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UAP Indications Analysis 1945-1975 United States Atomic Warfare Complex[1]

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ABSTRACT

This paper provides an assessment of indicators associated with Unidentified Anomalous Phenomena (UAP) reports included in the SCU Pattern Recognition Study (Hancock et al., 2023a). The Pattern Recognition study analyzed UAP incidents geographically proximal to US military installations between 1945 and 1975. A set of 590 comprehensively documented UAP reports from this period were collected from select sources, including Project Blue Book. Study sites included: 1) atomic materials production, 2) atomic weapons assembly, 3) atomic weapons stockpiles, 4) atomic weapons deployment, and 5) rocket/missile testing and development. The Pattern Recognition Study concluded that intelligent and focused activity was associated with UAP at atomic facilities to a greater degree than conventional non-atomic military facilities. Further study of the UAP activity frequency, type and pattern indicated the need to assess possible intentions relating to information collection, obstruction of military activities, and aggressive engagement. An additional 284 incidents were examined based on relevant UAP activity, for a total of 874 incidents. A list of indicators was created and mapped to four major scenarios for assessment. Based on the analysis of indications for UAP incidents included for this study, an Atomic Weapons Survey was indicated as the most likely scenario. The less likely scenarios were General Military Survey, Atomic Warfare Prevention and Military Aggression respectively.

1. Introduction

The methodology used in this indications analysis was adapted from industry standard practices within the US Intelligence Community for threat and warnings studies. It provides an approach to evaluating observed activities that are not reproducible, nor predictably repeatable (Grabo, 2004). Indications studies involve long-term collection of activities occurring within a specific area of interest. With sufficient data, it is possible to identify anomalies in that activity. If

1 J. Pierson, DSS (Contributing Advisor): Methodology, Writing - Review & Editing.

deemed worthy of further study, the next step in the process involves developing a set of hypothetical motives of intention. The existing hypothetical intentions are described below.

1.1 General Military Survey

In its most basic form, military intelligence involves the collection of information on both the capabilities and vulnerabilities of a military force (Richelson, 2016). A general survey includes estimates of the size and readiness of an armed force in all its operational domains (ground, air, sea, and space). Information is collected on all types of weapons, as well as the systems and logistics capabilities available for delivering each category of weapon. To identify vulnerabilities, a determination must be made of the ability of each element of the armed force to detect threats and defend itself from attack. While a general military survey is intended to be comprehensive which covers all classes of weapons, special focus is normally placed on those weapons classified as strategic. Strategic weapons are defined as those capable of destroying an adversary's population centers, industrial base, and utilities, transportation, and communications infrastructure. A lack of distinct focus on atomic weapons or other specialized weapons systems, as compared to general military resources, is a primary indication of a General Military Survey.

1.2 Atomic Weapons Survey

Information collection efforts focusing on atomic weapons are categorized as a strategic weapons survey. An entity conducting a strategic weapons survey focuses information collection efforts on the development, production capacity, stockpiling, and delivery platforms for weapons of massive physical destruction. For this study, such strategic weapons are defined as nuclear and thermonuclear bombs and missile warheads. Weapons-grade radioactive materials production plants can be identified by the large number and size of associated power transmission lines and other engineering elements. These identifiable elements are required to produce exceptionally high levels of electrical power required for atomic isotope separation. Air and water isotope sampling also allows a characterization of the level of atomic technology in use, as well as estimating the types of weapons in production, which includes a differentiation between nuclear and thermonuclear weapons (Richelson, 2007). Increased UAP activity at atomic facilities, coupled with a lack of comparable levels of activity at general military facilities, is a primary indication of a focused Atomic Weapons Survey.

1.3 Atomic Warfare Prevention

Preempting or intervening to degrade strategic military action requires focused information collection efforts against strategic weapons development facilities and weapons delivery facilities. In addition to reconnaissance, there would be some level of "engagement" with those utilizing such defense systems to fully verify their capabilities (Burrows, 2001). A deliberate attempt to disrupt or prevent functional operations for atomic weapons delivery, followed by a disengagement or disablement of an atomic weapons mission is a primary indication of Atomic Warfare Prevention.

1.4 Military Aggression

A major challenge in evaluating Military Aggression is that certain activities which are part of a general military survey, are also part of the planning for future hostile action. Activities that trigger a defensive response are key to the detection, location, and recording of military capabilities regarding surveillance, security, communications, weaponry, and response time. One factor that helps differentiate intentions regarding those activities include the determination of whether they are being carried out in a clandestine manner (indicative of possible plans for aggression) or overtly (suggestive of a survey). Another consideration is whether disguise or deception is involved in collections or response testing (ferreting) activities. The actual compromise or destruction of military assets is a major consideration in determining intention. However special consideration is given to incidental effects caused by proximity to energy systems or accidental collision. A direct engagement with military personnel, resulting in the substantial risk or sustained damage to property and/or personal injury or death is a primary indication of Military Aggression.

2. Methodology

The methodology encompassed four steps: 1) Collect and build a data base of the most credible incidents possible, 2) Chart the incidents to reveal patterns within the data, 3) Analyze patterns to identify activity indicators, and 4) Map activity indicators to scenarios of "intent." The conceptual model for the overall process of pattern recognition and

indications analysis is illustrated in Figure 1.

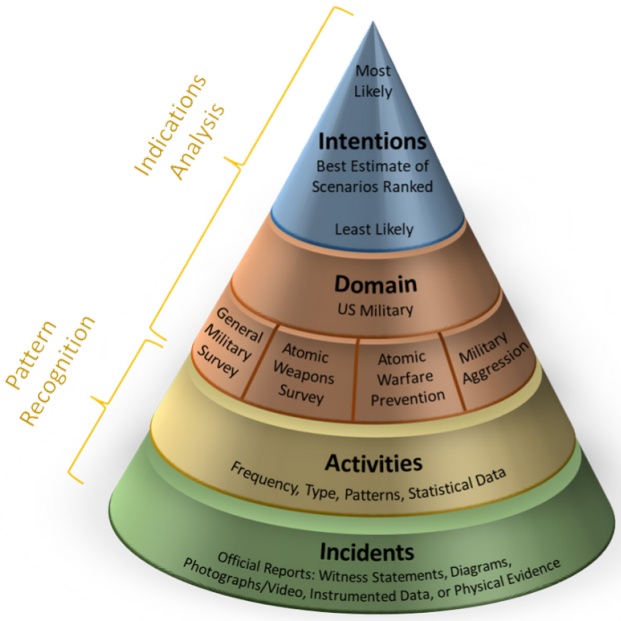

Figure 1. Intentions Study Model

2.1 Data Sources and Selection

Hancock et al., 2023a examined *UAP reports between 1945 and 1975, where the data indicated an anomalous level of UAP activity at military facilities.* The reports were taken from the Brad Sparks Comprehensive Catalog of 2,200 Project Blue Book Unidentified Flying Objects (UFO) Unknowns (Sparks, 2020); National Investigations Committee on Aerial Phenomena (NICAP) chronologies (NICAP), and the books Clear Intent (Fawcett and Greenwood, 1984) and Faded Giant (Salas and Klotz, 2005). Incidents that were officially reported to and investigated by the U.S. Air Force's various UFO investigations programs (SIGN, GRUDGE, BLUEBOOK) (Swords and Powell, 2012), law enforcement, and other organizations that conducted such investigations, were included. Reports from military personnel, law enforcement, pilots, and other trained observers were reviewed for sufficient detail, such as date, time, location, distinguishing features and specific activities.

After compiling the incident data into an Excel database, manual reviews were conducted to remove duplicates, resulting in a final set of entries for analysis. A total of 874 incidents were included in the study data set, including 590 from Hancock et al., 2023a, and an additional 284 from above-listed data sources. Relevant UAP activity included aircraft encounters/engagements, radar tracking, radar interference/jamming, radio interference, UAP over military installation, UAP observed during missile, rocket and high-altitude balloon tests, and directed radar transmissions.

2.2 Intention Scenarios and Indicators

A total of 31 indicators were scored for each scenario. Scores are based on the quality of information available for each indicator, the frequency and strength of pattern of activity for the indicator, and whether the pattern of activity supports the specific scenario (see Figure 2). Scores range from +3 (Highly supportive that the indicator is true, 0 (Neither supports nor suggests the opposite), and -3 (Highly supportive that the opposite is true). **Column 1** is the number designator for each indicator; **Column 2** is a specific indicator of activity evidenced by UAP reports; **Column 3** is a data quality score based on the quality and quantity of information available to make an informed assessment; **Column 4** is a pattern support score based on the presence or absence of a pattern described by the specific indicator; and **Columns 5, 6, 7** and **8** provide specific indicator pattern support for the respective scenarios: 1) General Military Survey, 2) Atomic Weapons Survey, 3) Atomic Warfare Prevention, and 4) Military Aggression.

Scores for each scenario are based on a detailed analysis of the content and credibility of the individual reports associated with each indicator. Finally, a decision is reached for the likelihood of each intention scenario based on the combined data. The methodology described here is based on the structured debate and scenarios and indicators structured analytic techniques.

Figure 2 shows each UAP pattern indicator and our assessment of existing data in terms of data quality, prevalence of the existing pattern, and its strength in support of each hypothetical intention (or scenario).

2.3 Indications Analysis Matrix

		Data Quality	Pattern Support	General Military Survey	Atomic weapons survey	Atomic Warfare Prevention	Military Aggression
1a	UAP activity at all first-generation atomic weapons materials production facilities	3	3	1	3	0	0
1b	UAP activity at all first-generation atomic weapons design and assembly facilities	3	3	1	3	0	0
1c	Extended surveillance at all first-generation atomic weapons design and assembly facilities	3	-3	0	0	-3	-3
2a	UAP activities at national atomic weapons stockpiles	3	3	2	3	1	1
2b	Extended surveillance at national atomic weapons stockpiles	3	0	0	0	-3	-3
3a	UAP activities at thermonuclear weapons deployment sites	3	3	2	3	1	-2
3b	Extended surveillance at thermonuclear weapons deployment sites	3	2	2	2	2	1
4a	UAP reports from ICBM sites	3	2	2	3	1	-2
4b	UAP low altitude aerial incursions at ICBM bases	3	3	2	3	1	-2
5a	UAP incidents associated with ICBM test launches (Canaveral/Vandenberg)	3	1	2	3	1	-2
5b	UAP incidents associated with rocket and missile tests (White Sands)	3	3	2	3	1	-2
6	UAP incidents associated with manned space launches	3	0	-1	-1	-1	-1
7	UAP activity at commercial nuclear power plants	3	-3	-1	-1	-1	-1
8	UAP activities suggestive of radiation/isotope monitoring and particulate collections	1	3	1	3	0	0
9	UAP activities suggestive of testing of physical security at atomic military bases (Exclude ICBM)	3	1	2	2	2	2
10	UAP activities suggestive of testing air defenses at atomic development facilities	3	3	2	2	2	2
11	UAP activities suggestive of testing of air defense capabilities at conventional military bases	3	2	2	0	0	-1
12	UAP activities suggestive of testing of physical security at conventional military facilities	3	-3	-3	0	0	-3
13	UAP activities at atomic weapons tests	0	0	0	0	0	0
14	UAP low altitude aerial incursions at conventional military bases	3	-3	-3	0	0	-3
15a	UAP incidents associated with atomic bomber alert missions	3	1	2	2	2	2
15b	UAP incidents associated with atomic bombing exercises	3	-3	-3	-3	-3	-3
15c	UAP activity associated with continental air defense exercises	3	-3	-3	-3	-3	-3
16	UAP activities associated with mobile atomic weapons platforms (submarines and aircraft carriers)	0	0	0	0	0	0
17a	UAP encounters suggesting testing of aircraft capabilities (speed, response times, maneuverability)	3	3	3	3	3	3
17b	UAP activity suggesting of false duplication of IFF (Identification Friend or Foe) radar responses to air defense radar facilities	3	2	2	2	2	2
17c	UAP incidents suggestive of jamming or other types of electronic interference with military aircraft radar systems	3	1	1	1	1	1
18	Detection and tracking capabilities reconnaissance (visual and radar)	3	3	3	3	1	1
19	Clandestine UAP activity	3	2	2	2	1	1
20	Overt UAP activity	3	2	3	3	2	-2
21	Direct engagement with military involving substantial risk or sustained damage, personal injury, or death	3	-2	1	1	1	-2

Figure 2. Indicator Rating Scenario Matrix

3. Indicator Assessment

3.1 UAP activity at all first-generation atomic weapons development facilities

Assessment: Very Strong Support

The pattern analysis indicated elevated UAP activity at atomic weapons development sites, including radioactive materials production, weapons design, and production plants. That anomalous activity corresponded to a specific window of time, with the highest level of activity at the earliest development sites (Hanford, Oak Ridge, Los Alamos, and Sandia base/Kirtland AFB). Similar facilities that went into operation later (the Savannah River and Pantex plants) showed far less UAP activity. Killeen base (one of the five national atomic weapons stockpile sites) also showed an elevated level of UAP incidents during the initial window of activity, while the other four sites do not.

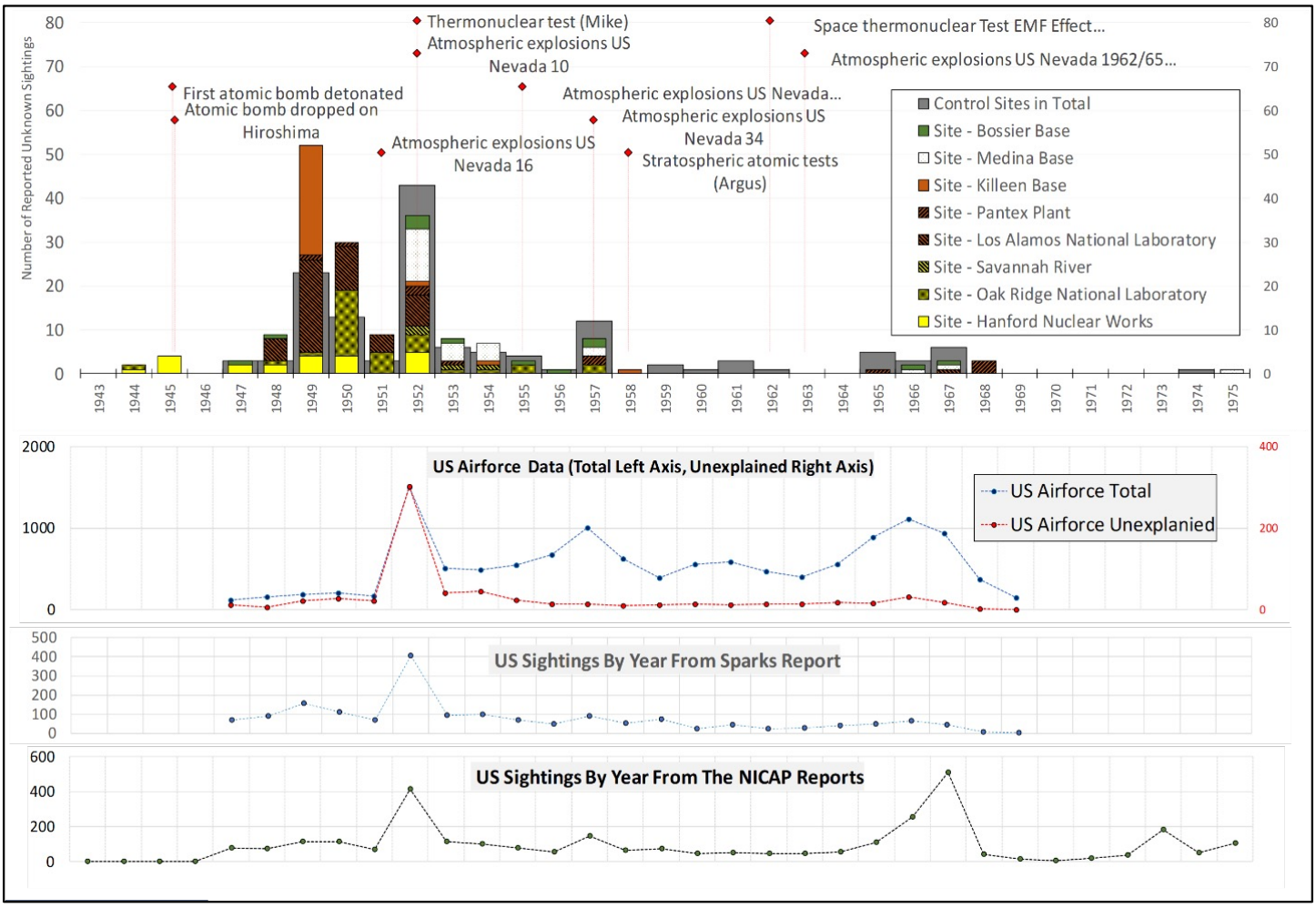

Figure 3. First-generation atomic weapons development facilities. US atomic weapons vs controls incident reports (Hancock et al., 2023a).

Figure 3 shows the degree in which the atomic warfare sites reported significantly more UAP encounters than the control sites (shown in total as a grey bar behind the atomic sites). The increase in activity at atomic sites was most notable during 1948 to 1951 when the atomic warfare facilities became operational. In 1952, atomic sites and controls were high in the overall reporting as seen in the US Airforce, Sparks and NICAP reports (as shown in the line charts below the main bar chart).

Figure 4 Comparison of atomic and non-atomic facility types (Hancock et al., 2023a) also demonstrated an increased number of reported cases at the atomic facilities as compared to conventional, non-atomic weapons military bases.

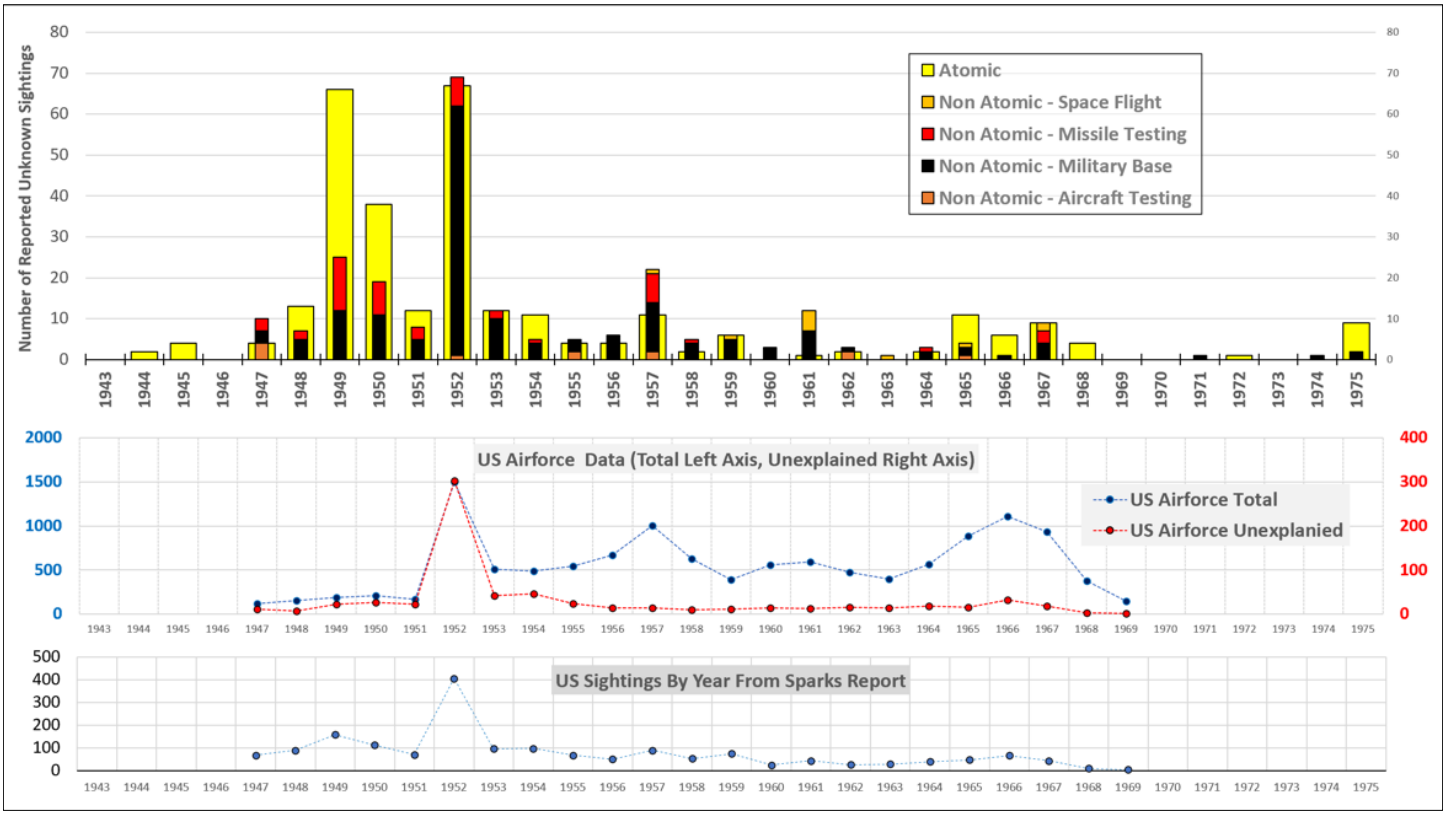

Figure 4. Comparison of atomic and non-atomic facility types.

Figure 4 shows the increase in activity at the atomic sites (yellow bars) during 1948 to 1951, most notable during 1949 and 1950, as compared with the general military sites (orange, red and black bars). Included in the general military sites is the White Sands rocket/missile testing site. While not an atomic site, White Sands is a specialty technology test site associated with specific indicators. The difference between the atomic sites in yellow and the standard military sites in black is significant during the 1948 to 1951 period. There is also a period during 1965 to 1968 where the atomic sites show an increase in reports over the standard military sites, mainly at the ICBM sites (Hancock et al., 2023a). Increased reports at atomic warfare complex sites and air defense facilities may have been influenced by growing concerns over nuclear proliferation, as evidenced by the development of nuclear technologies in Russia during the Cold War.

Incident Examples

May 21, 1949, Hanford Radioactive Materials plant, Washington. A silvery, disc-shaped object was reported "station keeping" (hovering) within Hanford restricted air space. Radar confirmed a target at an altitude of 17,000 to 20,000 feet, and confirmed with visual observation by Hanford radar station personnel. A call for an interceptor was relayed to Moses Lake airfield but before the F-82 fighter was even airborne the disc suddenly took off at a speed "faster than a jet" (Sparks, 2020/232).[2]

February 24, 1950, Los Alamos, New Mexico. AESS security personnel sighted a shiny metallic or bright white silver white-saucer or sphere hovering at about 100 (feet) then moving erratically, then suddenly climbing vertically at possibly supersonic speed straight up out of sight. No sound was noted by anyone (Sparks, 2020/331).

March 21, 1950, Sandia Base, New Mexico. Personnel observed several silver-colored objects engaged in a series of aerial maneuvers described as "dog fighting" over the base. The objects performed right-angle turns as well as immediately reversing their direction of flight (Sparks, 2020/350, NICAP).

October 12, 1950, Oak Ridge, Tennessee. Personnel observed a saucer-looking object over the K-25 (uranium enrichment) area near the NEPA Project area. The object was reported to be as big as a four-room house, silver in color with a blister at the top of the saucer and windows. The object

2 References for the Brad Sparks Comprehensive Catalog of 2,200 Project Blue Book Unidentified Flying Objects (UFO) Unknowns are indicated as 'Sparks 2020' followed by the sequential number of the incident listed on the Sparks 2020 list.

rose slowly for about 100ft, moved forward, rose again about 100ft, and then disappeared at a high rate of speed (Sparks, 2020/410).

3.2 UAP activities at national atomic weapons stockpiles

Assessment: Very Strong Support

AEC Q sites were constructed and became operational through the period of 1948-1951. These Q sites were established to distribute the original atomic bombs from Sandia Base outside Albuquerque so that pre-emptive Soviet attacks would not threaten the entire American stores of atomic weapons. Q sites were used for stockpiling atomic weapons, testing high explosive detonators, and performing assembly and disassembly of training weapons for SAC. They were heavily guarded and located adjacent to major Army bases and SAC air bases. The Killeen site was one of the first Q sites to become operational. In 1949 the number of UAP incidents at Killeen Base/Fort Hood prompted the Army to establish instrumented UAP observations posts which produced specific estimates of size, distance, and speed. Data is strong for two of the earliest bomb depots (Sandia Base and Killeen National Stockpile site), however, no data emerged for the other stockpile locations.

Incident Examples

On May 5, 1949, Killeen base security zone. Two Army majors and a captain observed two oblong, highly reflective white discs, flying at an altitude of approximately 1,000 feet at an estimated speed of 200-250 miles per hour. Both objects then made a coordinated, shallow turn (Sparks, 2020/214).

On May 7, 1949, Killeen base. A brilliant, white diamond-shaped light at low altitude (1,000 feet) was tracked for 57 seconds for 3½ miles. No sound was heard (Sparks, 2020/220).

On May 8, 1949, Killen base. Three observation posts observed a similar brilliant diamond-shaped light at an altitude of 1,600 feet, slowly descending for some 9 minutes. Senior officers from the agencies involved in Killeen base security reviewed the progress on the observations and concluded "agencies were unanimous in agreeing that the new observation system instituted by Fourth Army provided precise results and definitively indicated that the unknown phenomena in the Camp Hood area could not be attributed to natural causes" (Sparks, 2020/222).

3.3 UAP activities at thermonuclear weapons deployment sites

Assessment: Very Strong Support

Several periods occurred where atomic deployment sites had greater sightings than standard military bases: 1949-1950 during the establishment of the atomic weapons development program, 1964-1967 after the deployment of the ICBM, and in 1975 with the deployment of the Minuteman III ICBMs.

Incident Examples

Between February and March 1967, Malmstrom AFB in Montana experienced an ongoing series of UAP incidents involving low-altitude unidentified lights. Reports include UAPs hovering adjacent to security gates and missile silos. On March 16, security alarms were triggered, and armed teams were dispatched to multiple missile locations. Maintenance and security personnel at multiple missile silos reported unknown aerial objects in their vicinity. At least one flight of 10 ICBMs (Echo flight) was officially recorded as having unexplainably gone off alert status (Salas and Klotz, 2005).

October 24, 1968, Minot AFB, North Dakota. Multiple radar tracks were observed, approaching both the base and an incoming B-52 aircraft. Security personnel reported an unidentified object landing and continued to observe it for some 45 minutes. Additional UAP reports were made from several sites of the 91st Strategic Missile Wing. In addition, a variety of anomalous electromagnetic effects were registered on radio and radar and security alarms were activated at outer and inner rings around silos. Official reports state that the outer door of one location had been opened, and the combination lock of the inner door moved (Sparks, 2020/1760).

October 1975, Loring AFB in Maine reported a UAP entering a high-security zone within 300 yards of the atomic weapons storage area. Wurtsmouth AFB in Michigan also reported a UAP approaching and hovering over the weapons storage area. A series of UAP incidents, known as the "northern tier UFO wave," were reported to NORAD, the National Military Command Center, the Air Force Chief of Staff, and Strategic Air Command headquarters. In response, a Security Option 3 message was sent to all SAC installations across the northern border – Pease, Plattsburg, Wurtsmith, Kinchloe, Sawyer, Grand Forks, Minot, Malmstrom, Fairchild, and Barksdale AFBs (Fawcett and Greenwood, 1984).

November/December 1975, Malmstrom AFB, reported multiple waves of UAP incidents which included an apparent physical incursion involving ICBM silo security gates and possible attempted access to one missile silo. One Air Force communication refers to a "Faded Giant" incident which is the term for tampering with or loss of control over a nuclear weapon. A Faded Giant incident had previously occurred on possibly two instances at Malmstrom in 1967. The UAP security incidents at "Northern Tier" Strategic Air Command bases are summarized in a Commander in Chief NORAD message of November 11, 1975, which refers to the series of UFO incidents at American and Canadian bases. The message expresses concern over possible press coverage and the need to come up with appropriate public responses (Fawcett and Greenwood, 1984).

3.4 Reports At ICBM sites

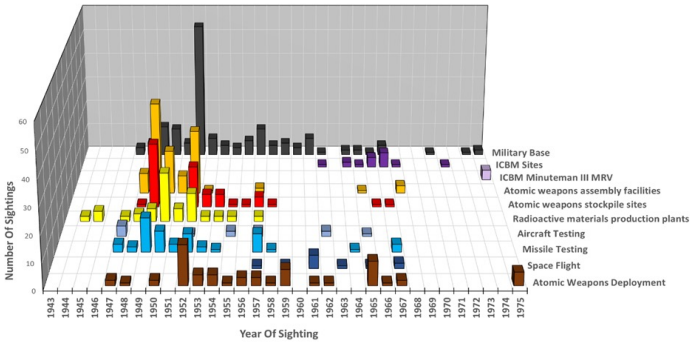

Figure 5. Number of reports based on military facility type at the time of sighting

Figure 5 shows the number of sightings at the various military facilities each year over the study period. The Military facility type is the facility type at the time of the sighting. The ICBM sites (in purple) did not become operational until 1959; therefore, any reports at the locations prior to becoming an ICBM site was captured under their facility type at that time. During 1964-1967 and 1975, the predominant facility types were ICBM and atomic weapons deployment sites.

Certain provisions with Air Force Reporting 200-2 allowed for the classification of incidents, which were not available for this study. Classification was based on association with certain military facilities, specified activities or observations that required additional study for threat assessment. Any additional data that was classified accordingly only enhances the indications of UAP activities with respect to military assets.

3.4.1 UAP reports from ICBM sites

Assessment: Moderate Support

3.4.2 UAP low-altitude aerial incursions at ICBM bases

Assessment: Very Strong Support

Incident Examples

August 7, 1962, Oracle, Arizona. Personnel at a Titan ICBM complex in Arizona (associated with the Davis-Monthan SAC base) observed a brilliant light descending and becoming stationary over the site. SAC fighters were sent to investigate but as they approached the object took off and rapidly moved out of sight before the actual arrival of the aircraft. The jets loitered over the site for a bit, then returned to their base, and upon their departure the UFO immediately returned. It once again descended towards the silo - only to take off vertically and disappear overhead (NICAP).

May 21, 1964, Altus AFB. Security personnel reported a large bright light which moved into to a stationary position directly over a newly constructed missile silo for eight to ten minutes (NICAP).

On August 1, 1965, more than a dozen UAPs were reported over various ICBM silos across FE Warren AFB. At one point nine objects were observed moving in formation (Hastings, 2008).

Between August 16 and 26 1965, unknown lights were reported in the area surrounding the base as well as directly over the Minot Minuteman missile complex. On August 16, two witnesses observed a football-shaped light at low altitude for some twelve minutes. Just over a week later, on August 24, a security strike team was sent to investigate reports of an object hovering at ground level, confirmed by radar. During August 25-26, multiple UAPs were reported from three different ICBM sites, with each observation confirmed by multiple observers and radar (Hynek, 1966). Radio interference was reported, which interrupted radio communications across the base to security teams and silos from the Launch Control Center. Interceptors were unable to engage, and objects lights went out whenever interceptors were in their area. UAP also paced B-52 inbound to Minot and radio communications with the aircraft was lost until the object departed (Salas and Klotz, 2005).

3.5 ICBM and Rocket/Missile Testing

3.5.1 UAP incidents associated with ICBM test launches (Canaveral/Vandenberg)

Assessment: Limited Support

3.5.2 UAP incidents associated with rocket and missile tests (White Sands)

Assessment: Very Strong support

There was a relatively high level of activity at the test facilities during 1949 to 1951, when compared to non-atomic facilities. Missile testing sightings were high in 1952 but also corresponded to the general peak of activity during the 1952 UAP peak. There was a high number of reports at the missile testing during 1957 which was also during a smaller general peak of UAP activity.

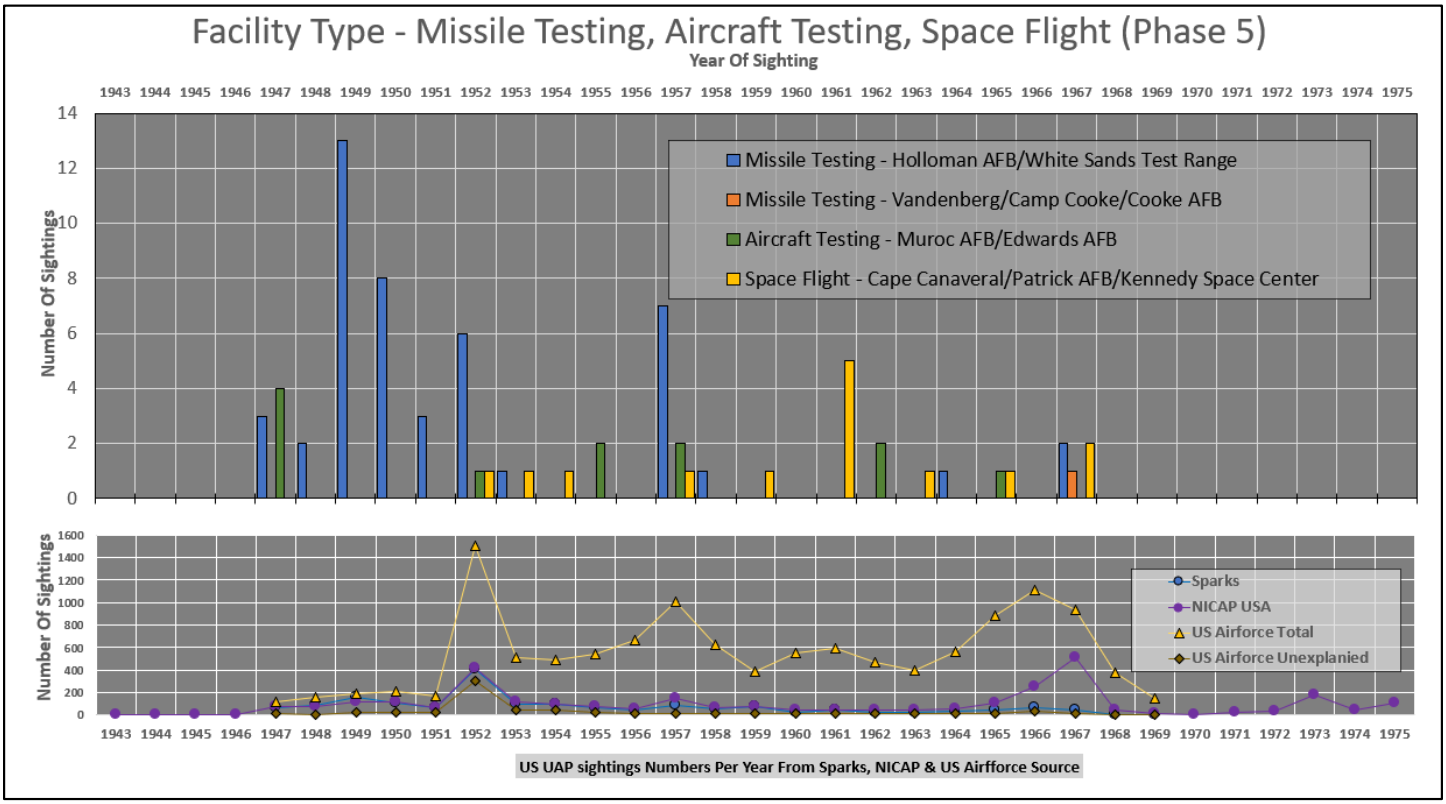

Figure 6. Missile Testing, Aircraft Testing, Space Flight (Phase 5)

Incident Examples

ICBM Launches at Cape Canaveral

Jan. 10, 1961. Cape Canaveral. During the tracking of a Polaris A-1 missile Test 5016, a continuous-wave (CW) radar, started tracking the "strongest target return," on an "unidentifiable object," instead of tracking the Polaris 1st stage to impact as intended. The Object alternately moved slowly and then moved fast (Sparks, 2020/1461).

April 11, 1961. Cape Canaveral. Polaris submarine missile scheduled for launch at 9:30 a.m. was delayed to Patrick AFB radar tracking a UFO in orbit pattern (Sparks, 2020/1475).

Rocket/Missile Testing at White Sands

During 1950, there were several observations of UAPs "loitering" around high-level balloon test flights and in the area of missile and rocket test launches, demonstrating exceptional speed, and flying at extreme altitude. The observations were made by multiple crews using sophisticated optical tracking equipment.

On April 27 and 31, 1950, White Sands test range. On April 27, members of a crew preparing to record the test of a Bell Aircraft air-to-ground missile (MX 776A) observed and optically tracked four unidentified aerial objects flying very close together. The objects were recorded on film at one of the tracking sites. The objects were approximately 30 feet in size and flying at very high altitude, on the order of 150,000 feet. The objects were moving at a very high rate, well beyond that of conventional aircraft. On August 31, a series of photos and a video recording were taken of unidentified objects

which were sighted at different times over some four hours. The objects crossed over the Holloman base at high rates of speed and the base requested interceptors. The objects had a definite shape although their edges were not definitively distinct; they were clearly three-dimensional and seemed to rock or oscillate as they moved – at very high rates of speed (Sparks, 2020/367).

August 30 and 31, 1950, on two successive days similar unidentified objects were again observed in the vicinity of the White Sands range and over Holloman Air Force Base. On the first day, a B-50 aircraft was airborne, monitoring another Shrike MX 776A missile test. Ground observers reported that two circular/elliptical-shaped objects moved into the vicinity of the B-50 and remained with it for some thirty minutes. The objects were described as exhibiting a high speed during "sprints" (at some ten times the B-50 speed) over short distances, displaying exceptional maneuverability. While doing so, they maintained a consistent position with each other, and at other times the objects appeared to remain stationary. The UAPs appeared to be emitting their own light, not simply reflecting the sun (Sparks, 2020/400, 401).

3.6 UAP incidents associated with manned space launches

Assessment: Limited support

A total of 14 UAP reports were taken for Cape Canaveral/Kennedy Space Center, but they are generally associated with the launch of rockets and missiles, both in weapons testing and for scientific purposes. Weapons tests at Cape Canaveral far exceeded manned space launches until the 1960s. There was no UAP activity reported specifically for manned space launches.

3.7 UAP activity at commercial nuclear power plants

Assessment: Negative (Very Strong)

During data analysis, identification of UAP activity at any "named" commercial nuclear power plants did not emerge. The gap in data is possibly due to privately owned corporations conducting commercial power operations. Research did not identify any private corporations conducting operations at the time of these UAP encounters that had established protocols for reporting UAP events.

3.8 UAP activities suggestive of radiation/isotope monitoring and particulate collections

Assessment: Positive but Limited

Incident Examples

On April 27 and 28, 1949, southeast of the Killeen Base stockpile site, nine different sightings by security personnel reported an object metallic cone trailing behind it several hundred feet from them and about six to seven feet off the ground. Groups of lights moving in formation were described in multiple instances, one a formation of four, another of up to ten lights. Over two nights, these and similar UAP incidents had essentially blanketed the entire facility (Sparks, 2020/204, 205, 208).

October 12, 1950, Oak Ridge, Tennessee (Sparks, 2020/410).

3.9 UAP activities suggestive of testing of physical security at atomic military bases

Assessment: Moderate Support

Incident Examples

Between February and March 1967, Malmstrom AFB in Montana experienced an ongoing series of UAP incidents involving low-altitude unidentified lights. Reports include UAPs hovering adjacent to security gates and missile silos. On March 16 security alarms were triggered, and armed teams were dispatched to multiple missile locations. Maintenance and security personnel at multiple missile silos reported unknown aerial objects in their vicinity. At least one flight of 10 ICBMs (Echo flight) was officially recorded as having unexplainably gone off alert status (Salas and Klotz, 2005), (Sparks, 2020/1730,1731,1733).

October 24, 1968, Minot AFB, North Dakota. Multiple radar tracks were observed, approaching both the base and an incoming B-52 aircraft. Security personnel reported an unidentified object landing and continued to observe it for some 45 minutes. Additional UAP reports were made from several sites of the 91st Strategic Missile Wing. In addition, a variety of anomalous electromagnetic effects were registered on radio and radar and security alarms were activated at outer and inner rings around silos. Official reports state that the outer door of one location had been opened, and the combination lock of the inner door moved (Sparks, 2020/1760).

Between October and December 1975, Loring AFB,

Wurtsmith AFB and Malmstrom AFB reported multiple waves of UAP incidents which included apparent physical penetration of ICBM silo security gates (site security alarm triggered), hovering over the weapons storage area and possible attempted access to one missile silo (Salas and Klotz, 2005).

3.10 UAP activities suggestive of testing of air defenses associated with atomic weapons development

Assessment: Negative (Very Strong)

Data suggests UAP aircraft engagements were broadly associated with military interceptors rather than focused on the air defense of specific weapons development, assembly, or stockpile sites. The most involved incidents involving air defense were associated with SAC bomber and missile bases.

3.11 UAP activities suggestive of testing of air defense capabilities at conventional military bases

Assessment: No Data / No Assessment

3.12 UAP activities suggestive of testing of physical security at conventional military facilities

Assessment: Negative (Very Strong)

3.13 UAP activities at atomic weapons tests

Assessment: No Data / No Assessment

The study database contains no reports of UAP sightings in conjunction with atomic tests.

3.14 UAP incidents related to conventional military bases

3.14.1 UAP activities focused on conventional military bases/units

Assessment: Negative (Very Strong)

While the level of activity at conventional military bases pre-1952 was low relative to the high level of activity at the atomic warfare complex and missile testing facilities, the 1952 peak itself covered a wide selection of bases including the atomic, conventional, and testing facilities, as well as the wider public.

3.14.2 UAP low altitude aerial incursions at conventional military bases

Assessment: No Data / No Assessment

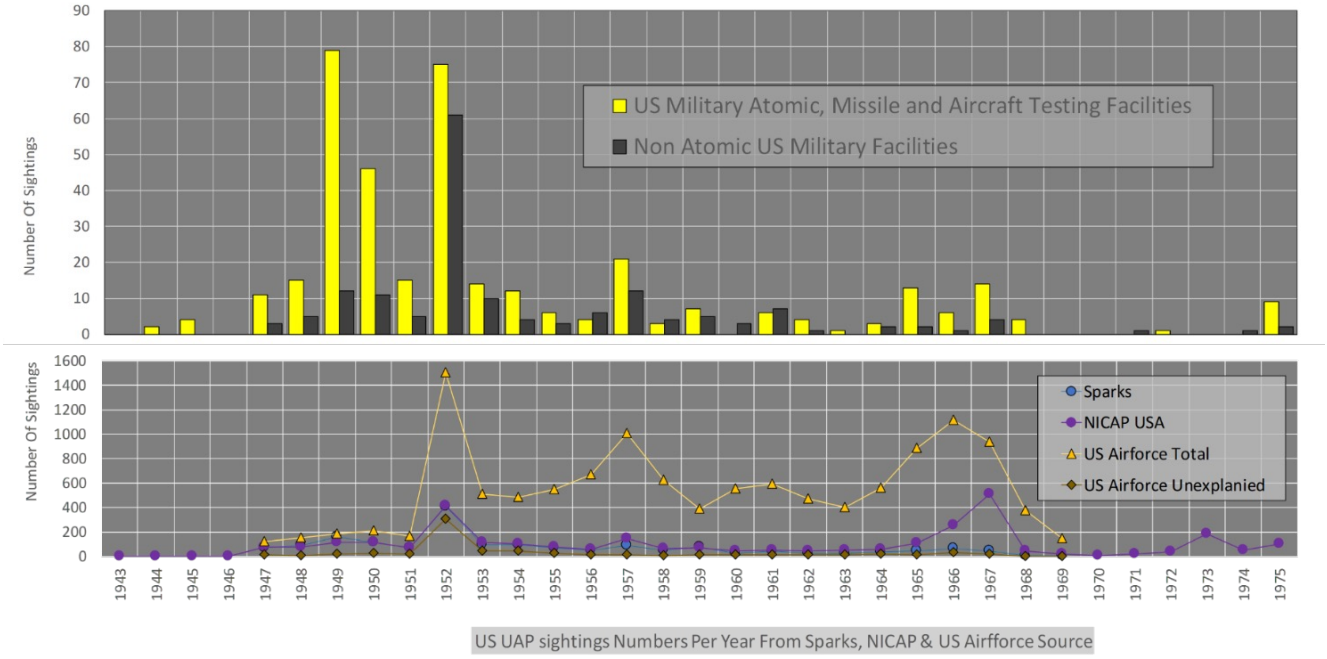

Figure 7. UAP activity at atomic vs. non-atomic military bases

Prior to 1952, UAP sightings were predominately around the atomic military complexes and the missile testing sites. From April 1952 to early 1953 UAP sightings were reported across a wide section of military facilities, both atomic/testing and conventional military. During this period April 1952 to March 1953 both types of facilities followed a similar pattern.

Conventional base activities overflight incidents

July 8, 1947, at Muroc Army Airfield, two disc-shaped or spherical objects, silver and apparently metallic, made a wide circular pattern at about 7,000-8,000 feet at an estimated speed of 300-400 mph. Before the first 2 objects disappeared a 3rd similar disc or spherical silver object reflecting sunlight made tight circles at about 7,000-8,000 feet at speeds beyond the capability of known aircraft (Sparks, 2020/33).

July 29, 1947, Hamilton Air Force Base, two witnesses observed two round, shiny, white objects, 15 to 25 feet in diameter, The first object was sighted as it headed right over a P-80 jet fighter coming in on a preliminary landing – in an approach at around 6,000 feet. A second object then appeared, flying a left-to-right "protective" maneuver over the first craft until they each passed southward toward Oakland and then out over the ocean. The objects appeared to be traveling 3-4 times the apparent speed of the P-80 fighter which they overflew. One of the objects flew straight and level while the other seemed to be weaving from side to side as if it were providing escort (Sparks, 2020/42).

August 15, 1947 – Rapid City (Ellsworth) Air Force Base, twelve discs, flying in a tight formation, approached from the northwest, descended to approximately 5,000 feet and made a shallow, wide radius turn over the base, and accelerated as they departed. Their apparent speed was 300-400 mph and their size was approximately that of a B-29 aircraft. No sound was heard but the objects did appear to have a type of luminous glow around them (Sparks, 2020/50).

April 18 and 27, 1952. Yuma Test Station (now Yuma Proving Ground) personnel reported a flat-white, non-shiny, circular object flying nearly overhead with an erratic non-perfectly-linear trajectory, emitting an intermittent non-persistent thin contrail or vapor trail, and no sound. On April 27, a similar dull-white, circular object was seen flying an irregular trajectory heading east, but with no contrail. Attempted to track it with theodolite but the object moved too fast and erratically (NICAP).

Feb. 2, 1955. Miramar Naval Air Station, a highly polished off-white sphere coloring, reflecting sunlight, fell erratically at 10,000-20,000 feet and stopped at about 3,000-5,000 feet. It suddenly changed from white to reddish brown and instantly accelerated to an estimated 1,000- 1,500 mph leaving short brown vapor trail. Estimated size 25-35 feet in diameter possibly as large as 100 feet (Sparks, 2020/1107).

June 20, 1958. Fort Bragg, North Carolina. 11:05 p.m. Battalion Communication Chief SFC A. Parsley saw a silver, circular object, its lower portion seen through a green haze, hover, then oscillate slightly, then move away at great speed (NICAP).

3.15 Bomber alert and bomber exercises

The nationwide Sky Shield air defense exercises Operation Sky Shield (Operation Sky Shield), involved Strategic Air Command bases, Air Defense Command bases, and anti-aircraft missile sites across the continent. Hundreds of aircraft and over 6,000 military sorties were involved. Commercial and general aviation air traffic was suspended for security purposes and military aircraft – both bombers and interceptors were the only aircraft aloft during the exercises. Exercises were conducted on: September 10, 1960, from 1:00 a.m. to 7:00 a.m. CDT (Sky Shield 1); October 14, 1961, from 11:00 a.m. to 11:00 p.m. (Sky Shield 2); and September 2, 1962, 1:00 p.m. to 6:30 p.m. (Sky Shield 3).

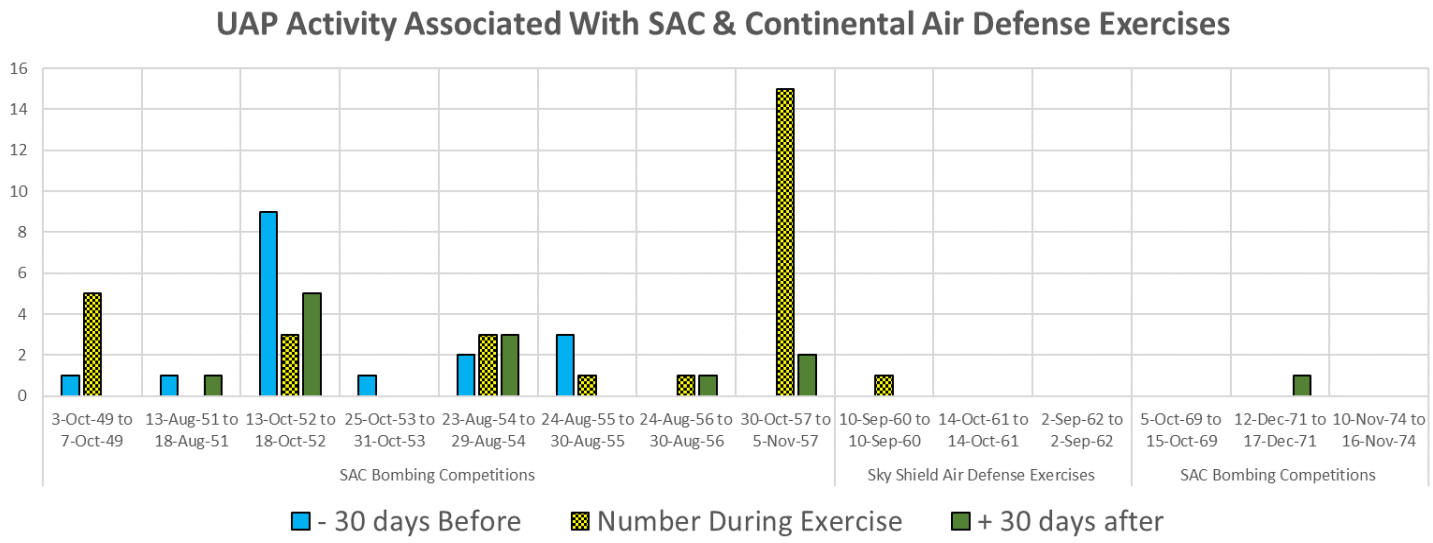

Figure 8. UAP Activity Associated with SAC & Continental Defense Exercises

To determine if there was an increase UAP activity related to the major SAC exercises, two approaches were used:

- Determine if there was a general increase in UAP activity at the time of the exercise; a comparison of UAP activity in the US during the exercise period was compared to the same period 30 days prior and the same period 30 days after the defense exercise.
- Determine if the UAP reports were directly related to the exercise; each report was reviewed to determine if the sighting could be directly linked to the defense exercise itself, either by location or by observation during the exercise by defense exercise participants/bases.

3.15.1 UAP incidents associated with atomic bomber alert missions

Assessment: Negative (Very Strong)

An estimated 6,000 bomber alert missions were flown as part of the SAC Head Start, Round Robin, and Chrome Dome programs, during the study period. A force of a dozen atomic bombers was aloft on alert 24 hours a day from 1958 into the early 1970s. (SAC Alert Program), (Airborne Alert Program). A limited number of encounters occurred between airborne SAC bombers and UAPs, half of them occurring before the alert bomber mission program was instituted. There was insufficient evidence to indicate anomalous activity focused on SAC bomber alert missions.

Incident Examples

May 1, 1952, at Davis Monthan AFB in Arizona, two objects approached from the rear, and overtook a bomber. They then moved to a position directly beside the aircraft and paced it in flight. The objects flew in formation with the aircraft for some twenty seconds, then sharply executed an 80-degree turn from its line of flight. They retreated some distance at which one stopped and hovered for some five minutes before departing (Hynek, 1997).

Sept 3, 1954, Carswell AFB, a B-47 was paced by a missile-shaped object for over one hour. No more than a hundred feet above them, the object alternatively paced and circled the bomber, and at times performed radical maneuvers. Ultimately it made a high-speed ascent and disappeared. Reportedly personal photos of the craft were confiscated upon landing and the bomber crew was not requested to file a standard report (Clark, 2003).

3.15.2 UAP incidents associated with atomic bombing exercises

Assessment: Negative (Very Strong)

3.15.3 UAP activity associated with continental air defense exercises

Assessment: Negative (Very Strong)

3.16 UAP activities associated with mobile atomic weapons platforms (submarines and aircraft carriers)

Assessment: No Data / No Assessment

3.17 Testing radar detection capabilities, false IFF and jamming

Assessment: Moderate Support

3.17.1 UAP encounters suggesting testing of aircraft capabilities (speed/maneuverability)
Assessment: Very Strong Support

Incidents Examples – Speed/Maneuverability
December 4, 1949, Hammond, Louisiana, two USAF pilots and an engineer saw a bright silver sphere the size of a fighter approach their plane head-on, execute a turn, and take a station-keeping position with the aircraft. The sphere then made sudden starts and stops, maneuvering in all directions, and finally flew directly across the nose of the aircraft, departing at very high speed (Sparks, 2020/310).

July 9, 1951, an F-51 fighter pilot observed an oval disc about twice the size of his plane come out of the sun towards him, apparently flying at high speed in a head-on approach. At the last moment the object lowered its altitude and flew underneath the aircraft – then turned to pursue the fighter, positioning itself to the front again – and made a second head-on dive. That same maneuver was repeated several times until the object finally broke off and climbed out of sight (Sparks, 2020/458).

3.17.2 UAP activity suggesting of false duplication of IFF (Identification Friend or Foe) radar responses to air defense radar facilities

Assessment: Moderate Support

Incident Examples – Coded Radar Transmissions/ IFF
July 16-18, 1957, an Air Defense radar station outside Las Vegas, Nevada (Mount Lemmon) tracked an extremely high-speed unidentified target (estimated at 6,200 mph) for a very short time before it became stationary. The UFO remained airborne and stationary for over 32 minutes, apparently hovering at 42,000 feet altitude. The target then departed at a similar and possibly faster speed, until it disappeared beyond radar range. During the time in which it was acquired by the search radar, it appeared to respond to an encrypted military IFF transponder signal. The UAP was sent a command to identify itself from the air defense site. In turn, the UAP sent back coded elements of an appropriate IFF response. A similar incident had been reported two days earlier by the same crew at the radar site; the incidents of those two days were unique with no similar report either before or afterward (Sparks, 2020/1237; NICAP 57071; Hynek, 1972).

Nov. 24, 1964. Caribbean NE of Puerto Rico. 8:55 a.m. (EST). US Navy Atlantic Fleet Weapons Range (AFWR) radar tracking of unidentified object emitting encrypted IFF Mode 1 transponder signals. DF-8 fighter at Mach 0.99 (650 mph) at 45,000 feet vectored for intercept but object accelerated and few upwards beyond the fighter's ability to follow (Sparks, 2020/1592).

3.17.3 UAP incidents suggestive of jamming or other types of electronic interference with military aircraft radar systems

Assessment: Moderate Support

Incident Examples
Sept. 17, 1951. Hudson Strait to Baffin Island, Canada. A USAF B-36 radar operator picked up radar interference which came from an unidentified aircraft seen visually on the right side of the B-36 at 18,000. The object had "unconventional running lights" all white instead of red-green, with twin white flashing tail lights, traveling about 30 knots faster than the B-36, crossed the front from right to left heading and was in view about 20 minutes. While the object was still visible, at 11:50 p.m. the B-36 autopilot and APQ-24 radar set went out, the latter returning after a few minutes about when the object disappeared (Sparks, 2020/474).

March 25, 1959. S Saskatchewan-N Montana. F-89 intercept of a radar-emitting UAP tailing B-52 at 375 knots (432 mph). Radar transmissions were then detected coming from the object, which continued to trail the bomber into Montana and the US Air Defense Identification Zone. An F-89 interceptor was dispatched and approached the UAP, at which point the object accelerated away and flew beyond engagement by the aircraft (Sparks, 2020/1371).

3.18 Detection and tracking capabilities reconnaissance (visual and radar)

Assessment: Moderate Support

Military reconnaissance is characterized as the focused observation of military assets to ascertain its defensive/offensive capabilities. The detection and tracking of unidentified aerial objects passing over or penetrating security zones associated with military bases, weapons testing installations or a particular type of weapons system would be considered an indication of reconnaissance. Such activities would often prompt radar tracking or the dispatch of interceptor aircraft in response to the presence of UAP. The immediate reaction of UAP to detection and tracking also suggest an initial intention of reconnaissance.

Incident Examples

Aug. 30, 1950. Holloman AFB, Alamogordo, New Mexico. 10:45 a.m. During a Bell Aircraft MX-776 Shrike missile test at White Sands Proving Ground (for the later Rascal air-to-ground strategic missile) USAF M/Sgt and 8 Bell Aircraft employees on base saw two glaringly bright circular to elliptical unidentified objects maintaining relative position to each other following the B-50 launch aircraft from above on both the dry run and hot run prior to missile release. Objects gave "strong glare at all times" not reflected sunlight, maneuvered at high estimated speeds up to 10x the B-50 aircraft speed – estimated as roughly 2,500 mph for short distances, left no vapor trails, hovered, accelerated rapidly, made abrupt "square" turns with apparent size changing to indicate ascent and descent (Sparks 400).

Oct. 7, 1956. Castle AFB area, Calif. 10:45 p.m. (PST). 2-3 USAF F-86D pilots, Lt Jerry Owen Robinett, Lt Alvin A. Akins, and possibly Lt. Donata Correa, Intelligence Officer, from 456th FIS, Castle AFB, were scrambled or redirected already in air about 11:10 p.m. to intercept a UFO reported by ground witnesses. Football-shaped or dome-shaped UFO estimated at 100-120 feet diameter and 50-60 feet high, dipped up and down vertically into an overcast cloud bank layer at 11,000 to 21,000 feet, playing "cat and mouse" with F-86 pilots stationed above and below cloud layer to catch the object. Akins got brief airborne radar contacts that immediately terminated as if the UFO was monitoring the radar beam (by ELINT) (Sparks, 1207).

3.19 Clandestine UAP Activity

Assessment: Moderate Support

During the study period, UAP reports associated with atomic weapons development and deployment sites shifted from being primarily daylight observations to nighttime reports. Nearly all UAP reports at the initial Atlas, Titan, and Minuteman intercontinental ballistic missile sites occurred at night, even during the earliest stages of construction. In several instances, at both Strategic Air Command airbases and in the vicinity of ICBM silos, the UAP were directly over atomic weapons storage bunkers or over armed, megaton-class ballistic missiles. They were observed and reported for periods ranging from five to ten minutes to an hour. The UAP often hovered in stationary positions and at other times descended to low altitudes or even ground level. While the low-altitude activities did take them under radar surveillance, the objects usually displayed bright lights, which drew the attention of personnel at the sites, ranging from construction workers to armed security personnel. While such actions occurred at night, limiting physical descriptions, and preventing photography, witnesses universally commented on their anomalous performance and rejected conventional explanations such as private helicopters or off-course aircraft activity.

Incident Examples

October 24, 1968, Minot AFB, North Dakota. Multiple radar tracks were observed, approaching both the base and an incoming B-52 aircraft. Security personnel reported an unidentified object landing and continued to observe it for some 45 minutes. Additional UAP reports were made from several sites of the 91st Strategic Missile Wing. In addition, a variety of anomalous electromagnetic effects were registered on radio and radar and security alarms were activated at outer and inner rings around silos. Official reports state that the outer [silo?] door of one location had been opened, and the combination lock of the inner door moved (NICAP).

October 27-31, 1975, Loring AFB in Maine reported an incursion with a UAP entering a high-security zone within 300 yards of the atomic weapons storage area. Similar reports from Loring throughout October became part of what was known as the "northern tier UFO wave" and are documented in several NORAD and NMCC internal communications. In October 1975 in October Wurtsmouth AFB in Michigan reported a base incursion with a UAP approaching and hovering over the weapons storage area. A series of UAP incidents were reported to NORAD, the National Military Command Center at the Pentagon, the Air Force Chief of Staff, and Strategic Air Command headquarters. In response

a Security Option 3 message was sent to all SAC installations across the northern border – Pease, Plattsburg, Wurtsmith, Kinchloe, Sawyer, Grand Forks, Minot, Malmstrom, Fairchild, and even Barksdale AFB in Louisiana (Fawcett and Greenwood, 1984).

3.20 Overt UAP activity

Assessment: Moderate Support

Incident Examples

On July 3, 1947, Navy petty officers observed a formation of three discs in a triangular formation circle the San Diego Navy Yard before heading back out over the ocean (NICAP).

On July 29, 1947, Hamilton Air Base personnel observed two rounded objects fly at low altitude over the base runway. On August 28, an intelligence officer at Rapid City Air Base observed a group of 12 discs fly in information, over the base runway (Sparks, 2020/42).

3.21 Direct engagement with military involving substantial risk or sustained damage, personal injury or death

Assessment: Negative (Moderate)

There are several incidents where UAPs engaged military interceptors, to the extent that the pilots perceived themselves as being under attack. In some cases, interceptors were lost in the process of being scrambled to intercept and engage "unknowns." Orders were even issued to fire on unidentified objects – but those orders applied to any unidentified aircraft in the air defense zone that refused to communicate or respond to instructions to descend and land. In June of 1952, there were 100 aircraft accidents with 36 aircraft destroyed and 21 fatalities. In July of 1952 (peak of UAP reports), there were 135 accidents, 58 aircraft destroyed, and 30 fatalities (those figures included losses in Korea where combat in the Korean conflict was still in progress) (US Air Force Aircraft Accidents, 1952).

Despite these incidents, the United States Air Force consistently noted that it had been unable to determine a hostile intention as related to any of the reports, and determined the incidents to be accidents. All-weather, night-time interceptors had just come into general service and a great many of the incidents occurred either at night or under extremely demanding weather conditions – or both. Unknown electrical and electromagnetic emissions reportedly associated with UAPs, have been reported to affect aircraft guidance and electrical systems. Such effects, possibly caused by proximity to a UAP, may have led to accidents but cannot be proven to have been either directed or intentional.

4. Conclusions

A set of 31 indicators was associated with possible intentions for the observed patterns of behavior found in UAP activities. Following a review of likelihood assessments for the listed indicators, the scenarios were ranked. These rankings were driven by the combination of indicators for each scenario, as well as the significance of indicators within the indicator set. Based on the frequency, type, and pattern of UAP activity, our assessment ranked the likelihood of each scenario as follows:

1. Focused Survey of Atomic Weapons / Warfighting Capability - Strong support **(Most Likely)**
2. General Military Survey - Moderate support **(Possible)**
3. Atomic Warfare Prevention/Preemption - Some Support **(Less likely)**
4. Military Aggression – Low Support **(Least likely)**

4.1 Atomic Weapons Survey

Rank number 1 – Strong Support

UAP activity patterns associated with a broad sampling of sites where atomic weapons were developed and deployed was compared to activity reported from conventional military facilities and bases. The comparison indicates a higher incidence of activity at atomic weapons bases. However, the levels and concentration of incidents at atomic development facilities as well as weapons deployment bases are clearly time delimited, with UAP activity decreasing substantially following the earliest years of the study period. The fact that anomalous levels of UAP activity are not ongoing at either the weapons development or deployment sites suggests a survey as compared to the other scenarios.

The most significant levels of anomalous UAP activity appear to be strictly related to the core facilities of the atomic warfare complex – weapons grade reductive production, atomic weapons assembly, and with the production and storage of atomic weapons during the years from 1945 to 1952. Notably, the first facilities in each phase clearly reported a level of UAP activity quite different from the last facilities to

be established in that class of atomic facility. These differences are seen in reports from the Hanford and Oak Ridge sites as compared to the Savannah River site, which went into operation several years later. It is also seen in the incidence of reports at the Los Alamos and Sandia weapons assembly facilities when compared to the Pantex installation which followed them some years later.

The most significant window of UAP activity occurred during the years 1948 to 1951 as numbers of first fission (nuclear) and then fusion (thermonuclear) weapons were developed and produced in quantities sufficient for stockpiling. Again, the notably higher levels of activities at the earliest facilities (as compared to facilities becoming operational in later years) suggest a time-delimited survey.

While there is no specific explanation for the very early activity at the Hanford site (which began as the facility was under construction), it should be noted that one well-established technique for identifying atomic weapons development facilities involves profiling specific physical and security characteristics which allow their identification. Those characteristics include large-scale power requirements at isolated locations, large water supplies, and extensive construction of special facilities for radioactive materials transportation and disposal (including large numbers of waste tank structures). The Hanford site would be especially visible in such surveys due to its location on the Columbia River in a flat, strictly agricultural area of Washington state; however, there was insufficient data to identify any significant UAP activity related to airborne isotope/particulate collection.

All weapons development facilities showed the same overall diminishment and virtual cessation of activity following a national surge of UAP reports in 1952. The anomalous patterns during the years prior to 1952 was never repeated, despite the surge in air defense radar and interceptor deployment of the 1950s and 1960s. Activity at the atomic study sites almost completely ceased over time, while overall UAP reporting across the United States continued through the end of the study period circa 1975.

The highest degree of anomalous activity was at the earliest developmental sites (Hanford, Oak Ridge, Los Alamos, and Sandia Base / Kirtland AFB), while facilities developed later such as Savannah River and Pantex show no comparable bursts of activity. Killeen base (one of the five national atomic weapons stockpile sites) showed an elevated number of UAP incidents during this pre-1952 window, while the other four sites did not. The paucity of data with respect to the early atomic weapons stockpile locations may be a result of an absence of UAP reporting protocols for the Atomic Energy Commission personnel in charge of those locations. The reports from the Killeen base primarily come from the Army installation (Fort Hood) which was co-located with the weapons stockpile facility.

As a corollary to what appears as a "window" of early UAP activity at the first atomic weapons facilities, the study found a significant and comparable level of UAP activity associated with the earliest missile/rocket testing site, at the White Sands test range (1949 and 1950). This peak directly corresponds to the elevated level of UAP activity at the core atomic warfare complex.

Pattern study of the ongoing missile development as well as manned space launches revealed no comparable UAP activity patterns. The early focus on missile and rocket development suggests not only a survey scenario, but one focused on both the development of strategic (atomic) weapons of mass destruction and the capability of using them in global warfare. The most significant incidents were directly associated with Strategic Air Command aircraft carrying thermonuclear weapons on alert missions and with intrusions at both SAC bomber and missile bases.

Based on the frequency, type, and pattern of UAP activity for this study, a Focused Atomic Weapons/Warfighting Capability Survey was determined to be the most likely scenario.

4.2 General Military Survey

Ranked number 2 - Moderate support

An evaluation of patterns, as well as specific types of indicators for atomic weapons sites as compared to conventional (non-atomic) military installations, was conducted to determine whether there was any distinction between the two categories of facilities. While there is support for a general military survey, it was time-delimited and demonstrated a particular focus on atomic warfare capabilities. Indications of broad, continental-wide UAP activity did occur – particularly in 1952/53 but were not repeated over time. In contrast, the anomalous UAP activity focused on atomic weapons deployment was recurring, notably regarding the deployment of new and more capable generations of thermonuclear intercontinental ballistic missiles.

An examination of incidents of what appears as "engagement" with military interceptors shows them

occurring in the vicinity of atomic weapons installations as well as generally over the continental United States - with some relative focus over the strategic Northeastern Corridor as well as over the upper Midwest. Specific incidents occurred over atomic development facilities, at least one atomic stockpile site, and several strategic weapons deployment installations. Yet the study found no comparable patterns or series of incidents of that nature directly related to conventional military bases.

While speculative, UAP incidents from the highly anomalous UAP activity of 1952 did stimulate an exceptional amount of air defense activity, with much of it concentrated over the Northeastern Corridor which contains major metropolitan centers, some of the largest clusters of major Army and Navy logistics bases, and the nation's capital in Washington DC. While this would support the scenario of a general military survey, it was essentially a one-time event and in comparison, no similar levels of UAP activity were reported even during a series of massive continental-wide air defense exercises (involving thousands of aircraft simulating attack and defense of targets across the United States) which were conducted in the early 1960s.

Another point of contrast between focused atomic weapons survey – as compared to a general military survey – is the repetitive pattern of anomalous UAP activity associated with the deployment of new generations of intercontinental ballistic missiles. Those incidents include both low altitude and ground level intrusions into secured bases and even more highly secured atomic weapons storage bunkers and even missile silos. The types of incidents reported from conventional military was notably different, largely consisting of higher altitude overflights by rapidly traveling UAPs. Those reports are not at all comparable to the low altitude and ground level incidents reported from atomic stockpile and atomic weapons deployment bases. There are no similar security reports of such intrusions at conventional military bases, nothing like the multiple incidents at Strategic Air Command bases. Incidents which were serious enough to result in alert messages to the North American Defense Command and the National Military Command Center at the Pentagon.

Based on the frequency, pattern, and sequencing of UAP activity, it appears that surveillance has been conducted at general military bases to a lesser degree than facilities associated with the atomic warfare complex.

4.3 Atomic Warfare Prevention

Ranked number 3 - Some Support

This study does reveal a limited number of incidents of UAP activity associated with violations of physical security related to strategic atomic weapons deployment, as well as directed engagements with missile launch systems and military aircraft. There were also incidents of electrical and/or electromagnetic interference with both atomic bombers and intercontinental ballistic missiles. While the reported incidents are themselves well documented and credible, the few that are on record are spread out over the full period of the study and exhibit no continual pattern of activity. They are observed to occur in "bursts" over relatively short periods of time, with one possible interpretation being the testing of UAP capabilities for interfering with new weapons delivery systems.

One particular series of incidents suggesting possible testing of preemption capabilities involved a series of UAP radar transmissions directed at both SAC aircraft and air defense facilities, occurring during a single week in 1957. Another short burst of incidents took place over five separate days in June 1955, where radar transmissions from UAP repeatedly jammed SAC aircraft. Short bursts of UAP intrusions at ICBM bases occurred during August 1965, with four major bases in multiple states reporting incidents at several individual missile silos. Security personnel reported radio interference which was so intense across such a broad spectrum of frequencies that intentional jamming of command-and-control capabilities was suspected by all involved. While these type of actions could be assessed as a demonstration of the ability to interfere with atomic bombers or with ballistic missiles, there are alternative interpretations, including possible messaging.

The possibility that such incidents were some type of attempted communications has to be considered, along with the fact that other UAP incidents present evidence that the objects are able to intelligently respond to encrypted interrogation requests from aircraft, ship and air defense installations with recognizable (and encrypted) Identified Friend or Foe (IFF) detection. The issue with interpreting these types of incidents as indicative of preparation for actual intervention to preempt strategic atomic warfare, or to neutralize missile launched atomic weapons is that it is simply not possible to determine whether the effects reported suggest intentional compromise of the weapons systems or are the result of close proximity to UAP energy systems.

While the incidents of interference with strategic bombers and missiles is suggestive, they are limited in number and appear to have been more in the nature of "sampling" of such weapons and their defenses. That sort of sampling activity, especially when repeated over time and with different types of weapons systems is more suggestive of a survey than prevention of atomic warfare.

Although some of these incidents may represent attempts to disrupt or prevent functional operations for atomic weapons delivery, our data indicates Atomic Warfare Prevention to a lesser degree than a General Military Survey, specific to the period of this study.

4.4 Military Aggression

Ranked number 4 - Low Support

Despite incidents of temporary disruption of Strategic Command Alert aircraft missions and of ICBM missile operations, atomic weapons deployments continued over the duration of this study, without any incidents related to actual aggression against the weapons themselves. There were also no instances of widespread interference with military surveillance radar or with the suppression of interceptors to engage reported UAPs—instead there were numerous and ongoing reports of radars tracking UAPs and the dispatch of armed fighter aircraft to intercept the radar targets. The ongoing generation of radar tracking reports, combined with visual observations of UAPs both during daylight hours, and as well lighted objects in nighttime observations, argues against clandestine operations in UAP activity and would support relatively overt survey scenarios rather than the clandestine intelligence collections that would be associated with potential military aggression.

There are several reports in which UAP actions resulted in both civilian and military aircraft taking evasive maneuvers to avoid what were perceived to be approaches that would result in mid-air collisions. In certain instances, military pilots felt that UAPs were actively involved in what might be considered as military engagement—however, there were no instances in which weapons appear to have been used against the aircraft and while aircraft have experienced problems with electrical systems or communications, it is possible that those may have been effects of UAP propulsion or related technologies. Instances in which military aircraft have been lost while attempting to engage UAPs are inconclusive and appear to have involved unrelated effects ranging from weather to lack of oxygen at high altitudes (Randle, 2014).

The other factor arguing against the scenario of military aggression is the lack of repetition of interference with weapons systems or in what could be 'considered' aggressive engagements with military aircraft. The great majority of such incidents occurred over specific periods of time and—as with the early atomic weapons production facilities—either were not repeated at all or repeated very selectively as new facilities and weapons systems were put into operation. Reports included for this study did not show ongoing, broad-based military intelligence collections throughout the study period, another point that supports the scenario of some type of survey rather than planning for military aggressive action.

While alternative intentions may be indicated in a wider timespan for UAP activity, the progressive and logical surveillance of the atomic weapons complex during the period of this study (1945-1975) indicates a focused survey of US atomic warfare operations.

5. Key Points

- The results of the SCU UAP Pattern Recognition Study 1945-1975 indicated an elevated level of UAP activity at military facilities—activity reflecting both intelligence and focus.
- Focused UAP activity was most noticeable at the earliest facilities of each type: materials production, weapons assembly, weapons stockpiling, and weapons deployment.
- Elevated UAP activity occurred during a "window" of time in which the first weapons production occurred (from 1948-1951), continued during the national spike in UAP reporting in 1952 and then dramatically decreased, never to repeat the "window" levels during the remainder of the study period.
- Similar "windows" of focused UAP activity were noted at the primary rocket and missile test center (White Sands) during this initial period, as well as with the deployment of each new generation of intercontinental ballistic missile.
- No comparable level of "window" activity is seen at the radioactive materials production and weapons assembly plants which came into service in later years – specifically at Savanna River and Pantex.
- Elevated activities were noted at ballistic missile sites—with the introduction of each new class of missile including the introduction of multiple reentry vehicle warheads on Minutemen III missiles (those warheads

significantly elevated the number of warheads delivered by a single missile launch).

- *Despite on-going incursions at American Atomic Warfare facilities, nuclear weapons development continued for the duration of the study, and rose to the capability of global planetary destruction.*

The intentions study model presented in this paper provides a structured methodology for the assessment of UAP intentions based on high quality UAP reports associated with the US military between 1945-1975. This paper applied the intention analysis model specifically to the domain of the US military; however, other areas of study such as biological, psychological, sociological and technological, may be examined utilizing the pattern recognition and indications analysis process, subject to available data. For each domain, a variety of scenarios may be evaluated for likelihood of intention, and thus improve our understanding of an advanced intelligence yet to be identified.

Data Repository

The 874 incidents used in the study necessary to reproduce these reported findings is available at https://doi.org/10.5281/zenodo.7758498

The full content of the SCU study was edited for this publication and can be found at: https://explorescu.org/post/uap-indications-analysis-1945-1975-united-states-atomic-warfare-complex

Declaration of Conflict of Interest

The authors declare that they have no competing personal interests relating to the research, authorship and/or publication of this work.

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