

CASE FILE 55 / 237UAP00369

# 237UAP00369

Radar/correlation-focused public UAP report; score 54

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-55-237UAP00369	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00369	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-05-16T20:31:00+00:00	OBSERVER	33.78752, -116.33081
SOURCE CASE IDS	237UAP00369		

## 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

---

237UAP00369 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N100ED GA6C a0051c at 23.4 km, azimuth 22.6 deg, elevation 28.07 deg, 1.74 min from report. Dense satellite presence alone is not treated as causation in this packet.

## 1.1 Key Findings

- Source score 54 based on: radar/primary-return language, negative official correlation, UAP/UFO language.
- Report time used: 2024-05-16T20:31:00+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 N100ED GA6C a0051c at 23.4 km, azimuth 22.6 deg, elevation 28.07 deg, 1.74 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Objects above horizon: 938; at/above 10 deg: 449.
- 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
237UAP00369	20:31 05/16/2024 Callsign: N972PA Origin: VFR	PSP Operator: Operator Type: General Aviation	text extract present	<a href="#">237UAP00369.pdf</a>

### 3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Aircraft reported an unidentified aerial phenomenon while NW bound at 3,700 feet, 7NM SE of PSP. The unknown phenomenon was a manned jet pack traveling N bound at approximately 3,500 feet. The UAP was not observed on ATC facility radar systems.
REPORT TIME USED	2024-05-16T20:31:00+00:00
OBSERVER COORDINATE USED	33.78752, -116.33081
OBSERVER SOURCE BASIS	aviation_offset:7NM SE of PSP (public text extract 237UAP00369)

### 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	19771	HISTORICAL ELEMENT ROWS	19771
ABOVE HORIZON AT REPORT MINUTE	938	AT/ABOVE 10 DEG	449
LARGEST SAME-SKY CLUSTER	449		

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 55641	131.93	82.86	581.17	westward, setting	23021P
NORAD 21284	319.92	79.02	1202.68	westward, setting	75052V
NORAD 55635	60.28	78.64	587.67	westward, setting	23021H
NORAD 15625	316.73	78.38	1573.68	westward, setting	85023J
NORAD 4621	58.74	77.29	1068.33	westward, setting	70089H
NORAD 12532	202.76	76.49	1238.22	eastward, setting	76077DM
NORAD 21407	330.43	74.75	1465.83	westward, setting	91009BW
NORAD 7179	263.94	74.01	975.78	westward, setting	73086EQ
NORAD 55817	167.71	73.03	1229.36	westward, setting	23029X
NORAD 3093	238.73	72.66	1547.06	eastward, setting	68002A
NORAD 42345	254.53	72.31	766.11	westward, setting	00055QM
NORAD 46154	70.43	68.81	585.06	westward, setting	20057AP

### 5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	449	0.46-359.3 deg	10.09-82.86 deg	eastward, level, eastward, rising, eastward, setting, 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: 15, CIS: 12, UK: 2, PRC: 1		
OBJECT TYPES	DEBRIS: 16, PAYLOAD: 11, ROCKET BODY: 3		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
55641	STARLINK-5065	PAYLOAD	US	2023-02-17	n/a
21284	DELTA 1 DEB	DEBRIS	US	1975-06-12	n/a
55635	STARLINK-5495	PAYLOAD	US	2023-02-17	n/a
15625	SL-8 R/B	ROCKET BODY	CIS	1985-03-21	n/a
4621	COSMOS 374 DEB	DEBRIS	CIS	1970-10-23	n/a
12532	DELTA 1 DEB	DEBRIS	US	1976-07-29	n/a
21407	SL-8 DEB	DEBRIS	CIS	1991-02-12	n/a
7179	DELTA 1 DEB	DEBRIS	US	1973-11-06	n/a
55817	ONEWEB-0656	PAYLOAD	UK	2023-03-09	n/a
3093	EXPLORER 36 (GEOS 2)	PAYLOAD	US	1968-01-11	n/a
42345	NOAA 16 DEB	DEBRIS	US	2000-09-21	n/a
46154	STARLINK-1642	PAYLOAD	US	2020-08-18	2026-02-20

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 2171.0 MiB; planes-readsb-prod-0 2171.0 MiB; planes-readsb-mlatonly-0 201.0 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\_2024 for 2024-05-16, then filter +/-60 min and 250 nmi around 33.7875,-116.3308.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00369 at 2024-05-16T20:31:00+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	<a href="https://noaa-goes18.s3.amazonaws.com/ABI-L2-CMIPF/2024/137/20/">https://noaa-goes18.s3.amazonaws.com/ABI-L2-CMIPF/2024/137/20/</a>
GOES GLM LIGHTNING PREFIX	<a href="https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2024/137/20/">https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2024/137/20/</a>

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KPSP	Palm Springs International Airport	16.90	33.83, -116.51
KTRM	Jacqueline Cochran Regional Airport	23.90	33.63, -116.16
KNXP	Twentynine Palms Strategic Expeditionary Landing Field	58.70	34.30, -116.16
KRIV	March Air Reserve Base	86.40	33.88, -117.26
KSBD	San Bernardino International Airport	90.40	34.10, -117.24

- KPSP: [IEM ASOS/METAR daily CSV query](#)
- KTRM: [IEM ASOS/METAR daily CSV query](#)
- KNXP: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072293	SAN DIEGO/MIRAMAR; NAS; CA.	128.80	32.83, -117.12
USM00072381	EDWARDS AFB; CA.	191.10	34.92, -117.90
USM00074004	YUMA PROVING GROUNDS AZ	208.30	32.84, -114.40
USM00074005	YUMA PRVGR	236.90	32.86, -114.03
USM00074612	CHINA LAKE; NAF; CA.	244.40	35.68, -117.68

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 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
KPSP	16.90	2024-05-16T20:53:00 +00:00	10.00	CLR, M, M, M	340.00 / 9.00	KPSP 162053Z 34009KT 10SM CLR 34/11 A2977 RMK AO2 SLP076 6//// T03440106 58013 PNO
KTRM	23.90	2024-05-16T20:52:00 +00:00	10.00	CLR, M, M, M	180.00 / 4.00	KTRM 162052Z AUTO 18004KT 10SM CLR 35/09 A2971 RMK AO2 SLP064 T03500094 58019
KNXP	58.70	2024-05-16T20:56:00 +00:00	10.00	CLR, M, M, M	30.00 / 8.00	KNXP 162056Z AUTO 03008KT 10SM CLR 35/00 A2988 RMK AO2

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
						SLP078 T03500000 58015

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 8.5 deg at 4.35 m/s; a passive balloon could drift about 31.3 km in two hours under this crude layer-average model. 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
USM00072293	SAN DIEGO/ MIRAMAR; NAS; CA.	128.80	2024-05-17T00:00 :00+00:00	8.50	4.35	31.30	35.80 at 4698.00 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/2024/137/20/OR\\_ABI-L2-CMIPF-M6C01\\_G18\\_s20241372000210\\_e20241372009518\\_c20241372009588.nc](#)
- [ABI-L2-CMIPF/2024/137/20/OR\\_ABI-L2-CMIPF-M6C01\\_G18\\_s20241372010210\\_e20241372019518\\_c20241372019589.nc](#)
- [ABI-L2-CMIPF/2024/137/20/OR\\_ABI-L2-CMIPF-M6C01\\_G18\\_s20241372020210\\_e20241372029518\\_c20241372029591.nc](#)
- [ABI-L2-CMIPF/2024/137/20/OR\\_ABI-L2-CMIPF-M6C01\\_G18\\_s20241372030210\\_e20241372039518\\_c20241372039582.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/137/20/OR\\_GLM-L2-LCFA\\_G18\\_s20241372000000\\_e20241372000200\\_c20241372000220.nc](#)
- [GLM-L2-LCFA/2024/137/20/OR\\_GLM-L2-LCFA\\_G18\\_s20241372000200\\_e20241372000400\\_c20241372000420.nc](#)
- [GLM-L2-LCFA/2024/137/20/OR\\_GLM-L2-LCFA\\_G18\\_s20241372000400\\_e20241372001000\\_c20241372001018.nc](#)
- [GLM-L2-LCFA/2024/137/20/OR\\_GLM-L2-LCFA\\_G18\\_s20241372001000\\_e20241372001200\\_c20241372001222.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	2024-05-16T19:16:00+00:00 to 2024-05-16T21:46:00+00:00	RADIUS	300.00 nmi
TRACE FILES SCANNED	22730	TRACKS RETAINED	1200
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	23	PLAUSIBLE CANDIDATES	187
REPORTING-AIRCRAFT TRACKS EXCLUDED	3	WEAK CANDIDATES	187

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N100ED GA6C a0051c	strong aircraft candidate	88.45	23.40	0.10	41000	22.60	28.07





## 7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2024-05-16T20:31:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	33.78752, -116.33081	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	not explicit	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	237UAP00369 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N100ED GA6C a0051c at 23.4 km, azimuth 22.6 deg, elevation 28.07 deg, 1.74 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

237UAP00369

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

Date: 20:31 05/16/2024  
Status: Closed  
POD: DEN  
Reporting Facility: PSP

Callsign: N972PA  
Aircraft: SR20  
Tail Number:  
Operator:

Origin: VFR  
Destination: PSP  
New Destination:  
Operator Type: General Aviation  
Paged: YES

REMARKS

Aircraft reported an unidentified aerial phenomenon while NW bound at 3,700 feet, 7NM SE of PSP. The unknown phenomenon was a manned jet pack traveling N bound at approximately 3,500 feet. The UAP was not observed on ATC facility 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": "2024-05-16T20:31:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon while NW bound at 3,700 feet, 7NM SE of PSP. The unknown phenomenon was a manned jet pack traveling N bound at approximately 3,500 feet. The UAP was not observed on ATC facility radar systems.",
  "historical_starlink_element_rows": 19771,
  "observer": {
    "lat": 33.78751899136965,
    "lon": -116.33080691835664,
    "source": "aviation_offset:7NM SE of PSP (public text extract 237UAP00369)"
  },
  "case_id": "237UAP00369",
  "starlink_above_horizon_at_report_time": 938,
  "starlink_catalog_ids_considered": 19771,
  "largest_same-sky_cluster_count": 449,
  "starlink_at_or_above_10_deg": 449,
  "top_starlinks": [
    {
      "azimuth_deg": 131.93,
      "azimuth_plus_2m_deg": 25.58,
      "azimuth_plus_5m_deg": 23.34,
      "element_age_hours": 3.36,
      "element_epoch": "2024-05-16T17:09:12.876768+00:00",
      "elevation_deg": 82.86,
      "elevation_plus_2m_deg": 31.26,
      "elevation_plus_5m_deg": 6.22,
      "epoch_altitude_km": 577.15,
      "ground_track_bearing_deg": 21.35,
      "ground_track_label": "NNE",
      "launch_date": "23021P",
      "launch_designator": "23021P",
      "name": "NORAD 55641",
      "norad_id": "55641",
      "range_km": 581.17,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 33.3872,
      "subpoint_lon": -115.8009
    },
    {
      "azimuth_deg": 319.92,
      "azimuth_plus_2m_deg": 210.69,
      "azimuth_plus_5m_deg": 202.03,
      "element_age_hours": 3.45,
      "element_epoch": "2024-05-16T17:04:00.532128+00:00",
      "elevation_deg": 79.02,
      "elevation_plus_2m_deg": 55.84,
      "elevation_plus_5m_deg": 23.69,
      "epoch_altitude_km": 1091.86,
      "ground_track_bearing_deg": 195.72,
      "ground_track_label": "SSW",
      "launch_date": "75052V",
      "launch_designator": "75052V",
      "name": "NORAD 21284",
      "norad_id": "21284",
      "range_km": 1202.68,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 35.1123,
      "subpoint_lon": -117.6961
    },
    {
      "azimuth_deg": 60.28,
      "azimuth_plus_2m_deg": 25.41,
      "azimuth_plus_5m_deg": 23.41,
      "element_age_hours": 7.85,
      "element_epoch": "2024-05-17T04:21:53.369280+00:00",
      "elevation_deg": 78.64,
      "elevation_plus_2m_deg": 27.5,
      "elevation_plus_5m_deg": 5.01,
      "epoch_altitude_km": 577.17,
      "ground_track_bearing_deg": 21.65,
      "ground_track_label": "NNE",
      "launch_date": "23021H",
      "launch_designator": "23021H",
      "name": "NORAD 55635",
      "norad_id": "55635",
      "range_km": 587.67,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 34.2576,
      "subpoint_lon": -115.3301
    }
  ],
}
```

```

{
  "azimuth_deg": 316.73,
  "azimuth_plus_2m_deg": 180.56,
  "azimuth_plus_5m_deg": 170.49,
  "element_age_hours": 6.61,
  "element_epoch": "2024-05-16T13:54:40.182336+00:00",
  "elevation_deg": 78.38,
  "elevation_plus_2m_deg": 69.4,
  "elevation_plus_5m_deg": 37.15,
  "epoch_altitude_km": 1483.87,
  "ground_track_bearing_deg": 164.32,
  "ground_track_label": "SSE",
  "launch_date": "85023J",
  "launch_designator": "85023J",
  "name": "NORAD 15625",
  "norad_id": "15625",
  "range_km": 1573.68,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 35.4468,
  "subpoint_lon": -118.258
},
{
  "azimuth_deg": 58.74,
  "azimuth_plus_2m_deg": 35.89,
  "azimuth_plus_5m_deg": 32.97,
  "element_age_hours": 1.98,
  "element_epoch": "2024-05-16T18:32:18.958560+00:00",
  "elevation_deg": 77.29,
  "elevation_plus_2m_deg": 40.62,
  "elevation_plus_5m_deg": 12.74,
  "epoch_altitude_km": 526.03,
  "ground_track_bearing_deg": 30.79,
  "ground_track_label": "NNE",
  "launch_date": "70089H",
  "launch_designator": "70089H",
  "name": "NORAD 4621",
  "norad_id": "4621",
  "range_km": 1068.33,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 34.7178,
  "subpoint_lon": -114.4451
},
{
  "azimuth_deg": 202.76,
  "azimuth_plus_2m_deg": 327.64,
  "azimuth_plus_5m_deg": 338.38,
  "element_age_hours": 11.75,
  "element_epoch": "2024-05-17T08:15:56.339712+00:00",
  "elevation_deg": 76.49,
  "elevation_plus_2m_deg": 59.75,
  "elevation_plus_5m_deg": 26.25,
  "epoch_altitude_km": 1176.1,
  "ground_track_bearing_deg": 342.53,
  "ground_track_label": "NNW",
  "launch_date": "76077DM",
  "launch_designator": "76077DM",
  "name": "NORAD 12532",
  "norad_id": "12532",
  "range_km": 1238.22,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 31.7625,
  "subpoint_lon": -117.3237
},
{
  "azimuth_deg": 330.43,
  "azimuth_plus_2m_deg": 175.95,
  "azimuth_plus_5m_deg": 168.16,
  "element_age_hours": 12.36,
  "element_epoch": "2024-05-16T08:09:11.100384+00:00",
  "elevation_deg": 74.75,
  "elevation_plus_2m_deg": 71.2,
  "elevation_plus_5m_deg": 35.82,
  "epoch_altitude_km": 1405.31,
  "ground_track_bearing_deg": 163.71,
  "ground_track_label": "SSE",
  "launch_date": "91009BW",
  "launch_designator": "91009BW",
  "name": "NORAD 21407",
  "norad_id": "21407",
  "range_km": 1465.83,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 36.2455,
  "subpoint_lon": -118.0619
},
{
  "azimuth_deg": 263.94,
  "azimuth_plus_2m_deg": 213.37,
  "azimuth_plus_5m_deg": 206.09,

```

```

"element_age_hours": 7.63,
"element_epoch": "2024-05-16T12:53:19.502592+00:00",
"elevation_deg": 74.01,
"elevation_plus_2m_deg": 39.66,
"elevation_plus_5m_deg": 13.37,
"epoch_altitude_km": 943.61,
"ground_track_bearing_deg": 198.71,
"ground_track_label": "SSW",
"launch_date": "73086EQ",
"launch_designator": "73086EQ",
"name": "NORAD 7179",
"norad_id": "7179",
"range_km": 975.78,
"sky_motion_label": "westward, setting",
"subpoint_lat": 33.5391,
"subpoint_lon": -118.8388
},
{
  "azimuth_deg": 167.71,
  "azimuth_plus_2m_deg": 6.04,
  "azimuth_plus_5m_deg": 1.25,
  "element_age_hours": 5.3,
  "element_epoch": "2024-05-17T01:48:53.078112+00:00",
  "elevation_deg": 73.03,
  "elevation_plus_2m_deg": 65.88,
  "elevation_plus_5m_deg": 28.14,
  "epoch_altitude_km": 1187.32,
  "ground_track_bearing_deg": 358.97,
  "ground_track_label": "N",
  "launch_date": "23029X",
  "launch_designator": "23029X",
  "name": "NORAD 55817",
  "norad_id": "55817",
  "range_km": 1229.36,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 31.1197,
  "subpoint_lon": -115.6554
},
{
  "azimuth_deg": 238.73,
  "azimuth_plus_2m_deg": 309.58,
  "azimuth_plus_5m_deg": 328.13,
  "element_age_hours": 6.72,
  "element_epoch": "2024-05-16T13:47:46.906944+00:00",
  "elevation_deg": 72.66,
  "elevation_plus_2m_deg": 58.41,
  "elevation_plus_5m_deg": 30.94,
  "epoch_altitude_km": 1088.15,
  "ground_track_bearing_deg": 338.0,
  "ground_track_label": "NNW",
  "launch_date": "68002A",
  "launch_designator": "68002A",
  "name": "NORAD 3093",
  "norad_id": "3093",
  "range_km": 1547.06,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 31.992,
  "subpoint_lon": -119.7137
},
{
  "azimuth_deg": 254.53,
  "azimuth_plus_2m_deg": 206.03,
  "azimuth_plus_5m_deg": 200.0,
  "element_age_hours": 27.67,
  "element_epoch": "2024-05-18T00:11:23.460288+00:00",
  "elevation_deg": 72.31,
  "elevation_plus_2m_deg": 32.02,
  "elevation_plus_5m_deg": 7.81,
  "epoch_altitude_km": 733.62,
  "ground_track_bearing_deg": 193.84,
  "ground_track_label": "SSW",
  "launch_date": "00055QM",
  "launch_designator": "00055QM",
  "name": "NORAD 42345",
  "norad_id": "42345",
  "range_km": 766.11,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 33.2667,
  "subpoint_lon": -118.4908
},
{
  "azimuth_deg": 70.43,
  "azimuth_plus_2m_deg": 48.64,
  "azimuth_plus_5m_deg": 46.21,
  "element_age_hours": 9.75,
  "element_epoch": "2024-05-16T10:45:54.763200+00:00",
  "elevation_deg": 68.81,
  "elevation_plus_2m_deg": 23.71,

```

```
"elevation_plus_5m_deg": 3.59,  
"epoch_altitude_km": 553.23,  
"ground_track_bearing_deg": 44.54,  
"ground_track_label": "NE",  
"launch_date": "20057AP",  
"launch_designator": "20057AP",  
"name": "NORAD 46154",  
"norad_id": "46154",  
"range_km": 585.06,  
"sky_motion_label": "westward, setting",  
"subpoint_lat": 34.3594,  
"subpoint_lon": -114.3356  
}  
],  
"adsb_lol_analysis": {  
  "c
```

## 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: 237UAP00369
TIME AND OBSERVER COORDINATE	extracted	2024-05-16T20:31:00+00:00 at 33.78752, -116.33081
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	22730 trace files scanned; 1200 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. *237UAP00369.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-615/493468575/237UAP00369.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/>