

PROJECT 10073 RECORD CARD

1. DATE 15 June 1963		2. LOCATION 33.40N 175.00W (Pacific)		12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☒ Other Satellite ECHO I ☐ Insufficient Data for Evaluation ☐ Unknown	
3. DATE-TIME GROUP Local _____ GMT 16/0947Z		4. TYPE OF OBSERVATION ☐ Ground-Visual ☐ Ground-Radar ☒ Air-Visual ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE military			
7. LENGTH OF OBSERVATION 11 minutes		8. NUMBER OF OBJECTS one		9. COURSE NE	
10. BRIEF SUMMARY OF SIGHTING One bright white object about the size of a star appearing at 30 deg elevation heading 050 deg. Faded at 15 deg elevation. Speed slow. In sight for 11 min.				11. COMMENTS At 16/0907Z ECHO crossed the equator heading NE at 137 deg E. This places the Satellite in a position to be observed by the witnesses.	

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

2

INCOMING

AF IN : 1838 (16 Jun 60) S/jej

INFO : NIN-9, XOP-1, XOPX-4, SAF-OS-3, Army-2, Navy-2, Pg 1 of 2
CMC-8, JCS-35, OSD-15, CIA-11, NSA-7, DIA-25, DIA/CIIC-2
-125-

SMB C018

ZCHQA533ZCECA086

.....YY RUEAHQ

DE RUHPF B024

ZNR

Y 161011Z

FM COMBARPAC

TO RUHPHH/COMHAWSEAFRON

RUHLKM/CINCPACAF

RUUAUAH/HADD KUNIA

ZEN/CINCNORAD

INFO RUECW/CNO

RUEAHQ/COFS USAF

RUHPA/CINCPAC

RUHPB/CINCPACFLT

RUHAFS/CINCUSARPAC

RUHLKMP/PACAFBASECOM HICKAM

RUECW/SECNAV

NAVY GRNC

BT

UNCLAS.

A. JANAP 146D

1. CIRVIS REPORT

2. BARRIER AIRCRAFT N43200

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

AF IN : 1838 (16 Jun 63)

Pg 2 of 2

3. ONE BRIGHT WHITE OBJECT ABOUT SIZE OF STAR
4. AIRCRAFT POSIT 33-40N 175-00W
5. 160930Z
6. 30 DEGREES ABOVE HORIZON
7. COURSE 050 DEGREES
8. SPEED SLOW
9. OBJECT 45 DEGREES ABOVE HORIZON AT 0936Z
OBJECT FADED 15 DEGREES ABOVE HORIZON AT 0947Z
10. EVALUATION UNKNOWN

BT

16/1012Z

NOTE: Adv cy delivered to XOPX, NIN & DIA.

15 16/0932

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

WAS
ECCO

Frederick
91

AF IN : 1861 (16 Jun 63) M/gjl

INFO : NIN-9, XOP-1, XOPX-4, SAF-OS-3, JCS-35, ARMY-2,
CMC-8, OSD-15, CIA-11, NSA-7, DIA-25, DIA/CIIC-2 (123)

Page 1 of 2.

SMB A026

CHQA539ZCQJA132

00 RUEAHQ

DE RUHLKH 3

ZNR

O 161039Z

FM 326 AIR DIV KUNIA FACILITY HAWAII

TO RUHLKM/PACAF HICKAM AFB HAWAII

RUHPHH/COMHAWSEAFRON PEARL HARBOR HAWAII

INFO RUEAHQ/CSAF USAF WASH DC

RUECW/CNO WASH DC

RUECW/SECNAV WASH DC

RUWGALB/CINCNORAD ENT AFB COLO

RUHPA/CINCPAC CAMP H M SMITH HAWAII

RUHAFS/CINCUSARPAC FT SHAFTER HAWAII

RUHPB/CINCPACFLT PEARL HARBOR HAWAII

RUUAUZ/COMUSJAPAN FUCHU AS JAPAN

RUAMC/COMUSKOREA SEOUL KOREA

RUAGFL/COMUSTDC TAIPEI TAIWAN

RUCSBRB/C INCSAC OFFUTT AFB NEBR

AF GRNC

BT

UNCLAS/HADOC-D 1068 CIRVIS

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

I N C O M I N G

AF IN : 1861 (16 Jun 63)

Pg 2 of 2.

PACIFIC BARRIER A/C NAVY-1 43200

SIGHTED ONE BRIGHT WHITE OBJECT ABOUT THE SIZE OF A STAR
33 DEGREES 40 MINS NORTH 175 DEGREES 00 MIN WEST A 16/0930Z
INITIALLY APPEARED 30 DEGREES ABOVE THE HORIZON HEADING 050
DEGREES, TRAVERSED TO 45 DEGREES ABOVE HORIZON AT 16/0936.
FADED 15 DEGREES ABOVE HORIZON A 16/0947Z SPEED SLOW. NO
ELEVATION.

BT

16/1041Z JUN RUHLKH

NOTE: Adv cy's del to NIN, DIA, and KOPX.

NNNN

SMITHSONIAN ASTROPHYSICAL OBSERVATORY, CAMBRIDGE, MASSACHUSETTS

JUNE 5, 1963

SATELLITE 1960 IOTA 1, ECHO 1

These predictions are based on orbital elements revised on June 3, 1963

 T_0 = June 4.0, times are in days, U.T.Argument of perigee = $274.306 + 1.3877 (t - T_0)$ Right ascension of ascending node = $203.064 - 1.2982 (t - T_0)$ Inclination = 47.2357 Eccentricity = $0.044912 + 6.22 \times 10^{-4} (t - T_0)$ Semi-major axis = 7.842655 megametersMean anomaly (Rev.) = $0.32530 + 12.498839 (t - T_0) + 3.0853 \times 10^{-4} (t - T_0)^2$ EQUATOR
S-NSATELLITE 1960 IOTA 1
FOR OTHER LATITUDES

TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	MT. (MI)	BEAR. (N-E)	TIME CORR.	LONG. CORR.	MT. (MI)	BEAR. (N-E)
JUNE 8, 1963										
1 30.0	90.47	47.4	29.9	-82.43	1135	90.0°	29.9	-82.46	1135	90.0°
3 34.1	119.79	45.0	24.2	-60.60	1103	72.3°	35.6	-104.27	1147	107.7°
5 39.2	148.90	40.0	19.8	-45.43	1065	60.7°	40.2	-119.41	1141	119.4°
7 34.3	178.02	35.0	16.5	-35.86	1031	54.0°	43.5	-128.95	1128	126.1°
9 19.4	207.14	30.0	13.7	-28.56	999	49.4°	46.5	-136.22	1112	130.7°
11 14.5	236.24	20.0	8.8	-17.32	938	43.7°	51.6	-147.40	1071	136.4°
13 9.6	265.37	0.	0.	0.	828	40.0°	60.9	-164.59	971	140.1°
15 4.7	294.49	-20.0	-8.4	17.41	740	43.0°	-45.4	148.98	862	136.3°
16 59.4	323.61	-30.0	-12.4	28.78	708	49.5°	-40.7	137.66	807	130.5°
18 54.9	352.73	-35.0	-15.3	36.16	696	54.1°	-38.2	130.31	780	126.0°
20 50.0	381.84	-40.0	-18.1	45.84	687	60.8°	-35.1	120.65	752	119.2°
22 45.1	410.96	-45.0	-21.9	61.19	685	72.4°	-31.4	105.32	721	107.6°
		-47.4	-26.6	83.24	695	90.0°	-26.6	83.26	695	90.0°

JUNE 9, 1963

0 40.2	90.00	47.4	29.7	-82.46	1133	90.0°	29.8	-82.49	1133	90.0°
2 39.3	119.79	45.0	24.1	-60.63	1097	72.3°	35.5	-104.30	1140	107.7°
4 38.4	148.91	40.0	19.7	-45.45	1056	60.7°	40.0	-119.44	1144	119.4°
6 35.5	178.02	35.0	16.4	-35.88	1021	54.0°	43.4	-128.98	1136	126.1°
8 20.6	207.14	30.0	13.6	-28.58	987	49.4°	46.4	-136.24	1121	130.7°
10 15.7	236.24	20.0	8.7	-17.33	925	43.7°	51.6	-147.42	1082	136.4°
12 10.8	265.37	0.	0.	0.	814	40.0°	60.9	-164.60	985	140.1°
14 5.9	294.49	-20.0	-8.4	17.42	729	43.0°	-45.4	148.98	874	136.3°
16 1.0	323.61	-30.0	-12.4	28.79	700	49.5°	-40.7	137.67	817	130.6°
18 56.1	352.73	-35.0	-15.2	36.18	689	54.1°	-38.1	130.32	769	126.0°
20 51.2	381.84	-40.0	-18.1	45.86	682	60.8°	-35.2	120.66	750	119.2°
22 46.3	410.96	-45.0	-21.9	61.21	682	72.4°	-31.5	105.34	726	107.6°
23 41.3	440.07	-47.4	-26.6	83.26	697	90.0°	-26.6	83.30	697	90.0°

JUNE 10, 1963

1 36.4	90.50	47.4	29.6	-82.49	1129	90.0°	29.6	-82.53	1129	90.0°
3 31.5	127.70	45.0	24.0	-60.66	1089	72.3°	35.3	-104.34	1150	107.7°
5 26.6	156.81	40.0	19.6	-45.48	1045	60.7°	39.8	-119.48	1151	119.4°
7 21.7	185.93	35.0	16.3	-35.91	1008	54.0°	43.3	-129.01	1143	126.1°
9 16.8	215.04	30.0	13.5	-28.60	974	49.4°	46.2	-136.27	1130	130.7°
11 11.9	244.16	20.0	8.7	-17.34	910	43.7°	51.5	-147.45	1094	136.4°
13 7.0	273.27	0.	0.	0.	800	40.0°	60.8	-164.61	999	140.2°
15 2.1	302.38	-20.0	-8.3	17.43	718	43.0°	-45.4	148.99	887	136.3°
16 57.2	331.50	-30.0	-12.7	28.81	691	49.5°	-40.7	137.68	829	130.6°
18 52.2	360.61	-35.0	-15.2	36.19	682	54.1°	-38.1	130.33	780	126.0°
20 47.3	389.73	-40.0	-18.0	45.88	678	60.8°	-35.2	120.68	768	119.2°
22 42.4	418.84	-45.0	-21.7	61.23	680	72.4°	-31.5	105.36	732	107.6°
		-47.4	-26.5	83.28	699	90.0°	-26.5	83.32	699	90.0°

JUNE 11, 1963

0 37.5	91.96	47.4	29.5	-82.52	1125	90.0°	29.5	-82.56	1125	90.0°
2 32.6	127.07	45.0	23.9	-60.69	1081	72.3°	35.2	-104.37	1156	107.7°
4 27.7	156.18	40.0	19.4	-45.51	1035	60.7°	39.5	-119.51	1156	119.4°
6 22.8	185.30	35.0	16.2	-35.93	996	54.0°	43.2	-129.05	1149	126.1°
8 17.9	214.41	30.0	13.3	-28.62	961	49.4°	46.1	-136.30	1136	130.7°
10 13.0	243.52	20.0	8.6	-17.35	896	43.7°	51.4	-147.47	1108	136.4°
12 8.1	272.64	0.	0.	0.	786	40.0°	60.8	-164.63	1015	140.2°
14 3.2	301.75	-20.0	-8.1	17.44	708	43.0°	-45.4	148.99	908	136.3°
15 58.2	330.86	-30.0	-12.7	28.82	684	49.5°	-40.8	137.69	840	130.6°
17 53.3	359.98	-35.0	-15.1	36.21	677	54.1°	-38.0	130.34	809	126.0°
19 48.3	389.09	-40.0	-17.9	45.90	674	60.8°	-35.1	120.69	776	119.2°
21 43.4	418.20	-45.0	-21.7	61.25	680	72.4°	-31.2	105.38	738	107.6°

EQUATOR
S-NSATELLITE 1960 IOTA 1
FOR OTHER LATITUDES

TIME (UT)	LONG. (W)	LAT.	TIME CORR.	LONG. CORR.	MT. (MI)	BEAR. (N-E)	TIME CORR.	LONG. CORR.	MT. (MI)	BEAR. (N-E)
JUNE 12, 1963										
1 35.6	106.43	47.4	29.3	-82.56	1119	90.0°	29.3	-82.60	1119	90.0°
3 28.7	135.54	45.0	23.7	-60.73	1071	72.3°	35.0	-104.41	1149	107.7°
5 23.7	164.65	40.0	19.3	-45.54	1023	60.7°	39.6	-119.55	1157	119.4°
7 18.8	193.76	35.0	16.1	-35.95	983	54.0°	43.0	-129.08	1154	126.1°
9 13.9	222.88	30.0	13.4	-28.64	946	49.4°	46.0	-136.34	1145	130.7°
11 9.0	251.99	20.0	8.6	-17.37	881	43.7°	51.2	-147.50	1116	136.4°
13 4.1	281.10	0.	0.	0.	772	40.0°	60.7	-164.65	1028	140.2°
14 54.1	310.21	-20.0	-8.2	17.45	698	43.0°	-45.4	148.66	915	136.3°
16 49.2	339.32	-30.0	-12.6	28.84	677	49.5°	-40.6	137.69	853	130.6°
18 44.3	368.44	-35.0	-15.0	36.23	671	54.1°	-38.0	130.35	821	126.0°
20 44.4	397.55	-40.0	-17.8	45.92	671	60.8°	-35.1	120.70	786	119.2°
22 39.4	426.66	-45.0	-21.6	61.26	679	72.4°	-31.1	105.39	745	107.6°
		-47.4	-26.3	83.32	705	90.0°	-26.3	83.36	705	90.0°

JUNE 13, 1963

0 34.5	95.77	47.4	29.2	-82.60	1113	90.0°	29.2	-82.64	1113	90.0°
2 29.6	124.88	45.0	23.6	-60.76	1062	72.3°	34.9	-104.45	1147	107.7°
4 24.7	153.99	40.0	19.2	-45.57	1011	60.7°	39.5	-119.59	1159	119.4°
6 19.7	183.10	35.0	16.0	-35.98	970	54.0°	42.9	-129.12	1159	126.1°
8 14.8	212.21	30.0	13.3	-28.66	933	49.4°	45.8	-136.37	1152	130.7°
10 9.9	241.32	20.0	8.5	-17.38	866	43.7°	51.1	-147.53	1126	136.4°
12 5.0	270.44	0.	0.	0.	759	40.0°	60.6	-164.67	1041	140.2°
14 0.0	299.55	-20.0	-8.2	17.46	689	43.0°	-45.4	148.68	928	136.3°
15 55.1	328.66	-30.0	-12.6	28.85	671	49.5°	-40.6	137.69	866	130.6°
17 50.2	357.77	-35.0	-15.0	36.24	667	54.1°	-38.0	130.35	832	126.0°
19 45.3	386.88	-40.0	-17.8	45.93	668	60.8°	-35.0	120.71	796	119.2°
21 40.3	415.99	-45.0	-21.5	61.28	680	72.4°	-31.1	105.41	753	107.6°
23 35.4	445.10	-47.4	-26.3	83.33	709	90.0°	-26.3	83.37	709	90.0°

JUNE 14, 1963

1 30.5	114.21	47.4	29.0	-82.64	1106	90.0°	29.0	-82.68	1106	90.0°
3 25.5	143.32	45.0	23.5	-60.79	1050	72.3°	34.7	-104.50	1144	107.7°
5 20.6	172.43	40.0	19.1	-45.60	997	60.7°	39.3	-119.63	1160	119.4°
7 15.7	201.54	35.0	15.9	-36.00	955	54.0°	42.7	-129.17	1167	126.1°
9 10.7	230.65	30.0	13.2	-28.68	917	49.4°	45.7	-136.42	1158	130.7°
11 5.8	259.76	20.0	8.5	-17.39	851	43.7°	51.0	-147.57	1136	136.4°
13 0.9	288.86	0.	0.	0.	746	40.0°	60.5	-164.69	1056	140.2°
14 54.0	317.97	-20.0	-8.2	17.47	680	43.0°	-45.5	148.69	944	136.3°
16 49.0	347.08	-30.0	-12.5	28.87	665	49.5°	-40.6	137.69	880	130.6°
18 44.1	376.19	-35.0	-14.9	36.26	667	54.1°	-38.0	130.36	845	126.0°
20 41.2	405.30	-40.0	-17.7	45.95	667	60.8°	-35.0	120.72	808	119.2°
22 36.2	434.41	-45.0	-21.5	61.30	682	72.4°	-31.1	105.42	762	107.6°
		-47.4	-26.2	83.35	715	90.0°	-26.2	83.39	715	90.0°

JUNE 15, 1963

0	37.5	103.52	47.4	28.9	-82.68	1098	90.00	28.9	-82.72	1098	90.0
2	24.3	132.43	45.0	23.4	-60.83	1039	72.30	34.5	-104.54	1140	107.7
4	21.4	161.74	40.0	19.0	-45.62	984	60.70	39.1	-119.68	1159	119.4
6	16.5	190.64	35.0	15.8	-36.02	941	54.00	42.5	-129.21	1165	126.1
8	11.5	219.95	30.0	13.1	-28.70	903	49.40	45.5	-136.46	1163	130.7
10	6.6	249.06	20.0	8.4	-17.41	836	43.70	50.8	-147.61	1144	136.4
12	1.7	278.17	0.	0.	0.	733	40.00	60.4	-164.72	1069	140.2
13	56.7	307.26	-20.0	-8.1	17.48	672	43.80	-45.5	148.96	958	136.3
15	91.8	336.36	-30.0	-12.5	28.88	600	49.50	-60.6	137.69	893	130.6
17	44.9	5.49	-35.0	-14.9	36.27	660	54.10	-38.0	130.35	850	126.0
19	41.4	34.60	-40.0	-17.7	45.96	666	60.80	-35.0	120.72	810	119.3
21	37.0	63.71	-45.0	-21.4	61.31	684	72.40	-31.0	105.42	771	107.6