

CASE FILE 76 / 237UAP00483

237UAP00483

Radar/correlation-focused public UAP report; score 50

HIGH-VALUE UNRESOLVED

REPORT NO.	UAP-OM-76-237UAP00483	DISPOSITION	HIGH-VALUE UNRESOLVED
PRIMARY CASE	237UAP00483	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2023-02-22T10:40:00+00:00	OBSERVER	40.21917, -111.72336
SOURCE CASE IDS	237UAP00483		

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 2020-03-18, spanning azimuth 338.96-354.47 deg and elevation 12.74-15.28 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

237UAP00483 remains high-value unresolved after screening against historical Starlink orbital elements. The strongest compact object grouping contains 3 objects from 2020-03-18; however, this does not close the case because hard report features remain: hard maneuver language. Context noted but not treated as causation: substantial orbital-object sky background; context only, not causation.

1.1 Key Findings

- Source score 50 based on: radar/primary-return language, maneuvering/motion anomaly, UAP/UFO language.
- Report time used: 2023-02-22T10:40:00+00:00.
- External object layer used: Starlink.
- Disposition standard: UNRESOLVED requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Non-causal context / rejection screens: substantial orbital-object sky background; context only, not causation.
- Remaining hard features: hard maneuver language.
- Objects above horizon: 183; at/above 10 deg: 87.
- Top compact same-launch/designator group: 3 objects from 2020-03-18.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

1.2 Bottom Line

HIGH-VALUE UNRESOLVED: Hard report features remain after the normal-object screens, such as primary/radar evidence, multiple witnesses, footage references, or motion language that still conflicts with the available object layer.

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
237UAP00483	2/22/2023 3:40:00 AM (-07 MST)	UPS598 UFO-UAP ACTIVITY 02-22-2023	text extract present	237UAP00483.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Washington Operations Center Date: 2/22/2023 3:40:00 AM (-07 MST) Title: UPS598 UFO-UAP ACTIVITY 02-22-2023 Latitude: 40.21916667 Latitude: -111.72336110000001 DESCRIPTION PRELIM INFO FROM FAA OPS: PROVO, UT/UFO-UAP ACTIVITY/0340M/ PROVO FCT ADVISED UPS 598, B752, ONT - BIL, REPORTED SEEING AFTERBURNERS MAKING LATERAL MOVEMENTS FROM ABOVE. PILOT STATED IT APPEARED TO BE MOVING IN ALL DIRECTIONS BUT NOT CIRCLING. ATC DID NOT HAVE EVENT ON RADAR. NO ADDITIONAL INFORMATION PROVIDED. WOC 7-3333 JB/JG
REPORT TIME USED	2023-02-22T10:40:00+00:00
OBSERVER COORDINATE USED	40.21917, -111.72336
OBSERVER SOURCE BASIS	(public text extract 237UAP00483)

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	3683	HISTORICAL ELEMENT ROWS	3683
ABOVE HORIZON AT REPORT MINUTE	183	AT/ABOVE 10 DEG	87
LARGEST SAME-SKY CLUSTER	39		

5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
1	2020-03-18	3	338.96-354.47 deg	12.74-15.28 deg	eastward, rising, eastward, setting	STARLINK-1299, STARLINK-1267, STARLINK-1281

5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
STARLINK-1299	45418	2020-03-18	354.47	15.28	1413.68	eastward, setting	0.34
STARLINK-1267	45384	2020-03-18	352.25	14.59	1544.57	eastward, rising	0.43
STARLINK-1281	45370	2020-03-18	338.96	12.74	1647.88	eastward, rising	0.36

5.4 Bright-Sky Context: Top Starlink Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
STARLINK-2159	17.04	80.58	557.32	eastward, setting	2021-03-04
STARLINK-5114	196.05	78.36	553.09	westward, setting	2022-10-05
STARLINK-2615	321.79	75.68	566.0	eastward, setting	2021-05-26
STARLINK-3789	150.45	63.84	598.35	westward, setting	2022-04-21
STARLINK-4546	339.07	56.77	638.67	eastward, setting	2022-08-10
STARLINK-1350	162.63	47.15	725.37	westward, setting	2020-04-22
STARLINK-3099	29.15	46.81	721.36	eastward, setting	2021-11-13
STARLINK-1060	27.87	36.71	864.14	eastward, setting	2019-11-11
STARLINK-1527	329.2	34.94	894.26	eastward, rising	2020-08-07
STARLINK-3125	197.67	33.58	905.33	westward, rising	2021-11-13
STARLINK-1462	321.01	31.74	956.53	eastward, setting	2020-06-13
STARLINK-3787	302.46	31.07	947.13	westward, rising	2022-04-21

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	39	2.24-355.28 deg	10.02-46.81 deg	eastward, rising, eastward, setting, westward, rising
2	17	52.84-141.36 deg	10.34-23.61 deg	eastward, setting, westward, level, westward, setting
3	16	220.01-298.68 deg	11.92-22.35 deg	eastward, rising, westward, rising, westward, setting

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
4	5	182.19-198.32 deg	14.59-33.58 deg	westward, rising, westward, setting
5	4	155.77-163.94 deg	13.43-28.05 deg	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	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
47745	STARLINK-2159	PAYLOAD	US	2021-03-04	n/a
54003	STARLINK-5114	PAYLOAD	US	2022-10-05	n/a
48678	STARLINK-2615	PAYLOAD	US	2021-05-26	n/a
52283	STARLINK-3789	PAYLOAD	US	2022-04-21	n/a
53422	STARLINK-4546	PAYLOAD	US	2022-08-10	n/a
45535	STARLINK-1350	PAYLOAD	US	2020-04-22	n/a
49446	STARLINK-3099	PAYLOAD	US	2021-11-13	n/a
44765	STARLINK-1060	PAYLOAD	US	2019-11-11	2026-02-14
46048	STARLINK-1527	PAYLOAD	US	2020-08-07	n/a
49451	STARLINK-3125	PAYLOAD	US	2021-11-13	n/a
45770	STARLINK-1462	PAYLOAD	US	2020-06-13	2024-10-18
52277	STARLINK-3787	PAYLOAD	US	2022-04-21	2023-12-30

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-test-1 418.7 MiB; planes-readsb-test-0 422.5 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_2023 for 2023-02-22, then filter +/-60 min and 250 nmi around 40.2192,-111.7234.

- NASA POWER/Horizons/DONKI: batch context for 237UAP00483 at 2023-02-22T10:40:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

GOES SATELLITE	GOES18
GOES ABI PREFIX	https://noaa-goes18.s3.amazonaws.com/ABI-L2-CMIPF/2023/053/10/
GOES GLM LIGHTNING PREFIX	https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2023/053/10/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KPVU	Provo Municipal Airport	0.10	40.22, -111.72
KSVR	South Valley Regional Airport	50.00	40.62, -111.99
KSLC	Salt Lake City International Airport	67.00	40.79, -111.98
KHIF	Hill Air Force Base	102.80	41.12, -111.97
KOGD	Ogden Hinckley Airport	111.30	41.20, -112.01

- KPVU: [IEM ASOS/METAR daily CSV query](#)
- KSVR: [IEM ASOS/METAR daily CSV query](#)
- KSLC: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072572	SALT LAKE CITY/INTNL UT.	64.50	40.77, -111.96
USM00074003	DUGWAY PRVGR	102.90	40.17, -112.93
USM00072476	GRAND JUNCTION/WALKER FIELD; C	299.80	39.12, -108.53
USM00072582	ELKO; NV.	347.00	40.86, -115.74
USM00072672	RIVERTON; WY.	415.70	43.06, -108.48

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 0.5-3 statute miles; precipitation was reported in at least one observation; low/broken/overcast cloud layers were present in at least one observation. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
KPVU	0.10	2023-02-22T10:56:00+00:00	1.50	OVC00900, M, M, M	320.00 / 18.00	KPVU 221056Z AUTO 32018KT 1 1/2SM -SN BR OVC009 M03/M04 A2906 RMK AO2 PK WND 32026/1016 CIG 004V010 SLP842 P0000 T10281039 FZRANO
KSVR	50.00		1.00	OVC00500, M, M, M	320.00 / 14.00	

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
		2023-02-22T08:55:00 +00:00				KU42 220855Z AUTO 32014KT 1SM OVC005 M03/ M03 A2915 RMK AO1 T10331033
KSLC	67.00	2023-02-22T10:54:00 +00:00	2.00	BKN00800, OVC01200, M, M	350.00 / 18.00	KSLC 221054Z 35018KT 2SM -SN BR BKN008 OVC012 M02/M03 A2910 RMK AO2 SLP849 SNE37SNB042 P0000 T10221028 \$

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 25.2 deg at 21.88 m/s; a passive balloon could drift about 157.5 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.	64.50	2023-02-22T12:00 :00+00:00	25.20	21.88	157.50	33.40 at 8770.00 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

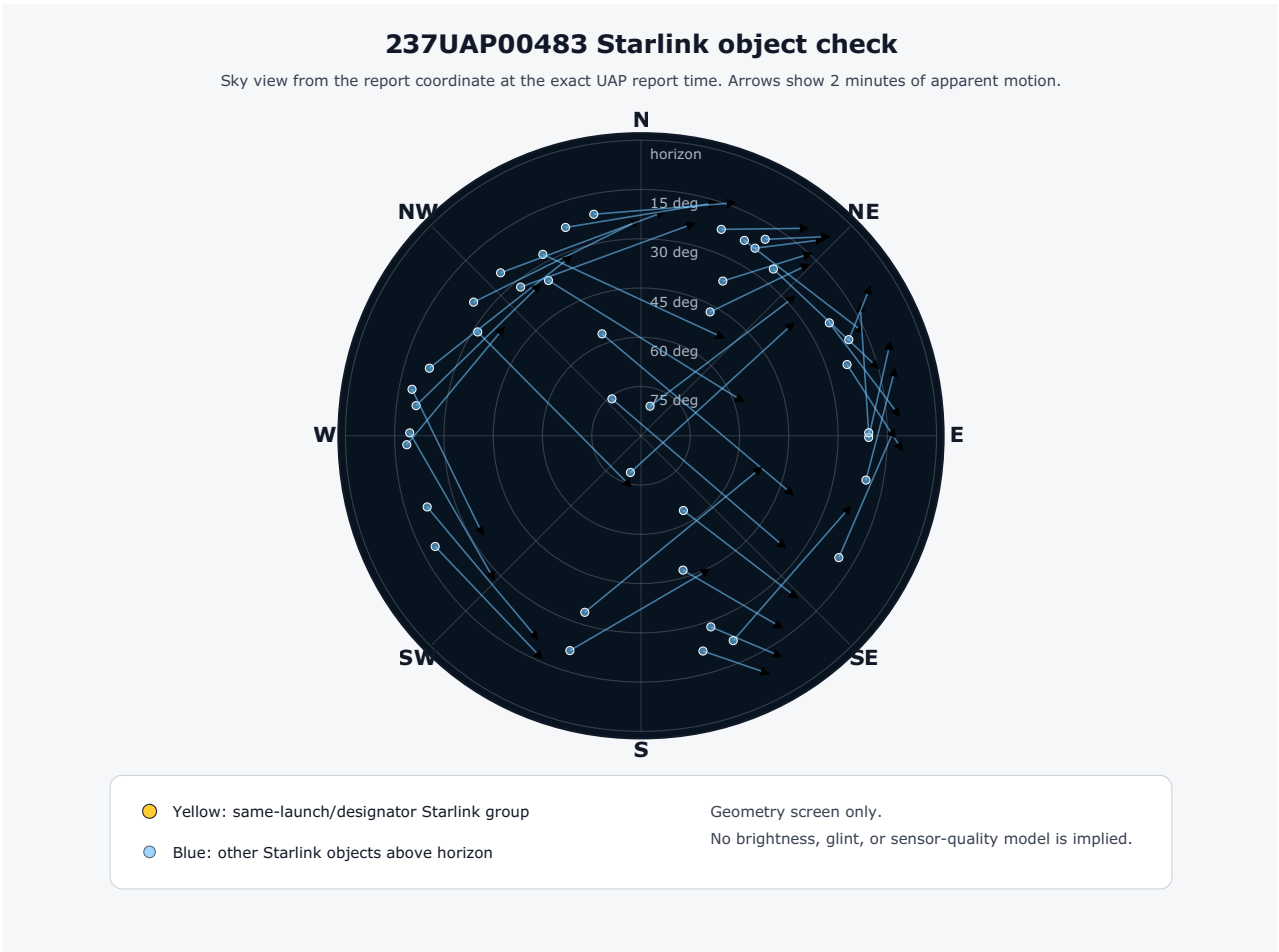
ABI sample objects:

- [ABI-L2-CMIPF/2023/053/10/OR_ABI-L2-CMIPF-M6C01_G18_s20230531000205_e20230531009513_c20230531009581.nc](#)
- [ABI-L2-CMIPF/2023/053/10/OR_ABI-L2-CMIPF-M6C01_G18_s20230531010205_e20230531019513_c20230531019577.nc](#)
- [ABI-L2-CMIPF/2023/053/10/OR_ABI-L2-CMIPF-M6C01_G18_s20230531020205_e20230531029513_c20230531029568.nc](#)
- [ABI-L2-CMIPF/2023/053/10/OR_ABI-L2-CMIPF-M6C01_G18_s20230531030205_e20230531039513_c20230531039567.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2023/053/10/OR_GLM-L2-LCFA_G18_s20230531000000_e20230531000200_c20230531000209.nc](#)
- [GLM-L2-LCFA/2023/053/10/OR_GLM-L2-LCFA_G18_s20230531000200_e20230531000400_c20230531000418.nc](#)
- [GLM-L2-LCFA/2023/053/10/OR_GLM-L2-LCFA_G18_s20230531000400_e20230531001000_c20230531001020.nc](#)
- [GLM-L2-LCFA/2023/053/10/OR_GLM-L2-LCFA_G18_s20230531001000_e20230531001200_c20230531001219.nc](#)

6. Annotated Evidence Figure



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

7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2023-02-22T10:40:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	40.21917, -111.72336	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-object/light language present	Primary same-launch group contains 3 propagated objects in a compact sky sector.
MOTION LANGUAGE	circling, moving	Reported motion remains only partly explained; this is a principal reason for high-value unresolved status.
RADAR / OFFICIAL CHECK	not specified	Radar or hard maneuvering language is treated as a conflict/collection gap, not hand-waved away.
ANALYTIC DISPOSITION	unresolved	237UAP00483 remains high-value unresolved after screening against historical Starlink orbital elements. The strongest compact object grouping contains 3 objects from 2020-03-18; however, this does not close the case because hard report features remain: hard maneuver language. Context noted but not treated as causation: substantial orbital-object sky background; context only, not causation.

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.
- This case is retained as high-value unresolved because the hardest reported behavior is not resolved by the current normal-object layers.

Washington Operations Center

Date: 2/22/2023 3:40:00 AM (-07 MST)

Title: UPS598 UFO-UAP ACTIVITY 02-22-2023

Latitude: 40.21916667 Latitude: -111.72336110000001

Latitude: -111.72336110000001

[illegible]

PRELIM INFO FROM FAA OPS: PROVO, UT/UFO-UAP ACTIVITY/0340M/PROVO FCT ADVISED UPS 598, B752, ONT - BIL, REPORTED SEEING AFTERBURNERS MAKING LATERAL MOVEMENTS FROM ABOVE. PILOT STATED IT APPEARED TO BE MOVING IN ALL DIRECTIONS BUT NOT CIRCLING. ATC DID NOT HAVE EVENT ON RADAR. NO ADDITIONAL INFORMATION PROVIDED. WOC 7-3333 JB/JG

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.

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{
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        "azimuth_plus_5m_deg": 50.15,
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        "element_age_hours": 0.55,
        "element_epoch": "2023-02-22T10:06:54.345312+00:00",
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        "elevation_plus_2m_deg": 34.65,
        "elevation_plus_5m_deg": 6.94,
        "epoch_altitude_km": 553.03,
        "ground_track_bearing_deg": 129.49,
        "ground_track_label": "SE",
        "launch_date": "2021-05-26",
        "name": "STARLINK-2615",
        "norad_id": "48678",
        "range_km": 566.0,
        "sky_motion_label": "eastward, setting",
        "subpoint_lat": 41.1275,
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"elevation_deg": 63.84,
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"elevation_plus_2m_deg": 40.64,
"elevation_plus_5m_deg": 8.59,
"epoch_altitude_km": 545.91,
"ground_track_bearing_deg": 127.47,
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"launch_date": "2022-08-10",
"name": "STARLINK-4546",
"norad_id": "53422",
"range_km": 638.67,
"sky_motion_label": "eastward, setting",
"subpoint_lat": 42.9235,
"subpoint_lon": -113.1348
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"azimuth_plus_2m_deg": 143.79,
"azimuth_plus_5m_deg": 138.78,
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"elevation_plus_5m_deg": 1.18,
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"launch_date": "2020-04-22",
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"sky_motion_label": "westward, setting",
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"azimuth_plus_5m_deg": 49.05,
"element_age_hours": 0.26,
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"elevation_deg": 46.81,
"elevation_plus_2m_deg": 17.25,
"elevation_plus_5m_deg": 1.01,
"epoch_altitude_km": 546.02,
"ground_track_bearing_deg": 54.45,
"ground_track_label": "NE",
"launch_date": "2021-11-13",
"name": "STARLINK-3099",
"norad_id": "49446",
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"sky_motion_label": "eastward, setting",
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"subpoint_lon": -108.9699
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"ground_track_label": "ENE",
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"subpoint_lon": -107.9238
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  "azimuth_plus_5m_deg": 116.53,
  "element_age_hours": 3.7,
  "element_epoch": "2023-
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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: 237UAP00483
TIME AND OBSERVER COORDINATE	extracted	2023-02-22T10:40:00+00:00 at 40.21917, -111.72336
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	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	not exhausted	ADSB.lol historical release pattern is recorded separately; actual aircraft exhaustion requires targeted trace extraction
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	high-value unresolved	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. *237UAP00483.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-615/493468575/237UAP00483.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. 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>
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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/>