

CASE FILE 60 / 237UAP00628

# 237UAP00628

Radar/correlation-focused public UAP report; score 54

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-60-237UAP00628	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00628	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-05-18T06:50:00+00:00	OBSERVER	30.19357, -98.17124
SOURCE CASE IDS	237UAP00628		

## 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

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237UAP00628 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N521SY E75L a68e4c at 15.5 km, azimuth 15.0 deg, elevation 36.05 deg, 5.71 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: 2024-05-18T06:50:00+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 N521SY E75L a68e4c at 15.5 km, azimuth 15.0 deg, elevation 36.05 deg, 5.71 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Remaining hard features: hard maneuver language.
- Objects above horizon: 850; at/above 10 deg: 401.
- 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

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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
237UAP00628	5/18/2024 1:50:00 AM (-05 CDT)	SKW3260 UFO-UAP ACTIVITY 05-18-2024	text extract present	<a href="#">237UAP00628.pdf</a>

### 3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Washington Operations Center Date: 5/18/2024 1:50:00 AM (-05 CDT) Title: SKW3260 UFO-UAP ACTIVITY 05-18-2024 Latitude: 30.19356887 Latitude: -98.171239889999995 DESCRIPTION PRELIM INFO FROM FAA OPS: AUSTIN, TX/UFO-UAP ACTIVITY/LATE REPORT-0150C/HOUSTON ARTCC ADVISED SKY WEST 3260, E75L, PHX - IAH, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF LEFT SIDE WHILE E BOUND AT FL370 30 W AUS. NO EVASIVE ACTION TAKEN. THE PHENOMENON WAS REPORTED AS TWO MANEUVERING LIGHTS 100-150 MILES N OF THE ACFT ABOVE FL370. THE UAP WAS NOT OBSERVED ON RADAR BY ATC. LEO NOTIFICATION NOT REPORTED. WOC 7-3333 RL/JW
REPORT TIME USED	2024-05-18T06:50:00+00:00
OBSERVER COORDINATE USED	30.19357, -98.17124
OBSERVER SOURCE BASIS	(public text extract 237UAP00628)

### 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	19747	HISTORICAL ELEMENT ROWS	19747
ABOVE HORIZON AT REPORT MINUTE	850	AT/ABOVE 10 DEG	401
LARGEST SAME-SKY CLUSTER	395		

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 26844	198.93	79.56	1029.39	westward, setting	75052KY
NORAD 42502	324.38	76.9	1092.79	westward, setting	70025RG
NORAD 35645	65.68	75.55	856.03	eastward, setting	93036ANL
NORAD 7267	177.16	73.11	1409.21	westward, setting	74024C
NORAD 25306	196.4	71.56	1917.01	westward, setting	98023A
NORAD 14096	303.06	70.54	2624.98	eastward, setting	83051B
NORAD 55831	107.19	69.2	1253.74	eastward, setting	23029AM
NORAD 41083	23.01	65.53	1108.05	eastward, rising	00055AS
NORAD 30925	19.78	64.27	879.57	westward, setting	99025AZP
NORAD 42193	71.65	64.06	1142.31	eastward, setting	81053TH
NORAD 34524	233.58	62.02	628.56	eastward, setting	97051HR
NORAD 42092	309.06	60.97	1621.39	eastward, setting	68114U

### 5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	395	1.03-358.7 deg	10.03-76.9 deg	eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, rising, nearly fixed azimuth, setting, westward, level, westward, rising, westward, setting
2	3	177.16-198.93 deg	71.56-79.56 deg	westward, setting

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
3	3	65.68-107.19 deg	64.06-75.55 deg	eastward, 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	29
TOP OWNERS	US: 13, CIS: 10, PRC: 3, UK: 2, GLOB: 1		
OBJECT TYPES	DEBRIS: 13, PAYLOAD: 12, ROCKET BODY: 3, UNKNOWN: 1		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
26844	DELTA 1 DEB	DEBRIS	US	1975-06-12	n/a
42502	THORAD AGENA D DEB	DEBRIS	US	1970-04-08	n/a
35645	COSMOS 2251 DEB	DEBRIS	CIS	1993-06-16	n/a
7267	COSMOS 643	PAYLOAD	CIS	1974-04-23	n/a
25306	GLOBALSTAR M014	PAYLOAD	GLOB	1998-04-24	n/a
14096	DELTA 1 R/B	ROCKET BODY	US	1983-05-26	n/a
55831	ONEWEB-0672	PAYLOAD	UK	2023-03-09	n/a
41083	NOAA 16 DEB	DEBRIS	US	2000-09-21	n/a
30925	FENGYUN 1C DEB	DEBRIS	PRC	1999-05-10	n/a
42193	COSMOS 1275 DEB	DEBRIS	CIS	1981-06-04	n/a
34524	IRIDIUM 33 DEB	DEBRIS	US	1997-09-14	2024-08-21
42092	DELTA 1 DEB	DEBRIS	US	1968-12-15	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.

HOURLY UTC	2024051806
CLOUD AMOUNT	26.05%
PRECIPITATION	0.28 mm/hr
10 M WIND	2.4 m/s
TEMPERATURE	19.64 C
RELATIVE HUMIDITY	91.4%
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	6.32	-39.88	-26.72
Moon	256.76	24.48	-10.99

OBJECT	AZ	EL	APP MAG
Venus	12.35	-41.03	-3.90
Mars	61.55	-32.84	1.12
Jupiter	5.73	-40.56	-1.99
Saturn	86.01	-19.57	1.05

- Sun elevation was -39.9 deg, so this was a dark-sky/nighttime sighting.
- Moon was above horizon at azimuth 256.8 deg / elevation 24.5 deg.
- No checked bright planets were above the horizon at the primary coordinate/time.
- NASA POWER cloud amount for the hour was 26.05%, with precipitation 0.28 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 1941.0 MiB; planes-readsb-prod-0 1940.0 MiB; planes-readsb-mlatonly-0 199.0 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 2024-05-18, then filter +/-60 min and 250 nmi around 30.1963,-98.2401.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00628 at 2024-05-18T06:50:00+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	GOES16
GOES ABI PREFIX	<a href="https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/139/06/">https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/139/06/</a>
GOES GLM LIGHTNING PREFIX	<a href="https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/139/06/">https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/139/06/</a>

### 5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KHYI	San Marcos Regional Airport	49.60	29.89, -97.86
KAUS	Austin Bergstrom International Airport	55.60	30.20, -97.66
KBAZ	New Braunfels National Airport	57.90	29.70, -98.04
KEDC	Austin Executive Airport	68.40	30.40, -97.57
KRND	Randolph Air Force Base	74.20	29.53, -98.28

- KHYI: [IEM ASOS/METAR daily CSV query](#)
- KAUS: [IEM ASOS/METAR daily CSV query](#)

- KBAZ: [IEM ASOS/METAR daily CSV query](#)

### 5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072261	DEL RIO/INT.; TX.	274.10	29.37, -100.92
USM00072251	CORPUS CHRISTI/INT.; TX.	278.10	27.78, -97.51
USM00072249	FORT WORTH; TX.	306.70	32.84, -97.30
USM00072265	MIDLAND/MIDLAND REG. AIRTERM	423.20	31.94, -102.19
USM00072250	BROWNSVILLE/INT.; TX	482.60	25.92, -97.42

### 5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 6-10 statute miles; no precipitation was reported in the retained observations; 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
KHYI	49.60	2024-05-18T06:56:00 +00:00	10.00	OVC00600, M, M, M	0.00 / 0.00	KHYI 180656Z AUTO 00000KT 10SM OVC006 21/21 A2985 RMK AO2 SLP099 T02060206
KAUS	55.60	2024-05-18T06:53:00 +00:00	10.00	OVC00600, M, M, M	160.00 / 7.00	KAUS 180653Z 16007KT 10SM OVC006 21/21 A2983 RMK AO2 SLP092 T02110206
KBAZ	57.90	2024-05-18T06:51:00 +00:00	9.00	CLR, M, M, M	140.00 / 8.00	KBAZ 180651Z AUTO 14008KT 9SM CLR 21/19 A2981 RMK AO2 SLP088 T02060194 TSNO \$

### 5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 38.5 deg at 7.67 m/s; a passive balloon could drift about 55.2 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
USM00072261	DEL RIO/INT.; TX.	274.10	2024-05-18T12:00 :00+00:00	38.50	7.67	55.20	35.90 at 3324.00 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.

<b>SATELLITE</b>	GOES16	<b>BUCKET</b>	noaa-goes16
<b>ABI SAMPLE FILES</b>	12	<b>GLM SAMPLE FILES</b>	12

#### ABI sample objects:

- [ABI-L2-CMIPF/2024/139/06/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20241390600207\\_e20241390609515\\_c20241390609567.nc](#)
- [ABI-L2-CMIPF/2024/139/06/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20241390610207\\_e20241390619515\\_c20241390619569.nc](#)
- [ABI-L2-CMIPF/2024/139/06/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20241390620207\\_e20241390629515\\_c20241390629572.nc](#)

• [ABI-L2-CMIPF/2024/139/06/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20241390630207\\_e20241390639515\\_c20241390639575.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/139/06/OR\\_GLM-L2-LCFA\\_G16\\_s20241390600000\\_e20241390600200\\_c20241390600218.nc](#)
- [GLM-L2-LCFA/2024/139/06/OR\\_GLM-L2-LCFA\\_G16\\_s20241390600200\\_e20241390600400\\_c20241390600421.nc](#)
- [GLM-L2-LCFA/2024/139/06/OR\\_GLM-L2-LCFA\\_G16\\_s20241390600400\\_e20241390601000\\_c20241390601019.nc](#)
- [GLM-L2-LCFA/2024/139/06/OR\\_GLM-L2-LCFA\\_G16\\_s20241390601000\\_e20241390601200\\_c20241390601220.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	2024-05-18T05:50:00+00:00 to 2024-05-18T07:50:00+00:00	RADIUS	250.00 nmi
TRACE FILES SCANNED	55943	TRACKS RETAINED	136
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	6	PLAUSIBLE CANDIDATES	18
REPORTING-AIRCRAFT TRACKS EXCLUDED	1	WEAK CANDIDATES	8

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N521SY E75L a68e4c	strong aircraft candidate	86.13	15.50	0.06	29800	15.00	36.05
B-16718 B77W 8990e0	strong aircraft candidate	75.44	35.50	0.16	30000	355.30	13.60
N448WN B737 a56a56	strong aircraft candidate	62.16	55.80	0.10	39000	355.90	10.50
N107US A320 a02088	strong aircraft candidate	59.56	79.30	0.35	ground	202.10	-0.36
N952WN B737 ad3e16	strong aircraft candidate	57.08	49.30	6.05	625	88.50	-0.00
N898BR BE20 ac6335	strong aircraft candidate	47.72	65.00	0.10	21850	234.90	3.87
N318SF B38M a3661f	reporting aircraft track; excluded from support counts	99.02	1.70	0.01	35000	136.00	80.95
N8730Q B38M ac03e2	plausible aircraft candidate	64.47	24.10	0.09	41000	2.90	26.72



## 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	2024-05-18T06:50:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	30.19357, -98.17124	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-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 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	237UAP00628 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N521SY E75L a68e4c at 15.5 km, azimuth 15.0 deg, elevation 36.05 deg, 5.71 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 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": "2024-05-18T06:50:00+00:00",
  "source_excerpt": "Washington Operations Center\n\n\n\nDate: 5/18/2024 1:50:00 AM (-05 CDT)\nTitle: SKW3260 UFO-UAP\nACTIVITY 05-18-2024\nLatitude: 30.19356887\nLongitude: -98.17123989\n\nDESCRIPTION\nPRELIM INFO FROM FAA OPS: AUSTIN, TX/UFO-UAP ACTIVITY/LATE REPORT-0150C/HOUSTON\nARTCC ADVISED SKY\nWEST 3260, E75L, PHX - IAH, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF LEFT SIDE WHILE E BOUND\nAT FL370\n30 W AUS. NO EVASIVE ACTION TAKEN. THE PHENOMENON WAS REPORTED AS TWO MANEUVERING\nLIGHTS 100-150 MILES N OF THE ACFT ABOVE\nFL370. THE UAP WAS NOT OBSERVED ON RADAR BY ATC. LEO\nNOTIFICATION NOT REPORTED. WOC 7-3333 RL/JW",
  "historical_starlink_element_rows": 19747,
  "observer": {
    "lat": 30.19356887,
    "lon": -98.17123989,
    "source": "(public text extract 237UAP00628)"
  },
  "case_id": "237UAP00628",
  "starlink_above_horizon_at_report_time": 850,
  "starlink_catalog_ids_considered": 19747,
  "largest_same-sky_cluster_count": 395,
  "starlink_at_or_above_10_deg": 401,
  "top_starlinks": [
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      "azimuth_deg": 198.93,
      "azimuth_plus_2m_deg": 195.82,
      "azimuth_plus_5m_deg": 195.7,
      "element_age_hours": 4.81,
      "element_epoch": "2024-05-18T11:38:18.231072+00:00",
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      "elevation_plus_2m_deg": 40.84,
      "elevation_plus_5m_deg": 14.37,
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      "ground_track_bearing_deg": 194.85,
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      "launch_date": "75052KY",
      "launch_designator": "75052KY",
      "name": "NORAD 26844",
      "norad_id": "26844",
      "range_km": 1029.39,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 28.8197,
      "subpoint_lon": -98.7061
    },
    {
      "azimuth_deg": 324.38,
      "azimuth_plus_2m_deg": 210.54,
      "azimuth_plus_5m_deg": 201.38,
      "element_age_hours": 5.46,
      "element_epoch": "2024-05-18T12:17:36.007584+00:00",
      "elevation_deg": 76.9,
      "elevation_plus_2m_deg": 53.53,
      "elevation_plus_5m_deg": 20.66,
      "epoch_altitude_km": 1052.12,
      "ground_track_bearing_deg": 195.13,
      "ground_track_label": "SSW",
      "launch_date": "70025RG",
      "launch_designator": "70025RG",
      "name": "NORAD 42502",
      "norad_id": "42502",
      "range_km": 1092.79,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 31.7414,
      "subpoint_lon": -99.4749
    },
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      "azimuth_deg": 65.68,
      "azimuth_plus_2m_deg": 149.94,
      "azimuth_plus_5m_deg": 158.82,
      "element_age_hours": 6.01,
      "element_epoch": "2024-05-18T12:50:44.623680+00:00",
      "elevation_deg": 75.55,
      "elevation_plus_2m_deg": 42.03,
      "elevation_plus_5m_deg": 13.54,
      "epoch_altitude_km": 729.84,
      "ground_track_bearing_deg": 164.94,
      "ground_track_label": "SSE",
      "launch_date": "93036ANL",
      "launch_designator": "93036ANL",
      "name": "NORAD 35645",
      "norad_id": "35645",
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  "elevation_plus_2m_deg": 45.51,
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  "ground_track_bearing_deg": 181.65,
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## Appendix C. Source Exhaustion Checklist

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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: 237UAP00628
TIME AND OBSERVER COORDINATE	extracted	2024-05-18T06:50:00+00:00 at 30.19357, -98.17124
ORBITAL OBJECT PROPAGATION	screened	public LEO catalog objects
SPACE-TRACK SATCAT METADATA	screened	30 NORAD IDs checked; 29 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	55943 trace files scanned; 136 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

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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. *237UAP00628.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-615/493468575/237UAP00628.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. 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/>
12. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
13. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
14. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
15. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
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/>
19. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
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/>