

CASE FILE 61 / 237UAP00316

237UAP00316

Radar/correlation-focused public UAP report; score 52

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-61-237UAP00316	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00316	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2023-11-18T11:08:00+00:00	OBSERVER	32.62801, -119.97016
SOURCE CASE IDS	237UAP00316		

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

237UAP00316 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N234AX B762 a21772 at 68.5 km, azimuth 348.8 deg, elevation 9.55 deg, 1.31 min from report. Dense satellite presence alone is not treated as causation in this packet.

1.1 Key Findings

- Source score 52 based on: radar/primary-return language, high-altitude report, UAP/UFO language.
- Report time used: 2023-11-18T11:08:00+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 N234AX B762 a21772 at 68.5 km, azimuth 348.8 deg, elevation 9.55 deg, 1.31 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Objects above horizon: 948; at/above 10 deg: 460.
- 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
237UAP00316	11:08 11/18/2023 Callsign: OAE1169 Origin: HNL	ZLA Operator: OAE Operator Type: Commercial	text extract present	237UAP00316.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Aircraft reported an unidentified aerial phenomenon off the right side while E bound at FL390, 110 NM SW of LAX. The unknown phenomenon was bright white and erratically moving traveling SE bound at approximately FL450 and above. The UAP was not observed on ATC radar systems.
REPORT TIME USED	2023-11-18T11:08:00+00:00
OBSERVER COORDINATE USED	32.62801, -119.97016
OBSERVER SOURCE BASIS	aviation_offset:110 NM SW of LAX (public text extract 237UAP00316)

4. Methodology

- 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.
- 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.
- 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.
- 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.
- 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.
- 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	20167	HISTORICAL ELEMENT ROWS	20167
ABOVE HORIZON AT REPORT MINUTE	948	AT/ABOVE 10 DEG	460
LARGEST SAME-SKY CLUSTER	458		

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 37695	190.98	80.13	978.88	eastward, setting	99025ELL
NORAD 41072	85.39	79.64	866.76	westward, setting	00055AF
NORAD 6306	259.64	78.73	1522.49	eastward, setting	72097B
NORAD 28990	272.4	78.48	926.49	westward, setting	88005E
NORAD 4914	274.92	77.41	997.97	westward, setting	70025FL
NORAD 38659	324.36	75.02	1313.58	westward, setting	09072G
NORAD 40754	164.9	74.02	1699.01	eastward, setting	76077FX
NORAD 9820	183.84	70.02	1769.97	westward, rising	76126AG
NORAD 15471	304.65	68.98	1488.1	westward, setting	85003C
NORAD 52542	203.42	68.6	577.38	westward, setting	22051K
NORAD 21782	237.38	67.58	1485.28	eastward, setting	91077D
NORAD 28480	312.59	64.39	781.76	westward, setting	04046B

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	458	0.57-359.73 deg	10.04-80.13 deg	eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, setting, westward, level, westward, rising, westward, setting
2	1	85.39-85.39 deg	79.64-79.64 deg	westward, setting
3	1	207.9-207.9 deg	46.15-46.15 deg	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	CIS: 13, US: 11, PRC: 4, UK: 2		
OBJECT TYPES	DEBRIS: 15, PAYLOAD: 11, ROCKET BODY: 4		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
37695	FENGYUN 1C DEB	DEBRIS	PRC	1999-05-10	n/a
41072	NOAA 16 DEB	DEBRIS	US	2000-09-21	n/a
6306	DELTA 1 R/B	ROCKET BODY	US	1972-12-11	n/a
28990	METEOR 2-17 DEB	DEBRIS	CIS	1988-01-30	n/a
4914	THORAD AGENA D DEB	DEBRIS	US	1970-04-08	n/a
38659	CZ-4C DEB	DEBRIS	PRC	2009-12-15	n/a
40754	DELTA 1 DEB	DEBRIS	US	1976-07-29	n/a
9820	COSMOS 886 DEB	DEBRIS	CIS	1976-12-27	n/a
15471	COSMOS 1619	PAYLOAD	CIS	1985-01-15	n/a
52542	STARLINK-3937	PAYLOAD	US	2022-05-13	n/a
21782	COSMOS 2168	PAYLOAD	CIS	1991-11-12	n/a
28480	CZ-2C R/B	ROCKET BODY	PRC	2004-11-18	n/a

5.9 NASA / NOAA / ADS-B Expansion Layer

This source layer adds free NASA context that was previously missing from most packet cases. It is contextual evidence; it does not replace aircraft, satellite, balloon, or radar causation tests.

HOURL UTC	2023111811
CLOUD AMOUNT	4.1%
PRECIPITATION	1.05 mm/hr
10 M WIND	4.97 m/s
TEMPERATURE	18.33 C
RELATIVE HUMIDITY	90.94%
DONKI +/-1 DAY	CME: unavailable; FLR: unavailable; GST: unavailable; HSS: unavailable; IPS: unavailable; MPC: unavailable; RBE: unavailable; SEP: unavailable; WSAEnlilSimulations: unavailable

5.10 Horizons Sky Geometry Context

OBJECT	AZ	EL	APP MAG
Sun	86.49	-42.89	-26.77
Moon	289.20	-72.21	-9.04
Venus	94.17	1.27	-4.27
Mars	86.66	-42.85	1.40
Jupiter	269.40	25.66	-2.88

OBJECT	AZ	EL	APP MAG
Saturn	282.05	-41.10	0.81

- Sun elevation was -42.9 deg, so this was a dark-sky/nighttime sighting.
- Moon was below horizon at elevation -72.2 deg.
- Planets above horizon: Venus (1.3 deg), Jupiter (25.7 deg).
- NASA POWER cloud amount for the hour was 4.1%, with precipitation 1.05 mm/hr.

5.11 Free Source Availability and Remaining Work

LAYER	STATUS	CASE-SPECIFIC NOTE
ADSB.LOL HISTORICAL RELEASE LISTING	screened/present	planes-readsb-staging-0 1450.5 MiB; planes-readsb-prod-0 1452.4 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 adslol/globe_history_2023 for 2023-11-18, then filter +/-60 min and 250 nmi around 32.6280,-119.9702.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00316 at 2023-11-18T11:08:00+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/2023/322/11/
GOES GLM LIGHTNING PREFIX	https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2023/322/11/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KNTD	Point Mugu Naval Air Station (Naval Base Ventura Co)	183.70	34.12, -119.12
KOXR	Oxnard Airport	188.70	34.20, -119.21
KCMA	Camarillo International Airport	194.20	34.21, -119.09
KSBA	Santa Barbara Municipal Airport	200.30	34.43, -119.84
KLAX	Los Angeles International Airport	206.00	33.94, -118.41

- KNTD: [IEM ASOS/METAR daily CSV query](#)
- KOXR: [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	183.50	34.12, -119.12
USM00072393	VANDENBERG AFB; CA. (72393-0)	242.30	34.75, -120.57
USM00072293	SAN DIEGO/MIRAMAR; NAS; CA.	267.90	32.83, -117.12
USM00072381	EDWARDS AFB; CA.	318.40	34.92, -117.90
USM00074612	CHINA LAKE; NAF; CA.	399.60	35.68, -117.68

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 2-10 statute miles; precipitation was reported in at least one observation; low/broken/overcast cloud layers were present in at least one observation. 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
KNTD	183.70	2023-11-18T10:55:00 +00:00	3.00	BKN00700, OVC01100, M, M	360.00 / 3.00	KNTD 181055Z AUTO 36003KT 3SM -RA BR BKN007 OVC011 16/16 A2999 RMK AO2 SLP156 T01610156 PNO VISNO S \$
KOXR	188.70	2023-11-18T10:51:00 +00:00	6.00	BKN00900, OVC03100, M, M	50.00 / 4.00	KOXR 181051Z 05004KT 6SM -RA BR BKN009 OVC031 16/14 A2998 RMK AO2 RAB0953 SLP151 P0005 T01560144 TSNO FIBI IEM_GHCNH
KCMA	194.20	2023-11-18T10:55:00 +00:00	2.00	FEW00900, BKN01700, OVC02300, M	0.00 / 0.00	KCMA 181055Z 00000KT 2SM -RA BR FEW009 BKN017 OVC023 16/14 A2998 RMK AO2 SLP160 P0007 T01610144

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	183.50	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/2023/322/11/OR_ABI-L2-CMIPF-M6C01_G18_s20233221100215_e20233221109523_c20233221109586.nc](#)
- [ABI-L2-CMIPF/2023/322/11/OR_ABI-L2-CMIPF-M6C01_G18_s20233221110215_e20233221119523_c20233221119589.nc](#)
- [ABI-L2-CMIPF/2023/322/11/OR_ABI-L2-CMIPF-M6C01_G18_s20233221120215_e20233221129523_c20233221129578.nc](#)
- [ABI-L2-CMIPF/2023/322/11/OR_ABI-L2-CMIPF-M6C01_G18_s20233221130215_e20233221139523_c20233221139583.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2023/322/11/OR_GLM-L2-LCFA_G18_s20233221100000_e20233221100200_c20233221100217.nc](#)
- [GLM-L2-LCFA/2023/322/11/OR_GLM-L2-LCFA_G18_s20233221100200_e20233221100400_c20233221100413.nc](#)
- [GLM-L2-LCFA/2023/322/11/OR_GLM-L2-LCFA_G18_s20233221100400_e20233221101000_c20233221101013.nc](#)
- [GLM-L2-LCFA/2023/322/11/OR_GLM-L2-LCFA_G18_s20233221101000_e20233221101200_c20233221101214.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	2023-11-18T09:53:00+00:00 to 2023-11-18T12:23:00+00:00	RADIUS	300.00 nmi
TRACE FILES SCANNED	47195	TRACKS RETAINED	100
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	3	PLAUSIBLE CANDIDATES	4
REPORTING-AIRCRAFT TRACKS EXCLUDED	3	WEAK CANDIDATES	20

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N234AX B762 a21772	strong aircraft candidate	71.76	65.20	0.13	39000	348.80	9.55
N834AA B789 ab6737	strong aircraft candidate	68.15	16.50	0.07	39000	76.10	15.02
N431AZ B763 a526ed	strong aircraft candidate	65.58	38.80	0.09	14875	26.40	10.52
N772UA B772 aa7238	plausible aircraft candidate	54.20	110.50	0.13	37000	358.70	4.95
N14115 B752 a0a900	plausible aircraft candidate	50.06	82.60	0.01	37000	4.50	6.79
N29129 B752 a2fbf1	plausible aircraft candidate	49.48	85.40	0.16	35000	4.10	6.21
N741CK B744 a9f67d	plausible aircraft candidate	40.20	121.00	0.01	4300	8.10	3.70
N443AA A21N a555c3	weak aircraft candidate	62.58	9.70	23.56	35000	328.80	47.73

6. Annotated Evidence Figure



Generated figure copied from the local evidence-plot output. It is included as an analytic visualization, not as original sensor imagery.

7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2023-11-18T11:08:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	32.62801, -119.97016	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	not explicit	No compact same-launch count match; retained for unresolved report features.
MOTION LANGUAGE	moving	Apparent motion labels in the object table provide a plausible but not definitive comparison.
RADAR / OFFICIAL CHECK	not observed on ATC radar	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	237UAP00316 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N234AX B762 a21772 at 68.5 km, azimuth 348.8 deg, elevation 9.55 deg, 1.31 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

237UAP00316

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

Date: 11:08 11/18/2023
Status: Closed
POD: DEN
Reporting Facility: ZLA

Callsign: OAE1169
Aircraft: B762
Tail Number:
Operator: OAE

Origin: HNL
Destination: AFW
New Destination:
Operator Type: Commercial
Paged: YES

REMARKS

Aircraft reported an unidentified aerial phenomenon off the right side while E bound at FL390, 110 NM SW of LAX. The unknown phenomenon was bright white and erratically moving traveling SE bound at approximately FL450 and above. The UAP was not observed on ATC radar systems.

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": "2023-11-18T11:08:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon off the right side while E bound at FL390, 110 NM SW of LAX. The unknown phenomenon was bright white and erratically moving traveling SE bound at approximately FL450 and above. The UAP was not observed on ATC radar systems.",
  "historical_starlink_element_rows": 20167,
  "observer": {
    "lat": 32.62801464120238,
    "lon": -119.97016210592926,
    "source": "aviation_offset:110 NM SW of LAX (public text extract 237UAP00316)"
  },
  "case_id": "237UAP00316",
  "starlink_above_horizon_at_report_time": 948,
  "starlink_catalog_ids_considered": 20167,
  "largest_same-sky_cluster_count": 458,
  "starlink_at_or_above_10_deg": 460,
  "top_starlinks": [
    {
      "azimuth_deg": 190.98,
      "azimuth_plus_2m_deg": 342.29,
      "azimuth_plus_5m_deg": 346.17,
      "element_age_hours": 31.12,
      "element_epoch": "2023-11-17T04:00:46.840320+00:00",
      "elevation_deg": 80.13,
      "elevation_plus_2m_deg": 49.9,
      "elevation_plus_5m_deg": 15.36,
      "epoch_altitude_km": 685.95,
      "ground_track_bearing_deg": 347.28,
      "ground_track_label": "NNW",
      "launch_date": "99025ELL",
      "launch_designator": "99025ELL",
      "name": "NORAD 37695",
      "norad_id": "37695",
      "range_km": 978.88,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 31.3375,
      "subpoint_lon": -120.2619
    },
    {
      "azimuth_deg": 85.39,
      "azimuth_plus_2m_deg": 355.52,
      "azimuth_plus_5m_deg": 350.01,
      "element_age_hours": 1.93,
      "element_epoch": "2023-11-18T09:12:21.098592+00:00",
      "elevation_deg": 79.64,
      "elevation_plus_2m_deg": 41.87,
      "elevation_plus_5m_deg": 13.32,
      "epoch_altitude_km": 852.74,
      "ground_track_bearing_deg": 346.59,
      "ground_track_label": "NNW",
      "launch_date": "00055AF",
      "launch_designator": "00055AF",
      "name": "NORAD 41072",
      "norad_id": "41072",
      "range_km": 866.76,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 32.7192,
      "subpoint_lon": -118.5085
    },
    {
      "azimuth_deg": 259.64,
      "azimuth_plus_2m_deg": 327.57,
      "azimuth_plus_5m_deg": 339.1,
      "element_age_hours": 1.74,
      "element_epoch": "2023-11-18T09:23:24.177120+00:00",
      "elevation_deg": 78.73,
      "elevation_plus_2m_deg": 57.29,
      "elevation_plus_5m_deg": 28.57,
      "epoch_altitude_km": 1107.45,
      "ground_track_bearing_deg": 344.94,
      "ground_track_label": "NNW",
      "launch_date": "72097B",
      "launch_designator": "72097B",
      "name": "NORAD 6306",
      "norad_id": "6306",
      "range_km": 1522.49,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 32.2122,
      "subpoint_lon": -122.4863
    }
  ],
}
```

```

{
  "azimuth_deg": 272.4,
  "azimuth_plus_2m_deg": 187.76,
  "azimuth_plus_5m_deg": 180.73,
  "element_age_hours": 18.19,
  "element_epoch": "2023-11-19T05:19:37.812288+00:00",
  "elevation_deg": 78.48,
  "elevation_plus_2m_deg": 44.33,
  "elevation_plus_5m_deg": 15.09,
  "epoch_altitude_km": 900.71,
  "ground_track_bearing_deg": 174.84,
  "ground_track_label": "S",
  "launch_date": "88005E",
  "launch_designator": "88005E",
  "name": "NORAD 28990",
  "norad_id": "28990",
  "range_km": 926.49,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 32.6772,
  "subpoint_lon": -121.6953
},
{
  "azimuth_deg": 274.92,
  "azimuth_plus_2m_deg": 208.66,
  "azimuth_plus_5m_deg": 201.41,
  "element_age_hours": 5.18,
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  "launch_designator": "76077FX",
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"range_km": 781.76,  
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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: 237UAP00316
TIME AND OBSERVER COORDINATE	extracted	2023-11-18T11:08:00+00:00 at 32.62801, -119.97016
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	screened	Hourly weather, sky geometry, and space-weather context where local JSON is present
AIRCRAFT/ADS-B LAYER	screened	47195 trace files scanned; 100 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

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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. *237UAP00316.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-615/493468575/237UAP00316.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>
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9. NASA POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
10. NASA/JPL Solar System Dynamics. *Horizons API documentation for observer geometry and apparent magnitude queries*. <https://ssd-api.jpl.nasa.gov/doc/horizons.html>
11. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
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14. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
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16. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
17. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
18. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
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20. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
21. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
22. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
23. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>