

PROJECT 10073 RECORD CARD

1. DATE 8 July 1963		2. LOCATION 13.58N 81.38W (Gulf of Mexico)		12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☒ Other <u>Satellite ECHO I</u> ☐ Insufficient Data for Evaluation ☐ Unknown	
3. DATE-TIME GROUP Local _____ GMT <u>09/0236Z</u>		4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE Civilian British Ship Leith Hill			
7. LENGTH OF OBSERVATION 7½ minutes		8. NUMBER OF OBJECTS one		9. COURSE SE	
10. BRIEF SUMMARY OF SIGHTING Satellite observed for 7½ minutes in flight to SE. Erratic course. Disappeared near Star Vega at altitude of 56 deg.				11. COMMENTS Marine Data report. ECHO crossed the Equator at 0154Z heading NE at Long of 227.40. 40 minutes later ECHO would be heading SE at 30 deg N and about 90 deg W. This would place ECHO in position for the reported sighting.	

UNITED STATES GOVERNMENT

Memorandum

TO : J. S. Lacey, OPI
NASA, Greenbelt

Code 5511: CW
DATE: 9 October 1963

FROM : Nautical Information Branch
U.S. Naval Oceanographic Office

SUBJECT: Nautical information; forwarding of

Encl: (1) Marine Data Report from British Ship LEITH HILL dtd 8 July 1963

1. Enclosure (1) forwarded for your information.

*Forwarded as a matter pertaining
to your organization. Your attention
to this matter will be appreciated.

G. Buckwalter
G. BUCKWALTER

Ed Mason 11/6/63
Ed Mason
Public Information Officer
Goddard Space Flight Center

MARINE DATA REPORT COPY

COPY

Please type or print clearly

NAME OF SHIP LEITH HILL		NATIONALITY BRITISH	DATE OF REPORT 8 July 1963
MASTER OR COMMANDING OFFICER CAPT. D.J. MORRIS		OBSERVER (Name and Rank) [REDACTED] Officer	
SHIP'S MAIL ADDRESS (U. S. Agent's address for non-U. S. Ships) % UNITED FRUIT, Julia Street Wharf, New Orleans			
SHIP TYPE ☐ PASSENGER ☒ CARGO ☐ COMB. PASSENGER-CARGO ☐ TANKER ☐ OTHER (Specify)			
GROSS TONS 2977.69	LENGTH (Feet) 343' 06 1/2"	BEAM (Feet) 45' 00"	DEEPEST DRAFT (Feet) when loaded to marks 21' 05 1/4"

Instructions for Reporting Observer

This form is provided for the convenience of mariners in reporting items of interest to the Hydrographic Office such as wrecks, shoalings, uncharted dangers, discrepancies in published information, etc. Such reports will enable the Hydrographic Office to correct its charts and publications and promote navigational safety, thereby benefiting mariners generally. In all cases, be sure to describe items fully, and specify the date, time (G.M.T.), and position or location of the items reported. Additional information on submitting reports will be found in H. O. Pub. No. 606a.

At 0236 GMT on 9 July 1963 in Latitude 13-58N., Longitude 81-38W., course 351° True Speed 15 Knots, bound Houston from the Panama Canal A satellite was observed. The satellite was first observed at an altitude of 15°, bearing 336°, adjacent to star Dubhe. After describing what appeared to be a somewhat erratic course in a southeasterly direction, the satellite disappeared near the star Vega at an altitude of 56°, bearing 045°. The satellite was of the same brightness as the star Vega and was in sight for 7 1/2 minutes.

Weather- partly cloudy with good visibility

wind from the ENE at 10 knots

air temp. 27°C, sea temp 29°C

bar. 1011.5 mb. rising

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REPORT URGENT DANGERS BY RADIO

copy
NASA
5/11/63



United States Navy Hydrographic Office

Washington 25, D. C.

Mariners of any nationality may receive Pilot Charts, Notices to Mariners, and Daily Memorandums, published by the U. S. Navy Hydrographic Office, free of cost in return for marine observations. Observers' blanks may be obtained at any of the Branch Hydrographic Offices established in the following cities:

Atlantic and Gulf Ports:

Boston; New York; Philadelphia; Baltimore; Norfolk;
New Orleans, and Galveston.

Pacific Ports:

Wilmington; San Francisco; Seattle; Honolulu; and
Yokosuka, Japan.

Panama Canal:

Rodman, C. Z.

Shipmasters and officers are also invited to consult charts and nautical publications, and compare navigational instruments at any of the above named Branch Offices, which are open daily except Saturdays and Sundays.

Copies of this and other blanks will be furnished upon request to the Hydrographic Office or its Branch Offices.

Please mail completed sheets directly to the U. S. Navy Hydrographic Office, Washington 25, D. C. A franked envelope is supplied for this purpose. If more convenient, completed forms may be deposited with the nearest Branch Hydrographic Office, or United States Consul.

THE HYDROGRAPHER.

JULY 3, 1963

SATELLITE 1960 IOTA 1, ECHO I

These predictions are based on orbital elements revised on July 1, 1963
 T_0 = July 2.0, times are in days, U.T.
 Argument of perigee = $16^\circ 47' 2'' + 3^\circ 86' 7'' (t - T_0)$
 Right ascension of ascending node = $110^\circ 66' 9'' - 3^\circ 30' 35'' (t - T_0)$

Inclination = $47^\circ 27' 62''$
 Eccentricity = $0.049970 + 3.50 \times 10^{-5} (t - T_0)$
 Semi-major axis = 7.840594 megameters
 Mean anomaly (Rev.) = $0.36578 + 12.503795 (t - T_0) + 9.233 \times 10^{-5} (t - T_0)^2$

SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES											SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES																						
EQUATOR S-N			SCUTH-ACRTH			NORTH-SOUTH			EQUATOR S-N			SCUTH-NORTH			NORTH-SOUTH			EQUATOR S-N			SCUTH-NORTH			NORTH-SOUTH									
TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)		
JULY 6, 1963																																	
1 1.8	201.26	47.5	26.3	-83.22	777	90.0*	26.3	-83.36	777	90.0*	0 55.0	216.69	47.5	26.2	-83.34	725	90.0	26.3	-83.38	729	90.0	26.3	-83.38	729	90.0	26.3	-83.38	729	90.0	26.3	-83.38	729	90.0
2 56.5	230.47	45.0	21.4	-61.12	727	72.2	31.3	-105.53	837	107.8*	2 50.0	245.80	45.0	21.4	-61.12	692	72.2	31.2	-105.58	779	107.8*	31.2	-105.58	779	107.8*	31.2	-105.58	779	107.8*	31.2	-105.58	779	107.8*
4 51.5	259.46	40.0	17.6	-45.87	697	60.7	35.4	-120.71	850	119.4*	4 45.1	274.91	40.0	17.7	-45.86	675	60.7	35.1	-120.78	826	119.3*	35.1	-120.78	826	119.3*	35.1	-120.78	826	119.3*	35.1	-120.78	826	119.3*
6 47.0	288.55	35.0	14.8	-36.22	680	54.0	38.5	-130.30	929	126.1*	6 40.1	304.02	35.0	14.9	-36.20	668	54.0	38.1	-130.39	864	126.1*	38.1	-130.39	864	126.1*	38.1	-130.39	864	126.1*	38.1	-130.39	864	126.1*
8 42.1	317.70	30.0	12.4	-28.85	671	49.5	41.2	-137.60	964	130.7*	8 35.2	333.12	30.0	12.5	-28.82	667	49.5	40.8	-137.71	898	130.6*	40.8	-137.71	898	130.6*	40.8	-137.71	898	130.6*	40.8	-137.71	898	130.6*
10 37.1	346.81	20.0	8.0	-17.47	666	42.8	46.2	-148.81	1023	136.4	10 30.3	362.23	20.0	8.1	-17.45	678	43.8	45.6	-148.95	960	136.4*	45.6	-148.95	960	136.4*	45.6	-148.95	960	136.4*	45.6	-148.95	960	136.4*
12 32.2	375.92	0.	0.	0.	698	40.0	55.6	-165.93	1111	140.3	12 25.3	391.34	0.	0.	0.	736	40.0	54.8	-166.12	1066	140.2	54.8	-166.12	1066	140.2	54.8	-166.12	1066	140.2	54.8	-166.12	1066	140.2
14 27.3	405.03	-20.0	-8.2	17.42	778	43.7	-49.8	147.88	1153	136.5	14 20.4	420.44	-20.0	-8.4	17.38	835	43.7*	-50.7	147.66	1138	136.5	-50.7	147.66	1138	136.5	-50.7	147.66	1138	136.5	-50.7	147.66	1138	136.5
16 22.3	434.14	-30.0	-12.9	28.72	836	49.4*	-44.5	136.75	1151	130.8	16 15.4	449.55	-30.0	-13.1	28.66	900	49.4*	-45.4	136.53	1155	130.8	-45.4	136.53	1155	130.8	-45.4	136.53	1155	130.8	-45.4	136.53	1155	130.8
18 17.4	463.25	-40.0	-15.5	36.05	871	53.9*	-41.6	129.51	1142	126.2	18 10.5	478.66	-40.0	-15.8	35.96	937	53.9*	-42.5	129.29	1157	126.2	-42.5	129.29	1157	126.2	-42.5	129.29	1157	126.2	-42.5	129.29	1157	126.2
20 12.5	492.36	-40.0	-18.5	45.65	913	60.6*	-38.2	120.00	1125	119.4	20 5.5	497.77	-40.0	-19.0	45.53	979	60.6*	-39.1	119.79	1151	119.4	-39.1	119.79	1151	119.4	-39.1	119.79	1151	119.4	-39.1	119.79	1151	119.4
22 7.5	521.47	-47.5	-22.7	50.79	969	72.2*	-33.7	104.93	1092	107.8*	22 0.6	526.87	-47.5	-23.3	60.65	1032	72.2*	-34.5	104.73	1132	107.9	-34.5	104.73	1132	107.9	-34.5	104.73	1132	107.9	-34.5	104.73	1132	107.9
			-28.1	82.66	1036	90.0*	-28.2	82.90	1036	90.0*	23 55.7	555.98	-47.5	-28.8	82.69	1090	90.0*	-28.8	82.73	1090	90.0*	-28.8	82.73	1090	90.0*	-28.8	82.73	1090	90.0*	-28.8	82.73	1090	90.0*
JULY 7, 1963																																	
0 2.6	190.91	47.5	26.3	-83.22	764	90.0*	26.3	-83.37	765	90.0*	1 50.7	235.09	47.5	26.3	-83.33	715	90.0	26.3	-83.38	719	90.0	26.3	-83.38	719	90.0	26.3	-83.38	719	90.0	26.3	-83.38	719	90.0
1 57.7	219.65	45.0	21.4	-61.12	717	72.2	31.3	-105.55	823	107.8*	3 45.8	264.19	45.0	21.5	-61.11	686	72.2	31.2	-105.58	765	107.8*	31.2	-105.58	765	107.8*	31.2	-105.58	765	107.8*	31.2	-105.58	765	107.8*
3 52.7	248.75	40.0	17.6	-45.87	690	60.7	35.3	-120.74	874	119.4*	5 40.8	293.30	40.0	17.7	-45.85	671	60.7	35.1	-120.79	810	119.3*	35.1	-120.79	810	119.3*	35.1	-120.79	810	119.3*	35.1	-120.79	810	119.3*
5 47.6	277.86	35.0	14.8	-36.21	676	54.0	38.4	-130.33	914	126.1*	7 35.9	322.41	35.0	14.9	-36.19	667	54.0	38.1	-130.41	847	126.0*	38.1	-130.41	847	126.0*	38.1	-130.41	847	126.0*	38.1	-130.41	847	126.0*
7 42.5	306.97	30.0	12.4	-28.84	669	49.5	41.1	-137.62	948	130.7*	9 30.9	351.51	30.0	12.5	-28.81	665	49.5	40.7	-137.72	881	130.6*	40.7	-137.72	881	130.6*	40.7	-137.72	881	130.6*	40.7	-137.72	881	130.6*
9 37.4	336.08	25.0	8.0	-17.47	666	43.8	46.0	-148.85	1009	136.4	11 26.0	380.62	25.0	8.2	-17.44	684	43.8	45.5	-148.98	943	136.3*	45.5	-148.98	943	136.3*	45.5	-148.98	943	136.3*	45.5	-148.98	943	136.3*
11 32.0	365.19	20.0	0.	0.	701	40.0	55.4	-165.98	1107	140.3	13 21.1	409.72	20.0	0.	0.	745	40.0	54.7	-166.17	1052	140.2	54.7	-166.17	1052	140.2	54.7	-166.17	1052	140.2	54.7	-166.17	1052	140.2
13 27.1	394.30	15.0	-8.2	17.42	774	43.7	-49.8	147.84	1151	136.5	15 16.1	438.83	15.0	-8.5	17.36	852	43.7*	-50.9	147.61	1132	136.5	-50.9	147.61	1132	136.5	-50.9	147.61	1132	136.5	-50.9	147.61	1132	136.5
15 22.2	423.41	10.0	-12.9	28.72	837	49.4*	-44.8	136.70	1154	130.8	17 11.2	467.94	10.0	-13.2	28.63	917	49.4*	-45.6	136.47	1153	130.8	-45.6	136.47	1153	130.8	-45.6	136.47	1153	130.8	-45.6	136.47	1153	130.8
17 17.3	452.52	5.0	-15.5	36.05	872	53.9*	-41.8	129.46	1147	126.2	19 6.2	497.05	5.0	-15.9	35.93	954	53.9*	-42.7	129.24	1157	126.2	-42.7	129.24	1157	126.2	-42.7	129.24	1157	126.2	-42.7	129.24	1157	126.2
19 12.4	481.63	0.0	-18.5	45.65	913	60.6*	-38.4	119.95	1133	119.4	21 1.3	526.15	0.0	-19.1	45.50	995	60.6*	-39.3	119.73	1155	119.4	-39.3	119.73	1155	119.4	-39.3	119.73	1155	119.4	-39.3	119.73	1155	119.4
21 7.5	510.74	-5.0	-22.7	50.79	969	72.2*	-33.9	104.88	1103	107.8*	22 56.3	555.26	-5.0	-23.4	60.62	1047	72.2*	-34.7	104.68	1140	107.9	-34.7	104.68	1140	107.9	-34.7	104.68	1140	107.9	-34.7	104.68	1140	107.9
23 2.6	539.85	-10.0	-28.1	82.66	1036	90.0*	-28.3	82.86	1050	90.0*			-10.0	-29.0	82.64	1102	90.0*	-29.0	82.68	1102	90.0*	-29.0	82.68	1102	90.0*	-29.0	82.68	1102	90.0*	-29.0	82.68	1102	90.0*
JULY 8, 1963																																	
0 58.4	200.95	47.5	26.3	-83.22	752	90.0*	26.3	-83.38	752	90.0*	0 51.4	224.37	47.5	26.3	-83.33	710	90.0	26.3	-83.37	710	90.0	26.3	-83.37	710	90.0	26.3	-83.37	710	90.0	26.3	-83.37	710	90.0
2 53.5	230.10	45.0	21.4	-61.12	702	72.2	31.2	-105.56	807	107.8*	2 46.4	253.47	45.0	21.5	-61.10	681	72.2	31.1	-105.58	753	107.8*	31.1	-105.58	753	107.8*	31.1	-105.58	753	107.8*	31.1	-105.58	753	107.8*
4 48.6	259.21	40.0	17.6	-45.87	684	60.7	35.2	-120.76	857	119.4*	4 41.5	282.58	40.0	17.8	-45.84	665	60.7	35.1	-120.80	756	119.3*	35.1	-120.80	756	119.3*	35.1	-120.80	756	119.3*	35.1	-120.80	756	119.3*
6 43.6	288.32	35.0	14.8	-36.21	672	54.0	38.3	-130.35	896	126.1*	6 36.6	311.65	35.0	15.0	-36.17	668	54.0	38.0	-130.42	832	126.0*	38.0	-130.42	832	126.0*	38.0	-130.42	832	126.0*	38.0	-130.42	832	126.0*
8 38.7	317.43	30.0	12.4	-28.84	667	49.5	41.0	-137.66	931	130.7*	8 31.6	340.75	30.0	12.6	-28.80	67																	