

CASE FILE 46 / 237UAP00337

237UAP00337

Radar/correlation-focused public UAP report; score 54

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-46-237UAP00337	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00337	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-01-13T20:26:00+00:00	OBSERVER	29.45539, -98.24490
SOURCE CASE IDS	237UAP00337		

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

237UAP00337 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N261WN B737 a284b5 at 17.4 km, azimuth 358.4 deg, elevation 30.26 deg, 1.67 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: 2024-01-13T20:26:00+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 N261WN B737 a284b5 at 17.4 km, azimuth 358.4 deg, elevation 30.26 deg, 1.67 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Objects above horizon: 911; at/above 10 deg: 430.
- 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
237UAP00337	20:26 01/13/2024 Callsign: UAL1715 Origin: SAT	SAT Operator: UAL Operator Type: Commercial	text extract present	237UAP00337.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Aircraft reported an unidentified aerial phenomenon off the right side while E bound at 7,000 feet, 16 NM SE of SAT. The unknown phenomenon was white and blue in color at approximately 7,000 feet. No evasive action. No impact to operation. The UAP was not observed on ATC facility radar system.
REPORT TIME USED	2024-01-13T20:26:00+00:00
OBSERVER COORDINATE USED	29.45539, -98.24490
OBSERVER SOURCE BASIS	aviation_offset:16 NM SE of SAT (public text extract 237UAP00337)

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	19577	HISTORICAL ELEMENT ROWS	19577
ABOVE HORIZON AT REPORT MINUTE	911	AT/ABOVE 10 DEG	430
LARGEST SAME-SKY CLUSTER	430		

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 20262	132.05	87.53	2282.53	westward, setting	89080C
NORAD 4942	312.28	86.57	1915.9	eastward, setting	70091AK
NORAD 10589	309.63	84.1	1507.14	eastward, setting	78005G
NORAD 25366	174.66	76.36	1694.44	eastward, setting	98036D
NORAD 45732	194.88	74.43	567.34	westward, setting	20038C
NORAD 28890	72.32	74.11	704.29	eastward, setting	05043A
NORAD 34797	322.64	72.72	894.96	eastward, setting	93036ABA
NORAD 10619	109.76	70.13	2156.86	eastward, setting	76067AT
NORAD 50194	116.46	67.38	581.72	eastward, setting	21125AQ
NORAD 19230	343.42	65.84	1811.92	westward, rising	78100Z
NORAD 1805	332.81	64.53	1499.0	eastward, level	65096B
NORAD 53470	12.26	63.28	628.5	eastward, setting	22099F

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	430	0.4-359.8 deg	10.01-87.53 deg	eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, rising, 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	CIS: 12, US: 8, PRC: 3, UK: 2, BGR: 1, CZE: 1		
OBJECT TYPES	PAYLOAD: 19, DEBRIS: 9, ROCKET BODY: 2		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
20262	SL-14 R/B	ROCKET BODY	CIS	1989-09-28	n/a
4942	COSMOS 375 DEB	DEBRIS	CIS	1970-10-30	n/a
10589	COSMOS 982	PAYLOAD	CIS	1978-01-10	n/a
25366	COSMOS 2355	PAYLOAD	CIS	1998-06-15	n/a
45732	STARLINK-1466	PAYLOAD	US	2020-06-13	2024-09-02
28890	BEIJING 1 (TSINGHUA)	PAYLOAD	PRC	2005-10-27	n/a
34797	COSMOS 2251 DEB	DEBRIS	CIS	1993-06-16	n/a
10619	COSMOS 839 DEB	DEBRIS	CIS	1976-07-08	n/a
50194	STARLINK-3269	PAYLOAD	US	2021-12-18	2026-03-05
19230	SL-14 DEB	DEBRIS	CIS	1978-10-26	n/a
1805	DIAMANT R/B	ROCKET BODY	FR	1965-11-26	n/a
53470	STARLINK-4393	PAYLOAD	US	2022-08-12	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	2024011320
CLOUD AMOUNT	98.23%
PRECIPITATION	0.0 mm/hr
10 M WIND	6.34 m/s
TEMPERATURE	18.66 C
RELATIVE HUMIDITY	31.24%
DONKI +/-1 DAY	CME: unavailable; FLR: unavailable; GST: unavailable; HSS: unavailable; IPS: unavailable; MPC: unavailable; RBE: unavailable; SEP: unavailable; WSAEnliSimulations: unavailable

5.10 Horizons Sky Geometry Context

OBJECT	AZ	EL	APP MAG
Sun	209.30	33.22	-26.78
Moon	169.15	42.32	-7.21
Venus	237.98	10.37	-3.99
Mars	222.83	22.19	1.37
Jupiter	87.16	20.85	-2.48

OBJECT	AZ	EL	APP MAG
Saturn	157.14	46.39	0.98

- Sun elevation was 33.2 deg, so this was daylight geometry, not a dark-sky sighting.
- Moon was above horizon at azimuth 169.1 deg / elevation 42.3 deg.
- Planets above horizon: Venus (10.4 deg), Mars (22.2 deg), Jupiter (20.8 deg), Saturn (46.4 deg).
- NASA POWER cloud amount for the hour was 98.23%, with precipitation 0.0 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 1355.0 MiB; planes-readsb-prod-0 1356.0 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 adslol/globe_history_2024 for 2024-01-13, then filter +/-60 min and 250 nmi around 29.4554,-98.2449.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00337 at 2024-01-13T20:26:00+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	https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/013/20/
GOES GLM LIGHTNING PREFIX	https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/013/20/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KRND	Randolph Air Force Base	8.90	29.53, -98.28
KSAT	San Antonio International Airport	23.40	29.53, -98.47
KSSF	Stinson Municipal Airport	25.60	29.34, -98.47
KSKF	Lackland Air Force Base	33.50	29.38, -98.58
KBAZ	New Braunfels National Airport	33.90	29.70, -98.04

- KRND: [IEM ASOS/METAR daily CSV query](#)
- KSAT: [IEM ASOS/METAR daily CSV query](#)
- KSSF: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072251	CORPUS CHRISTI/INT.; TX.	199.90	27.78, -97.51
USM00072261	DEL RIO/INT.; TX.	259.10	29.37, -100.92
USM00072249	FORT WORTH; TX.	386.40	32.84, -97.30
USM00072250	BROWNSVILLE/INT.; TX	401.80	25.92, -97.42
MXM00076394	AEROP.INTERNACIONAL MONTERREY;	444.50	25.87, -100.23

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
KRND	8.90	2024-01-13T20:55:00 +00:00	10.00	FEW12000, SCT16000, BKN19000, M	210.00 / 12.00	KRND 132055Z AUTO 21012KT 10SM FEW120 SCT160 BKN190 18/01 A2994 RMK AO2 SLP140 T01780009 57032
KSAT	23.40	2024-01-13T20:51:00 +00:00	10.00	SCT18000, BKN25000, M, M	220.00 / 7.00	KSAT 132051Z 22007KT 10SM SCT180 BKN250 17/03 A2997 RMK AO2 SLP140 T01670028 56032
KSSF	25.60	2024-01-13T20:53:00 +00:00	10.00	CLR, M, M, M	200.00 / 9.00	KSSF 132053Z 20009G17KT 10SM CLR 20/02 A2995 RMK AO2 SLP142 T02000022 56035

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 308.0 deg at 10.2 m/s; a passive balloon could drift about 73.4 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
USM00072251	CORPUS CHRISTI/INT.; TX.	199.90	2024-01-14T00:00 :00+00:00	308.00	10.20	73.40	28.90 at 32381.00 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	GOES16	BUCKET	noaa-goes16
ABI SAMPLE FILES	12	GLM SAMPLE FILES	12

ABI sample objects:

- [ABI-L2-CMIPF/2024/013/20/OR_ABI-L2-CMIPF-M6C01_G16_s20240132000205_e20240132009513_c20240132009589.nc](#)
- [ABI-L2-CMIPF/2024/013/20/OR_ABI-L2-CMIPF-M6C01_G16_s20240132010205_e20240132019513_c20240132019582.nc](#)

- [ABI-L2-CMIPF/2024/013/20/OR_ABI-L2-CMIPF-M6C01_G16_s20240132020205_e20240132029513_c20240132029580.nc](#)
- [ABI-L2-CMIPF/2024/013/20/OR_ABI-L2-CMIPF-M6C01_G16_s20240132030205_e20240132039513_c20240132039575.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/013/20/OR_GLM-L2-LCFA_G16_s20240132000000_e20240132000200_c20240132000217.nc](#)
- [GLM-L2-LCFA/2024/013/20/OR_GLM-L2-LCFA_G16_s20240132000200_e20240132000400_c20240132000416.nc](#)
- [GLM-L2-LCFA/2024/013/20/OR_GLM-L2-LCFA_G16_s20240132000400_e20240132001000_c20240132001014.nc](#)
- [GLM-L2-LCFA/2024/013/20/OR_GLM-L2-LCFA_G16_s20240132001000_e20240132001200_c20240132001217.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	2024-01-13T19:11:00+00:00 to 2024-01-13T21:41:00+00:00	RADIUS	300.00 nmi
TRACE FILES SCANNED	26399	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	29	PLAUSIBLE CANDIDATES	109
REPORTING-AIRCRAFT TRACKS EXCLUDED	1	WEAK CANDIDATES	138

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N261WN B737 a284b5	strong aircraft candidate	90.81	17.00	0.11	34975	358.40	30.26
N638TS P28A a85d2e	strong aircraft candidate	80.14	6.30	0.01	5200	185.90	8.44
N38403 B739 a46c9a	strong aircraft candidate	78.50	10.30	0.01	2125	335.00	14.19
N893UP BE30 ac5249	strong aircraft candidate	75.84	21.80	0.14	25000	18.00	18.08
N228UV P28A a2008f	strong aircraft candidate	75.83	18.40	0.04	4925	259.10	3.88
N380PA DA40 a45c90	strong aircraft candidate	73.45	2.20	0.05	2950	35.40	1.76
N321RR BE55 a3738e	strong aircraft candidate	73.29	6.00	0.09	8000	115.20	21.96
N8605E B738 abd1e3	strong aircraft candidate	71.96	31.00	0.02	2275	297.40	1.04

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	2024-01-13T20:26:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	29.45539, -98.24490	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	237UAP00337 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N261WN B737 a284b5 at 17.4 km, azimuth 358.4 deg, elevation 30.26 deg, 1.67 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

237UAP00337

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

Date: 20:26 01/13/2024
Status: Closed
POD: DEN
Reporting Facility: SAT

Callsign: UAL1715
Aircraft: A320
Tail Number:
Operator: UAL
Paged: YES

Origin: SAT
Destination: DEN
New Destination:
Operator Type: Commercial
MOR Init: YES
MOR ID: SAT-M-2024/01/13-0002

REMARKS

Aircraft reported an unidentified aerial phenomenon off the right side while E bound at 7,000 feet, 16 NM SE of SAT. The unknown phenomenon was white and blue in color at approximately 7,000 feet. No evasive action. No impact to operation. The UAP was not observed on ATC facility radar system.

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": "2024-01-13T20:26:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon off the right side while E bound at 7,000 feet, 16 NM SE of SAT. The unknown phenomenon was white and blue in color at approximately 7,000 feet. No evasive action. No impact to operation. The UAP was not observed on ATC facility radar system.",
  "historical_starlink_element_rows": 19577,
  "observer": {
    "lat": 29.455388688312738,
    "lon": -98.24489610608384,
    "source": "aviation_offset:16 NM SE of SAT (public text extract 237UAP00337)"
  },
  "case_id": "237UAP00337",
  "starlink_above_horizon_at_report_time": 911,
  "starlink_catalog_ids_considered": 19577,
  "largest_same-sky_cluster_count": 430,
  "starlink_at_or_above_10_deg": 430,
  "top_starlinks": [
    {
      "azimuth_deg": 132.05,
      "azimuth_plus_2m_deg": 9.75,
      "azimuth_plus_5m_deg": 6.35,
      "element_age_hours": 11.34,
      "element_epoch": "2024-01-14T07:46:09.500448+00:00",
      "elevation_deg": 87.53,
      "elevation_plus_2m_deg": 72.21,
      "elevation_plus_5m_deg": 46.46,
      "epoch_altitude_km": 505.2,
      "ground_track_bearing_deg": 3.8,
      "ground_track_label": "N",
      "launch_date": "89080C",
      "launch_designator": "89080C",
      "name": "NORAD 20262",
      "norad_id": "20262",
      "range_km": 2282.53,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 29.0173,
      "subpoint_lon": -97.6929
    },
    {
      "azimuth_deg": 312.28,
      "azimuth_plus_2m_deg": 20.14,
      "azimuth_plus_5m_deg": 25.33,
      "element_age_hours": 9.06,
      "element_epoch": "2024-01-14T05:29:39.565824+00:00",
      "elevation_deg": 86.57,
      "elevation_plus_2m_deg": 66.59,
      "elevation_plus_5m_deg": 39.87,
      "epoch_altitude_km": 625.9,
      "ground_track_bearing_deg": 27.63,
      "ground_track_label": "NNE",
      "launch_date": "70091AK",
      "launch_designator": "70091AK",
      "name": "NORAD 4942",
      "norad_id": "4942",
      "range_km": 1915.9,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 29.9876,
      "subpoint_lon": -98.9202
    },
    {
      "azimuth_deg": 309.63,
      "azimuth_plus_2m_deg": 6.52,
      "azimuth_plus_5m_deg": 12.2,
      "element_age_hours": 10.3,
      "element_epoch": "2024-01-14T06:44:12.486048+00:00",
      "elevation_deg": 84.1,
      "elevation_plus_2m_deg": 57.85,
      "elevation_plus_5m_deg": 29.43,
      "epoch_altitude_km": 1470.76,
      "ground_track_bearing_deg": 14.86,
      "ground_track_label": "NNE",
      "launch_date": "78005G",
      "launch_designator": "78005G",
      "name": "NORAD 10589",
      "norad_id": "10589",
      "range_km": 1507.14,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 30.1733,
      "subpoint_lon": -99.2486
    }
  ],
}
```

```

{
  "azimuth_deg": 174.66,
  "azimuth_plus_2m_deg": 175.6,
  "azimuth_plus_5m_deg": 176.03,
  "element_age_hours": 0.1,
  "element_epoch": "2024-01-13T20:31:42.729888+00:00",
  "elevation_deg": 76.36,
  "elevation_plus_2m_deg": 51.28,
  "elevation_plus_5m_deg": 26.09,
  "epoch_altitude_km": 1310.96,
  "ground_track_bearing_deg": 176.2,
  "ground_track_label": "S",
  "launch_date": "98036D",
  "launch_designator": "98036D",
  "name": "NORAD 25366",
  "norad_id": "25366",
  "range_km": 1694.44,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 26.6059,
  "subpoint_lon": -97.9484
},
{
  "azimuth_deg": 194.88,
  "azimuth_plus_2m_deg": 147.35,
  "azimuth_plus_5m_deg": 143.31,
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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: 237UAP00337
TIME AND OBSERVER COORDINATE	extracted	2024-01-13T20:26:00+00:00 at 29.45539, -98.24490
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	26399 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

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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. *237UAP00337.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-615/493468575/237UAP00337.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/>
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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/>