PROJECT 10073 RECORD CARD

1. DATE

24 June 1963

2. LOCATION

39.38N 172.30W (Pacific)

3. DATE-TIME GROUP

Local _____

GMT 25/0829Z

4. TYPE OF OBSERVATION

☐ Ground-Visual ☐ Ground-Radar

☒ Air-Visual ☐ Air-Intercept Radar

5. PHOTOS

☐ Yes

☒ No

6. SOURCE

7. LENGTH OF OBSERVATION

Not reported

8. NUMBER OF OBJECTS

one

9. COURSE

075 degrees

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

10. BRIEF SUMMARY OF SIGHTING

Possible Satellite on course of 075 deg with brightnessof 2d magnitude star. Speed unknown, altitude unknown.

11. COMMENTS

On 25 June at 0801Z ECHO crossed the equator heading NE at 100 deg East. This would place the Satellite at about 47 deg North Latitude 170 deg W longitude at the time reported for this observation. This position and the description conforms with the analysis of the sighting as the Satellite ECHO I.

ATIC FORM 329 (REV 26 SEP 52)

24 25/08297

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

AF IN: 13259 (25 Jun 63) X/rdg INCOMING

INFO : NIN-9, XOP-1, XOPX-4, SAF-OS-3, ARMY-2, CMC-8, JCS-35, OSD-15, DIA-25, DIA/CIIC-2, NSA-7 (112)

SMB A153

CZCHQA151ZCECB191

..... YY RUEAHQ

DE RUHPF B033

ZNR

Y 250917Z

FH COMBARPAC

TO RUHPHH/COMHAWSEAFRON

RUHLKM/CINCPACAF

RUAUAAH/HADD KUNIA

ZEN/CINCNORAD

INFO RUECW/CNO

RUEAHQ/COFS USAF

RUHPA/CINCPAC

RUHPB/CINCPACFLT

RUHAFS/CINCUSARPAC

RUHLKMP/PACAFBASECOM HICKMAN

RUECW/SECNAV

NAVY GRNC

BT NOTE: READDRESSED ELECTRICAL TRANSMISSION TO: CIA
ADVANCE COPY DELIVERED TO: DIA, NIN & XOPX

UNCLAS.

02

0801Z
27
0828Z

260.21
-83
177.

E → 47°N. 177°W

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

NNNN

INCOMING

AF IN: 13259 (25 Jun 63)

A. JANAP 146D

1. C IRVIS RPT

2. N43186

3. POSS SATELLITE INTENSITY OF SECOND MAGNITUDE STAR.

4. 39-38N 172-30W

5. 250829Z

6. ALT UNK

7. C US 075

8. SPD UNK

9. EVALUATION UNKNOWN

BT

25/0918Z

25/08292

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
HQ USAF MESSAGE

AF IN : 13296 (25 Jun 63) NFOMIAG

INFO : NIN-9, XOP-1, XOPX-4, SAF-OS-3, ARMY-2, NAVY-2, CMC-8,
JCS-35, OSD-15, NSA-7, DIA-25, DIA-CIIC-2 (114)

02

SMB A162

CZCHQA160ZCQJA602

00 RUEAHQ

DE RUHLKH 9

ZNR

O 250949Z

FM 326 AIR DIV KUNIA FACILITY HAWAII

TO RUHLKM/PACAF HICKAM AFB HAWAII

RUHPHH/COMHAWSEAFRON PEARL HARBOR HAAAII

INKO 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

RUAUAZ/COMUSJAPAN FUCHU AS JAPAN

RUAMC/COMUSKOREA SEOUL KOREA

RUAGFL/COMUSTDC TAIPEI TAIWAN

RUCSBRB/CINCSAC OFFUTT AFB NEBR

RUHPD/COMASWFORPAC FORD ISLAND HAWAII

AF GRNC

BT

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

NNNN

AF IN : 13296 (25 Jun 63)

UNCLAS/C IRVIS

1. NAVY 43186

2. POSSIBLE SATALITE

3. 3938N 17230W

4. 25/0829Z

JTM COORSE 075 DEGREES

6. SP UNK

7. ALT UNK

8. SECOND MAGNITUDE STAR

9. EVALUATION UNKNOWN

BT

25/0957Z JUN RUHLKH

NOTE: Advance copy delivered to XOPX, NIN & DIA.
Retransmitted to CIA Per #636.

SATELLITE 1960 IOTA 1, ECHO I

These predictions are based on orbital elements revised on June 17, 1963
T_o = June 18.0, times are in days, U.T.
Argument of perigee = 321.404 + 3.4818 $(t-T_o)$
Right ascension of ascending node = 156.885 - 3.3082 $(t-T_o)$

Inclination = 47.2699
Eccentricity = 0.049678 + 2.819 x 10^{-4} $(t-T_o)$
Semi-major axis = 7.841343 magnameters
Mean anomaly (Rev.) = 0.33111 + 12.502001 $(t-T_o)$ + 1.225 x 10^{-4} $(t-T_o)^2$

SATELLITE 1960 IOTA 1
FOR OTHER LATITUDES

EQUATOR S-N TIME (UT)	LONG. (W)	LAT.	SOUTH-NORTH TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	NORTH-SOUTH TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)
JUNE 22, 1963										
1 22.7	146.52	47.5	27.9	-82.95	1003	90.0°	27.8	-83.00	1003	90.0°
3 17.8	175.64	45.0	22.4	-60.90	933	72.2°	33.3	-105.01	1065	107.8°
5 12.9	204.75	40.0	18.3	-45.72	877	60.7°	37.7	-120.11	1105	119.4°
7 8.0	233.87	35.0	15.3	-36.11	836	54.0°	41.1	-129.63	1128	126.1°
9 3.0	262.98	30.0	12.7	-28.77	802	49.4°	44.0	-136.88	1143	130.8°
10 58.1	292.10	20.0	8.2	-17.45	749	43.7°	49.3	-148.01	1156	136.5°
12 53.2	321.21	0.	0.	0.	681	40.0	59.1	-165.06	1133	140.3°
14 48.3	350.33	-20.0	-8.0	17.48	665	43.8	-46.6	148.71	1057	136.4°
16 43.4	19.44	-40.0	-17.4	28.86	678	49.5	-41.5	137.51	1001	130.7°
18 38.5	48.56	-55.0	-23.8	36.23	692	54.0°	-38.7	130.22	967	126.1°
20 33.6	77.67	-60.0	-17.6	45.89	714	60.7°	-35.6	120.44	927	119.4°
22 28.7	106.79	-45.0	-21.5	61.14	750	72.2°	-31.5	105.46	873	107.8°
		-47.5	-26.4	83.30	807	90.0°	-26.4	84.34	808	90.0°
JUNE 23, 1963										
0 23.8	135.90	47.5	27.6	-82.98	989	90.0°	27.6	-83.03	989	90.0°
2 18.9	165.02	45.0	22.3	-60.92	919	72.2°	33.1	-105.05	1054	107.8°
4 13.9	194.13	40.0	18.2	-45.74	862	60.7°	37.6	-120.15	1096	119.4°
6 9.0	223.25	35.0	15.2	-36.13	822	54.0°	40.9	-129.68	1121	126.1°
8 4.1	252.36	30.0	12.7	-28.79	787	49.4°	43.8	-136.93	1138	130.7°
9 59.2	281.48	20.0	8.1	-17.45	737	43.7°	49.1	-148.96	1155	136.5°
11 54.3	310.59	0.	0.	0.	675	40.0	58.9	-165.11	1139	140.3°
13 49.4	339.70	-20.0	-8.0	17.49	665	43.8	-46.7	148.67	1069	136.4°
15 44.5	8.82	-35.0	-17.4	28.86	682	49.5	-41.6	137.48	1015	130.7°
17 39.6	37.93	-55.0	-23.8	36.23	698	54.0°	-38.9	130.19	981	126.1°
19 34.7	67.05	-60.0	-17.6	45.89	721	60.7°	-35.7	120.62	941	119.4°
21 29.7	96.16	-45.0	-21.5	61.13	760	72.2°	-31.6	105.45	886	107.8°
23 24.8	125.28	-47.5	-26.4	83.28	820	90.0°	-26.5	83.33	820	90.0°
JUNE 24, 1963										
1 19.9	154.39	47.5	27.5	-83.02	974	90.0°	27.5	-83.07	974	90.0°
3 15.0	183.51	45.0	22.2	-60.94	904	72.2°	32.9	-105.10	1041	107.8°
5 10.1	212.62	40.0	18.1	-45.76	847	60.7°	37.4	-120.21	1086	119.4°
7 5.2	241.73	35.0	15.1	-36.15	807	54.0°	40.7	-129.73	1113	126.1°
9 0.3	270.85	30.0	12.6	-28.80	775	49.4°	43.6	-136.98	1132	130.7°
10 55.3	299.96	20.0	8.1	-17.47	726	43.7°	48.9	-148.12	1153	136.5
12 50.4	329.08	0.	0.	0.	670	40.0	58.6	-165.17	1146	140.3
14 45.5	358.19	-20.0	-8.0	17.48	666	43.8	-46.9	148.62	1082	136.5°
16 40.6	27.31	-40.0	-17.4	28.86	687	49.5	-41.8	137.44	1029	130.7°
18 35.7	56.42	-55.0	-23.8	36.23	705	54.0°	-39.0	130.17	996	126.1°
20 30.8	85.53	-60.0	-17.6	45.89	731	60.7°	-35.8	120.62	957	119.4°
22 25.9	114.65	-45.0	-21.5	61.13	772	72.2°	-31.7	105.42	902	107.8°
		-47.5	-26.4	83.27	834	90.0°	-26.5	83.32	834	90.0°
JUNE 25, 1963										
0 20.9	143.76	47.5	27.4	-83.05	960	90.0°	27.4	-83.10	960	90.0°
2 16.0	172.88	45.0	22.1	-60.96	894	72.2°	32.8	-105.14	1028	107.8°
4 11.1	201.99	40.0	18.0	-45.78	838	60.7°	37.2	-120.25	1075	119.4°
6 6.2	231.10	35.0	15.0	-36.16	799	54.0°	40.5	-129.78	1104	126.1°
8 1.3	260.21	30.0	12.5	-28.81	765	49.4°	43.4	-137.03	1125	130.7°
9 56.4	289.33	20.0	8.0	-17.47	718	43.7	48.7	-148.18	1150	136.5
11 51.4	318.44	0.	0.	0.	663	40.0	58.4	-165.22	1135	140.3
13 46.5	347.55	-20.0	-8.0	17.49	658	43.8	-47.1	148.58	1093	136.5°
15 41.6	16.67	-35.0	-17.4	28.86	677	49.5	-41.9	137.40	1042	130.7°
17 36.7	45.78	-55.0	-23.8	36.23	702	54.0°	-38.1	130.16	1010	126.1°
19 31.8	74.90	-60.0	-17.6	45.89	733	60.7°	-35.9	120.58	971	119.4°
21 26.8	104.01	-45.0	-21.5	61.13	784	72.2°	-31.7	105.40	918	107.8°
23 21.9	133.13	-47.5	-26.4	83.26	847	90.0°	-26.6	83.30	847	90.0°

SATELLITE 1960 IOTA 1
FOR OTHER LATITUDES

EQUATOR S-N TIME (UT)	LONG. (W)	LAT.	SOUTH-NORTH TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)	NORTH-SOUTH TIME CORR.	LONG. CORR.	HT. (MI)	BEAR. (N-E)
JUNE 26, 1963										
1 17.0	162.23	47.5	27.2	-83.09	964	90.0°	27.2	-83.14	964	90.0°
3 12.1	191.35	45.0	22.0	-61.00	873	72.2°	32.6	-105.18	1014	107.8°
5 7.2	220.46	40.0	18.0	-45.80	818	60.7°	37.0	-120.30	1063	119.4°
7 2.3	249.57	35.0	15.0	-36.17	780	54.0°	40.3	-129.84	1094	126.1°
8 57.4	278.69	30.0	12.5	-28.82	751	49.4°	43.2	-137.09	1117	130.7°
10 52.4	307.80	20.0	8.0	-17.47	706	43.8	48.5	-148.23	1146	136.5
12 47.5	336.91	0.	0.	0.	662	40.0	58.2	-165.28	1155	140.3
14 42.6	6.03	-20.0	-8.0	17.49	671	43.9	-47.3	148.53	1104	136.5°
16 37.7	35.14	-40.0	-17.4	28.86	699	49.5	-42.1	137.36	1056	130.7°
18 32.8	64.25	-55.0	-23.8	36.23	720	54.0°	-39.3	130.09	1025	126.1°
20 27.9	93.36	-60.0	-17.7	45.87	749	60.7°	-36.1	120.53	987	119.4°
22 22.9	122.48	-45.0	-21.6	61.11	795	72.2°	-31.9	105.37	932	107.8°
		-47.5	-26.6	83.23	861	90.0°	-26.7	84.28	862	90.0°
JUNE 27, 1963										
0 18.0	151.59	47.5	27.1	-83.12	930	90.0°	27.1	-83.17	930	90.0°
2 13.1	180.70	45.0	21.9	-61.03	858	72.2°	32.5	-105.22	1000	107.8°
4 8.2	209.81	40.0	17.9	-45.82	804	60.7°	36.8	-120.34	1051	119.4°
6 3.3	238.93	35.0	15.0	-36.19	768	54.0°	40.1	-129.88	1084	126.1°
7 58.3	268.04	30.0	12.5	-28.83	739	49.4	43.0	-137.14	1109	130.7°
9 53.4	297.15	20.0	8.0	-17.48	698	43.8	48.2	-148.29	1142	136.5
11 48.5	326.26	0.	0.	0.	659	40.0	58.0	-165.33	1158	140.3
13 43.6	355.38	-20.0	-8.0	17.49	675	43.8	-47.5	148.48	1114	136.5
15 38.7	24.49	-30.0	-17.4	28.86	705	49.4	-42.3	137.32	1069	130.7°
17 33.7	53.60	-55.0	-23.8	36.22	728	54.0°	-39.4	130.05	1039	126.1°
19 28.8	82.71	-60.0	-17.7	45.86	759	60.7°	-36.2	120.49	1001	119.4°
21 23.9	111.83	-45.0	-21.6	61.09	808	72.2°	-32.0	105.35	946	107.8°
23 19.0	140.94	-47.5	-26.7	83.22	875	90.0°	-26.7	83.26	876	90.0°
JUNE 28, 1963										
1 14.0	170.05	47.5	27.0	-83.15	914	90.0°	27.0	-83.20	914	90.0°
3 9.1	199.16	45.0	21.8	-61.05	843	72.2°	32.4	-105.26	985	107.8°
5 4.2	228.27	40.0	17.8	-45.83	790	60.7°	36.6	-120.39	1037	119.4°
6 59.3	257.39	35.0	14.9	-36.20	755	54.0°	39.9	-129.93	1072	126.1°
8 54.4	286.50	30.0	12.4	-28.84	728	49.4	42.8	-137.19	1097	130.7°
10 49.4	315.61	20.0	8.0	-17.48	688	43.8	48.0	-148.35	1130	136.5
12 44.5	344.72	0.	0.	0.	657	40.0	57.7	-165.39	1161	140.3
14 39.6	13.83	-20.0	-8.0	17.49	679	43.8	-47.7	148.43	1124	136.5
16 34.7	42.95	-40.0	-17.4	28.85	713	49.4	-42.5	137.27	1082	130.7°
18 29.7	72.06	-55.0	-23.8	36.21	738	54.0°	-39.6	130.00	1053	126.1°
20 24.8	101.17	-60.0	-17.8	45.85	771	60.7°	-36.4	120.45	1016	119.4°
22 19.9	130.28	-45.0	-21.7	61.08	821	72.2°	-32.2	105.31	962	107.8°
		-47.5	-26.8	83.19	891	90.0°	-26.9	83.24	891	90.0°
JUNE 29, 1963										
0 15.0	159.39	47.5	26.9	-83.18	899	90.0°	26.9	-83.23	899	90.0°
2 10.1	188.50	45.0	21.7	-61.07	828	72.2°	32.2	-105.30	970	107.8°
4 5.1	217.62	40.0	17.8	-45.85	777	60.7°	36.4	-120.43	1024	119.4°
6 0.2	246.73	35.0	14.9	-36.21	743	54.0°	39.7	-129.98	1061	126.1°
7 55.3	275.84	30.0	12.4	-28.85	718	49.4	42.6	-137.24	1089	130.7°
9 50.4	304.95	20.0	8.0	-17.49	682	43.8	47.9	-148.40	1122	136.5
11 45.4	334.06	0.	0.	0.	655	40.0	57.5	-165.43	1153	140.3
13 40.5	3.17	-20.0	-8.0	17.49	684	43.8	-47.9	148.38	1133	136.5
15 35.6	32.28	-30.0	-17.4	28.85	722	49.4	-42.7	137.22	1094	130.7
17 30.7	61.40	-55.0	-23.8	36.21	748	54.0°	-39.8	129.96	1066	126.1°
19 25.7	90.51	-60.0	-17.8	45.84	783	60.7°	-36.5	120.42	1031	119.4°
21 20.8	119.62	-45.0	-21.8	61.06	836	72.2°	-32.3	105.28	977	107.8°
23 15.9	148.73	-47.5	-26.7	83.17	905	90.0°	-26.8	83.22	905	90.0°