

## PROJECT 10073 RECORD CARD

|                                                                                                                                                                             |  |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. DATE<br>7 February 1963                                                                                                                                                  |  | 2. LOCATION<br>15.34N 100.48W (PACIFIC)                                                                                                                                                               |  | 12. CONCLUSIONS<br><input type="checkbox"/> Was Balloon<br><input type="checkbox"/> Probably Balloon<br><input type="checkbox"/> Possibly Balloon<br><br><input type="checkbox"/> Was Aircraft<br><input type="checkbox"/> Probably Aircraft<br><input type="checkbox"/> Possibly Aircraft<br><br><input type="checkbox"/> Was Astronomical<br><input type="checkbox"/> Probably Astronomical<br><input type="checkbox"/> Possibly Astronomical<br><br><input checked="" type="checkbox"/> Other satellite (ECHO)<br><input type="checkbox"/> Insufficient Data for Evaluation<br><input type="checkbox"/> Unknown |  |
| 3. DATE-TIME GROUP<br>Local _____<br>GMT 07/1230Z                                                                                                                           |  | 4. TYPE OF OBSERVATION<br><input checked="" type="checkbox"/> Ground-Visual <input type="checkbox"/> Ground-Radar<br><input type="checkbox"/> Air-Visual <input type="checkbox"/> Air-Intercept Radar |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 5. PHOTOS<br><input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                                                                                         |  | 6. SOURCE<br>military                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 7. LENGTH OF OBSERVATION<br>5 minutes                                                                                                                                       |  | 8. NUMBER OF OBJECTS<br>one                                                                                                                                                                           |  | 9. COURSE<br>northeast                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| 10. BRIEF SUMMARY OF SIGHTING<br>Satellite sighted at 40 dgr elevation below star Antares. Moving in northward direction of about 035 dgr T. Appeared to be in polar orbit. |  |                                                                                                                                                                                                       |  | 11. COMMENTS<br><del>ECHO data not available.</del> Sighting is characteristic of Satellite and was reported as a satellite sighting not a UFO.<br><br>ECHO CROSSED EQUATOR AT 95.74 MIN ON AT 1228Z BEARING NE. DEFINITE ECHO I SIGHTING.                                                                                                                                                                                                                                                                                                                                                                         |  |



OPTIONAL FORM NO. 10  
5010-103

07/1230-2  
UNITED STATES GOVERNMENT

# Memorandum

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

07/1230-2?  
February  
DATE: 19 February 1963

FROM : U.S. Naval Oceanographic Office  
Code 5511:GEB

SUBJECT: Satellite sighting

Encl: (1) Reproduction of letter from USS MARYSVILLE dtd 13 Feb.

1. Enclosure (1) is forwarded for your information.

*G. Buckwalter*  
GEORGE BUCKWALTER



U. S. S. MARYSVILLE (EPCER-857)

C. O. FLEET POST OFFICE  
SAN FRANCISCO, CALIFORNIA

8600  
EPCER857/EZ:qn  
23/3161  
13 February 1963

From: Commanding Officer, USS MARYSVILLE (EPCER 857)  
To: Commander, U.S. Naval Oceanographic Office, Suitland, Maryland  
Subj: Satellite sighting; report

1. The USS MARYSVILLE (EPCER 857) in position 15-34.5N, 100-48.3W, on course 020°T, speed 6.4 knots, at approximately 1230 GMT., sighted a Satellite bearing 147°T at an altitude of 42° which when first sighted appeared slightly lower than the star Antares and moved in a northward direction, and disappeared on a bearing of 035°T. The entire observation taking about five (5) minutes. The satellite appeared to be in a polar orbit. Sighting made 7 February 1963.

2. The sky was broken with Cumulus and Cirrus clouds. Air temperature 81°F and Barometric pressure 29.91 inches, seas calm.

R. L. MC CAMPBELL

Copies to:

NavObservatory, Wash, D.C.  
U.S. Navy Branch Office  
Oceanographic, Wilmington, Cal.



## SMITHSONIAN ASTRONOMICAL OBSERVATORY, CAMBRIDGE, MASSACHUSETTS

JANUARY 30, 1963

## SATELLITE 1960 IOTA 1, ECHO I

These predictions are based on orbital elements revised on January 28, 1963  
 T = January 29.0, times are in days, U.T.  
 Argument of perigee =  $87.25 + 47.142 (t-T_0)$   
 Right ascension of ascending node =  $255.063 - 3.72627 (t-T_0)$

Inclination =  $47.2669$   
 Eccentricity =  $0.035219 - 2.141 \times 10^{-4} (t-T_0)$   
 Semi-major axis =  $7.858130$  megameters  
 Mean anomaly (Rev.) =  $0.24414 + 12.461969 (t-T_0) - 1.37 \times 10^{-6} (t-T_0)^2$

| SATELLITE 1960 IOTA 1<br>FOR OTHER LATITUDES |              |       |               |                |             |                |               |                |                | SATELLITE 1960 IOTA 1<br>FOR OTHER LATITUDES |              |        |               |                |             |                |               |                |                |               |                |               |                |
|----------------------------------------------|--------------|-------|---------------|----------------|-------------|----------------|---------------|----------------|----------------|----------------------------------------------|--------------|--------|---------------|----------------|-------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|
| EQUATOR<br>S-N                               |              | LAT.  | SOUTH-NORTH   |                | HT.<br>(MI) | BEAR.<br>(N-E) | NORTH-SOUTH   |                | BEAR.<br>(N-E) | EQUATOR<br>S-N                               |              | LAT.   | SOUTH-NORTH   |                | HT.<br>(MI) | BEAR.<br>(N-E) | NORTH-SOUTH   |                | BEAR.<br>(N-E) |               |                |               |                |
| TIME<br>(UT)                                 | LONG.<br>(W) |       | TIME<br>CORR. | LONG.<br>CORR. |             |                | TIME<br>CORR. | LONG.<br>CORR. |                | TIME<br>(UT)                                 | LONG.<br>(W) |        | TIME<br>CORR. | LONG.<br>CORR. |             |                | TIME<br>CORR. | LONG.<br>CORR. |                | TIME<br>CORR. | LONG.<br>CORR. | TIME<br>CORR. | LONG.<br>CORR. |
| FEBRUARY 2, 1963                             |              |       |               |                |             |                |               |                |                | FEBRUARY 6, 1963                             |              |        |               |                |             |                |               |                |                |               |                |               |                |
| 1 37.4                                       | 273.92       | 47.5  | 27.2          | -83.09         | 851         | 90.0*          | 27.2          | -83.14         | 851            | 90.0*                                        | 1 49.9       | 294.09 | 47.5          | 27.2           | -83.10      | 815            | 90.0*         | 27.2           | -83.15         | 815           | 90.0*          |               |                |
| 3 32.8                                       | 303.13       | 45.0  | 22.2          | -60.97         | 812         | 72.2*          | 32.4          | -105.23        | 893            | 107.8*                                       | 3 45.4       | 323.29 | 45.0          | 22.2           | -60.97      | 786            | 72.2*         | 32.2           | -105.26        | 851           | 107.8*         |               |                |
| 5 28.1                                       | 332.33       | 40.0  | 18.2          | -45.74         | 786         | 60.7*          | 36.5          | -120.41        | 931            | 119.4*                                       | 5 40.8       | 352.49 | 40.0          | 18.3           | -45.73      | 770            | 60.7*         | 36.3           | -120.46        | 884           | 119.4*         |               |                |
| 7 23.7                                       | 1.53         | 35.0  | 15.3          | -36.10         | 772         | 54.0*          | 39.6          | -129.99        | 958            | 126.1*                                       | 7 36.3       | 21.70  | 35.0          | 15.4           | -36.09      | 762            | 54.0*         | 39.4           | -130.06        | 910           | 126.1*         |               |                |
| 9 19.2                                       | 30.74        | 30.0  | 12.8          | -28.75         | 762         | 49.4*          | 42.4          | -137.29        | 981            | 130.7*                                       | 9 31.7       | 50.90  | 30.0          | 12.9           | -28.73      | 759            | 49.4*         | 42.1           | -137.37        | 933           | 130.6*         |               |                |
| 11 14.6                                      | 59.94        | 20.0  | 8.3           | -17.41         | 753         | 43.7*          | 47.4          | -148.51        | 1019           | 136.4*                                       | 11 27.2      | 80.10  | 20.0          | 8.4            | -17.39      | 767            | 43.7*         | 47.0           | -148.61        | 974           | 136.4*         |               |                |
| 13 10.1                                      | 89.14        | 0.    | 0.            | 0.             | 767         | 40.0*          | 56.7          | -165.66        | 1070           | 140.2*                                       | 13 22.6      | 109.30 | 0.            | 0.             | 0.          | 795            | 39.9*         | 56.1           | -165.80        | 1039          | 140.2*         |               |                |
| 15 5.5                                       | 118.35       | -20.0 | -8.4          | 17.36          | 816         | 43.7*          | -49.4         | 146.00         | 1089           | 136.4*                                       | 15 18.1      | 138.51 | -20.0         | -8.5           | 17.35       | 858            | 43.7*         | -50.0          | 147.83         | 1079          | 136.4*         |               |                |
| 17 1.0                                       | 147.55       | -35.0 | -13.1         | 28.68          | 854         | 49.4*          | -44.2         | 156.82         | 1082           | 130.7*                                       | 17 13.5      | 167.71 | -35.0         | -13.3          | 28.63       | 901            | 49.4*         | -44.9          | 158.66         | 1066          | 130.7*         |               |                |
| 19 56.4                                      | 176.75       | -45.0 | -15.7         | 36.01          | 876         | 54.0*          | -41.4         | 169.56         | 1073           | 126.1*                                       | 19 9.0       | 196.91 | -45.0         | -16.0          | 35.94       | 926            | 53.9*         | -42.0          | 169.40         | 1065          | 126.1*         |               |                |
| 21 51.9                                      | 205.96       | -40.0 | -18.7         | 45.01          | 907         | 60.7*          | -38.1         | 179.02         | 1059           | 119.4*                                       | 21 8.4       | 226.12 | -40.0         | -19.1          | 45.53       | 955            | 60.6*         | -38.7          | 179.86         | 1079          | 119.4*         |               |                |
| 22 47.3                                      | 235.16       | -45.0 | -22.9         | 60.74          | 946         | 72.2*          | -33.7         | 184.89         | 1034           | 107.8*                                       | 22 59.9      | 255.32 | -45.0         | -23.3          | 60.68       | 991            | 72.2*         | -34.3          | 184.75         | 1053          | 107.8*         |               |                |
|                                              |              | -47.5 | -28.7         | 82.83          | 993         | 90.0*          | -28.3         | 82.86          | 993            | 90.0*                                        |              |        | -47.5         | -28.7          | 82.70       | 1032           | 90.0*         | -28.8          | 82.75          | 1032          | 90.0*          |               |                |
| FEBRUARY 3, 1963                             |              |       |               |                |             |                |               |                |                | FEBRUARY 7, 1963                             |              |        |               |                |             |                |               |                |                |               |                |               |                |
| 0 42.6                                       | 264.36       | 47.5  | 27.2          | -83.09         | 841         | 90.0*          | 27.2          | -83.14         | 841            | 90.0*                                        | 0 35.3       | 284.52 | 47.5          | 27.2           | -83.10      | 808            | 90.0*         | 27.2           | -83.15         | 808           | 90.0*          |               |                |
| 2 38.2                                       | 293.57       | 45.0  | 22.2          | -60.97         | 804         | 72.2*          | 32.3          | -105.24        | 884            | 107.8*                                       | 2 30.8       | 313.73 | 45.0          | 22.2           | -60.96      | 781            | 72.2*         | 32.2           | -105.27        | 842           | 107.8*         |               |                |
| 4 33.7                                       | 322.77       | 40.0  | 18.2          | -45.74         | 781         | 60.7*          | 36.5          | -120.43        | 920            | 119.4*                                       | 4 26.2       | 342.93 | 40.0          | 18.3           | -45.72      | 767            | 60.7*         | 36.3           | -120.47        | 874           | 119.4*         |               |                |
| 6 29.1                                       | 351.97       | 35.0  | 15.3          | -36.10         | 768         | 54.0*          | 39.6          | -130.01        | 947            | 126.1*                                       | 6 21.7       | 12.13  | 35.0          | 15.4           | -36.08      | 762            | 54.0*         | 39.3           | -130.07        | 899           | 126.0*         |               |                |
| 8 24.6                                       | 21.18        | 30.0  | 12.8          | -28.75         | 760         | 49.4*          | 42.3          | -137.31        | 969            | 130.7*                                       | 8 17.1       | 51.34  | 30.0          | 12.9           | -28.73      | 760            | 49.4*         | 42.0           | -137.39        | 922           | 130.6*         |               |                |
| 10 20.0                                      | 50.38        | 20.0  | 8.3           | -17.41         | 754         | 43.7*          | 47.3          | -148.53        | 1008           | 136.4*                                       | 10 32.6      | 70.54  | 20.0          | 8.4            | -17.39      | 766            | 43.7*         | 46.9           | -148.63        | 962           | 136.4*         |               |                |
| 12 15.5                                      | 79.58        | 0.    | 0.            | 0.             | 772         | 40.0*          | 56.5          | -165.70        | 1064           | 140.2*                                       | 12 28.0      | 99.74  | 0.            | 0.             | 0.          | 803            | 39.9*         | 56.0           | -165.83        | 1030          | 140.2*         |               |                |
| 14 11.0                                      | 108.79       | -20.0 | -8.4          | 17.37          | 825         | 43.7*          | -49.6         | 147.95         | 1088           | 136.4*                                       | 14 23.5      | 128.94 | -20.0         | -8.6           | 17.34       | 869            | 43.7*         | -50.2          | 147.80         | 1075          | 136.4*         |               |                |
| 16 6.4                                       | 137.99       | -35.0 | -13.1         | 28.67          | 865         | 49.4*          | -44.4         | 156.78         | 1085           | 130.7*                                       | 16 18.9      | 158.15 | -35.0         | -13.3          | 28.61       | 913            | 49.4*         | -45.0          | 156.62         | 1085          | 130.7*         |               |                |
| 18 1.9                                       | 167.19       | -45.0 | -15.8         | 35.99          | 890         | 54.0*          | -41.5         | 169.52         | 1078           | 126.1*                                       | 18 14.4      | 187.35 | -45.0         | -16.0          | 35.92       | 937            | 53.9*         | -42.1          | 169.36         | 1086          | 126.1*         |               |                |
| 19 57.3                                      | 196.40       | -40.0 | -18.8         | 45.59          | 918         | 60.6*          | -38.2         | 179.98         | 1065           | 119.4*                                       | 20 9.8       | 216.55 | -40.0         | -19.2          | 45.51       | 966            | 60.6*         | -38.8          | 179.82         | 1082          | 119.4*         |               |                |
| 21 52.8                                      | 225.60       | -45.0 | -23.0         | 60.76          | 957         | 72.2*          | -33.8         | 184.86         | 1042           | 107.8*                                       | 22 5.3       | 245.76 | -45.0         | -23.4          | 60.68       | 1001           | 72.2*         | -34.4          | 184.71         | 1068          | 107.8*         |               |                |
| 23 48.2                                      | 254.80       | -47.5 | -28.4         | 82.80          | 1003        | 90.0*          | -28.4         | 82.85          | 1003           | 90.0*                                        |              |        | -47.5         | -28.9          | 82.67       | 1040           | 90.0*         | -28.9          | 82.72          | 1040          | 90.0*          |               |                |
| FEBRUARY 4, 1963                             |              |       |               |                |             |                |               |                |                | FEBRUARY 8, 1963                             |              |        |               |                |             |                |               |                |                |               |                |               |                |
| 1 43.7                                       | 284.01       | 47.5  | 27.2          | -83.10         | 831         | 90.0*          | 27.2          | -83.15         | 831            | 90.0*                                        | 0 0.7        | 274.96 | 47.5          | 27.2           | -83.09      | 801            | 90.0*         | 27.2           | -83.14         | 801           | 90.0*          |               |                |
| 3 39.1                                       | 313.21       | 45.0  | 22.2          | -60.97         | 797         | 72.2*          | 32.3          | -105.25        | 874            | 107.8*                                       | 1 56.2       | 304.16 | 45.0          | 22.2           | -60.96      | 777            | 72.2*         | 32.2           | -105.27        | 833           | 107.8*         |               |                |
| 5 34.6                                       | 342.41       | 40.0  | 18.2          | -45.74         | 776         | 60.7*          | 36.5          | -120.44        | 907            | 119.4*                                       | 3 51.5       | 333.37 | 40.0          | 18.3           | -45.71      | 766            | 60.7*         | 36.3           | -120.47        | 864           | 119.4*         |               |                |
| 7 30.0                                       | 11.62        | 35.0  | 15.3          | -36.10         | 765         | 54.0*          | 39.6          | -130.03        | 934            | 126.1*                                       | 5 47.1       | 2.87   | 35.0          | 15.4           | -36.07      | 762            | 54.0*         | 39.3           | -130.08        | 888           | 126.0*         |               |                |
| 9 25.5                                       | 40.82        | 30.0  | 12.8          | -28.74         | 759         | 49.4*          | 42.3          | -137.33        | 957            | 130.7*                                       | 7 42.5       | 31.77  | 30.0          | 12.9           | -28.72      | 762            | 49.4*         | 42.0           | -137.39        | 911           | 130.6*         |               |                |
| 11 20.9                                      | 70.02        | 20.0  | 8.3           | -17.40         | 756         | 43.7*          | 47.3          | -148.50        | 997            | 136.4*                                       | 9 38.0       | 60.97  | 20.0          | 8.4            | -17.38      | 771            | 43.7*         | 46.8           | -148.65        | 951           | 136.4*         |               |                |
| 13 16.4                                      | 99.23        | 0.    | 0.            | 0.             | 780         | 40.0*          | 56.4          | -165.71        | 1056           | 140.2*                                       | 11 33.4      | 90.18  | 0.            | 0.             | 0.          | 812            | 39.9*         | 55.9           | -165.86        | 1020          | 140.2*         |               |                |
| 15 11.8                                      | 128.43       | -20.0 | -8.5          | 17.37          | 836         | 43.7*          | -49.7         | 147.91         | 1080           | 136.4*                                       | 13 28.9      | 119.38 | -20.0         | -8.6           | 17.33       | 880            | 43.7*         | -50.3          | 147.75         | 1070          | 136.4*         |               |                |
| 17 7.3                                       | 157.63       | -35.0 | -13.2         | 28.66          | 877         | 49.4*          | -44.6         | 156.74         | 1086           | 130.7*                                       | 15 24.1      | 148.58 | -35.0         | -13.4          | 28.60       | 924            | 49.4*         | -45.2          | 156.59         | 1083          | 130.7*         |               |                |
| 19 2.7                                       | 186.84       | -45.0 | -15.8         | 35.98          | 902         | 54.0*          | -41.7         | 169.46         | 1081           | 126.1*                                       | 17 19.8      | 177.79 | -45.0         | -16.1          | 35.91       | 949            | 53.9*         | -42.3          | 169.32         | 1085          | 126.1*         |               |                |
| 20 58.2                                      | 216.04       | -40.0 | -18.9         | 45.57          | 931         | 60.6*          | -38.4         | 179.94         | 1071           | 119.4*                                       | 19 15.2      | 206.99 | -40.0         | -19.2          | 45.48       | 976            | 60.6*         | -39.0          | 179.79         | 1083          | 119.4*         |               |                |
| 22 53.6                                      | 245.24       | -45.0 | -23.1         | 60.74          | 969         | 72.2*          | -34.0         | 184.87         | 1050           | 107.8*                                       | 21 10.7      | 236.19 | -45.0         | -23.5          | 60.63       | 1011           | 72.2*         | -34.6          | 184.68         | 1073          | 107.8*         |               |                |
|                                              |              | -47.5 | -28.5         | 82.77          | 1014        | 90.0*          | -28.5         | 82.81          | 1014           | 90.0*                                        | 23 6.1       | 265.39 | -47.5         | -29.0          | 82.64       | 1047           | 90.0*         | -29.0          | 82.69          | 1048          | 90.0*          |               |                |
| FEBRUARY 5, 1963                             |              |       |               |                |             |                |               |                |                | FEBRUARY 9, 1963                             |              |        |               |                |             |                |               |                |                |               |                |               |                |
| 0 49.1                                       | 274.45       | 47.5  | 27.2          | -83.10         | 821         | 90.0*          | 27.2          | -83.15         | 821            | 90.0*                                        | 1 1.5        | 294.60 | 47.5          | 27.2           | -83.09      | 795            | 90.0*         | 27.2           | -83.14         | 795           | 90.0*          |               |                |
| 2 44.5                                       | 303.65       | 45.0  | 22.2          | -60.97         | 791         | 72.2*          | 32.3          | -105.26        | 862            | 107.8*                                       | 2 57.0       | 323.80 | 45.0          | 22.3           | -60.95      | 774            | 72.2*         | 32.2           | -105.26        | 825           | 107.8*         |               |                |
| 4 40.0                                       | 332.85       | 40.0  | 18.3          | -45.73         | 773         | 60.7*          | 36.5          | -120.45        | 896            | 119.4*                                       | 4 52.4       | 353.00 | 40.0          | 18.4           | -45.70      | 765            | 60.7*         | 36.3           | -120.48        | 853           | 119.4*         |               |                |
| 6 35.4                                       | 2.05         | 35.0  | 15.4          | -36.09         | 763         | 54.0*          | 39.6          | -130.05        | 924            | 126.1*                                       | 6 47.9       | 22.21  | 35.0          | 15.5           | -36.06      | 764            | 54.0*         | 39.3           | -130.08        | 877           | 126.0*         |               |                |
| 8 30.9                                       | 31.26        | 30.0  | 12.9          | -28.74         | 759         | 49.4*          | 42.1          | -137.35        | 945            | 130.7*                                       | 8 43.3       | 51.41  | 30.0          | 13.0           | -28.71      | 765            | 49.4*         | 41.9           | -137.40        | 899           | 130.6*         |               |                |
| 10 26.3                                      | 60.46        | 20.0  | 8.4           | -17.40         | 759         | 43.7*          | 47.0          | -148.54        | 986            | 136.4*                                       | 10 38.8      | 80.61  | 20.0          | 8.4            | -17.37      | 776            | 43.7*         | 46.8           | -148.60        | 937           | 136.4*         |               |                |
| 12 21.8                                      | 89.66        | 0.    | 0.            | 0.             | 787         | 40.0*          | 56.3          | -165.77        | 1048           | 140.2*                                       | 12 34.2      | 109.81 | 0.            | 0.             | 0.          | 822            | 39.9*         | 55.9           | -165.88        | 1010          | 140.2*         |               |                |
| 14 17.2                                      | 118.87       | -20.0 | -8.5          | 17.36          | 867         | 43.7*          | -49.9         | 147.87         | 1073           | 136.4*                                       | 14 29.7      | 139.02 | -20.0         | -8.7           | 17.32       | 872            | 43.7*         | -50.6          | 147.73         | 1064          | 136.4*         |               |                |
| 16 1                                         |              |       |               |                |             |                |               |                |                |                                              |              |        |               |                |             |                |               |                |                |               |                |               |                |