

**A Preliminary Report on the Ground Survey of the 1950 USAF
B-36 Crash near Mount Kologet, B.C.**



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Background

In 1996, Mr. Doug Craig of Whitehorse, Yukon, approached the Yukon Division of Environmental Protection Branch (Environment Canada Pacific and Yukon Region) with concerns about a United States Air Force (USAF) Strategic Air Command (SAR) B-36 Bomber crash site in the interior of British Columbia. Specifically, his concerns dated back to 1956 when he and his fellow workers from the Geological Survey of Canada (GSC) had a chance encounter with aircraft wreckage while conducting field work in the area of Mount Kologet east of Meziadin Lake, B.C. Among the material they discovered was a unopened canister attached to a parachute. The canister, identified with USAF markings, was found to contain a Gieger Counter. Ordinance and other debris was also found in the vicinity. After surveying the wreckage, the GSC team members speculated that a USAF aircraft, identified as a B-36, had crashed nearby in recent years and that the canister containing the Gieger Counter was equipment that was air-dropped on site, never recovered, and subsequently abandoned by a follow-up investigation mission conducted by the USAF. Over the decades that have passed since this chance encounter, Mr. Craig believed there was a reasonable possibility that the B-36 that crashed on Mount Kologet may have been carrying a plutonium warhead. If so, it was also possible the warhead may still be at the crash site. Mr. Craig felt compelled to come forward in 1996 and disclose his personal knowledge of the crash site and his concerns.

Over the past 40 years the B-36 crash has received periodic attention through newspaper articles and studies on nuclear weapons related accidents. Although the circumstances surrounding the incident were generally not widely known to the general public, inquiries in 1996 and 1997 via the internet, to various sources in the USAF and with a number of knowledgeable individuals did produce some useful information to assist in ascertaining the nature of the B-36 payload. Notably, field notes by Mr. Jim Roddick of the GSC, detailed USAF archived file information, a USAF Search and Rescue Report and an article written by Mr. Dirk Septer entitled "Broken Arrow" (published in the "BC Aviator" October/November, 1993 Volume 3 Number 2) was obtained. Despite all the information that was gathered, there was no clear evidence or paper trail on whether or not the B-36 aircraft was carrying a plutonium warhead. The official response from the USAF in 1954 and now is that the B-36 was not carrying a nuclear warhead. Efforts to obtain the official 1954 USAF Crash Site Investigation Report through government channels was not successful.

Mr. Don Edgecombe, Department of National Defense in Ottawa, was contacted in August of 1996 to further address Mr. Craig's concerns and to seek his department's opinion. A discussion continued through the winter while more information was obtained. By May, 1997, an agreement was reached between DND and Environment Canada to conduct a field assessment of the crash site for radioactive contamination and other dangerous goods. The end of July or first part of August, 1997 was selected as the tentative time frame for the site visit. A joint ground survey of the crash site was coordinated between Lt. Cmdr. David

Knight of DND-Ottawa and Doug Davidge of EP - Yukon and scheduled the week of August 11 - 15, with DND providing the air transportation, ground support, technical expertise and equipment for radiation detection. The site visit also included Mr. Doug Craig because of his personal knowledge of the crash site location and Mr. Doug Davidge as liaison for Environment Canada. Mr. Craig's presence was validated by a contract with Environment Canada.

This report outlines the activities and findings of the 4 day B-36 crash site ground survey including photographs and a video.

August 10, 1997

The DND air crew consisting of Capt. Wayne Tidbury, Lt. Jeff Wedman, Master Cpl. Greg Sawchuk and Master Cpl. Jim Cudmore (Squadron 417, Cold Lake, Alberta) arrived in Stewart, B.C. The aircraft used was a “Griffon” (Bell 412) Helicopter (Unit #415). The air crew flew the coordinates 56° 05’ N and 128° 34’W (as originally reported by Mr. Jim Roddick of GSC in his 1956 field notes) , however, they did not observe any aircraft wreckage at these coordinates.

Lt. Cmdr. Dave Knight and Chris Thorp of the Nuclear Safety Compliance 2 - DND Ottawa HQ and Mr. Doug Craig and Doug Davidge of Environment Canada arrived late afternoon. A short meeting took place in the evening to meet and coordinate a departure time the morning of August 11.

Day 1 - 11 August, 1997

The survey team departed Stewart at approximately 10:30 hrs. for the crash site area. Mr. Doug Craig was present to provide his personal knowledge of the area and the location of the crash site. The B-36 wreckage was promptly located at coordinates 56° 04’ 32.10”N and 128° 33’ 05.06W.

Lt. Cmdr.’s Dave Knight and Chris Thorp conducted a preliminary survey of the wreckage area for radioactive sources before allowing other personnel into the crash zone. No elevated radiation levels were detected. Each member of the team was furnished with accumulative radiation detection devices for the duration of the survey to measure total dosage while on site.

Following a cursory survey of the crash site by team members, a survey plan was established by Cmdr. Knight and Chris Thorp to sample for radiation sources at 5m intervals along east/west running transects with 10m separation between each transect. The following equipment was used to sample at each interval:

General Purpose Survey Meter (GPSM) - NRS ADM-300, detects x-ray and gamma radiation between 18 keV - 3 MeV. Contains two GM tubes (one for low range, one high range), displays dose rate (i.e. micro Sieverts per hour, (Sv/hr)

Advanced Survey Meter (ASM) - NRS ADM-300 with ASP-100 alpha/beta contamination probe. Measures surface contamination for alpha/beta radiation particles in counts per second. Area measured is 100 cm² and a Bq/cm² contamination level can be calculated.

In addition to recording the above instrument readings, geo-positioning and elevation was also recorded for each interval using the DND Rockwell GPS units (accuracy to 0.01 seconds). Emergency provisions such as a satellite phone, tent, water and food were flown in on a second flight.

Results - Day 1

Aircraft wreckage was distributed over a large area along a steep westerly facing bolder and scree slope. Wreckage believed to be the tail section, the port wing and three engines were scattered across a small ridge several meters in elevation above the main fuselage wreckage (See Figure 1).

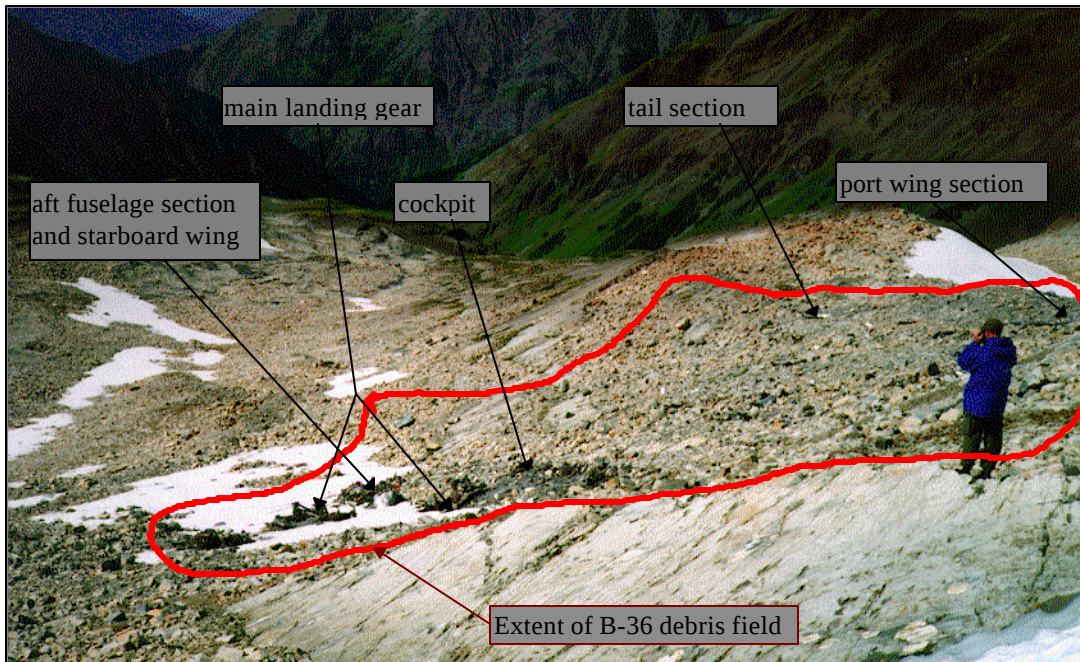


Figure 1 View of the B-36 crash site

This area was completely free snow. The remains of the starboard wing and engines were located immediately adjacent to the main fuselage. Portions of the aircraft forward of the wings including the main landing gear, forward bomb bays and cockpit appeared to have been completely destroyed by a fire, no doubt caused by the impact of the crash. Items such as two of the port engines, portions of the port wing and a 20mm gun turret were probably demolished at a later date in 1954 by the USAF crash site

investigation team. Evidence of demolition by high explosives and the presence of unused explosives was found on site (see Figure 2, and 3).



Figure 2 Destroyed port engine

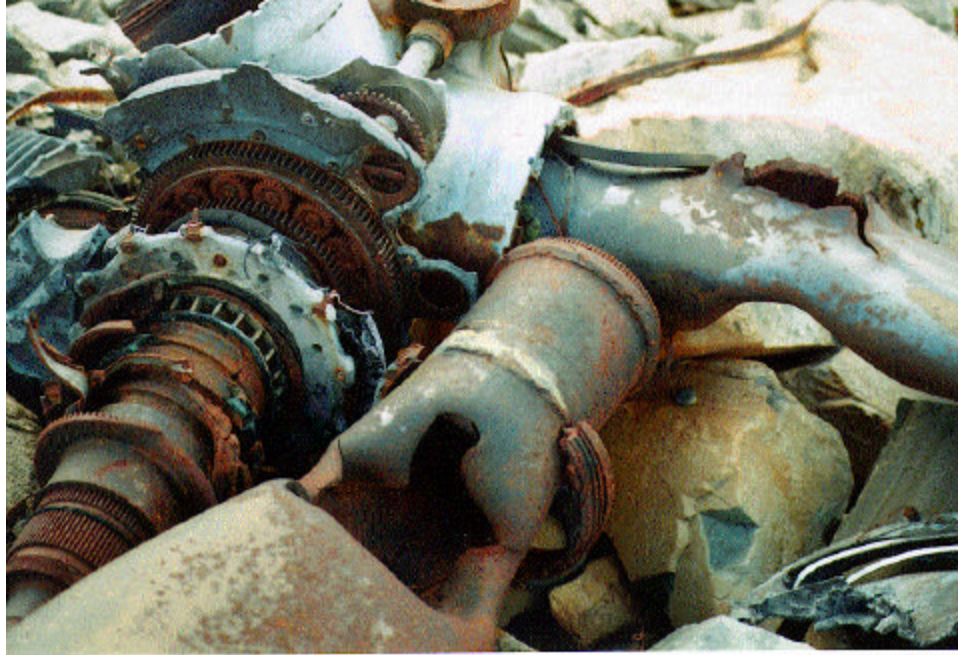


Figure 3 Evidence of demolition on propellers

Pieces of the engines, wing and turret that were demolished with high explosives were found scattered a considerable distance from the wreck site, in some cases up to 500 meters. A section of the aircraft aft of the wings including portions of the rear bomb bay, several engines and three 20mm twin gun turrets was found to be relatively intact (see Figures 4 and 5).

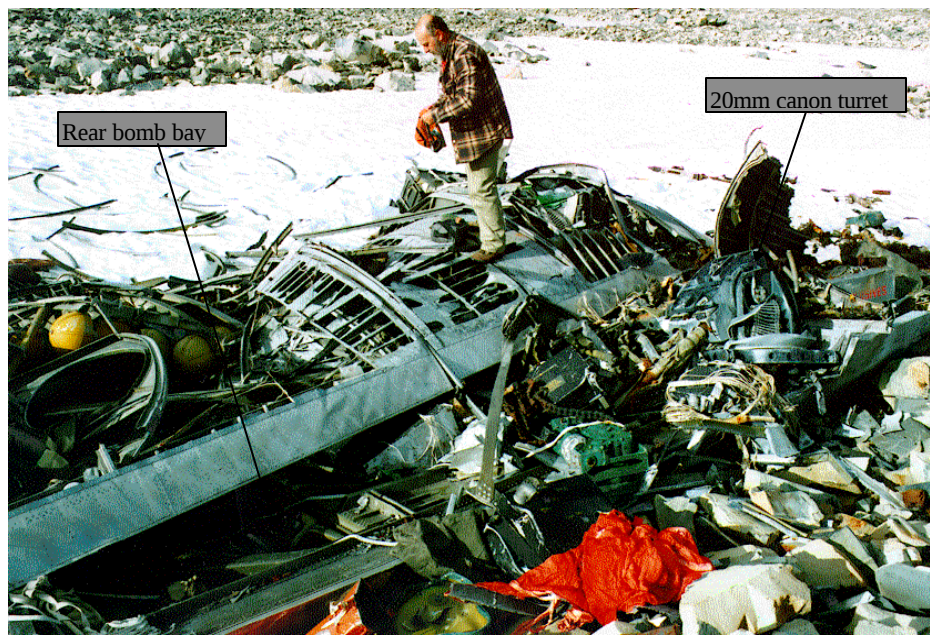


Figure 4 Fuselage wreckage (aft section)



Figure 5 One of three Port engines

The fuselage portion of these sections of the aircraft appears to be inverted and almost collapsed upon itself but there is no evidence of fire or demolition with high explosives. This area of the crash site was still partly inundated with snow up to 2m deep. A number of items such as personal belongings, survival equipment, instrumentation, oxygen cylinders and engine covers were found in the fuselage. In addition to this an aluminum case label in red with “Explosives” was also found, however, for safety reasons, was left undisturbed for the moment.

A total of 4 transects were surveyed on Day 1. No anomalies or elevated readings were detected. Team members identified a small number of 20mm canon shells and weathered high explosives in the debris field.

Day 2 - 12 August, 1997

We arrived on site at approximately 10:00 hrs. Some of the team members continued investigating the wreckage and reported finding more equipment and gear. The time spent at the wreck site on Day 2 was shortened due to poor weather and the pilot’s decision to leave earlier than originally planned.

Results - Day 2

A total of 6 transects were surveyed on Day 2. No radiation anomalies or elevated readings were detected.

Day 3 - 13 August, 1997

We arrived on site at approximately 10:00 hrs. The transect survey was completed while efforts to identify and mark ordinance continued.

Results - Day 3

The last two transects were completed. No radiation anomalies or elevated readings were detected. A sediment and vegetation sampling plan was initiated to collect grab samples at selected areas in the vicinity of the wreck site. The samples will be analyzed at a later date for radioactive material (a DND responsibility). Spot sampling was also carried out using a third piece of electronic detection equipment:

BTI Microspec 2 - Bubble Technologies field portable multi-channel analyzer with E-probe for isotope gamma energy discrimination and dose assessment in (Sv/hr. Energy range dependent on gain setting (60 keV - 1.5 MeV).

The aircraft electronics and gauges were the only radiation sources detected. The BTI Microspec 2 identified the source as radium, which was widely used to illuminate dials and gauges on instrument panels.

The aluminum "Explosives" box previously mentioned was investigated further by DND personnel. They found it contained 4 of 36 electronic type detonators. The missing 32 detonators are believed to have been used to arm a bomb being carried by the flight in February, 1950. The case and enclosed documentation identified the detonator components were intended for use in a Mk IV device (see Figures 6,7,8, 9 and 10).



Figure 6 Aluminum Explosives Box

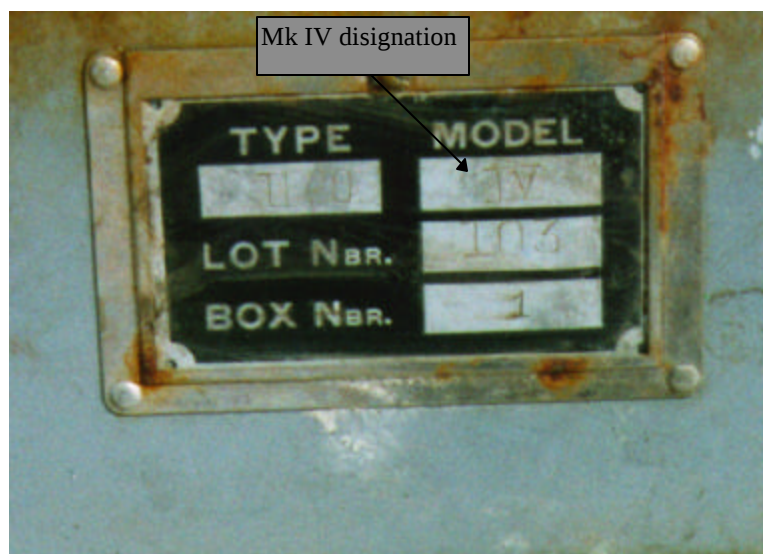


Figure 7 Identification label for Mk IV components



Figure 8 Inner lid on aluminum "Explosives" box



Figure 9 Contents of the aluminum "Explosives" box

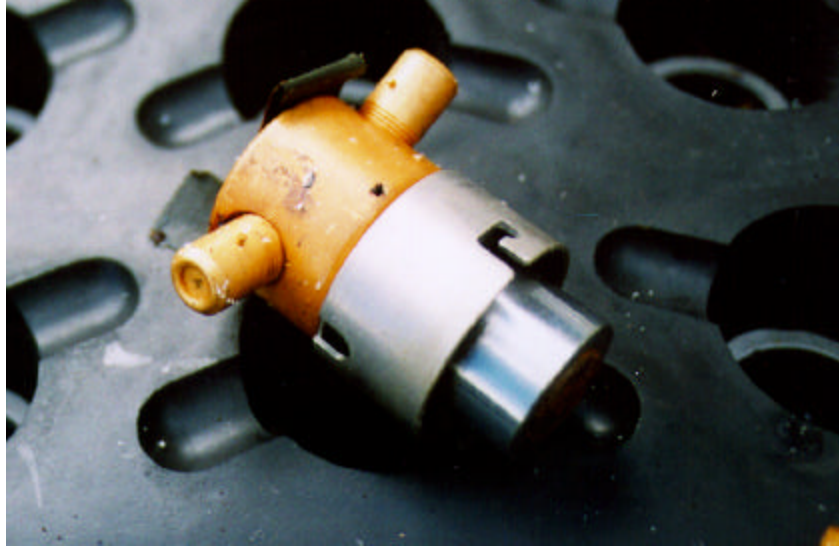


Figure 10 One of four spare Mk IV detonators

The surrounding area outside of the main crash site was searched for ordinance and other debris. DND personnel located a 60 to 80 litre sized metal canister (yellow in color) that still contained a full load of individual explosive charges (see Figure 11).



Figure 11 Abandoned canister of un-used high explosives

The metal canister was still attached to a parachute and appeared to have not been opened until this visit. We concluded the explosives were probably dropped in the fall of 1953, became covered in snow and were not located in 1954 by the second crash investigation team the USAF sent in. Consequently the explosives remained undetected until this visit.

Day 4 - 14 August, 1997

All sediment and vegetation sampling was completed. The balance of the time was spent surveying and marking the crash area and perimeter for explosives and other ordinance. The investigation team concluded the survey at approximately 14:30 hrs. and returned to Stewart, B.C.

Conclusions

Preliminary results of the ground survey indicate there is no high level radioactive material at the B-36 crash site on Mount Kologet. A final report will be released by DND at a later date once all the sediment and vegetation analysis data is completed and the survey results are compiled.

A small number of unexploded 20mm canon shells from the B-36, small arms rounds, the mark IV detonators and the high explosives left by the USAF crash site investigation and demolition teams in 1953 and/or 1954 are considered to be a safety hazard. These findings will be reported by Lt. David Knight to the DND Explosives and Ordinance Demolition (EOD) group to address disposal options.

The remainder of the B-36 wreckage consists of waste metal and other miscellaneous debris. Since the wreck site is located in a remote area of B.C. and receives few visitors (if any), the impact of the wreckage on the aesthetic value of the area is not of immediate concern. However, this does not preclude the possibility that it may need to be cleaned up or removed at some point in the near or distant future. The historical significance of the B-36 wreck should also be addressed. A number of small items were recovered from the wreck site during this visit and donated to the Stewart Historical Society in Stewart, B.C. (See Appendix I). One 20mm canon barrel was removed by DND personnel for display purposes at the DND base in Cold Lake, Alberta. A number of personal items believed to belong to Lt. R. P. Whitfield (one of the surviving crew members of the 1950 B-36 flight) were also recovered in hopes of returning to Mr. Whitfield or his surviving family. Historic resources agencies or historical aviation interest groups should be advised and consulted about the significance of the B-36 wreck. Protection of the site as a historic artifact may be warranted.

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APPENDIX I

DOANTION FORM - STEWART HISTORICAL SOCIETY

APPENDIX II

PHOTOGRAPHIC AND VIDEO RECORDS