

CASE FILE 57 / 237UAP00375

237UAP00375

Radar/correlation-focused public UAP report; score 54

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-57-237UAP00375	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00375	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-07-14T22:46:00+00:00	OBSERVER	42.86967, -112.24294
SOURCE CASE IDS	237UAP00375		

Abstract

This case file evaluates a reported UAP sighting against historical Starlink orbital elements. The primary external-object candidate is a 3-object same-launch group from 2021-03-11, spanning azimuth 13.83-359.44 deg and elevation 16.97-22.85 deg. The analysis distinguishes plausible geometric overlap from unresolved witness-language features.

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

237UAP00375 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N464UA A320 a5aa3a at 21.7 km, azimuth 189.2 deg, elevation 25.45 deg, 3.80 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: 2024-07-14T22:46:00+00:00.
- External object layer used: Starlink.
- 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 N464UA A320 a5aa3a at 21.7 km, azimuth 189.2 deg, elevation 25.45 deg, 3.80 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation; NASA/JPL known-small-body rejection screen present.
- Objects above horizon: 322; at/above 10 deg: 161.
- Top compact same-launch/designator group: 3 objects from 2021-03-11.
- 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
237UAP00375	22:46 07/14/2024 Callsign: DAL1480 Origin: DFW	ZLC Operator: DAL Operator Type: Commercial	text extract present	237UAP00375.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Aircraft reported an unidentified aerial phenomenon off the right side while W bound at FL360, 18NM E of PIH. The unknown phenomenon was a white triangle stationary at approximately FL360. The UAP was not observed on ATC facility radar system.
REPORT TIME USED	2024-07-14T22:46:00+00:00
OBSERVER COORDINATE USED	42.86967, -112.24294
OBSERVER SOURCE BASIS	aviation_offset:18NM E of PIH (public text extract 237UAP00375)

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 Starlink element rows. The analytic mode for this case is historical Starlink 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.

STARLINK CATALOG IDS CONSIDERED	6231	HISTORICAL ELEMENT ROWS	6230
ABOVE HORIZON AT REPORT MINUTE	322	AT/ABOVE 10 DEG	161
LARGEST SAME-SKY CLUSTER	143		

5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
1	2021-03-11	3	13.83-359.44 deg	16.97-22.85 deg	eastward, setting	STARLINK-2427, STARLINK-2377, STARLINK-2422

5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
STARLINK-2427	47837	2021-03-11	13.83	22.85	1195.88	eastward, setting	0.45
STARLINK-2377	47797	2021-03-11	359.44	20.66	1273.54	eastward, setting	0.37
STARLINK-2422	47832	2021-03-11	22.57	16.97	1428.79	eastward, setting	0.4

5.4 Bright-Sky Context: Top Starlink Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
STARLINK-31409	354.53	87.43	448.32	eastward, setting	2024-03-24
STARLINK-4778	76.42	72.92	566.14	westward, setting	2022-09-19
STARLINK-5910	132.25	72.69	587.13	westward, setting	2023-03-24
STARLINK-3398	344.46	69.19	578.34	eastward, setting	2022-01-19
STARLINK-31560	204.66	67.94	480.58	westward, setting	2024-03-31
STARLINK-3819	289.55	67.15	586.07	westward, setting	2022-04-29
STARLINK-5925	115.21	65.83	629.43	eastward, setting	2023-03-17
STARLINK-30960	82.21	65.6	613.23	eastward, setting	2023-11-28
STARLINK-30219	243.85	64.94	615.85	westward, setting	2023-08-07
STARLINK-2193	46.83	61.35	620.58	eastward, setting	2021-03-04
STARLINK-5857	125.57	58.38	669.29	eastward, setting	2023-03-17
STARLINK-5840	276.03	58.22	652.12	eastward, setting	2023-07-07

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	143	3.22-359.44 deg	10.02-47.09 deg	eastward, rising, eastward, setting, nearly fixed azimuth, rising, nearly fixed azimuth, setting, westward, level, westward, rising, westward, setting

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
2	6	76.42-132.25 deg	55.73-72.92 deg	eastward, setting, westward, setting
3	5	259.05-289.55 deg	48.63-67.15 deg	eastward, rising, eastward, setting, westward, setting
4	2	346.39-349.17 deg	38.0-44.84 deg	eastward, rising, eastward, setting
5	1	354.53-354.53 deg	87.43-87.43 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	33	SATCAT ROWS MATCHED	33
TOP OWNERS	US: 33		
OBJECT TYPES	PAYLOAD: 33		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
59299	STARLINK-31409	PAYLOAD	US	2024-03-24	n/a
53836	STARLINK-4778	PAYLOAD	US	2022-09-19	n/a
56000	STARLINK-5910	PAYLOAD	US	2023-03-24	n/a
51120	STARLINK-3398	PAYLOAD	US	2022-01-19	n/a
59361	STARLINK-31560	PAYLOAD	US	2024-03-31	n/a
52349	STARLINK-3819	PAYLOAD	US	2022-04-29	n/a
55945	STARLINK-5925	PAYLOAD	US	2023-03-17	n/a
58456	STARLINK-30960	PAYLOAD	US	2023-11-28	2026-03-31
57507	STARLINK-30219	PAYLOAD	US	2023-08-07	n/a
47770	STARLINK-2193	PAYLOAD	US	2021-03-04	n/a
55946	STARLINK-5857	PAYLOAD	US	2023-03-17	n/a
57231	STARLINK-5840	PAYLOAD	US	2023-07-07	n/a

5.6 NASA/JPL Near-Earth Object Screen

This secondary object screen checks NASA/JPL close-approach objects near the report date and propagates their observer geometry through Horizons at the report coordinate. It is a known-object rejection layer, not a generic astronomy backdrop.

NASA/JPL CAD WINDOW	event date +/- 1 day, dist-max 0.2 au	COORDINATE USED	42.87, -112.24
CLOSE-APPROACH OBJECTS	12	ABOVE HORIZON	5
BRIGHT-ISH ABOVE HORIZON	0 using apparent magnitude <= 10 screen		

5.7 NASA/JPL Objects Above Horizon

OBJECT	CLOSE APPROACH UTC	DIST AU	H	AZ	EL	APP MAG
2014 DR	2024-Jul-13 20:59	0.115503912043583	20.54	351.06	49.51	20.23
2024 NG	2024-Jul-13 07:58	0.0230252349788112	26.44	7.34	53.66	22.76
2019 AE3	2024-Jul-13 20:36	0.147087242821558	27.4	156.04	38.40	26.88

LAYER	STATUS	CASE-SPECIFIC NOTE
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 2024-07-14, then filter +/-60 min and 250 nmi around 42.8697,-112.2429.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00375 at 2024-07-14T22:46:00+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/2024/196/22/
GOES GLM LIGHTNING PREFIX	https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2024/196/22/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KPIH	Pocatello Regional Airport	29.10	42.91, -112.60
KIDA	Idaho Falls Regional Airport	73.10	43.51, -112.07
KLGU	Logan-Cache Airport	124.20	41.79, -111.85
KBYI	Burley Municipal Airport	130.10	42.54, -113.77
KJAC	Jackson Hole Airport	146.90	43.61, -110.74

- KPIH: [IEM ASOS/METAR daily CSV query](#)
- KIDA: [IEM ASOS/METAR daily CSV query](#)
- KLGU: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072572	SALT LAKE CITY/INTNL UT.	234.40	40.77, -111.96
USM00074003	DUGWAY PRVGR	306.00	40.17, -112.93
USM00072672	RIVERTON; WY.	307.20	43.06, -108.48
USM00072681	BOISE/MUN.; ID.	330.80	43.57, -116.21
USM00072582	ELKO; NV.	365.90	40.86, -115.74

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 statute miles; precipitation was reported in at least one observation; 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
KPIH	29.10	2024-07-14T22:53:00 +00:00	10.00	CLR, M, M, M	250.00 / 13.00	KPIH 142253Z 25013KT 10SM CLR 34/13 A3007 RMK AO2 LTG DSNT E SLP121 T03390128
KIDA	73.10	2024-07-14T22:53:00 +00:00	10.00	CLR, M, M, M	260.00 / 8.00	KIDA 142253Z 26008KT 10SM CLR 26/13 A3012 RMK AO2 PK WND 17026/2158 LTG DSNT N AND NW SLP146 T02560128
KLGU	124.20	2024-07-14T22:51:00 +00:00	10.00	CLR, M, M, M	210.00 / 8.00	KLGU 142251Z AUTO 21008KT 10SM CLR 36/03 A3007 RMK AO2 SLP111 T03610033

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 13.2 deg at 5.12 m/s; a passive balloon could drift about 36.9 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
USM00072572	SALT LAKE CITY/INTNL UT.	234.40	2024-07-15T00:00 :00+00:00	13.20	5.12	36.90	36.00 at 1339.00 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/2024/196/22/OR_ABI-L2-CMIPF-M6C01_G18_s20241962200216_e20241962209524_c20241962209585.nc](#)
- [ABI-L2-CMIPF/2024/196/22/OR_ABI-L2-CMIPF-M6C01_G18_s20241962210216_e20241962219524_c20241962219593.nc](#)
- [ABI-L2-CMIPF/2024/196/22/OR_ABI-L2-CMIPF-M6C01_G18_s20241962220216_e20241962229524_c20241962229583.nc](#)
- [ABI-L2-CMIPF/2024/196/22/OR_ABI-L2-CMIPF-M6C01_G18_s20241962230216_e20241962239524_c20241962240005.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/196/22/OR_GLM-L2-LCFA_G18_s20241962200000_e20241962200200_c20241962200219.nc](#)
- [GLM-L2-LCFA/2024/196/22/OR_GLM-L2-LCFA_G18_s20241962200200_e20241962200400_c20241962200422.nc](#)
- [GLM-L2-LCFA/2024/196/22/OR_GLM-L2-LCFA_G18_s20241962200400_e20241962201000_c20241962201021.nc](#)
- [GLM-L2-LCFA/2024/196/22/OR_GLM-L2-LCFA_G18_s20241962201000_e20241962201200_c20241962201223.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.

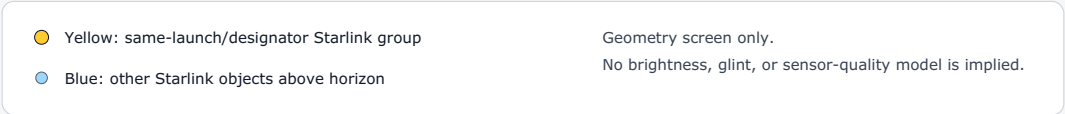
ARCHIVE WINDOW	2024-07-14T21:31:00+00:00 to 2024-07-15T00:01:00+00:00	RADIUS	300.00 nmi
TRACE FILES SCANNED	60178	TRACKS RETAINED	758

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	11	PLAUSIBLE CANDIDATES	61
REPORTING-AIRCRAFT TRACKS EXCLUDED	2	WEAK CANDIDATES	132

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N464UA A320 a5aa3a	strong aircraft candidate	84.40	21.20	0.10	34000	189.20	25.45
N289FE B763 a2efec	strong aircraft candidate	79.89	20.50	0.02	38025	238.80	27.53
N873UA A319 ac033e	strong aircraft candidate	79.87	37.50	0.04	38000	176.80	15.93
N883TX C560 ac2ab9	strong aircraft candidate	78.18	38.60	0.07	25725	47.60	12.61
C-FIBA B38M c0153b	strong aircraft candidate	75.88	31.70	0.09	37000	105.00	18.79
N237NV A320 a223c1	strong aircraft candidate	71.68	75.00	0.11	36000	256.90	7.95
N209NV A320 a1b4b2	strong aircraft candidate	61.52	23.30	0.00	ground	11.30	-0.33
N264UP MD11 a28fa9	strong aircraft candidate	61.41	57.20	0.06	37950	355.60	9.95

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	2024-07-14T22:46:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	42.86967, -112.24294	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	not explicit	Primary same-launch group contains 3 propagated objects in a compact sky sector.
MOTION LANGUAGE	stationary	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	237UAP00375 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N464UA A320 a5aa3a at 21.7 km, azimuth 189.2 deg, elevation 25.45 deg, 3.80 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

237UAP00375

SKYWATCH INCIDENT REPORT

PRIMARY CODE: UNIDENTIFIED AERIAL PHENOMENON

Date: 22:46 07/14/2024

Status: Closed

POD: DEN

Reporting Facility: ZLC

Callsign: DAL1480

Aircraft: BCS1

Tail Number:

Operator: DAL

Origin: DFW

Destination: SEA

New Destination:

Operator Type: Commercial

Paged: YES

REMARKS

Aircraft reported an unidentified aerial phenomenon off the right side while W bound at FL360, 18NM E of PIH. The unknown phenomenon was a white triangle stationary at approximately FL360. 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": "2024-07-14T22:46:00+00:00",
  "source_excerpt": "Aircraft reported an unidentified aerial phenomenon off the right side while W bound at FL360, 18NM E of PIH. The unknown phenomenon was a white triangle stationary at approximately FL360. The UAP was not observed on ATC facility radar system.",
  "historical_starlink_element_rows": 6230,
  "observer": {
    "lat": 42.869671382127414,
    "lon": -112.24294362115472,
    "source": "aviation_offset:18NM E of PIH (public text extract 237UAP00375)"
  },
  "case_id": "237UAP00375",
  "starlink_above_horizon_at_report_time": 322,
  "starlink_catalog_ids_considered": 6231,
  "largest_same-sky_cluster_count": 143,
  "starlink_at_or_above_10_deg": 161,
  "same_launch_sky_groups": [
    {
      "azimuth_range_deg": [
        13.83,
        359.44
      ],
      "count": 3,
      "elevation_range_deg": [
        16.97,
        22.85
      ],
      "ground_track_labels": [
        "E",
        "ESE"
      ],
      "launch_date": "2021-03-11",
      "members": [
        {
          "azimuth_deg": 13.83,
          "azimuth_plus_2m_deg": 52.19,
          "azimuth_plus_5m_deg": 77.84,
          "element_age_hours": 0.45,
          "element_epoch": "2024-07-14T22:19:06.600864+00:00",
          "elevation_deg": 22.85,
          "elevation_plus_2m_deg": 16.19,
          "elevation_plus_5m_deg": 3.0,
          "epoch_altitude_km": 553.51,
          "ground_track_bearing_deg": 105.86,
          "ground_track_label": "ESE",
          "launch_date": "2021-03-11",
          "name": "STARLINK-2427",
          "norad_id": "47837",
          "range_km": 1195.88,
          "sky_motion_label": "eastward, setting",
          "subpoint_lat": 51.7161,
          "subpoint_lon": -108.7313
        },
        {
          "azimuth_deg": 359.44,
          "azimuth_plus_2m_deg": 33.28,
          "azimuth_plus_5m_deg": 56.61,
          "element_age_hours": 0.37,
          "element_epoch": "2024-07-14T22:23:45.375648+00:00",
          "elevation_deg": 20.66,
          "elevation_plus_2m_deg": 13.61,
          "elevation_plus_5m_deg": 1.57,
          "epoch_altitude_km": 553.33,
          "ground_track_bearing_deg": 82.05,
          "ground_track_label": "E",
          "launch_date": "2021-03-11",
          "name": "STARLINK-2377",
          "norad_id": "47797",
          "range_km": 1273.54,
          "sky_motion_label": "eastward, setting",
          "subpoint_lat": 52.7805,
          "subpoint_lon": -112.402
        },
        {
          "azimuth_deg": 22.57,
          "azimuth_plus_2m_deg": 47.08,
          "azimuth_plus_5m_deg": 64.23,
          "element_age_hours": 0.4,
          "element_epoch": "2024-07-14T22:21:46.106496+00:00",
          "elevation_deg": 16.97,
```

```

        "elevation_plus_2m_deg": 8.65,
        "elevation_plus_5m_deg": -1.91,
        "epoch_altitude_km": 553.7,
        "ground_track_bearing_deg": 92.39,
        "ground_track_label": "E",
        "launch_date": "2021-03-11",
        "name": "STARLINK-2422",
        "norad_id": "47832",
        "range_km": 1428.79,
        "sky_motion_label": "eastward, setting",
        "subpoint_lat": 53.1808,
        "subpoint_lon": -105.0022
    }
],
    "motion_labels": [
        "eastward, setting"
    ]
}
],
"top_starlinks": [
    {
        "azimuth_deg": 354.53,
        "azimuth_plus_2m_deg": 92.82,
        "azimuth_plus_5m_deg": 94.12,
        "element_age_hours": 2.71,
        "element_epoch": "2024-07-15T01:28:23.531808+00:00",
        "elevation_deg": 87.43,
        "elevation_plus_2m_deg": 24.3,
        "elevation_plus_5m_deg": 2.71,
        "epoch_altitude_km": 450.51,
        "ground_track_bearing_deg": 94.13,
        "ground_track_label": "E",
        "launch_date": "2024-03-24",
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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: 237UAP00375
TIME AND OBSERVER COORDINATE	extracted	2024-07-14T22:46:00+00:00 at 42.86967, -112.24294
ORBITAL OBJECT PROPAGATION	screened	Starlink
SPACE-TRACK SATCAT METADATA	screened	33 NORAD IDs checked; 33 matched in local SATCAT subset
LAUNCH-OBJECT/SUPGP LAYER	not applicable	not a launch-object case
NASA/JPL KNOWN SMALL-BODY LAYER	screened	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	60178 trace files scanned; 758 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. *237UAP00375.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprdstorage/lz/electronic-records/rg-615/493468575/237UAP00375.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for Starlink 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/JPL Solar System Dynamics. *Close-Approach Data API documentation for known small-body encounter screening*. <https://ssd-api.jpl.nasa.gov/doc/cad.html>
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 POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
12. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
13. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
14. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
15. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
16. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
17. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
18. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
19. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
20. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
21. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
22. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
23. CelesTrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
24. CelesTrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>