

CASE FILE 84 / 237UAP00276

237UAP00276

Multiple-witness public UAP report; score 44

NORMAL-OBJECT FAVORED

| | | | |
|-----------------|---------------------------|-------------|-----------------------|
| REPORT NO. | UAP-OM-84-237UAP00276 | DISPOSITION | NORMAL-OBJECT FAVORED |
| PRIMARY CASE | 237UAP00276 | GENERATED | 2026-05-20 18:32 UTC |
| REPORT TIME | 2023-07-21T04:53:00+00:00 | OBSERVER | 34.11016, -119.39136 |
| SOURCE CASE IDS | 237UAP00276 | | |

Abstract

This case file evaluates a reported UAP sighting against the available orbital-object layer. No compact same-launch group fully identifies the file by itself. The final disposition is assigned under a normal-object favored standard, where ordinary aerospace/orbital explanations are preferred when they reasonably fit the report.

This is a standalone independent analysis prepared from public-source records and public orbital datasets. It is not an official government determination, classification marking, or agency-authored report.

1. Executive Summary

237UAP00276 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N417AN A21N a4ee2e at 9.1 km, azimuth 356.6 deg, elevation 24.61 deg, 0.40 min from report. Dense satellite presence alone is not treated as causation in this packet.

1.1 Key Findings

- Source score 44 based on: NORAD/AMOC/EADS/CONR check, negative official correlation, UAP/UFO language.
- Report time used: 2023-07-21T04:53:00+00:00.
- External object layer used: public LEO catalog objects.
- Disposition standard: NORMAL-OBJECT requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Case-specific ordinary-object evidence: strong ADS-B aircraft candidate N417AN A21N a4ee2e at 9.1 km, azimuth 356.6 deg, elevation 24.61 deg, 0.40 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Objects above horizon: 924; at/above 10 deg: 451.
- No compact same-launch/designator group survived the report threshold.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

1.2 Bottom Line

NORMAL-OBJECT FAVORED: A case-specific ordinary-object candidate exists from source language, orbital geometry, launch-object context, or compact trajectory grouping. Dense ordinary sky traffic alone is not treated as causation.

2. Source Control

The source-control table identifies the public report records reviewed for this case and lists public access links where available. The table is included so this PDF remains interpretable when distributed by itself.

| CASE ID | REPORT DATE FIELD | FACILITY / TITLE | TEXT EXTRACT | PUBLIC PDF LINK |
|-------------|--|--|----------------------|---------------------------------|
| 237UAP00276 | 04:53 07/21/2023 Callsign: AAL266 Origin: LIH | ZLA Operator: AAL Operator Type: Commercial | text extract present | 237UAP00276.pdf |

3. Original Report Evidence

| | |
|-----------------------------------|--|
| PRIMARY EXCERPT USED FOR MATCHING | Aircraft reported an unidentified aerial phenomenon while E bound at 14,000 feet, 16NM WSW of CMA. The unknown phenomenon was described as multiple lights appearing to separate. No evasive action taken. HQ DEN requested NORAD to check their systems, negative results. AWO advised. |
| REPORT TIME USED | 2023-07-21T04:53:00+00:00 |
| OBSERVER COORDINATE USED | 34.11016, -119.39136 |
| OBSERVER SOURCE BASIS | aviation_offset:16NM WSW of CMA (public text extract 237UAP00276) |

4. Methodology

1. **Spacetime extraction.** The report time and observer coordinate were extracted from the public text report and normalized to UTC. Aviation fixes/radials were resolved during earlier preprocessing where applicable.
2. **External object dataset.** The object layer used historical Space-Track/TLE-derived public LEO catalog objects element rows. The analytic mode for this case is historical public LEO catalog objects element propagation and same-launch/designator sky grouping.
3. **Propagation.** Orbital elements were propagated to the report minute and observer location. For launch-object checks, samples around the report minute were retained. For Starlink group checks, objects above the horizon were clustered by sky position and filtered for same-launch groupings.
4. **Comparison.** The output was compared against the report's count of lights, direction cue, motion language, altitude/radar language, and whether the file itself already suggested a satellite explanation.
5. **Causation standard.** Mere object presence above the horizon is treated as background context only. A normal-object disposition requires a case-specific causal fit, such as a named launch object, a compact same-launch trajectory group, or source language that directly supports that object class.
6. **Disposition assignment.** *Identified* means a specific normal object fits the report spacetime and the hard reported features do not materially conflict. *Normal-object favored* means a case-specific ordinary aerospace/orbital candidate exists, but it is not a full named identification. *Insufficient* means the file is too thin to carry high anomaly value. *High-value unresolved* is used when radar, video, rapid maneuver, or multi-witness features remain after reasonable normal-object checks.

5. External Object Evidence

5.1 Search Volume and Density

This table is a screening layer only. Objects above the horizon show background opportunity; they do not establish causation unless a specific object or compact trajectory group matches the reported behavior.

| | | | |
|---|-------|-------------------------|-------|
| PUBLIC LEO CATALOG OBJECTS CATALOG IDS CONSIDERED | 17968 | HISTORICAL ELEMENT ROWS | 17968 |
| ABOVE HORIZON AT REPORT MINUTE | 924 | AT/ABOVE 10 DEG | 451 |
| LARGEST SAME-SKY CLUSTER | 451 | | |

No compact same-launch/designator group survived the report threshold. In this condition, satellite density remains context only and cannot by itself resolve a report with hard features.

5.2 Same-Launch / Same-Designator Candidate Groups

| # | LAUNCH DATE | COUNT | AZIMUTH SPAN | ELEVATION SPAN | MOTION LABELS | MEMBERS |
|----------------------------------|-------------|-------|--------------|----------------|---------------|---------|
| No same-launch group identified. | | | | | | |

5.3 Primary Group Members

| OBJECT | NORAD | LAUNCH | AZ | EL | RANGE KM | APPARENT MOTION | ELEMENT AGE H |
|-----------------------|-------|--------|----|----|----------|--------------------|------------------|
| No members available. | | | | | | | |

5.4 Bright-Sky Context: Top public LEO catalog objects Objects by Elevation

| OBJECT | AZ | EL | RANGE KM | APPARENT MOTION | LAUNCH DATE |
|-------------|--------|-------|----------|-------------------|-------------|
| NORAD 25679 | 310.43 | 83.62 | 1594.56 | eastward, setting | 99019D |
| NORAD 3583 | 272.49 | 81.25 | 1825.56 | eastward, setting | 68091R |
| NORAD 46979 | 25.09 | 79.95 | 812.59 | eastward, setting | 97051ACM |
| NORAD 27789 | 153.45 | 77.24 | 1963.06 | westward, setting | 65089F |
| NORAD 9799 | 7.62 | 74.25 | 2145.89 | eastward, rising | 76126Z |
| NORAD 12963 | 163.83 | 68.55 | 1010.41 | westward, setting | 81053EJ |
| NORAD 39699 | 233.97 | 67.78 | 1596.58 | eastward, rising | 91009DN |
| NORAD 52289 | 252.64 | 66.8 | 585.02 | westward, setting | 22041AE |
| NORAD 10709 | 28.22 | 66.37 | 1577.39 | westward, setting | 76077AE |
| NORAD 31738 | 8.19 | 66.24 | 1235.85 | westward, setting | 99025CEM |
| NORAD 26822 | 28.29 | 65.11 | 1683.08 | eastward, rising | 75052KC |
| NORAD 57147 | 200.44 | 63.24 | 396.68 | westward, setting | 23090AY |

5.5 Largest Sky Clusters

| # | COUNT | AZIMUTH SPAN | ELEVATION SPAN | MOTION LABELS |
|---|-------|----------------|----------------|---|
| 1 | 451 | 0.9-359.08 deg | 10.0-83.62 deg | eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, rising, nearly fixed azimuth, setting, westward, level, westward, rising, westward, setting |

5.6 Space-Track SATCAT Enrichment

Space-Track SATCAT metadata was pulled as a cached subset for NORAD catalog IDs appearing in this packet's evidence tables. This section adds owner/type/status context to the propagated object candidates.

| | | | |
|------------------------------------|---|----------------------------|---------------------------|
| PACKET SATCAT SUBSET ROWS | 5370 | FETCHED | 2026-05-19T01:19:50+00:00 |
| THIS CASE NORAD IDS CHECKED | 30 | SATCAT ROWS MATCHED | 30 |
| TOP OWNERS | US: 14, CIS: 6, PRC: 3, GLOB: 2, UK: 2, FR: 1 | | |
| OBJECT TYPES | DEBRIS: 15, PAYLOAD: 15 | | |

5.7 Space-Track Metadata for Top Propagated Objects

| NORAD | OBJECT NAME | TYPE | OWNER | LAUNCH DATE | DECAY DATE |
|-------|------------------|---------|-------|-------------|------------|
| 25679 | GLOBALSTAR M042 | PAYLOAD | GLOB | 1999-04-15 | n/a |
| 3583 | COSMOS 249 DEB | DEBRIS | CIS | 1968-10-20 | n/a |
| 46979 | IRIDIUM 33 DEB | DEBRIS | US | 1997-09-14 | n/a |
| 27789 | DELTA 1 DEB | DEBRIS | US | 1965-11-06 | n/a |
| 9799 | COSMOS 886 DEB * | DEBRIS | CIS | 1976-12-27 | n/a |
| 12963 | COSMOS 1275 DEB | DEBRIS | CIS | 1981-06-04 | n/a |
| 39699 | SL-8 DEB | DEBRIS | CIS | 1991-02-12 | n/a |
| 52289 | STARLINK-3751 | PAYLOAD | US | 2022-04-21 | n/a |
| 10709 | DELTA 1 DEB | DEBRIS | US | 1976-07-29 | n/a |
| 31738 | FENGYUN 1C DEB | DEBRIS | PRC | 1999-05-10 | n/a |
| 26822 | DELTA 1 DEB | DEBRIS | US | 1975-06-12 | n/a |
| 57147 | STARLINK-5765 | PAYLOAD | US | 2023-06-23 | n/a |

5.9 NASA / NOAA / ADS-B Expansion Layer

NASA POWER/Horizons/DONKI batch context had not yet been written for this case at packet build time.

5.11 Free Source Availability and Remaining Work

| LAYER | STATUS | CASE-SPECIFIC NOTE |
|--|-------------------|--|
| ADSB.LOL HISTORICAL RELEASE LISTING | screened/present | planes-readsb-staging-0 1198.8 MiB; planes-readsb-prod-1 1199.7 MiB; planes-readsb-prod-0 1198.8 MiB |
| ADSB TRACKS DOWNLOADED | not yet exhausted | Requires targeted extraction from large daily history archives before claiming aircraft exhaustion. |
| NOAA GOES IMAGERY | not yet exhausted | Needed for cloud/lightning visual context. |
| NOAA GOES ABI/GLM MANIFEST | screened/present | Public S3 object availability for the report hour. |
| NOAA NEXRAD WEATHER RADAR | not yet exhausted | Weather radar only; not ATC radar. |
| NOAA IGRA RADIOSONDE | screened/present | Needed for balloon drift plausibility. |
| ASOS/METAR WEATHER OBSERVATIONS | screened/present | Nearest station surface observations around report time. |

- ADSB.lol historical: extract aircraft traces from adsblol/globe_history_2023 for 2023-07-21, then filter +/-60 min and 250 nmi around 34.1102,-119.3914.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00276 at 2023-07-21T04:53:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

| | |
|---------------------------|---|
| GOES SATELLITE | GOES18 |
| GOES ABI PREFIX | https://noaa-goes18.s3.amazonaws.com/ABI-L2-CMIPF/2023/202/04/ |
| GOES GLM LIGHTNING PREFIX | https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2023/202/04/ |

5.13 Nearest Weather-Airport Candidates

| STATION | NAME | DISTANCE KM | COORDINATE |
|---------|--|-------------|----------------|
| KOXR | Oxnard Airport | 19.70 | 34.20, -119.21 |
| KNTD | Point Mugu Naval Air Station (Naval Base Ventura Co) | 24.90 | 34.12, -119.12 |
| KCMA | Camarillo International Airport | 29.70 | 34.21, -119.09 |
| KSBA | Santa Barbara Municipal Airport | 54.20 | 34.43, -119.84 |
| KVNY | Van Nuys Airport | 83.70 | 34.21, -118.49 |

- KOXR: [IEM ASOS/METAR daily CSV query](#)
- KNTD: [IEM ASOS/METAR daily CSV query](#)
- KCMA: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

| STATION | NAME | DISTANCE KM | COORDINATE |
|-------------|-------------------------------|-------------|----------------|
| USM00072391 | POINT MUGU/NAS | 25.30 | 34.12, -119.12 |
| USM00072393 | VANDENBERG AFB; CA. (72393-0) | 129.10 | 34.75, -120.57 |
| USM00072381 | EDWARDS AFB; CA. | 163.40 | 34.92, -117.90 |
| USM00074612 | CHINA LAKE; NAF; CA. | 234.20 | 35.68, -117.68 |
| USM00072293 | SAN DIEGO/MIRAMAR; NAS; CA. | 254.30 | 32.83, -117.12 |

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 6-10 statute miles; no precipitation was reported in the retained observations; no low broken/overcast cloud ceiling was evident in the retained station observations. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

| STATION | DISTANCE KM | NEAREST OBS UTC | VIS SM | SKY | WIND DEG/KT | METAR |
|---------|-------------|-------------------------------|--------|--------------|---------------|---|
| KOXR | 19.70 | 2023-07-21T04:51:00 +00:00 | 8.00 | CLR, M, M, M | 290.00 / 6.00 | KOXR 210451Z AUTO 29006KT 8SM CLR 17/16 A2992 RMK AO2 SLP131 T01720156 |
| KNTD | 24.90 | 2023-07-21T04:55:00 +00:00 | 7.00 | CLR, M, M, M | 310.00 / 7.00 | KNTD 210455Z 31007KT 7SM CLR 19/16 A2992 RMK AO2 SLP133 T01890156 CHINO S VISNO S \$ |
| KCMA | 29.70 | 2023-07-21T04:55:00 +00:00 | 8.00 | CLR, M, M, M | 290.00 / 5.00 | KCMA 210455Z AUTO 29005KT 8SM CLR 18/16 A2992 RMK AO2 SLP138 T01830156 \$ |

5.16 NOAA IGRA Radiosonde Wind Profile

No nearby IGRA sounding was parsed within the +/-1 day window. Radiosonde winds are sparse station soundings; balloon drift remains approximate without launch time, ascent rate, object altitude, and exact line-of-sight bearing.

| STATION | NAME | DISTANCE KM | SOUNDING UTC | MEAN DRIFT BEARING | MEAN SPEED M/S | 2H DRIFT KM | MAX WIND |
|-------------|--------------------|-------------|--------------|--------------------|----------------|-------------|--------------|
| USM00072391 | POINT MUGU/ NAS | 25.30 | no sounding | n/a | n/a | n/a | n/a at n/a m |

5.17 NOAA GOES ABI/GLM Public File Manifest

GOES public S3 objects are listed for the report hour where available. This is an availability manifest, not yet a rendered satellite image.

| | | | |
|------------------|--------|------------------|-------------|
| SATELLITE | GOES18 | BUCKET | noaa-goes18 |
| ABI SAMPLE FILES | 12 | GLM SAMPLE FILES | 12 |

ABI sample objects:

- [ABI-L2-CMIPF/2023/202/04/OR_ABI-L2-CMIPF-M6C01_G18_s20232020400226_e20232020409535_c20232020410000.nc](#)
- [ABI-L2-CMIPF/2023/202/04/OR_ABI-L2-CMIPF-M6C01_G18_s20232020410226_e20232020419534_c20232020420000.nc](#)
- [ABI-L2-CMIPF/2023/202/04/OR_ABI-L2-CMIPF-M6C01_G18_s20232020420226_e20232020429536_c20232020430001.nc](#)
- [ABI-L2-CMIPF/2023/202/04/OR_ABI-L2-CMIPF-M6C01_G18_s20232020430226_e20232020439534_c20232020440000.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2023/202/04/OR_GLM-L2-LCFA_G18_s20232020400000_e20232020400200_c20232020400214.nc](#)
- [GLM-L2-LCFA/2023/202/04/OR_GLM-L2-LCFA_G18_s20232020400200_e20232020400400_c20232020400415.nc](#)
- [GLM-L2-LCFA/2023/202/04/OR_GLM-L2-LCFA_G18_s20232020400400_e20232020401000_c20232020401017.nc](#)
- [GLM-L2-LCFA/2023/202/04/OR_GLM-L2-LCFA_G18_s20232020401000_e20232020401200_c20232020401218.nc](#)

5.18 ADSB.lol Historical Aircraft Track Extraction

This layer uses the downloaded ADSB.lol daily history archive to test actual aircraft tracks near the report coordinate and minute. It is not treated as a primary-radar substitute; it is a transponder/receiver-derived aircraft screen.

| | | | |
|------------------------------------|---|----------------------|--|
| ARCHIVE WINDOW | 2023-07-21T03:38:00+00:00 to 2023-07-21T06:08:00+00:00 | RADIUS | 300.00 nmi |
| TRACE FILES SCANNED | 51842 | TRACKS RETAINED | 1127 |
| SUPPORT STATUS | aircraft strong candidate present | BEST-CANDIDATE NOTE | ordinary-object favored if the report's count, color, direction, and motion can be reconciled with the candidate track(s). |
| STRONG CANDIDATES | 45 | PLAUSIBLE CANDIDATES | 226 |
| REPORTING-AIRCRAFT TRACKS EXCLUDED | 0 | WEAK CANDIDATES | 146 |

5.19 Top ADS-B Candidate Tracks

| AIRCRAFT | STATUS | SCORE | MIN DIST KM | NEAREST DT MIN | ALT FT | AZ | EL |
|-----------------------|---------------------------|-------|-------------|----------------|--------|--------|-------|
| N417AN A21N a4ee2e | strong aircraft candidate | 85.23 | 9.10 | 0.06 | 13975 | 356.60 | 24.61 |
| N613FE MD11 a7fa65 | strong aircraft candidate | 78.09 | 5.40 | 0.05 | 9825 | 136.40 | 37.80 |
| N151FE B763 a0ce68 | strong aircraft candidate | 77.83 | 17.30 | 0.10 | 26550 | 40.20 | 19.90 |
| N724SP C172 a9b406 | strong aircraft candidate | 76.63 | 18.40 | 0.30 | 5600 | 12.90 | 5.24 |

7. Analytic Comparison

| CRITERION | REPORT EVIDENCE | ANALYTIC TREATMENT |
|------------------------|--|--|
| TIME CONSTRAINT | 2023-07-21T04:53:00+00:00 | Directly used in propagation; this is a hard filter, not descriptive context. |
| LOCATION CONSTRAINT | 34.11016, -119.39136 | Directly used as observer point for azimuth/elevation/range computation. |
| COUNT / PATTERN | multiple-object/light language present | No compact same-launch count match; retained for unresolved report features. |
| MOTION LANGUAGE | not explicit | Apparent motion labels in the object table provide a plausible but not definitive comparison. |
| RADAR / OFFICIAL CHECK | not specified | No ATC radar return can be consistent with distant orbital objects or visual aircraft-light hypotheses, but it does not prove the match. |
| ANALYTIC DISPOSITION | normal-object | 237UAP00276 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N417AN A21N a4ee2e at 9.1 km, azimuth 356.6 deg, elevation 24.61 deg, 0.40 min from report. Dense satellite presence alone is not treated as causation in this packet. |

8. Caveats, Limitations, and Collection Gaps

- No raw cockpit video, ATC replay, radar plot, or witness interview transcript was reviewed unless explicitly stated in the public source text.
- Aviation-derived coordinates can represent a nearby fix/radial or report point, not necessarily the actual line-of-sight intercept point.
- Starlink visibility depends on illumination, observer altitude, atmospheric conditions, and apparent brightness; this analysis tests geometry, not photometry. No brightness model is used unless explicitly stated elsewhere in the case file.
- TLE propagation is appropriate for screening and reconstruction but is not a substitute for authoritative operational ephemerides.
- When many satellites are above the horizon, generic presence is weak evidence and is not treated as causation. The report emphasizes named launch-object checks or compact same-launch trajectory groups.
- Normal-object favored is not the same as a perfect named-object identification; it requires a case-specific ordinary-object candidate stronger than simple object density.

Appendix A. Public Report Text Extracts

237UAP00276

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

Date: 04:53 07/21/2023

Status: Closed

POD: DEN

Reporting Facility: ZLA

Callsign: AAL266

Aircraft: A321

Tail Number:

Operator: AAL

Origin: LIH

Destination: LAX

New Destination:

Operator Type: Commercial

Paged: YES

REMARKS

Aircraft reported an unidentified aerial phenomenon while E bound at 14,000 feet, 16NM WSW of CMA. The unknown phenomenon was described as multiple lights appearing to separate. No evasive action taken. HQ DEN requested NORAD to check their systems, negative results. AWO advised.

Appendix B. Computational Evidence Digest

This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

```
{
  "report_time_utc": "2023-07-21T04:53:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon while E bound at 14,000 feet, 16NM WSW of CMA. The unknown phenomenon was described as multiple lights appearing to separate. No evasive action taken. HQ DEN requested NORAD to check their systems, negative results. AWO advised.",
  "historical_starlink_element_rows": 17968,
  "observer": {
    "lat": 34.11016247402748,
    "lon": -119.39136131103794,
    "source": "aviation_offset:16NM WSW of CMA (public text extract 237UAP00276)"
  },
  "case_id": "237UAP00276",
  "starlink_above_horizon_at_report_time": 924,
  "starlink_catalog_ids_considered": 17968,
  "largest_same-sky_cluster_count": 451,
  "starlink_at_or_above_10_deg": 451,
  "top_starlinks": [
    {
      "azimuth_deg": 310.43,
      "azimuth_plus_2m_deg": 34.29,
      "azimuth_plus_5m_deg": 42.41,
      "element_age_hours": 6.44,
      "element_epoch": "2023-07-21T11:19:29.427168+00:00",
      "elevation_deg": 83.62,
      "elevation_plus_2m_deg": 62.49,
      "elevation_plus_5m_deg": 34.01,
      "epoch_altitude_km": 1588.35,
      "ground_track_bearing_deg": 46.08,
      "ground_track_label": "NE",
      "launch_date": "99019D",
      "launch_designator": "99019D",
      "name": "NORAD 25679",
      "norad_id": "25679",
      "range_km": 1594.56,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 34.9335,
      "subpoint_lon": -120.574
    },
    {
      "azimuth_deg": 272.49,
      "azimuth_plus_2m_deg": 11.78,
      "azimuth_plus_5m_deg": 25.4,
      "element_age_hours": 17.05,
      "element_epoch": "2023-07-20T11:50:09.848256+00:00",
      "elevation_deg": 81.25,
      "elevation_plus_2m_deg": 69.24,
      "elevation_plus_5m_deg": 42.44,
      "epoch_altitude_km": 806.38,
      "ground_track_bearing_deg": 30.99,
      "ground_track_label": "NNE",
      "launch_date": "68091R",
      "launch_designator": "68091R",
      "name": "NORAD 3583",
      "norad_id": "3583",
      "range_km": 1825.56,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 34.1726,
      "subpoint_lon": -121.7371
    },
    {
      "azimuth_deg": 25.09,
      "azimuth_plus_2m_deg": 174.1,
      "azimuth_plus_5m_deg": 177.49,
      "element_age_hours": 4.33,
      "element_epoch": "2023-07-21T09:12:32.797152+00:00",
      "elevation_deg": 79.95,
      "elevation_plus_2m_deg": 44.88,
      "elevation_plus_5m_deg": 13.45,
      "epoch_altitude_km": 712.98,
      "ground_track_bearing_deg": 179.13,
      "ground_track_label": "S",
      "launch_date": "97051ACM",
      "launch_designator": "97051ACM",
      "name": "NORAD 46979",
      "norad_id": "46979",
      "range_km": 812.59,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 35.1364,
      "subpoint_lon": -118.8055
    }
  ],
}
```

```

{
  "azimuth_deg": 153.45,
  "azimuth_plus_2m_deg": 149.0,
  "azimuth_plus_5m_deg": 148.08,
  "element_age_hours": 22.06,
  "element_epoch": "2023-07-20T06:49:35.255712+00:00",
  "elevation_deg": 77.24,
  "elevation_plus_2m_deg": 57.26,
  "elevation_plus_5m_deg": 35.71,
  "epoch_altitude_km": 1107.28,
  "ground_track_bearing_deg": 147.48,
  "ground_track_label": "SSE",
  "launch_date": "65089F",
  "launch_designator": "65089F",
  "name": "NORAD 27789",
  "norad_id": "27789",
  "range_km": 1963.06,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 31.4154,
  "subpoint_lon": -117.8255
},
{
  "azimuth_deg": 7.62,
  "azimuth_plus_2m_deg": 101.63,
  "azimuth_plus_5m_deg": 139.31,
  "element_age_hours": 11.99,
  "element_epoch": "2023-07-20T16:53:49.183872+00:00",
  "elevation_deg": 74.25,
  "elevation_plus_2m_deg": 78.2,
  "elevation_plus_5m_deg": 54.4,
  "epoch_altitude_km": 573.09,
  "ground_track_bearing_deg": 152.62,
  "ground_track_label": "SSE",
  "launch_date": "76126Z",
  "launch_designator": "76126Z",
  "name": "NORAD 9799",
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  "range_km": 2145.89,
  "sky_motion_label": "eastward, rising",
  "subpoint_lat": 38.0284,
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  "launch_designator": "81053EJ",
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  "subpoint_lat": 31.3214,
  "subpoint_lon": -118.4503
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  "azimuth_plus_2m_deg": 332.35,
  "azimuth_plus_5m_deg": 5.79,
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  "elevation_deg": 67.78,
  "elevation_plus_2m_deg": 71.16,
  "elevation_plus_5m_deg": 38.84,
  "epoch_altitude_km": 1497.31,
  "ground_track_bearing_deg": 15.14,
  "ground_track_label": "NNE",
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  "launch_designator": "91009DN",
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  "range_km": 1596.58,
  "sky_motion_label": "eastward, rising",
  "subpoint_lat": 31.4455,
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"element_age_hours": 3.78,
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"elevation_plus_2m_deg": 31.5,
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"epoch_altitude_km": 545.94,
"ground_track_bearing_deg": 136.9,
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"launch_date": "22041AE",
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"name": "NORAD 52289",
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"azimuth_plus_2m_deg": 359.98,
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"elevation_deg": 66.37,
"elevation_plus_2m_deg": 44.6,
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"ground_track_bearing_deg": 341.76,
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"azimuth_plus_2m_deg": 353.09,
"azimuth_plus_5m_deg": 349.25,
"element_age_hours": 5.42,
"element_epoch": "2023-07-20T23:27:56.818944+00:00",
"elevation_deg": 66.24,
"elevation_plus_2m_deg": 37.97,
"elevation_plus_5m_deg": 15.66,
"epoch_altitude_km": 738.38,
"ground_track_bearing_deg": 345.07,
"ground_track_label": "NNW",
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"launch_designator": "99025CEM",
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"azimuth_deg": 28.29,
"azimuth_plus_2m_deg": 148.16,
"azimuth_plus_5m_deg": 188.39,
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"elevation_plus_2m_deg": 81.44,
"elevation_plus_5m_deg": 44.97,
"epoch_altitude_km": 1093.49,
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"ground_track_label": "SSW",
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"launch_designator": "75052KC",
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"norad_id": "26822",
"range_km": 1683.08,
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"subpoint_lat": 38.5935,
"subpoint_lon": -116.292
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"azimuth_plus_2m_deg": 132.8,
"azimuth_plus_5m_deg": 126.71,
"element_age_hours": 2.07,
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"elevation_plus_2m_deg": 17.37,

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"launch_designator": "23090AY",  
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"range_km": 396.68,  
"sky_motion_label": "westward, setting",  
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"subpoint_lon": -120.0
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Appendix C. Source Exhaustion Checklist

This checklist records which source layers were actually applied to this individual report. It separates checked evidence from unexhausted collection gaps so the disposition is auditable when the PDF is read alone.

| SOURCE LAYER | STATUS | CASE-SPECIFIC NOTE |
|-----------------------------------|-----------------------|---|
| NARA PUBLIC UAP/FAA REPORT | reviewed | Source IDs: 237UAP00276 |
| TIME AND OBSERVER COORDINATE | extracted | 2023-07-21T04:53:00+00:00 at 34.11016, -119.39136 |
| ORBITAL OBJECT PROPAGATION | screened | public LEO catalog objects |
| SPACE-TRACK SATCAT METADATA | screened | 30 NORAD IDs checked; 30 matched in local SATCAT subset |
| LAUNCH-OBJECT/SUPGP LAYER | not applicable | not a launch-object case |
| NASA/JPL KNOWN SMALL-BODY LAYER | not selected | CAD/Horizons secondary screen included when this case had NEO-relevant timing/geometry |
| NASA POWER/HORIZONS/DONKI CONTEXT | not exhausted | Hourly weather, sky geometry, and space-weather context where local JSON is present |
| AIRCRAFT/ADS-B LAYER | screened | 51842 trace files scanned; 1127 tracks retained; aircraft strong candidate present |
| NOAA GOES IMAGERY LAYER | not exhausted | Cloud/lightning imagery layer for the report hour |
| NOAA GOES ABI/GLM MANIFEST | screened | Public S3 object listing for the report hour |
| NOAA/NEXRAD WEATHER RADAR LAYER | not exhausted | Weather radar only; not ATC/primary radar |
| NOAA IGRA RADIOSONDE LAYER | screened | Balloon drift plausibility layer |
| ASOS/METAR SURFACE WEATHER | screened | Nearest station visibility, cloud, wind, precipitation, and METAR observations |
| WEATHER/BALLOON SOURCE PLAN | planned | Nearest weather-airport, GOES, and radiosonde queries are listed where local plan JSON is present |
| FINAL ANALYTIC DISPOSITION | normal-object favored | Presence-only satellite density is context only; a stronger case-specific fit is required for normal-object disposition |

References and Source Links

1. National Archives and Records Administration. *Records Related to Unidentified Flying Objects (UFOs) and Unidentified Anomalous Phenomena (UAPs) at the National Archives*. <https://www.archives.gov/research/topics/uaps>
2. National Archives and Records Administration. *Record Group 615: Unidentified Anomalous Phenomena Records Collection*. <https://www.archives.gov/research/topics/uaps/rg-615>
3. National Archives and Records Administration. *Bulk Downloads for Records Related to Unidentified Anomalous Phenomena (UAPs)*. <https://www.archives.gov/research/catalog/catalog-bulk-downloads/uap-bulk-download>
4. National Archives Catalog. *Records from the Federal Aviation Administration Relating to Unidentified Anomalous Phenomena, National Archives Identifier 493468575*. <https://catalog.archives.gov/id/493468575>
5. National Archives direct digital object. *237UAP00276.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprodstorage/lz/electronic-records/rg-615/493468575/237UAP00276.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for public LEO catalog objects screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
7. Space-Track.org. *Public source for the underlying U.S. Space Surveillance Network TLE distribution referenced by the historical TLE archive*. <https://www.space-track.org/>
8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
10. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
11. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
12. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
13. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
14. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
15. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
16. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
17. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
18. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
19. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
20. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>