

CASE FILE 78 / 237UAP00012

# 237UAP00012

Multiple-witness public UAP report; score 48

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-78-237UAP00012	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00012	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2010-11-17T05:04:00+00:00	OBSERVER	31.53650, -82.50810
SOURCE CASE IDS	237UAP00012		

## 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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237UAP00012 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: historical public LEO catalog objects object traffic at the report spacetime. Dense satellite presence alone is not treated as causation in this packet.

## 1.1 Key Findings

- Source score 48 based on: multiple aircraft/facility witnesses, NORAD/AMOC/EADS/CONR check, UAP/UFO language.
- Report time used: 2010-11-17T05:04:00+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.
- Non-causal context / rejection screens: source language itself invokes satellite/space/launch context; very dense orbital-object sky background; context only, not causation.
- Remaining hard features: multiple witnesses/facilities.
- Objects above horizon: 531; at/above 10 deg: 254.
- 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
237UAP00012	05:04 11/17/2010 Paged: NO	ZJX	text extract present	<a href="#">237UAP00012.pdf</a>

### 3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Multiple aircraft reporting UFOs in the vicinity of AMG. NORAD investigating. Two aircraft reported the sightings, LN30LJ, N27JH, described as two fast moving targets very bright light, too bright to be a satellite. Checked with EADS and NORAD, no reported military activity in vicinity. No other reports received. Suggested ZJX interview PICs and provide appropriate UFO forms should pilots elect to file.
REPORT TIME USED	2010-11-17T05:04:00+00:00
OBSERVER COORDINATE USED	31.53650, -82.50810
OBSERVER SOURCE BASIS	aviation_fix:vicinity of AMG (public text extract 237UAP00012)

### 4. Methodology

1. **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.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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	9673	HISTORICAL ELEMENT ROWS	9673
ABOVE HORIZON AT REPORT MINUTE	531	AT/ABOVE 10 DEG	254
LARGEST SAME-SKY CLUSTER	250		

**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 15362	20.05	82.54	1163.64	westward, setting	84110A
NORAD 21033	164.62	72.89	1463.93	eastward, setting	90114F
NORAD 5553	354.74	68.59	1594.14	eastward, rising	71086G
NORAD 18550	61.64	65.9	1198.24	eastward, setting	87027F
NORAD 25419	284.35	65.0	872.38	eastward, setting	98046G
NORAD 12443	63.17	64.51	855.3	eastward, setting	81041B
NORAD 14515	253.0	62.68	1426.13	westward, setting	65027M
NORAD 21980	276.63	61.08	1659.94	eastward, setting	92030E
NORAD 1314	273.14	59.87	1480.48	westward, setting	65027A
NORAD 26733	297.08	59.69	1485.95	westward, setting	65027BG
NORAD 2825	45.93	59.14	1032.86	westward, setting	67053B
NORAD 18533	250.57	59.04	1481.14	westward, setting	65027AD

### 5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	250	3.93-359.67 deg	10.05-65.9 deg	eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, setting, westward, level, westward, rising, westward, setting
2	1	20.05-20.05 deg	82.54-82.54 deg	westward, setting
3	1	164.62-164.62 deg	72.89-72.89 deg	eastward, setting

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
4	1	354.74-354.74 deg	68.59-68.59 deg	eastward, rising
5	1	169.13-169.13 deg	48.87-48.87 deg	eastward, rising

### 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.

<b>PACKET SATCAT SUBSET ROWS</b>	5370	<b>FETCHED</b>	2026-05-19T01:19:50+00:00
<b>THIS CASE NORAD IDS CHECKED</b>	30	<b>SATCAT ROWS MATCHED</b>	30
<b>TOP OWNERS</b>	US: 13, CIS: 12, PRC: 3, GLOB: 1, ORB: 1		
<b>OBJECT TYPES</b>	DEBRIS: 18, PAYLOAD: 10, ROCKET BODY: 2		

### 5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
15362	NOVA 3	PAYLOAD	US	1984-10-12	n/a
21033	COSMOS 2119	PAYLOAD	CIS	1990-12-22	n/a
5553	COSMOS 450	PAYLOAD	CIS	1971-10-13	n/a
18550	SL-16 DEB	DEBRIS	CIS	1987-03-18	n/a
25419	ORBCOMM FM 14	PAYLOAD	ORB	1998-08-02	n/a
12443	SL-8 R/B	ROCKET BODY	CIS	1981-05-07	n/a
14515	OPS 4682 DEB	DEBRIS	US	1965-04-03	n/a
21980	COSMOS 2191	PAYLOAD	CIS	1992-06-03	n/a
1314	OPS 4682 (SNAPSHOT)	PAYLOAD	US	1965-04-03	n/a
26733	OPS 4682 DEB	DEBRIS	US	1965-04-03	n/a
2825	THOR AGENA D R/B	ROCKET BODY	US	1967-05-31	n/a
18533	OPS 4682 DEB	DEBRIS	US	1965-04-03	n/a

### 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
<b>ADSB.LOL HISTORICAL RELEASE LISTING</b>	not yet exhausted	v2010-11-17-planes-readsb-prod-0, v2010-11-17-planes-readsb-prod-1, v2010-11-17-planes-readsb-staging-0, v2010-11-17-planes-readsb-mlatonly-0
<b>ADSB TRACKS DOWNLOADED</b>	not yet exhausted	Requires targeted extraction from large daily history archives before claiming aircraft exhaustion.
<b>NOAA GOES IMAGERY</b>	not yet exhausted	Needed for cloud/lightning visual context.
<b>NOAA GOES ABI/GLM MANIFEST</b>	screened/present	Public S3 object availability for the report hour.
<b>NOAA NEXRAD WEATHER RADAR</b>	not yet exhausted	Weather radar only; not ATC radar.
<b>NOAA IGRA RADIOSONDE</b>	screened/present	Needed for balloon drift plausibility.
<b>ASOS/METAR WEATHER OBSERVATIONS</b>	screened/present	Nearest station surface observations around report time.

- ADSB.lol historical: extract aircraft traces from no public ADSB.lol annual repo found for 2010-11-17, then filter +/-60 min and 250 nmi around 31.5365,-82.5081.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00012 at 2010-11-17T05:04:00+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.

<b>GOES SATELLITE</b>	GOES16
<b>GOES ABI PREFIX</b>	<a href="https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2010/321/05/">https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2010/321/05/</a>
<b>GOES GLM LIGHTNING PREFIX</b>	<a href="https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2010/321/05/">https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2010/321/05/</a>

### 5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KVAD	Moody Air Force Base	90.80	30.97, -83.19
KBQK	Brunswick Golden Isles Airport	103.60	31.26, -81.47
KVLD	Valdosta Regional Airport	111.30	30.78, -83.28
KSSI	St Simons Island Airport	114.40	31.15, -81.39
KSVN	Hunter Army Air Field	139.10	32.01, -81.15

- KVAD: [IEM ASOS/METAR daily CSV query](#)
- KBQK: [IEM ASOS/METAR daily CSV query](#)
- KVLD: [IEM ASOS/METAR daily CSV query](#)

### 5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072206	JACKSONVILLE/INTNL.; FL.	140.00	30.48, -81.70
USM00072214	TALLAHASSEE/MUN.; FL.	209.40	30.45, -84.30
USM00072208	CHARLESTON/MUN.; SC.	278.00	32.90, -80.03
USM00072215	PEACHTREE CITY; GA.	279.70	33.36, -84.57
USM00074794	CAPE KENNEDY	389.90	28.47, -80.55

### 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
KVAD	90.80	2010-11-17T04:55:00 +00:00	10.00	FEW02300, M	230.00 / 7.00	KVAD 170455Z AUTO 23007KT 10SM FEW023 18/16 A2992 RMK AO2 SLP130 T01850159 402250146 CHINO RWY36 \$
KBQK	103.60	no retained observation	n/a	n/a	n/a / n/a	
KVLD	111.30	2010-11-17T04:53:00 +00:00	10.00	FEW02700, M	n/a / 3.00	KVLD 170453Z AUTO VRB03KT 10SM FEW027 18/16

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
						A2992 RMK AO2 SLP137 T01830161 402280150

### 5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 270.5 deg at 10.0 m/s; a passive balloon could drift about 72.0 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
USM00072206	JACKSONVILLE/ INTNL.; FL.	140.00	2010-11-17T00:00 :00+00:00	270.50	10.00	72.00	27.60 at 23775.00 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>	0	<b>GLM SAMPLE FILES</b>	0

#### ABI sample objects:

- No ABI sample object listed for this hour/prefix.

#### GLM lightning sample objects:

- No GLM sample object listed for this hour/prefix.

## 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	2010-11-17T05:04:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	31.53650, -82.50810	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	two-object/light language present	No compact same-launch count match; retained for unresolved report features.
MOTION LANGUAGE	moving	Apparent motion labels in the object table provide a plausible but not definitive comparison.
RADAR / OFFICIAL CHECK	not specified	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	237UAP00012 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: historical public LEO catalog objects object traffic at the report spacetime. 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

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## 237UAP00012

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SKYWATCH INCIDENT REPORT

PRIMARY CODE: OTHER  
Date: 05:04 11/17/2010 Paged: NO  
Status: Closed  
POD: DEN  
Reporting Facility: ZJX

REMARKS

Multiple aircraft reporting UFOs in the vicinity of AMG. NORAD investigating.Two aircraft reported the sitings, LN30LJ, N27JH, described as two fast moving targets very bright light, too bright to be a satellite. Checked with EADS and NORAD, no reported military activity in vicinity. No other reports received. Suggested ZJX interview PICs and provide appropriate UFO forms should pilots elect to file.

## Appendix B. Computational Evidence Digest

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This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

```
{
  "report_time_utc": "2010-11-17T05:04:00+00:00",
  "source_excerpt": "Multiple aircraft reporting UFOs in the vicinity of AMG. NORAD investigating. Two aircraft reported the
sittings, LN30LJ, N27JH, described as two fast moving targets very bright light, too bright to be a satellite. Checked with EADS
and NORAD, no reported military activity in vicinity. No other reports received. Suggested ZJX interview PICs and provide
appropriate UFO forms should pilots elect to file.",
  "historical_starlink_element_rows": 9673,
  "observer": {
    "lat": 31.536500930786133,
    "lon": -82.50810241699219,
    "source": "aviation_fix:vicinity of AMG (public text extract 237UAP00012)"
  },
  "case_id": "237UAP00012",
  "starlink_above_horizon_at_report_time": 531,
  "starlink_catalog_ids_considered": 9673,
  "largest_same-sky_cluster_count": 250,
  "starlink_at_or_above_10_deg": 254,
  "top_starlinks": [
    {
      "azimuth_deg": 20.05,
      "azimuth_plus_2m_deg": 359.81,
      "azimuth_plus_5m_deg": 358.31,
      "element_age_hours": 9.24,
      "element_epoch": "2010-11-16T19:49:30.513504+00:00",
      "elevation_deg": 82.54,
      "elevation_plus_2m_deg": 47.05,
      "elevation_plus_5m_deg": 19.3,
      "epoch_altitude_km": 1157.6,
      "ground_track_bearing_deg": 356.67,
      "ground_track_label": "N",
      "launch_date": "84110A",
      "launch_designator": "84110A",
      "name": "NORAD 15362",
      "norad_id": "15362",
      "range_km": 1163.64,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 32.6186,
      "subpoint_lon": -82.0408
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    {
      "azimuth_deg": 164.62,
      "azimuth_plus_2m_deg": 171.73,
      "azimuth_plus_5m_deg": 173.78,
      "element_age_hours": 6.79,
      "element_epoch": "2010-11-17T11:51:22.081248+00:00",
      "elevation_deg": 72.89,
      "elevation_plus_2m_deg": 45.76,
      "elevation_plus_5m_deg": 21.64,
      "epoch_altitude_km": 1392.14,
      "ground_track_bearing_deg": 175.79,
      "ground_track_label": "S",
      "launch_date": "90114F",
      "launch_designator": "90114F",
      "name": "NORAD 21033",
      "norad_id": "21033",
      "range_km": 1463.93,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 28.4668,
      "subpoint_lon": -81.553
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    {
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      "azimuth_plus_2m_deg": 142.75,
      "azimuth_plus_5m_deg": 161.01,
      "element_age_hours": 6.57,
      "element_epoch": "2010-11-16T22:30:02.170368+00:00",
      "elevation_deg": 68.59,
      "elevation_plus_2m_deg": 79.27,
      "elevation_plus_5m_deg": 41.7,
      "epoch_altitude_km": 1468.44,
      "ground_track_bearing_deg": 164.17,
      "ground_track_label": "SSE",
      "launch_date": "71086G",
      "launch_designator": "71086G",
      "name": "NORAD 5553",
      "norad_id": "5553",
      "range_km": 1594.14,
      "sky_motion_label": "eastward, rising",
      "subpoint_lat": 35.7639,
      "subpoint_lon": -82.9856
    }
  ]
}
```

```

},
{
  "azimuth_deg": 61.64,
  "azimuth_plus_2m_deg": 127.2,
  "azimuth_plus_5m_deg": 146.14,
  "element_age_hours": 9.42,
  "element_epoch": "2010-11-16T19:39:05.260896+00:00",
  "elevation_deg": 65.9,
  "elevation_plus_2m_deg": 48.72,
  "elevation_plus_5m_deg": 21.13,
  "epoch_altitude_km": 842.55,
  "ground_track_bearing_deg": 160.91,
  "ground_track_label": "SSE",
  "launch_date": "87027F",
  "launch_designator": "87027F",
  "name": "NORAD 18550",
  "norad_id": "18550",
  "range_km": 1198.24,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 33.2615,
  "subpoint_lon": -78.5692
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  "azimuth_plus_5m_deg": 49.12,
  "element_age_hours": 8.17,
  "element_epoch": "2010-11-17T13:13:59.051424+00:00",
  "elevation_deg": 65.0,
  "elevation_plus_2m_deg": 49.39,
  "elevation_plus_5m_deg": 16.43,
  "epoch_altitude_km": 802.84,
  "ground_track_bearing_deg": 54.76,
  "ground_track_label": "NE",
  "launch_date": "98046G",
  "launch_designator": "98046G",
  "name": "NORAD 25419",
  "norad_id": "25419",
  "range_km": 872.38,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 32.2246,
  "subpoint_lon": -85.8772
},
{
  "azimuth_deg": 63.17,
  "azimuth_plus_2m_deg": 138.99,
  "azimuth_plus_5m_deg": 153.78,
  "element_age_hours": 7.38,
  "element_epoch": "2010-11-16T21:41:29.752512+00:00",
  "elevation_deg": 64.51,
  "elevation_plus_2m_deg": 39.04,
  "elevation_plus_5m_deg": 11.95,
  "epoch_altitude_km": 781.56,
  "ground_track_bearing_deg": 164.52,
  "ground_track_label": "SSE",
  "launch_date": "81041B",
  "launch_designator": "81041B",
  "name": "NORAD 12443",
  "norad_id": "12443",
  "range_km": 855.3,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 32.833,
  "subpoint_lon": -79.3815
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  "azimuth_deg": 253.0,
  "azimuth_plus_2m_deg": 214.77,
  "azimuth_plus_5m_deg": 200.76,
  "element_age_hours": 23.32,
  "element_epoch": "2010-11-18T04:23:25.934784+00:00",
  "elevation_deg": 62.68,
  "elevation_plus_2m_deg": 42.9,
  "elevation_plus_5m_deg": 19.7,
  "epoch_altitude_km": 1271.75,
  "ground_track_bearing_deg": 184.34,
  "ground_track_label": "S",
  "launch_date": "65027M",
  "launch_designator": "65027M",
  "name": "NORAD 14515",
  "norad_id": "14515",
  "range_km": 1426.13,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 29.9874,
  "subpoint_lon": -87.908
},
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  "azimuth_deg": 276.63,
  "azimuth_plus_2m_deg": 329.4,

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"azimuth_plus_5m_deg": 357.71,
"element_age_hours": 5.61,
"element_epoch": "2010-11-17T10:40:32.127456+00:00",
"elevation_deg": 61.08,
"elevation_plus_2m_deg": 54.37,
"elevation_plus_5m_deg": 31.11,
"epoch_altitude_km": 1479.84,
"ground_track_bearing_deg": 15.37,
"ground_track_label": "NNE",
"launch_date": "92030E",
"launch_designator": "92030E",
"name": "NORAD 21980",
"norad_id": "21980",
"range_km": 1659.94,
"sky_motion_label": "eastward, setting",
"subpoint_lat": 32.0304,
"subpoint_lon": -89.3654
},
{
"azimuth_deg": 273.14,
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"ground_track_bearing_deg": 184.31,
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"azimuth_plus_5m_deg": 24.96,
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"elevation_plus_2m_deg": 29.92,
"elevation_plus_5m_deg": 9.42,
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"ground_track_bearing_deg": 21.53,
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"range_km": 1032.86,
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"subpoint_lon": -78.8805
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"azimuth_plus_2m_deg": 216.67,
"azimuth_plus_5m_deg": 202.46,
"element_age_hours": 0.78,
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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: 237UAP00012
TIME AND OBSERVER COORDINATE	extracted	2010-11-17T05:04:00+00:00 at 31.53650, -82.50810
ORBITAL OBJECT PROPAGATION	screened	public LEO catalog objects
SPACE-TRACK SATCAT METADATA	screened	30 NORAD IDs checked; 30 matched in local SATCAT subset
LAUNCH-OBJECT/SUPGP LAYER	not applicable	not a launch-object case
NASA/JPL KNOWN SMALL-BODY LAYER	not selected	CAD/Horizons secondary screen included when this case had NEO-relevant timing/geometry
NASA POWER/HORIZONS/DONKI CONTEXT	not exhausted	Hourly weather, sky geometry, and space-weather context where local JSON is present
AIRCRAFT/ADS-B LAYER	not exhausted	ADS-B 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	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. *237UAP00012.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-615/493468575/237UAP00012.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for public LEO catalog objects screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
7. Space-Track.org. *Public source for the underlying U.S. Space Surveillance Network TLE distribution referenced by the historical TLE archive*. <https://www.space-track.org/>
8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
10. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
11. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
12. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
13. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
14. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
15. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
16. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
17. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
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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/>