.	LONG MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
<u>VI</u>	<u>25</u>	<u>2001</u>		<u>0806</u>	<u>-33</u>	<u>35.50</u>	<u>+20</u>	<u>16.43</u>	<u>34.73</u>	<u>17.08</u>	<u>0943.0</u>	<u>-079 45.3</u>		
		<u>2002</u>		<u>0900</u>	<u>-34</u>	<u>35.58</u>	<u>+22</u>	<u>16.48</u>	<u>35.24</u>	<u>16.70</u>	<u>09 47.7</u>	<u>-079 36.4</u>		
		<u>2003</u>		<u>0955</u>	<u>-34</u>	<u>35.79</u>	<u>+23</u>	<u>15.68</u>	<u>35.64</u>	<u>15.86</u>	<u>09 49.5</u>	<u>-79 25.5</u>		
		<u>2004</u>		<u>1156</u>	<u>-56</u>	<u>35.61</u>	<u>-06</u>	<u>15.06</u>	<u>35.05</u>	<u>14.94</u>	<u>00 48.0</u>	<u>-79 15.4</u>	<u>off by 1 line</u>	
		<u>2005</u>		<u>1500</u>	<u>-05</u>	<u>36.39</u>	<u>-05</u>	<u>13.88</u>	<u>36.34</u>	<u>13.83</u>	<u>09 45.1</u>	<u>-79 03.9</u>		
		<u>2006</u>		<u>1602</u>	<u>-07</u>	<u>36.16</u>	<u>+04</u>	<u>13.65</u>	<u>36.09</u>	<u>13.69</u>	<u>09 40.0</u>	<u>-79 05.4</u>		
		<u>2007</u>		<u>1625</u>	<u>+02</u>	<u>36.03</u>	<u>-07</u>	<u>13.65</u>	<u>36.05</u>	<u>13.58</u>	<u>09 39.0</u>	<u>-79 05.3</u>		
		<u>2008</u>		<u>1803</u>	<u>+03</u>	<u>36.31</u>	<u>-09</u>	<u>13.47</u>	<u>36.34</u>	<u>13.38</u>	<u>09 41.2</u>	<u>-78 59.6</u>		
		<u>2009</u>		<u>1900</u>	<u>+06</u>	<u>36.63</u>	<u>-08</u>	<u>13.46</u>	<u>36.69</u>	<u>13.38</u>	<u>00 47.9</u>	<u>-78 57.2</u>		
		<u>2010</u>		<u>2000</u>	<u>+08</u>	<u>36.84</u>	<u>-09</u>	<u>13.48</u>	<u>36.92</u>	<u>13.38</u>	<u>09 51.9</u>	<u>-78 54.5</u>		
		<u>2011</u>		<u>2100</u>	<u>+10</u>	<u>37.08</u>	<u>-10</u>	<u>13.44</u>	<u>37.18</u>	<u>13.34</u>	<u>09 54.1</u>	<u>-78 51.8</u>		
		<u>2012</u>		<u>2204</u>	<u>+10</u>	<u>37.35</u>	<u>-11</u>	<u>13.42</u>	<u>37.45</u>	<u>13.31</u>	<u>10 00.8</u>	<u>-78 48.4</u>		
		<u>2013</u>		<u>2300</u>	<u>+9</u>	<u>37.66</u>	<u>-7</u>	<u>13.47</u>	<u>37.75</u>	<u>13.40</u>	<u>10 04.8</u>	<u>-78 44.9</u>		
		<u>2014</u>		<u>0600</u>	<u>+10</u>	<u>37.95</u>	<u>-3</u>	<u>13.45</u>	<u>38.05</u>	<u>13.42</u>	<u>10 10.5</u>	<u>-78 42.9</u>		
		<u>2015</u>		<u>0100</u>	<u>+9</u>	<u>38.25</u>	<u>+14</u>	<u>13.17</u>	<u>38.34</u>	<u>13.31</u>	<u>10 15.0</u>	<u>-78 39.0</u>		
		<u>2016</u>		<u>0200</u>	<u>+2</u>	<u>38.66</u>	<u>+22</u>	<u>13.14</u>	<u>38.68</u>	<u>13.36</u>	<u>10 20.8</u>	<u>-78 35.5</u>		
		<u>2017</u>		<u>0405</u>	<u>-25</u>	<u>39.39</u>	<u>+26</u>	<u>12.96</u>	<u>39.14</u>	<u>13.22</u>	<u>10 27.3</u>	<u>-78 29.5</u>		
		<u>2018</u>		<u>0600</u>	<u>-36</u>	<u>40.10</u>	<u>+29</u>	<u>12.94</u>	<u>40.74</u>	<u>13.23</u>	<u>10 37.3</u>	<u>-78 22.9</u>		
		<u>2019</u>		<u>0700</u>	<u>-25</u>	<u>40.41</u>	<u>+29</u>	<u>12.94</u>	<u>40.16</u>	<u>13.23</u>	<u>10 44.5</u>	<u>-78 18.3</u>		
		<u>2020</u>		<u>0800</u>	<u>-44</u>	<u>40.81</u>	<u>+29</u>	<u>12.97</u>	<u>40.37</u>	<u>13.20</u>	<u>10 47.6</u>	<u>-78 16.0</u>		
		<u>2021</u>		<u>0900</u>	<u>-45</u>	<u>41.10</u>	<u>+29</u>	<u>12.91</u>	<u>40.65</u>	<u>13.20</u>	<u>10 52.8</u>	<u>-78 13.0</u>		

# NAVIGATION LOG

 Cruise I.D. I.S. 29-4

 Year 1978

OMEGA

P. 2.

Leg No. \_\_\_\_\_

 TZ +5

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN.	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
July	26	2021		1000	-45	41.50	+36	12.81	41.05	13.17	10 58.6	-78 07.8		
		2022		1100	-81	42.67	0	13.01	41.26	13.01	11 01.5	-78 04.5		
		023		1202	-53	42.27	0	12.98	41.74	12.98	11 07.9	-77 58.6		
		24		1300	-34	42.53	+2	13.03	42.19	13.05	11 16.4	-77 54.7		
		25		1400	-22	42.75	0	12.97	42.53	12.97	11 22.0	-77 49.8		
		26		1503	-6	42.45	-2	13.53	42.39	12.53	11 17.3	-77 47.6		
		27		1600	+3	42.10	-4	12.18	42.13	12.14	11 09.9	-77 48.4		
		28		1700	+1	41.92	-5	11.80	41.93	11.75	11 03.8	-77 48.1		
		29		1800	+3	41.71	-6	11.43	41.74	11.37	10 58.0	-77 47.5		
		30		1904	+6	41.48	-6	11.04	41.54	10.98	10 51.9	-77 47.0		
		31		2000	+7	41.27	-6	10.63	41.34	10.57	10 45.9	-77 46.0		
		32		2100	+8	41.10	-6	10.23	41.18	10.17	10 40.7	-77 45.0		
		33		2200	+8	40.97	-9	09.90	41.05	09.81	10 36.0	-77 44.0		
		34		2300	+9	40.82	-7	09.69	40.91	09.62	10 31.3	-77 44.2		
	27	35		0100	+9	40.39	+14	09.97	40.48	09.11	10 21.5	-77 45.2		
		36		0200	+2	40.22	+22	08.58	40.24	08.80	10 15.1	-77 45.3		
		37		0300	-9	40.11	+26	08.16	40.02	08.42	10 08.9	-77 45.1		
		38		0400	-24	40.02	+26	07.73	39.78	07.99	10 02.0	-77 44.3'		
		39		0515	-29	39.84	+27	07.32	39.55	07.59	10 55.3'	-77 44'		
		40		0602	-27	39.78	+27	07.01	39.51	07.26	10 52.7'	-77 42.2	?	
		41		0700	-35	39.50	+27	06.61	39.15	06.88	10 43.2'	-77 43.0'		

NAVIGATION LOG

OMEGA LOG

Cruise I.D. IG 29-4

Year 1978

Leg No. \_\_\_\_\_

TZ +5

CP

GD

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MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN.	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
		42		0800	-37	39.26	+27	06.33	38.89	06.60	09°37.1	-77°43.7		
		43		0902	-37	39.07	+25	05.94	38.70	06.19	09°30.7	-77°42.8'		
		44		1000	-37	38.85	+32	05.71	38.48	06.03	09 25.7	-77 44.0		
		45		1100	-80	38.92	-5	05.54	38.12	05.49	09 15.8	-77 43.4		
		46		1200	-53	38.57	-5	05.25	38.04	05.20	09 12.2	-77 42.4		
		47		1300	-32	38.28	-1	04.81	37.96	04.80	09 07.7	-77 40.0		
		48		1400	-19	38.48	-4	04.70	38.29	04.66	09 12.8	-77 35.5		
		49		1500	-5	38.74	-6	04.42	38.69	04.36	09 17.8	-77 29.4		
		50		1607	+4	38.98	-8	04.20	39.02	04.12	09 21.2	-77 24.0		
		51		1700	+2	39.16	-8	03.89	39.18	03.81	09 22.2	-77 19.8		
		52		1800	+4	39.42	-9	03.70	39.46	03.61	09 25.2	-77 15.7		
		53		1900	+7	39.70	-9	03.52	39.77	03.41	09 29.3	-77 11.1		
		54		1923	+7	39.83	-9	03.60	39.91	03.51	09 32.8	-77°10.3'		
		55		2000	+9	39.97	-9	03.65	40.06	03.54	09 36.3	-77°09.0'		
		56		2100	+10	40.18	-10	03.66	40.28	03.56	09 39.2	-77°06.7'		
		57		2200	+11	40.43	-10	03.27	40.54	03.17	09 41.0	-77°01.0'		
Jul	28	58		0000	+14	40.82	-5	02.02	40.96	01.97	10°39.9	-76°47.3'		
		59		0100	+15	40.99	+9	01.16	41.14	01.25	10°38.1	-76°40.5'		
		60		0204	+9	41.23	+32	00.40	41.32	00.72	10°37.5	-76°34.5'		
		61		0300	-2	41.60	+25	99.78	41.58	00.03	10°37.9	-76°26.8'		
		62		0400	-16	41.92	+27	99.27	41.76	99.54	10°37.3	-76°21.0'		

# NAVIGATION LOG

 Cruise I.D. FG 29-4

 Year 1978

Leg No. \_\_\_\_\_

 TZ +5

(P4)

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT DEGR.	LAT. MIN	LONG. DEGR.	LONG MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
VII	28	63		0500	-27	42.22	+27	98.61	41.95	98.88	09°36.0'	76°14.0'		
		64		0600	-23	42.63	+27	99.16	42.30	98.45	09°39.0'	76°07.3'		
		65		0705	-35	42.99	+27	97.98	42.54	98.25	09°41.8'	76°03.7'		
		66		0800	-37	42.95	+77	98.44	42.58	98.71	09°45.9'	76°06.4'		
		67		0900	-32	42.92	+25	99.15	42.55	99.40	09°50.5'	76°11.5'		
		68		1000	-37	42.98	+23	99.75	42.61	0000	09°55.8'	76°15.8'		
		69		1100	-80	43.35	-5	0084	42.55	00.79	10°00.0'	76°21.0'		
		70		1200	-53	43.14	-5	01.43	42.61	01.38	10 05.2	76 26.0		
		71		1300	-34	42.94	+2	02.08	42.60	02.10	10 09.8	76 31.6		
		72		1400	-72	42.81	0	02.80	42.59	02.80	10 14.2	76 36.5		
		73		1500	-6	42.68	-2	03.44	42.62	03.42	10 18.9	76 40.9		
		74		1600	+3	42.59	-4	03.96	42.62	03.92	10 22.5	76 44.0		
		75		1700	+1	42.59	-5	03.33	42.60	03.28	10 18.2	76 39.8		
		76		1800	+3	42.65	-6	02.68	42.68	02.62	10 14.7	76 34.0		
		77		1900	+6	42.75	-6	02.05	42.81	01.99				
		78		2000	+7	42.84	-6	01.43	42.91	01.37				
		79		2200	+8	43.01	-5	00.21	43.09	00.16				
		80		2300	+9	43.14	-7	99.55	43.23	99.48				
Jul	29	81		0000	+10	43.35	-3	99.92	43.45	99.89				
		82		0100	+9	43.57	+14	00.45	43.66	00.59				
		83		0200	+2	43.75	+22	00.91	43.77	01.13				

NAVIGATION LOG

Cruise I.D. IG 29-4

Year 1978

Leg No. \_\_\_\_\_

TZ +5

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OMEGA LOG

P5

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D
VII	29	83		0300	-9	43.89	+26	0133	43.90	01.59				
		84		0400	-24	44.14	+26	01.77	43.90	02.03				
		85		0500	-36	44.36	+29	02.19	44.00	02.48				
		86		0600	-41	44.60	+28	02.72	44.19	03.00				
		87		0700	-25	44.80	+29	03.20	44.55	03.49				
		88		0800	-44	44.99	+29	03.59	44.55	03.88				
		89		0900	-45	45.13	+29	04.04	44.68	04.33				
		90		1000	-45	45.37	+36	04.47	44.92	04.83				
		91		1200	-53	45.69	0	05.51	45.16	05.51				
		92		1300	-34	45.62	+2	05.95	45.28	05.97				
		93		1400	-22	45.58	0	06.46	45.36	06.46				
		94		1500	-6	45.59	-2	07.06	45.53	07.04				
		95		1600	+3	45.55	-4	07.63	45.58	07.59				
		96		1700	+1	45.72	-5	08.15	45.73	08.10				
		97		1800	+3	45.75	-6	08.79	45.78	08.71				
		98		1900	+6	45.94	-6	09.35	46.00	09.29				
		99		2000	+7	46.03	-6	09.77	46.10	09.71				
		100		2100	+8	46.19	-6	10.34	46.27	10.28				
		101		2200	+8	46.37	-9	10.95	46.45	10.86				
		102		2300	+9	46.59	-7	11.61	46.68	11.54				
Jul	30	103		0000	+10	46.80	-3	12.19	46.90	12.16				

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Cruise I.D. IG 29-4

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OMEGA LOG

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MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN.	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
VII	30	104		0105	+9	46.93	+15	12.69	47.02	12.84				
		105		0202	+2	47.09	+22	13.16	47.11	13.38				
		106		0320	-14	47.47	+23	13.67	47.33	13.90				
		107		0400	-24	47.73	+26	13.99	47.49	14.25				
		108		0500	-36	47.97	+29	14.33	47.61	14.62				
		109		0600	-39	48.27	+28	14.84	47.88	15.12				
		110		0702	-26	48.55	+29	15.36	48.29	15.65				
		111		0800	-44	48.72	+29	15.86	48.38	16.15				
		112		0900	-45	48.94	+29	16.27	48.49	16.56				
		113		1000	-45	49.14	+36	16.58	48.69	16.94				
		114		1100	-80	49.62	0	17.24	48.82	17.24				
		115		1200	-53	49.71	0	17.78	49.18	17.78				
		116		1300	-34	49.83	+2	18.34	49.49	18.36				
		117		1400	-22	49.90	0	18.72	49.68	18.72				
		118		1500	-6	49.98	-2	19.05	49.92	19.03				
		119		1600	+6	50.04	-6	19.52	50.16	19.46				
		120		1700	+1	50.11	-5	20.29	50.12	20.24				
		121		1800	+3	50.22	-6	20.98	50.25	20.92				
		122		1900	+6	50.36	-6	21.76	50.42	21.70				
		123		2000	+7	50.50	-6	22.58	50.57	22.52				
		124		2100	+8	50.60	-6	23.44	50.68	23.38				

# NAVIGATION LOG

 Cruise I.D. IG 29-4

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Leg No. \_\_\_\_\_

TZ \_\_\_\_\_

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MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
<u>VII</u>	30	125		2200	+8	50.67	-9	24.10	50.75	24.01				
		126		2300	+9	50.79	-7	24.81	50.88	24.74				
<u>VII</u>	31	127		0003	+12	50.33	-9	25.56	51.00	25.47				
		128		0100	+14	51.01	+12	26.07	51.15	26.19				
		129		0200	+7	51.12	+19	26.60	51.19	26.79				
		130		0300	-5	51.23	+25	27.15	51.18	27.40				
		131		0400	-1.9	51.39	+26	27.86	51.20	28.12				
		132		0500	-31	51.57	+28	28.56	51.26	28.84				
		133		0600	-37	51.76	+27	29.38	51.49	29.65	Bad fix			
		134		0700	-40	51.78	+24	30.06	51.38	30.26				
		135		0800	<sup>-37</sup> -41	51.82	<sup>-31</sup> +51 +20	30.73	51.41	30.93				
		136		0900	<sup>-42</sup> +51 -41	51.91	<sup>-31</sup> +51 +20	31.35	51.50	31.55				
		137		1000	<sup>-52</sup> +51 -41	51.98	<sup>-31</sup> +51 +20	31.93	51.57	32.10				
		138		1100	<sup>-82</sup> +49 -49	52.38	<sup>-4</sup> +4	32.75	51.64	32.79				
		139		1200	<sup>-58</sup> +49 -49	52.36	<sup>-8</sup> +9	33.32	51.87	33.31				
		140		1300	<sup>-42</sup> +49 -38	52.24	<sup>-11</sup> +3	34.03	51.91	34.06				
		141		1400	<sup>-27</sup> +49 -20	52.26	<sup>-11</sup> +0	34.64	52.06	34.64				
		142		1500	<sup>-10</sup> +49 +0	52.08	<sup>-3</sup> +0	35.39	52.03	35.39				
		143		1600	<sup>-14</sup> +46	51.89	<sup>-5</sup> +1	36.05	51.95	36.04				
		144		1700	<sup>0</sup> +42 +2	51.79	<sup>-4</sup> +4	36.72	51.81	36.68				
		145		1800	<sup>22</sup> +42 +2	51.75	<sup>-6</sup> +4	37.28	51.79	37.24				

NAVIGATION LOG

OMEGA LOG

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Cruise I.D. IG 29-4

Year 1978

Leg No. \_\_\_\_\_

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GD | GD | GD

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG MIN	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
<u>VII</u>	<u>31</u>	<u>146</u>		<u>1900</u>	<u>+15</u>	<u>51.60</u>	<u>-4</u>	<u>37.89</u>	<u>51.70</u>	<u>37.85</u>				
		<u>147</u>		<u>2000</u>	<u>+12</u>	<u>51.46</u>	<u>-3</u>	<u>38.42</u>	<u>51.58</u>	<u>38.39</u>				
		<u>148</u>		<u>2100</u>	<u>+13</u>	<u>51.33</u>	<u>-3</u>	<u>39.02</u>	<u>51.46</u>	<u>38.99</u>				
		<u>149</u>		<u>2200</u>	<u>+13</u>	<u>51.16</u>	<u>-5</u>	<u>39.75</u>	<u>51.29</u>	<u>39.70</u>				
		<u>150</u>		<u>2300</u>	<u>+9</u>	<u>51.11</u>	<u>-20</u>	<u>40.44</u>	<u>51.20</u>	<u>40.33</u>				
<u>VIII</u>	<u>01</u>	<u>151</u>		<u>0000</u>	<u>+9</u>	<u>51.05</u>	<u>-32</u>	<u>41.31</u>	<u>51.17</u>	<u>41.20</u>				
		<u>152</u>		<u>0100</u>	<u>+9</u>	<u>51.04</u>	<u>-36</u>	<u>41.93</u>	<u>51.17</u>	<u>41.94</u>				
		<u>153</u>		<u>0200</u>	<u>+9</u>	<u>50.97</u>	<u>-37</u>	<u>42.54</u>	<u>51.02</u>	<u>42.59</u>				
		<u>154</u>		<u>0300</u>	<u>+9</u>	<u>51.01</u>	<u>-36</u>	<u>43.20</u>	<u>50.94</u>	<u>43.32</u>				
		<u>155</u>		<u>0400</u>	<u>+9</u>	<u>51.10</u>	<u>-36</u>	<u>43.91</u>	<u>50.89</u>	<u>44.04</u>				
		<u>156</u>		<u>0500</u>	<u>+9</u>	<u>51.10</u>	<u>-38</u>	<u>44.64</u>	<u>50.73</u>	<u>44.76</u>				
		<u>157</u>		<u>0600</u>	<u>+9</u>	<u>51.09</u>	<u>-37</u>	<u>45.41</u>	<u>50.68</u>	<u>45.27</u>				
		<u>158</u>		<u>0700</u>	<u>+9</u>	<u>51.08</u>	<u>-34</u>	<u>46.24</u>	<u>50.67</u>	<u>46.32</u>				
		<u>159</u>		<u>0800</u>	<u>+9</u>	<u>50.99</u>	<u>-38</u>	<u>46.98</u>	<u>50.58</u>	<u>47.11</u>				
		<u>160</u>		<u>0900</u>	<u>+9</u>	<u>51.00</u>	<u>-35</u>	<u>47.70</u>	<u>50.59</u>	<u>47.82</u>				
		<u>161</u>		<u>1005</u>	<u>+9</u>	<u>50.99</u>	<u>-38</u>	<u>48.25</u>	<u>50.59</u>	<u>48.38</u>				
						Stromer Party								
		<u>162</u>		<u>1900</u>	<u>+10</u>	<u>50.12</u>	<u>-4</u>	<u>52.05</u>	<u>50.22</u>	<u>52.08</u>				
		<u>163</u>		<u>2000</u>	<u>+9</u>	<u>50.34</u>	<u>-7</u>	<u>52.41</u>	<u>50.43</u>	<u>52.34</u>				
		<u>164</u>		<u>2100</u>	<u>+10</u>	<u>50.63</u>	<u>-7</u>	<u>52.88</u>	<u>50.73</u>	<u>52.81</u>				
		<u>165</u>		<u>2200</u>	<u>+10</u>	<u>50.85</u>	<u>-8</u>	<u>53.33</u>	<u>50.95</u>	<u>53.25</u>				

NAVIGATION LOG

Cruise I.D. IG 29-4

Year 1978

OMEGA LOG

Leg No. \_\_\_\_\_

TZ CD

GD 0 GD

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MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
<del>VIII</del>	1	166		2300	+10	51.00	-12	53.81	51.10	53.68				
<del>VIII</del>	2	167		0000	+12	51.18	-9	54.28	51.30	54.19				
		168		0100	+13	51.54	+1	54.61	51.67	54.62				
		169		0205	+5	51.85	+8	54.84	51.90	54.92				
		170		0300	-7	52.07	+15	54.93	52.00	55.08				
		171		0400	-22	52.46	+13	55.18	52.24	55.31				
		172		0500	-35	52.90	+14	55.49	52.55	55.63				
		173		0600	-39	53.03	+14	55.87	52.64	56.01				
		174		0700	-41	53.25	+15	56.38	52.84	56.53				
		175		0800	-42	53.51	+14	56.91	53.09	57.05				
		176		0900	-43	53.79	+14	57.46	53.36	57.60				
		177		1000	-43	53.98	+20	57.84	53.55	58.04				
		178		1100	-66	54.52	+10	58.41	53.86	58.51				
		179		1200	-48	54.71	+5	59.02	54.23	59.07				
		180		1300	-31	54.75	+7	59.53	54.44	59.60				
		181		1400	-17	54.76	+6	59.94	54.59	60.00				
		182		1500	-3	54.85	+4	60.40	54.82	60.44				
		183		1600	+6	54.90	+3	60.90	54.96	60.93				
		184		1700	+4	55.01	+1	61.41	55.05	61.42				
		185		1800	+7	55.05	+1	62.17	55.12	62.18				
		186		2000	+11	55.24	+0	63.61	55.35	63.61				

NAVIGATION LOG

Cruise I.D. EQ 29-4

Year 1978

OMEGA LOG

(P13)

Leg No. \_\_\_\_\_

TZ CD QD QD QD

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
VIII	3	187		2200	+12	55.50	-2	65.14	55.62	65.12				
		188		0020	+13	55.87	-6	67.11	56.00	67.05				
		189		0200	+5	56.13	+10	68.00	56.18	68.10				
		190		0400	-22	56.65	+13	69.46	56.43	69.59				
		191		0600	-39	56.99	+14	70.93	56.60	71.07				
		192		0800	-42	57.20	+14	72.48	56.78	72.62				
		193		1000	-43	57.49	+26	73.97	57.06	74.17				
		194		1200	-48	57.75	+5	75.78	57.27	75.83				
		195		1400	-17	56.95	+6	76.33	56.78	76.28				
		196		1600	+6	55.89	+3	76.34	55.95	76.37				
		197		1800	+7	55.16	+1	76.46	55.23	76.47				
		198		2000	+11	54.44	0	76.63	54.55	76.63				
		199		2200	+12	53.71	-2	76.73	53.83	76.71				
VIII	4	200		0000	+11	53.06	-14	77.12	53.17	76.99				
		201		0200	+5	52.53	+3	77.19	52.58	77.22				
		202		0400	-22	52.12	+7	77.47	51.90	77.54				
		203		0600	-38	51.86	+8	78.02	51.48	78.10				
		204		0700	-41	51.53	+9	78.22	51.12	78.31				
		205		0800	-42	51.20	+8	78.33	50.78	78.41				
		206		1000	-42	50.67	+13	78.77	50.25	78.90				
		207		1100	-66	50.60	+12	78.88	49.94	79.00				

NAVIGATION LOG

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OMEGA LOG

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Leg No. \_\_\_\_\_

TZ CD

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN.	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
<u>VIII</u>	4	208		1200	-51	50.25	+9	79.13	49.74	79.20				
		209		1400	-20	49.35	+6	79.29	49.15	79.35				
		210		1600	+4	48.29	+3	79.52	48.33	79.55				
		211		1800	+6	47.51	+3	79.72	47.57	79.75				
		212		2000	+10	46.77	+1	79.87	46.87	79.88				
		213		2200	+10	46.02	-2	80.11	46.12	80.09				
<u>VIII</u>	5	214		0000	+11	45.35	-14	80.71	45.46	80.57				
		215		0200	+5	44.74	+3	81.07	44.79	81.10				
		216		0400	-22	44.21	+7	81.34	43.09	81.41				
		217		0600	-33	43.72	+8	81.57	43.34	81.65				
		218		0700	-41	43.31	+9	81.97	42.90	81.56				
		219		0800					42.48	81.60				
		220		0900	-42	42.49	+9	81.51	42.07	81.60				
		221		1000	-42	42.02	+13	81.50	41.60	81.63				
		222		1100	-66	41.53	+12	81.43	41.17	81.55	182.5°		-86°00'	
		223		1200	-51	41.43	+9	81.58	40.52	81.59				
		224		1300	-32	40.92	+6	81.54	40.60	81.60				
		225		1400	-20	40.37	+6	81.56	40.17	81.62				
		226		1600	+4	39.38	+3	81.65	39.42	81.68				
		227		1700	+3	38.93	+3	81.83	38.96	81.86				
		228		1800	+6	38.62	+3	81.91	38.68	81.94				

NAVIGATION LOG

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OMEGA LOG

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Leg No. \_\_\_\_\_

TZ \_\_\_\_\_

MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN.	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
VIII	5	229		1900	+8	37.52	+1	81.37	37.60	81.38				
		230		2000	+10	37.48	+1	81.41	37.59	81.42				
		231		2100	+11	37.55	-1	81.91	37.66	81.91				
		232		2200	+10	37.14	-2	81.94	37.24	81.92				
		233		2300	+10	36.84	-9	81.92	36.94	81.83				
Aug	06	234		0000	+9	36.48	-22	81.67	36.57	81.65				
		235		0100	+11	36.07	-13	81.65	36.13	81.52				
		236		0200	+12	35.90	-13	81.56	36.02	81.43				
		237		0300	-6	35.56	-2	81.49	35.50	81.47				
		238		0400	-19	35.24	+1	81.38	35.15	81.39				
		239		0500	-31	35.00	0	81.49	34.69	81.49				
		240		0600	-36	34.71	+1	81.63	34.35	81.64				
		241		0700	-38	34.18	+1	81.68	33.80	81.69				
		242		0800	-39	33.87	+1	81.94	33.48	81.95				
		243		0830	-39	33.69	0	81.96	33.30	81.96				
		244		0900	-39	33.44	-1	82.04	33.05	82.03				
		245		0930	-39	33.27	+2	82.03	32.83	82.05				
		246		1000	-39	33.06	+4	82.09	32.67	82.13				
		247		1030	-46	32.86	+2	81.83	32.40	81.95				
		248		1100	-53	32.80	+20	81.70	32.27	81.90				
		249		1200	-57	32.51	+2	81.72	31.94	81.74				

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## NAVIGATION LOG

OMEGA LOG

Leg No. \_\_\_\_\_

TZ \_\_\_\_\_

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CD

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MONTH	DAY	FIX NO.	FIX QUAL	TIME (Z)	LAT. DEGR.	LAT. MIN	LONG. DEGR.	LONG. MIN.	°RISE L	TIME (Z)	COURSE	SPEED	COMMENTS	WATCH I.D.
VIII	6	250		1300	-35	31.85	+1	81.53	31.50	81.54				
		251		1400	-20	31.27	+2	81.32	31.07	81.34				
		252		1500	-7	30.75	+3	81.39	30.68	81.42				
		253		1600	+3	30.03	+1	81.29	30.06	81.30				
		254		1700	+1	29.67	0	81.45	29.68	81.45				
		255		1800	+3	29.55	-1	80.80	29.58	80.79				
		256		1900	+1	29.60	-2	80.10	29.61	80.08				
		257		2000	0	29.84	-4	79.71	29.84	79.67				
		258		2100	+2	30.26	-5	79.33	30.28	79.28				
		259		2200	+5	30.74	-5	79.23	30.79	79.18				
		260		2300	+8	31.12	-13	79.05	31.20	78.83				
Aug	07	261		0000	+9	31.56	-22	79.12	31.65	78.90				
		262		0100	+12	31.99	-13	78.89	32.11	78.76				
		263		0200	+6	32.39	-5	78.67	32.45	78.62				
		264		0255	-5	32.91	-2	78.56	32.81	78.54				
		265		0657	-33	32.63	+1	79.24	32.25	79.25				
		266		0802	-39	31.93	+1	79.56	31.54	79.57				
		267		0900	-39	31.36	-1	79.77	30.97	79.76				
		268		1000	-39	30.76	+4	80.03	30.37	80.07				
		269		1032	-47	30.42	+12	79.61	29.95	79.73				
		270		1100	-53	30.32	+20	79.45	29.79	79.65				

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END IG 29-4 Dockside  
Pilot