

PROJECT 10073 RECORD CARD

1. DATE 18-24 June 1963		2. LOCATION Shimya, (Japan to San Pedro 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 Various		4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE civilian			
7. LENGTH OF OBSERVATION not reported		8. NUMBER OF OBJECTS one		9. COURSE SE, NE	
10. BRIEF SUMMARY OF SIGHTING Seven observations of Satellite, presumed by observer to be same object. Had magnitude of VEGA. Observations made from British vessel MS Ascanius.				11. COMMENTS Observations conform with passage of Satellite ECHO I.	

UNITED STATES GOVERNMENT

Memorandum

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

Code 5511: CW
DATE: 20 August 1963

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

SUBJECT: Satellite sighting; report of

Encl: (1) Ship Visit Report from MS ASCANIUS dtd 8 Aug 1963

1. Enclosure (1) forwarded for your information.

5800
GR
Forwarded as a matter pertaining
to your organization. Your attention
to this matter will be appreciated.

Ed Mason
Ed Mason
Public Information Officer
Goddard Space Flight Center

BRANCH Baltimore, Maryland.		18 Aug. 1963		SHIP REPORT NUMBER 290-63	
MS# ASCANIUS		NATIONALITY British		GROSS TON 7692.37	
TYPE ☒ CARGO ☐ PASSENGER ☐ TANKER ☐ OTHER		16 KTS			
OPERATING LINE ALFRED HOLT & Co. LIVERPOOL		USUAL RUN Round the world. Eastbound.			
PORTS VISITED				33	
MASTER E. W. ALKIN		OFFICER INTERVIEWED (Name and Rank) [REDACTED]		3RD MATE	
RADAR EQUIPMENT (Type) KELVIN HUGHES		HYDROGRAPHIC OFFICE EVALUATION			
LOGAN EQUIPMENT (Type) [REDACTED]		DISPOSITION			

THIS SPACE TO BE USED FOR RECORDING COLLECTED DATA

On a passage from Shimizu, Japan to San Pedro, California a satellite was observed as follows
all times are G.M.T.

June 18th 0100 Position 39° 18' N 161° W { Echo 0903 245.99 }

Observed between clouds in line W & W/E { Echo 1058 275 }

June 19th 1145 First observed in line W & W/E

altitude about 55°. Passing between Albatross and Phoenix but never
Albatross lost from view 1145, bearing 080°, altitude about 15°

June 20th 0930. Observed through cloud passing just north

Dubois going W/E. Posn. 39° 18' N 175° 28' W { Echo 0859 253.56 }

1130. Posn. 39° 18' N 174° 39' W observed again through cloud
traveling NW/SE. { Echo 1054 282.66 }

June 23rd 0640. Posn. 39° 18' N 152° 20' W Observed passing near

0840. Posn. 39° 18' N 151° 34' W Observed passing near

traveling WNW/ESE on both occasions

June 24th 0738. Observed through cloud alt approx 55° bearing
about 10° north of Vega

From the regularity of observations it is presumed that the satellite was
only on air occasions. It had about the same magnitude as Vega

EQUATOR S-N				SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES							
TIME	LONG.	LAT.		TIME	LONG.	HT.	BEAR.	TIME	LONG.	HT.	BEAR.
(UT)	(W)			CORR.	CORR.	(MI)	(N-E)	CORR.	CORR.	(MI)	(N-E)
JUNE 16, 1963											
1	27.1	121.92	47.4	28.7	-82.72	1088	90.0°	28.7	-82.76	1068	90.0°
3	22.2	151.03	45.0	23.2	-60.86	1026	72.3°	34.3	-104.58	1135	107.7°
5	17.2	180.14	40.0	18.9	-45.65	969	60.7°	38.9	-119.73	1158	119.4°
7	12.3	209.24	35.0	15.7	-36.35	925	54.0°	42.3	-129.26	1166	126.1°
9	7.3	238.35	30.0	13.1	-28.73	887	49.4°	45.3	-136.51	1167	130.7°
11	2.4	267.46	20.0	8.4	-17.42	820	43.7°	50.7	-147.65	1153	136.5°
12	57.4	296.56	0.	0.	0.	720	40.0°	60.3	-164.75	1083	140.2°
14	52.5	325.67	-20.0	-8.1	17.42	664	43.8°	-45.6	148.94	974	136.4°
16	47.6	354.78	-30.0	-12.4	28.99	656	49.5°	-40.7	137.68	909	130.6°
18	42.6	383.89	-40.0	-14.8	36.28	658	54.1°	-38.0	130.35	872	126.0°
20	37.7	412.99	-45.0	-17.6	45.98	666	60.8°	-35.0	120.72	832	119.3°
22	32.7	442.09	-47.4	-21.4	61.32	686	72.4°	-31.0	105.43	782	107.6°
				-26.1	83.37	728	90.0°	-26.1	83.41	728	90.0°
JUNE 17, 1963											
0	27.8	111.20	47.4	28.5	-82.76	1078	90.0°	28.5	-82.80	1078	90.0°
2	22.8	140.31	45.0	23.0	-60.90	1013	72.3°	34.2	-104.63	1129	107.7°
4	17.9	169.41	40.0	18.8	-45.66	955	60.7°	38.7	-119.77	1156	119.4°
6	12.9	198.52	35.0	15.7	-36.07	910	54.0°	42.2	-129.30	1167	126.1°
8	8.0	227.62	30.0	13.0	-28.74	871	49.4°	45.1	-136.55	1170	130.7°
10	3.1	256.73	20.0	8.3	-17.43	805	43.7°	50.5	-147.70	1159	136.5°
11	58.1	285.84	0.	0.	0.	708	40.0°	60.1	-164.78	1095	140.2°
13	53.2	314.94	-20.0	-8.0	17.50	558	41.8°	-45.6	148.92	989	136.4°
15	48.2	344.05	-30.0	-12.4	28.90	652	49.5°	-40.7	137.67	923	130.6°
17	43.3	373.15	-40.0	-14.8	36.29	657	54.1°	-38.0	130.34	886	126.0°
19	38.3	402.26	-45.0	-17.6	45.99	667	60.8°	-35.0	120.71	845	119.3°
21	33.4	431.36	-47.4	-21.4	61.33	692	72.4°	-31.0	105.43	793	107.6°
23	28.4	460.47	-47.4	-26.1	83.38	736	90.0°	-26.1	83.41	736	90.0°
JUNE 18, 1963											
1	23.5	129.57	47.4	28.4	-82.81	1067	90.0°	28.4	-82.84	1067	90.0°
3	18.5	158.67	45.0	22.9	-60.93	999	72.3°	34.0	-104.68	1122	107.7°
5	13.6	187.78	40.0	18.6	-45.71	939	60.7°	38.5	-119.82	1152	119.4°
7	8.6	216.88	35.0	15.6	-36.10	894	54.0°	41.9	-129.35	1166	126.1°
9	3.7	245.99	30.0	12.9	-28.76	855	49.4°	44.9	-136.60	1172	130.7°
10	58.7	275.09	20.0	8.3	-17.44	790	43.7°	50.3	-147.75	1166	136.5°
12	53.8	304.20	0.	0.	0.	696	40.0°	60.0	-164.82	1108	140.2°
14	48.8	333.30	-20.0	-8.0	17.51	591	43.8°	-45.7	148.90	1005	136.4°
16	43.8	362.40	-30.0	-12.4	28.91	680	49.5°	-40.8	137.65	939	130.6°
18	38.9	391.51	-40.0	-14.8	36.30	686	54.1°	-38.1	130.33	901	126.0°
20	33.9	420.61	-45.0	-17.6	46.00	699	60.8°	-35.0	120.71	859	119.3°
22	29.0	449.71	-47.4	-21.4	61.34	727	72.4°	-31.0	105.43	805	107.6°
				-26.1	83.38	765	90.0°	-26.1	83.42	765	90.0°
JUNE 19, 1963											
0	24.0	118.67	47.4	28.2	-82.85	1055	90.0°	28.2	-82.88	1056	90.0°
2	19.1	147.77	45.0	22.8	-60.97	985	72.3°	33.8	-104.72	1114	107.7°
4	14.1	176.87	40.0	18.5	-45.74	924	60.7°	38.3	-119.87	1148	119.4°
6	9.2	205.97	35.0	15.5	-36.12	878	54.0°	41.8	-129.40	1165	126.1°
8	4.2	235.07	30.0	12.6	-28.78	840	49.4°	44.7	-136.65	1173	130.7°
9	59.2	264.17	20.0	8.2	-17.45	775	43.8°	50.1	-147.79	1171	136.5°
11	54.3	293.27	0.	0.	0.	686	40.0°	59.8	-164.86	1120	140.2°
13	49.3	322.37	-20.0	-8.0	17.51	646	43.8°	-45.8	149.87	1019	136.4°
15	44.4	351.47	-30.0	-12.3	28.92	648	49.5°	-40.9	137.63	954	130.6°
17	39.4	380.57	-40.0	-14.7	36.31	657	54.1°	-38.1	130.32	916	126.0°
19	34.4	409.67	-45.0	-17.5	46.00	672	60.8°	-35.1	120.70	873	119.3°
21	29.5	438.77	-47.4	-21.3	61.35	707	72.4°	-31.0	105.42	817	107.6°
23	24.5	467.87	-47.4	-26.1	83.38	754	90.0°	-26.1	83.42	754	90.0°

EQUATOR S-N				SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES							
TIME	LONG.	LAT.		TIME	LONG.	HT.	BEAR.	TIME	LONG.	HT.	BEAR.
(UT)	(W)			CORR.	CORR.	(MI)	(N-E)	CORR.	CORR.	(MI)	(N-E)
JUNE 20, 1963											
1	19.6	137.15	47.4	28.0	-82.89	1042	90.0°	28.0	-82.93	1042	90.0°
3	14.6	166.25	45.0	22.6	-61.00	969	72.3°	33.6	-104.77	1104	107.7°
5	9.6	195.36	40.0	18.4	-45.77	907	60.7°	38.1	-119.93	1142	119.4°
7	4.7	224.46	35.0	15.4	-36.15	861	54.0°	41.5	-129.44	1162	126.1°
8	59.7	253.56	30.0	12.8	-28.80	823	49.4°	44.5	-136.71	1172	130.7°
10	54.8	282.66	20.0	8.2	-17.47	760	43.8°	49.9	-147.85	1176	136.5°
12	49.8	311.76	0.	0.	0.	675	40.0°	59.6	-164.91	1132	140.2°
14	44.8	340.86	-20.0	-8.0	17.52	641	43.8°	-46.0	148.84	1036	136.4°
16	39.9	369.96	-30.0	-12.3	28.93	647	49.5°	-40.9	137.81	970	130.6°
18	34.9	399.06	-40.0	-14.7	36.32	658	54.1°	-38.2	130.30	932	126.0°
20	29.9	428.16	-45.0	-17.5	46.01	676	60.8°	-35.1	120.69	888	119.3°
22	25.0	457.27	-47.4	-21.3	61.35	710	72.4°	-31.0	105.42	831	107.7°
				-26.1	83.38	765	90.0°	-26.1	83.42	765	90.0°
JUNE 21, 1963											
0	20.0	126.37	47.4	27.9	-82.93	1029	90.0°	27.9	-82.97	1029	90.0°
2	15.0	155.47	45.0	22.5	-61.04	954	72.3°	33.4	-104.82	1095	107.7°
4	10.1	184.57	40.0	18.3	-45.80	891	60.7°	37.9	-119.98	1136	119.4°
6	5.1	213.67	35.0	15.3	-36.17	846	54.0°	41.3	-129.51	1158	126.1°
8	0.1	242.77	30.0	12.7	-28.82	808	49.4°	44.3	-136.76	1171	130.7°
9	56.2	271.87	20.0	8.1	-17.48	746	43.8°	49.7	-147.90	1179	136.5°
11	50.2	300.97	0.	0.	0.	665	40.0°	59.5	-164.96	1143	140.2°
13	45.2	330.07	-20.0	-7.9	17.52	638	43.8°	-46.1	148.81	1050	136.4°
15	40.3	359.17	-30.0	-12.2	28.93	647	49.5°	-41.0	137.59	986	130.6°
17	35.3	388.27	-40.0	-14.7	36.33	660	54.1°	-38.3	130.28	948	126.0°
19	30.3	417.37	-45.0	-17.4	46.02	680	60.8°	-35.2	120.67	903	119.3°
21	25.3	446.47	-47.4	-21.2	61.35	717	72.4°	-31.1	105.41	844	107.7°
23	20.4	475.57	-47.4	-26.1	83.38	775	90.0°	-26.1	83.42	775	90.0°
JUNE 22, 1963											
1	15.4	144.67	47.4	27.7	-82.98	1014	90.0°	27.7	-83.01	1015	90.0°
3	10.4	173.77	45.0	22.3	-61.07	937	72.3°	33.2	-104.87	1083	107.7°
5	5.5	202.86	40.0	18.2	-45.82	874	60.7°	37.7	-120.03	1128	119.4°
7	0.5	231.96	35.0	15.2	-36.19	829	54.0°	41.1	-129.57	1153	126.1°
8	56.5	261.06	30.0	12.6	-28.84	791	49.4°	44.1	-136.82	1169	130.7°
10	50.5	290.16	20.0	8.1	-17.49	731	43.8°	49.4	-147.96	1182	136.5°
12	45.6	319.26	0.	0.	0.	655	40.1°	59.3	-165.01	1154	140.3°
14	40.6	348.36	-20.0	-7.9	17.53	635	43.8°	-46.2	148.77	1068	136.4°
16	35.6	377.46	-30.0	-12.2	28.94	648	49.5°	-41.2	137.56	1003	130.6°
18	30.6	406.56	-40.0	-14.6	36.33	663	54.1°	-38.4	130.26	964	126.0°
20	25.7	435.66	-45.0	-17.4	46.02	686	60.8°	-35.3	120.65	919	119.3°
22	20.7	464.76	-47.4	-21.2	61.36	726	72.4°	-31.1	105.40	859	107.7°
				-26.1	83.38	788	90.0°	-26.1	83.41	788	90.0°

MODIFIED ORBITAL ELEMENTS FOR EARTH SATELLITE 1960 IOTA 1

REFERENCE TIME 1963 Y 6 M 8 D 1 H 17.66 M UT

INCLINATION 47.24 DEG.

ASCENDING NODE (LONG.) 85.26 DEG. WEST

PRIME SWEEP INTERVAL ONE DAY -16.93 MIN.

ARGUMENT OF PERIGEE 288.04 DEG.

RATE OF CHANGE 0.27099 DEG. PER PERIOD

ANOMALISTIC PERIOD 115.187 MIN.

RATE OF CHANGE -0.00046 MIN. PER PERIOD

ECCENTRICITY 0.04747

RADIUS OF PERIGEE 4041.1 MILES

RADIUS OF APOGEE 5103.7 MILES

RATE OF CHANGE -0.32 MILES PER DAY

ASCENDING NODE (H.A.) 189.69 DEG.

RATE OF CHANGE -3.29820 DEG. PER DAY

LATITUDE OF PERIGEE -44.27 DEG.

HEAD-IN EXPECTED MAG. 41