339304

Nuclear Weapon Accident Near

Thule Air Base, Greenland

January 21, 1968

PART I – Photograph Captions & Descriptions

Prepared by

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Captions for Photographs of the Nuclear Weapons Accident at Thule, Greenland, January 21, 1968

The photographs in this collection were obtained from the following sources:

- Sandia National Laboratory (SNL), Albuquerque, NM
- Los Alamos National Laboratory (LANL), Los Alamos, NM
- U. S. Air Force Safety Center, Kirtland AFB, NM
- John Taschner (LANL), private collection

They were organized by events and captioned by John Taschner, Los Alamos National Laboratory.

Item Number	Photo Number	Title	Abstract
Maps of Greenland & B-52 Flight Path			
001		Map of Greenlamd	This map of Greenland was hand drawn by Mr. William Crismon while he was at Thule AB for weapon debris identification and packing for shipment to the US.
001a		Mission profile for the northern route of Operation Chrome Dome.	This is the mission profile for the Strategic Air Command's (SAC) northern route of Operation Chrome Dome. The mission involved a B-52 from Plattsburgh AFB, NY with four thermonuclear weapons. The flight took the bomber and crew around Canada, up to Thule, Greenland the return on a route to the east of Greenland. It was part of SAC's airborne alert program Operation Chrome Dome.
001b	D68-1380	Flight path of the B-52 involved in the nuclear weapon accident near Thule AB, Greenland on January 17, 1968.	Flight path of the B-52 carrying four nuclear weapons. The crash site was 7 ½ miles from Thule Air Base between Thule AB and Saunders, Island. Following a mid-air refueling operation, a fire broke out in the aircraft. The pilot requested permission for an immediate descent and emergency landing at Thule Air Base. When the fire became uncontrollable and all electrical power was lost the pilot ordered the crew to bailout. All but one of the crew parachuted to safety. One crew member was killed as he left the aircraft.
002	N5618	Flight path of B-52 and crash site near Thule AB, Greenland	Enlarged map of the flight path of the B-52 and the crash site.
B-52 Aircraft Crash Sequence			
003	B52	A B-52 bomber in flight.	A B-52 bomber in flight.
004		Fuel distribution for the B-52 bomber	This drawing shows the fuel tanks on the B-52 aircraft and the estimated amount of fuel on board at the time of the accident.
005	N5382	B-52 crash sequence 1	The first in a sequence of five sketches showing the B-52 crashing on the Sea Ice, 7 miles from Thule AB, Greenland. After the crew ejected from the aircraft the bomber's left wing dropped and the aircraft began a steep left turn, rapidly loosing altitude.
006	N5383	B-52 crash sequence 2	The second in a sequence of five sketches showing

			the B-52 crashing on the Sea Ice, 7 miles from Thule AB, Greenland. After the crew ejected from the aircraft the bomber's left wing dropped and the aircraft began a steep left turn, rapidly loosing altitude. This sketch shows the left wing of the aircraft striking the sea ice.
007	N5384	B-52 crash sequence 3	The third in a sequence of five sketches showing the B-52 crashing on the Sea Ice, 7 miles from Thule AB, Greenland. After the crew ejected from the aircraft the bomber's left wing dropped and the aircraft began a steep left turn, rapidly loosing altitude. This sketch shows the left wing of the aircraft breaking away and the forward section of the aircraft striking the sea ice.
008	N5385	B-52 crash sequence 4	The fourth in a sequence of five sketches showing the B-52 crashing on the Sea Ice, 7 miles from Thule AB, Greenland. After the crew ejected from the aircraft the bomber's left wing dropped and the aircraft began a steep left turn, rapidly loosing altitude. This sketch shows the B-52 aircraft exploding as it impacts the sea ice.
009	N5386	Enlarged view of the crash site showing the "blackened area" and fractured ice.	The B-52 crashed with almost a full load of fuel. The conventional explosives in all four thermonuclear weapons exploded. These combined to create a burned area on the sea ice, called the "blackened area". This photograph shows the fractured ice at the impact point and blackened area.
0100	N5391	B-52 crash sequence	This is a graphical presentation of the final moments of the B-52 as it crashed into the sea ice near Thule, Greenland.
Blackened Area on the Ice Cap			
011	N5387	Crash site showing the "blackened area" and fractured ice.	The B-52 crashed with almost a full load of fuel. The conventional explosives in all four thermonuclear weapons exploded. These combined to create a burned area on the sea ice, called the "blackened area". This photograph shows the fractured ice on the left at the impact point and blackened area.
011			
012	D81-216	B-52 crash site. The blackened area was caused by burning jet fuel.	This Blackened Area was caused by the detonation of the conventional high explosives in the four nuclear weapons and fire that resulted from the ignition of the B-52 aircraft's jet fuel when the bomber crashed near Thule AB, Greenland. The Blackened area measured 720 yards x 155 yards and contained much of the plutonium contamination.
013	N5389	Enlarged view of the crash site showing the "blackened area" and fractured ice.	The conventional explosives in all four thermonuclear weapons exploded. These combined to create a burned area on the sea ice, called the "blackened area" and a large circular area of fractured ice.
014	N5390	Blackened area after an Arctic storm.	The B-52 crashed with almost a full load of fuel. The conventional explosives in all four thermonuclear weapons exploded. These combined

			to create a burned area on the sea ice, called the "blackened area". This photo shows the "blackened area" after an Arctic storm.
Fractured Ice caused by B-52 crash			
015	N86	Fractured sea ice caused by the impact of the B-52.	The sea ice was 3-4 feet thick at the crash site. When the B-52 crashed, the sea ice was fractured creating large mounds of crushed ice.
016	N87	Fractured sea ice caused by the impact of the B-52.	The sea ice was 3-4 feet thick at the crash site. When the B-52 crashed, the sea ice was fractured creating large mounds crushed ice like this one in the immediate area of the crash.
017	N88	Fractured sea ice caused by the impact of the B-52.	The sea ice was 3-4 feet thick at the crash site. When the B-52 crashed, the sea ice was fractured creating large mounds of crushed ice like this one in the immediate area of the crash.
018	N5284	Fractured sea ice caused by the impact of the B-52.	A large chuck of sea ice from the crash site of the B-52.
019	N5285	Fractured sea ice caused by the impact of the B-52.	A large chuck of sea ice from the crash site of the B-52.
020	N5286	Fractured sea ice from the "blackened area" was caused by the impact of the B-52.	A large chuck of sea ice from the crash site of the B-52. This piece is from the "blackened area", the area where the B-52 crashed and burned.
021	N5287	Fractured sea ice from the "blackened area" caused by the impact of the B-52.	A large chuck of sea ice from the crash site of the B-52. This piece is from the "blackened area", the area where the B-52 crashed and burned.
022	C85-939	These two men are examining the fractured ice caused by the B-52 aircraft crash.	Two men are examining large chunks of ice caused by the B-52 crash. In the background is Saunders Island.
SAC Disaster Response Team Arrive at Thule AB, Greenland			
023	N5292	Strategic Air Command transport aircraft arrives at Thule AB, Greenland.	Air Force person guides a Strategic Air Command aircraft to its parking place at Thule Air Base, Greenland. This is the arrival of the SAC Disaster Control Team from Offutt AFB, Omaha, NB.
024	N5293	Strategic Air Command transport aircraft arrives at Thule AB carrying the SAC Disaster Control Team.	SAC Disaster Control Team arrives from SAC Headquarters.
025	N5294	A senior Air Force officer debarks from a Strategic Air Command transport aircraft at Thule AB, Greenland.	A senior Air Force officer (possibly Col. Hackett, Chief of Staff) from SAC's Disaster Control Team debarks from a Strategic Air Command transport aircraft at Thule AB, Greenland.
026	N5295	Senior Air Force Officer is greeted by Col. Dresser, Thule AB commander.	A Senior Air Force Officer (possibly Col. Hockett, Chief of Staff) from HQ SAC is greeted by Col. Dresser, Thule AB commander.
Thule Air Base, Greenland			
027	N5377	This is a drawing of Thule Air Base, Greenland that shows the major facilities used thought out the recovery operations.	This is a drawing of Thule Air Base, Greenland that shows the major facilities used thought out the recovery operations. The road across Thule Air Base leads past the Tank Farm where the contaminated snow and ice was stored during the winter months until the port opened and ships arrived to transport the debris back to the US.

028	N5288	Thule Air Base, Greenland.	Aerial view of Thule Air Base, Greenland. The mountain in the right background is P mountain where the Thule AB radar site is located.
029	N5289	Thule Air Base, Greenland	Aerial view of Thule Air Base, Greenland. In the foreground are the landing lights for the single runway at Thule AB.
030	N5226	P-Mountain radar facility for Thule AB, Greenland.	P-Mountain radar facility for Thule AB, Greenland. Munitions storage bunkers are in the foreground.
031		Radar facilities	
032	N5336	SAC Disaster Control Team Staff Organizational Chart	Organization chart for the SAC Disaster Control Team Staff for Project "Crested Ice"
033	N5346	SAC Disaster Control Team Staff Organizational Chart	This chart shows the organizational structure for the On-Scene SAC Disaster Control Team at Thule, Greenland during Operation "Crested Ice" – the code name for the nuclear weapons accident near Thule, Greenland.
034	N5339	Weapons Recovery Group for "Crested Ice" Operations Center at Thule AB.	The code name for the Broken Arrow near Thule AB, Greenland was "Project Created Ice". This photograph is of the Weapons Recovery Group where personnel are planning the weapons recovery operations.
Camp Hunziker - On Scene Command Area General Hunziker was the SAC On-Scene Commander			
035	N5619	The "Welcome to Camp Hunziker" sign marks Maj. Gen. Hunziker's on-scene command post on the ice cap about 7.5 miles from Thule AB, Greenland.	The "Welcome to Camp Hunziker" sign marks Major General Hunziker's On-Scene Command Post on the Ice Cap about 7.5 miles from Thule Air Base, Greenland. There were several structures built near the crash site that became known as "Camp Hunziker".
036	N5270	Decontamination and First Aid Center in the foreground. Camp Hunziker headquarters is to the right background.	In the foreground is the decontamination and first aid building (building with the cross) on the sea ice. In the background is Gen. Hunziker's command post. Saunders Island is to the left background.
037		Camp Hunziker headquarters is in the right background. Saunders Island is in the background.	Camp Hunziker headquarters is in the right background. Saunders Island is in the background.
038	N5318	Aerial view of Camp Hunziker near the crash site.	Aerial view from a helicopter of Camp Hunziker showing the three ice roads leading back to Thule AB. The building in the right center is Maj. Gen Hunziker's operations center. Saunders Island is in the background about 4 miles away.
039		Aerial view of Camp Hunziker near the crash site.	Aerial view from a helicopter of Camp Hunziker showing the red cross first aid station and decontamination center in the right foreground. To the rear is General Hunziker's operation center. Saunders Island is in the background about 4 miles away.
Jamesway Hut			
040	N5333	The Air Force's Prime Beef team is assembling a "James way" hut (collapsible	The Air Force's Prime Beef team assembles a "James way" hut (collapsible Quonset hut) at Camp Hunziker to store equipment and material at the

		Quonset hut).	crash site.
041	N5332	The Air Force's Prime Beef team is assembling a "James way" hut (collapsible Quonset hut).	The Air Force's Prime Beef team assembles a "James way" hut (collapsible Quonset hut) at Camp Hunziker to store equipment and material at the crash site.
042	N5334	The Air Force's Prime Beef team is assembling a "James way" hut (collapsible Quonset hut).	The Air Force's Prime Beef team assembles a "James way" hut (collapsible Quonset hut) at Camp Hunziker to store equipment and material at the crash site.
Prefabricated plywood huts			
043	N5323	One of the plywood prefabricated buildings being assembled at the crash site for personnel to warm themselves during work breaks.	The Thule AB shop personnel (Danish Contractor) built six 8 x 16 foot plywood prefabricated buildings in a hanger on Thule AB and then transported them to the crash site where the were assembled. The buildings were heated (see heater pipe on the left).
044	N5324	One of the plywood prefabricated buildings being assembled at the crash site for personnel to warm themselves during work breaks.	The Thule AB shops built six 8 x 16 foot plywood prefabricated buildings in a hanger on Thule AB and then transported them to the crash site where the were assembled. The buildings were heated (see heater unit and fuel in foreground.).
045	N5325	An Air Force airman is filling the fuel tank for one of the heater units of one of the prefabricated buildings.	This view shows an Air Force airman refueling one of the heater units for the prefabricated buildings. The building were constructed on Thule Air Base then hauled to the crash site and assembled.
046	N96	Pre-fabricated wooden huts.	These pre-fabricated wooden huts were constructed at Thule AB, and then towed to the accident site on skids to provide shelter against the bitter arctic cold.
Igloos constructed by Greenlanders at Camp Hunziker			
047	N5584	On the right is an Igloo that was constructed by the Greenlanders to provide personnel protection for workers in the event of a storm. A portable electric generator and a prefab hut are shown on the left.	On the right is an Igloo that was constructed by the Greenlanders to provide personnel protection for workers in the event of a storm. A portable electric generator and a prefab hut are shown on the left.
048	Tasch-4	These igloos were built by the Greenlanders to provide protection on the ice cap in the event of an unexpected storm.	These igloos were built by the Greenlanders to provide protection on the ice cap in the event of an unexpected storm.
049	N84	These igloos were built by the Greenlanders to provide protection on the ice cap in the event of an unexpected storm.	These igloos were built by the Greenlanders to provide protection on the ice cap in the event of an unexpected storm.
050	N93	Igloo on the ice cap near accident site. Person unknown.	Igloo on the ice cap near accident site. Person unknown.
Route to and from the crash site			
051	N5319	Looking east from the crash site towards Thule Air Base.	Looking east from the crash site towards Thule Air Base. Three roads were made for travel to and from

		Three roads were made for travel to and from the base. The sea ice was 3-4 feet thick, enough to support truck movement.	the base. The sea ice was 3-4 feet thick, enough to support truck movement.
052	N5322	Helicopter landing at the crash site.	Helicopter landing at the crash site.
Initial Radiological Surveys at the crash site			
053		This map shows one of the initial radiological surveys around the crash site.	This map shows one of the initial radiological surveys around the crash site. The impact point shows the general shape of the "blackened area" caused by burning jet fuel. These surveys were accomplished by EOD and radiological monitoring teams using AN/PRD-60 (Eberline PAC-1S) alpha survey instruments (see # 054).
054	N5614	AN/PDR-60 alpha survey instruments fitted with external batteries.	The subzero temperatures at Thule caused batteries to freeze and survey instruments to fail. The problem was solved by soldering external cables to the instrument's battery connections then wearing the battery packs in parkas or around the monitor's waist inside the parka. Alpha radiation survey instruments were used during the initial phase and continuously during the operation to survey for contamination on people and equipment.
055	N5370	This is the Radiological Grid of the"blackened area" caused by burning jet fuel.	This slide shows the sea ice survey contour and values. The shaded area is roughly the contour of the "blackened area". Much of the plutonium contaminated from the four destroyed weapons was found in this area. These measurements were made with FIDLER type survey instruments (see # 057 & 058) using the device shown in # 056-N5622.
056a	N6521	This is the plutonium dispersal pattern that as created when the B-52 crashed and the conventional high explosive in the four thermonuclear weapons exploded on impact.	The radiological surveys of this area were done using the newly developed Lawrence Livermore National Laboratory FIDLER instrument.
056b		Levels of plutonium contamination. This is the plutonium dispersal pattern that as created with the B-52 crashed and the conventional high explosive in the four thermonuclear.	The radiological surveys of this area were done using the newly developed Lawrence Livermore National Laboratory FIDLER instrument.
056	N5622	Wood stand used in conducting radiological surveys.	This wooden stand was built by Capt. Bill McRaney to aid in conducting radiological surveys. Nails were driven into the wood at 15 degree intervals then were used to as a sighting mechanism to help align the surveyors on a survey path. Simple but ingenious and it worked quite well.

057	N5512	FIDLER radiological survey instrument used to monitor for plutonium surface contamination.	The FIDLER (Field Instrument for Detection of Low Energy Radiation) detector was developed by Lawrence Livermore National Laboratory following the Palomares Nuclear Weapon Accident in January 1996. This instrument measures the low energy x-ray and gamma rays from weapons grade plutonium instead of alpha radiation, making it much easier to measure plutonium surface contamination. This instrument was first used during the Thule, Greenland accident in January 1968. Note the external battery pack. Instrument batteries froze in the subzero temperatures at Thule so it was necessary take them out of the instruments and carry them in pockets of winter clothing to keep them warm.
058	N5375	FIDLER radiological survey instrument used to monitor for plutonium surface contamination.	The FIDLER (Field Instrument for Detection of Low Energy Radiation) detector was developed by Lawrence Livermore National Laboratory following the Palomares Nuclear Weapon Accident in January 1996. This instrument measures the low energy x-ray and gamma rays from weapons grade plutonium instead of alpha radiation, making it much easier to measure plutonium surface contamination. This instrument was first used during the Thule, Greenland accident in January 1968. Note the external battery pack. Instrument batteries froze in the subzero temperatures at Thule so it was necessary take them out of the instruments and carry them in pockets of winter clothing to keep them warm.
059		This is a PRM-5 survey instrument connected to a PG-1 probe. This survey system measures the low energy x-rays that are emitted by plutonium.	This is a PRM-5 survey instrument connected to a PG-1 probe. This survey system measures the low energy x-rays that are emitted by plutonium.
060		This is a PRM-5 survey instrument connected to a PG-1 probe. This survey system measures the low energy x-rays that are emitted by plutonium.	This is a PRM-5 survey instrument connected to a PG-1 probe. This survey system measures the low energy x-rays that are emitted by plutonium.
061		PG-1 probe used to measure the low energy x-rays from weapons grade plutonium.	PG-1 probe used to measure the low energy x-rays from weapons grade plutonium.
062		Radiological survey kits	Radiological survey kits
063		An Air Force SSgt inspects an AN/PDR-60 alpha survey instrument for light leaks.	An Air Force SSgt inspects an AN/PDR-60 alpha survey instrument for light leaks.
064		AN/PDR-60 alpha radiation survey kit.	AN/PDR-60 alpha radiation survey kit.
065	N5330	AN/PDR-60 alpha survey instruments being fitted with external batteries or cold weather operations.	The subzero temperatures at Thule caused batteries to freeze and survey instruments to fail. The problem was solved by soldering external cables to the instrument's battery connections then wearing the battery packs in parkas or around the monitor's

			waist inside the parka.
066	N5331	AN/PDR-60 alpha survey instruments being fitted with external batteries or cold weather operations.	The subzero temperatures at Thule caused batteries to freeze and survey instruments to fail. The problem was solved by soldering external cables to the instrument's battery connections then wearing the battery packs in parkas or around the monitor's waist inside the parka.
067		Tritium monitor	
068		Tritium monitor	
069		ATRAP Package	Air Transportable Radiac Package (ATRAP). Shipping container for radiation survey instruments.
Explosive Ordnance Disposal (EOD) Searches for Weapon Debris			
070		Explosive Ordnance Disposal (EOD) Search Area	The initial search patterns consisted of loose criss-crossing patterns designed to rapidly locate weapon components. These initial efforts were conducted by EOD and radiological monitoring personnel and were an attempt to search the total crash area before any covering action by the pending storms.
071	N5362	Greenlander with his dog sled.	Greenlander with his dog sled. The Greenlanders and their dog sleds provided the early means of transportation to and from the crash site. This Greenlander, who claimed to be the grandson of the explorer Robert E. Peary aided in the search for aircraft wreckage. Later, when it was learned that the ice cap would support vehicle traffic, trucks, road graders, weasels, busses and other motorized equipment were used.
072	N5282	EOD Team chief	EOD Team chief during the search for weapon debris. Air Force Explosive Ordnance Disposal Team Chief with ice on mustache caused by his own breath freezing in the sub zero weather.
073	N5290	An EOD search team member. Frost on parka & face mask of 1st Lt. B. P. Smith.	The frost on the parka hood and face mask of 1st Lt. B. P. Smith is caused by his own breath as he stands in the frozen arctic air of Greenland. He was a member of the Sandia Base Nuclear Emergency Team that responded to the Thule accident. An EOD search team member after several hours "on the ice"
SPA-3 Detector Searches - Searches for Weapon and Aircraft Debris			
074		SPA-3 search map	These surveys were accomplished mostly by EOD personnel using SPA-3 gamma radiation detectors. Some weapon components emit gamma rays that can be detected by the SPA-3.
075		SPA-3 searched for nuclear weapon components	The SPA-3 radiation detector uses 2-inch sodium iodide crystal that detects and measures the gamma rays being emitted by the weapons fissile material, specifically uranium. These detectors were used to help locate and recover uranium components from the four thermonuclear weapons.
076	N5244	Airman searching for weapon debris with a SPA-3 gamma detector.	Some weapon components emit low level gamma radiation which can be found using sensitive radiation detectors. Here two Air Force personnel are searching for weapon debris with a SPA-3 gamma detector.

077	N5348	Air Force personnel at the crash site searching for weapon and aircraft debris.	Air Force personnel used shovels (far left), SPA-3 gamma radiation detection instruments (rear center) and metal detectors (far right) in the search for weapon and aircraft debris.
078	N5341	A weasel tractor with booms that support SPA-3 gamma detectors.	Specially equipped vehicles were used to conduct radiation surveys on the ice. This photograph shows a weasel outfitted with booms that hold SPA-3 gamma radiation detectors used to locate uranium weapon components.
079		Airborne searches map	To fully explore the area to the south, an instrumented helicopter search was done. An advanced model of the PRM-5 with an SPA-3 probe was used. The probe was attached to a 50 foot high voltage cable with a hemp rope for a stress line. The probe was suspended from 25 to 40 feet below the helicopter during the search for weapons components.
080	N5372	Search by Mounted Patrols	Areas beyond the zero contamination line were searched to preclude missing any object that might lie outside the general pattern. These areas were covered by search crews in tracked vehicles.
081	N5623	Air Force Weasel	One of the vehicle types used in the mounted patrol searches.
Shoulder to shoulder search for aircraft and weapon debris.			
082	N5374	Map of the shoulder-to-shoulder search area	Map of the shoulder-to-shoulder search area
083	C85-938	Air Force personnel walking abreast searching for aircraft and weapon debris on ice cap near Thule AB, Greenland.	Air Force personnel walking abreast searching for B-52 aircraft wreckage and nuclear weapon debris at the scene of the B-52 crash near Thule AB, Greenland. Personnel are wearing yellow Personnel Protective Clothing (Anti-C's).
084	N5620	Air Force personnel walking abreast searching for aircraft and weapon debris on ice cap near Thule AB, Greenland.	Air Force personnel walking abreast in full moonlight, searching for B-52 aircraft wreckage and nuclear weapon debris at the scene of the B-52 crash near Thule AB, Greenland. Personnel are wearing yellow Personnel Protective Clothing (Anti-C's).
085	N5235	Air Force personnel standing in line abreast preparing to search for weapon and aircraft debris.	This photo shows about 50 Air Force personnel lining up shoulder-to-shoulder preparing to search for nuclear weapon and aircraft debris. The debris was collected as found, placed in barrels. This activity was carried out frequently through February 20, 1968. Saunders Island is in the background.
086	N5247	Emptying a collection bag of debris into a 55-gal. barrel on the sled.	An airman is dumping crash debris, collected in a sack, into a 55-gallon barrel that is on a wood sled, towed by a weasel. Wood sleds containing 55-gallon barrel were towed by a weasel (tractor) behind the search teams to collect the debris. Here we see an airman dumping crash debris into a 55-gallon barrel.
087	N5211	An Air Force weasel is towing a wooden sled that contains a 55-gallon barrel. The crew of the weasel is traversing the sea ice looking for B-52 aircraft	An Air Force weasel is towing a wooden sled that contains a 55-gallon barrel. The crew of the weasel is traversing the sea ice looking for B-52 aircraft and nuclear weapon debris. The airmen to the left of the picture are digging up debris that has been frozen to the ice.

		and nuclear weapon debris.	
088	N5236	Air Force personnel walking shoulder-to-shoulder searching for weapon and aircraft debris	This photo shows about 50 Air Force personnel walking shoulder-to-shoulder across the sea ice searching for nuclear weapon and aircraft debris. The debris was collected as found, placed in barrels in wooded sleds that were towed behind weasels (foreground). This activity was carried out frequently through February 20, 1968. Saunders Island is in the background.
089	N5237	Air Force personnel searching for aircraft and weapon debris.	Air Force personnel are searching for aircraft and weapons debris. The weasel in the left center is towing two wood sleds containing 50 gallon barrels that the search teams placed the debris. In the right foreground is a weasel towing high intensity lights. The early searches were made during the polar darkness. The area was lighted with Coleman lanterns and NF-2 Lighting trailers.
090	N5239	Close-up of high intensity lights.	When the accident occurred it was total darkness in the Arctic Circle. The sun was not seen until mid-February. High intensity lights were sited at locations where the search for weapon debris and aircraft and decontamination operations was being conducted.
091	N5240	Air Force personnel at the crash site searching for weapon and aircraft debris.	Air Force personnel used shovels (far left), Radiation detection instruments (center) and metal detectors (far right) in the search for weapon and aircraft debris.
092	N5241	Air Force personnel digging up crash debris.	Air Force personnel are searching for and digging up aircraft and weapon crash debris.
093	N5242	Air Force person picking up crash debris	Close-up of an airman picking up a piece of crash debris. He is holding a sack where the debris will be placed. When full the contents will be transferred to a 55-gallon barrel.
094	N5243	Airman searching for debris with a metal detector.	Metal detectors were used to search for crash debris but most of the debris was found by Air Force personnel walking shoulder-to-shoulder and searching with their eyes.
095	N5230	High intensity lights at the accident site.	When the accident occurred it was total darkness in the Arctic Circle. The sun was not seen until mid-February. Thee polar night required lighting of the blackened area. Lights were connected to a sled mounted generator. High intensity lights were sited at locations where the search for weapon debris and aircraft and decontamination operations was being conducted.
096	N5238	High intensity lights at the accident site.	When the accident occurred it was total darkness in the Arctic Circle. The sun was not seen until mid-February. Light intensity lights were sited at locations where the search for weapon debris and aircraft and decontamination operations was being conducted.
097		High intensity lights at the accident site.	When the accident occurred it was total darkness in the Arctic Circle. The sun was not seen until mid-February. Light intensity lights were sited at

			locations where the search for weapon debris and aircraft and decontamination operations was being conducted.
098		High intensity lights at the accident site.	When the accident occurred it was total darkness in the Arctic Circle. The sun was not seen until mid-February. Light intensity lights were sited at locations where the search for weapon debris and aircraft and decontamination operations was being conducted.
099	N5248	Sled with empty barrels to be filled with aircraft debris.	Handling of aircraft debris. Man on left holds a funnel that is inserted into barrels for easier transfer of debris from the sled on the right foreground to the barrels. Sled on the center of the photograph contains loaded 55-gallon barrels.
100	N5250	55-gal. barrel loaded with aircraft debris, including a Styrofoam coffee cup.	55-gal. barrel loaded with aircraft debris, including a Styrofoam coffee cup.
101	N5262	Filling barrels with aircraft debris.	Filling barrels with aircraft debris. Funnel & protective top prevent spread of contamination.
102	N5249	Transferring aircraft debris to 55-gallon barrels.	Two airmen are transferring aircraft debris from a wooden sled to 55-gallon barrels.
103		Airmen walk shoulder to shoulder looking for aircraft and weapon debris.	Airmen walk shoulder to shoulder looking for aircraft and weapon debris. The weasel tractor is towing a sled containing 55-gallon barrels for the debris collected.
104		Weasel and crew	Weasel and crew
105		Airman with frost on his face mask.	Airman with frost on his face mask.
Searches in the Scarified area			
106		Map of the scarified area	Map of the scarified area
107	N5216	Road graders are scarifying the sea ice so that it can be windrowed.	These road graders are breaking up the crusted sea ice so that it can more easily be windrowed and to uncover any aircraft or weapon debris that might have been covered up during Arctic storms.
108	N5327	A road grader is breaking up the sea ice so that it can be windrowed	This road grader is breaking up the contaminated sea ice so that it can be windrowed then picked up with continuous belt loaders and front end loaders.
109	N5328	Aerial view of road graders breaking up the sea ice.	This is an aerial view of road graders at work breaking up the sea ice so that it can be wind road then picked up with front end loaders and continuous belt loaders. Saunders Island is in the background at a distance of about 4 miles.
110	N5329	Aerial view of a road graders breaking up the sea ice.	This is an aerial view of road graders at work breaking up the sea ice so that it can be windrowed then picked up with front end loaders and continuous belt loaders.
111	N5266	Road grader is breaking up the contaminated sea ice before windrowing.	Before the sea ice could be windrowed it was necessary to break it up using metal teeth attached to the front end of the road grader. Sander Island is in the background.
112	N5246	Searching the scarified area for debris	A weasel is being driven over the sea ice that has been broken up by road graders while personnel inside look for aircraft and weapon debris. The

			weasel in the right foreground is towing a wood sled that contains a 55-gallon drum used for collecting crash debris. In the background are road graders that are breaking up the sea ice to make the search for crash debris and removal.
113	N5228	Aerial view of the blackened area after decontamination.	This is an aerial view of the blackened area after decontamination. Saunders Island is in the background. The blackened area in the middle of the scarified area is the shadow cast by the helicopter that took the photograph.
114		Map showing all of the search areas and methods used.	These searches covered a total of about 10 square miles. Areas where considerable weapon and aircraft debris was found were searched repeatedly.
Aircraft Debris			
115	N5335	Abandoned POL Fuel storage depot at Thule AB, Greenland.	Abandoned POL area where the 25,000 gallon tanks were obtained and used to store the contaminated sea ice and aircraft debris. Sixty-seven of these fuel tanks were retrofitted to store the contaminated sea ice and aircraft debris.
116	N5206	The POL tanks were retrofitted in Hanger 6, Thule AB.	The 25,000 gallon POL tanks were retrofitted in Hanger 6, Thule AB. Three large holes were cut in the top & connection holes were welded closed.
117	N5207	POL tank being placed on a flat bed for transport to the tank farm storage area.	A converted 25,000 gallon POL tank is being placed on a flat bed for transport to the "Tank Farm" storage area.
118	N5376	Map showing locations where aircraft debris was found.	This slide shows the locations where aircraft debris was found. Much of this material was located by men walking shoulder to shoulder across the ice cap.
119	C85-896	B-52 aircraft debris held down by chicken wire.	B-52 aircraft debris held down by chicken wire.
120		B-52 aircraft wreckage	B-52 aircraft debris held down by chicken wire to keep it from blowing away in high winds.
121	N5255	B-52 aircraft wreckage held down by chicken wire.	B-52 aircraft debris held down by chicken wire to keep it from blowing away in high winds...
122	N5257	B-52 aircraft debris held down by chicken wire.	B-52 aircraft debris held down by chicken wire.
123		B-52 aircraft debris	B-52 aircraft debris. Aircraft engines are shown on the right.
124	N5259	B-52 aircraft debris.	B-52 aircraft debris. On-site decontamination center in the background.
125	N5258	B-52 aircraft debris in the foreground held down by chicken wire.	In the foreground is aircraft wreckage held down by chicken wire to prevent it from being blown away by high winds that frequented the area throughout the clean-up. In the background is the Wannigan (building on sled runners) used as the on site decontamination station and a place where personnel could get in out of the cold. Also shown are several high intensity lights on steel posts placed in weighted 55-gallon steel drums.
126	N5256	B-52 aircraft debris	B-52 aircraft debris lighted by a high intensity light on a steel post placed in a weighted 55-gallon steel drum.
127	N5361	Weapon parachutes.	Parachutes for nuclear weapons. The parachutes slow down the weapons decent to allow time for the

			B-52 to escape the nuclear detonation. All four weapons were destroyed in the crash.
128	N5350	B-52 crash site. Pile of rubble to the left is aircraft wreckage.	The nuclear weapon accident near Thule AB, Greenland occurred in January 1968 during the Polar darkness. This scene is lighted by high intensity lights set up to the left. The pile of rubble to the right of the men is the wreckage of the B-52 which was scattered widely about the accident site and collected by Air Force personnel in darkness and sub freezing weather.
129		B-52 aircraft engines	Two B-52 aircraft engines in the snow.
130	N5260	Wheel from the B-52 bomber encased in sea ice.	One of the wheels of the B-52 bomber encased in sea ice.
131	N5254	B-52 aircraft engines	Two B-52 aircraft engines encased in snow and ice.
132	N5253	Airman emptying aircraft debris into a large container.	Airman emptying aircraft debris into a large container.
133		Airman emptying aircraft debris into a large container.	Airman emptying aircraft debris into a large container.
134	N5252	Two airmen are loading aircraft debris into an 18,000 gallon POL tank.	Two airmen are loading aircraft debris into a large POL tank.
135	N5210	Front end loader picking up B-52 wreckage. The debris was returned to Thule AB and placed in converted 25,000 gallon fuel tanks, and 55-gallon drums.	Air Force personnel are loading a front end loader with B-52 aircraft wreckage. The impact velocity of the B-52 onto the sea ice, which was about 3 feet thick, was about 700 mph. As a result there were very few pieces of the aircraft that were as large as an office desk.
136	N5263	Aircraft engine being loaded into an R4360 engine container.	A crane is loading a battered engine of the B-52 bomber is being loaded into an R-4360 engine container mounted on a trailer. The top half of the engine container will be added next. Observing the operation at the left is Colonel J. L. Godwin, Camp Hunziker commander.
137	N5264	Aircraft wreckage being loaded into a small converted fuel tank.	A front end loader is loading aircraft wreckage into a converted fuel tank
138		Crane loading aircraft debris being loaded into R4360 engine containers.	Aircraft debris being loaded into R4360 engine containers.
139	N5231	Radiological contamination survey of a tank containing aircraft wreckage.	This tank contains wreckage for the B-52 bomber that crashed with four nuclear weapons on board. An Air Force person is conducting a contamination survey of the tank before it is covered with a metal plate and welded shut.
140	N90	Air Force personnel preparing to package a parachute from one of the weapons in a 55 gal. barrel.	Air Force personnel are preparing to package a parachute from one of the four nuclear weapons in a 55-gallon barrel. In the background are pre-fabricated huts that were constructed at Thule AB then towed to the accident site to provide shelter for personnel against the bitter arctic cold.
55-gallon drums containing aircraft debris.			
141	N5277	55-gallon drums awaiting transfer to Thule AB for storage.	55-gallon drums containing contaminated B-52 aircraft wreckage are stored outside the contaminated area awaiting transfer to Thule AB for

			storage.
142	N5276	55-gallon drums awaiting transfer to Thule AB for storage.	55-gallon drums containing contaminated B-52 aircraft wreckage are stored outside the contaminated area awaiting transfer to Thule AB for storage.
143	N5271	Barrels containing aircraft debris.	Barrels filled with aircraft debris were stored outside the zero contamination line before being moved to Thule Air Base.
144	N5273	Sealing of a 55-gallon drum containing aircraft wreckage.	A 55-gallon drum containing contaminated B-52 aircraft wreckage is being sealed.
145	N5272	Airmen surveying contaminated aircraft wreckage in a 55 gallon barrel.	Three airmen are conducting a radiological survey of some B-52 aircraft wreckage before sealing the 55-gallon drum. The instrument is an AN/PDR-60 alpha survey meter.
146	N5275	Air Force personnel are surveying the outside of some 55-gallon drums with an AN/PDR-60 alpha survey instrument to determine if there is any external contamination.	.Air Force personnel are surveying the outside of some 55-gallon drums with an AN/PDR-60 alpha survey instrument to determine if there is any external contamination.
147	N5359	Air Force personnel are surveying the outside of some 55-gallon drums with an AN/PDR-60 alpha survey instrument to determine if there is any external contamination.	An airman is conducting a swipe (smear) test of a 55-gallon drum to determine if there is external contamination. The small piece of filter paper will be placed in an alpha instrument at Thule AB to determine if there is any radioactivity.
148	N5274	Swipe test being performed on aircraft filled.	An airman is conducting a swipe (smear) test of a 55-gallon drum to determine if there is external contamination. The small piece of filter paper will be placed in an alpha instrument at Thule AB to determine if there is any radioactivity.
149	N5278	Loading 55-gallon drum onto truck.	55-gallon drums containing contaminated wreckage of the B-52 bomber are being loaded onto a trailer for transport back to Thule AB for storage in a warehouse until the can be returned to the US for burial.
150	N5280	Loading 55-gallon drums onto a truck.	Air Force personnel are loading 55-gallon drums onto a flat bed truck to transport them to Thule AB for temporary storage. To the right is the decontamination center
151	N5279	55-gallon drums on a flatbed truck.	Tarps are being placed on a flat bed trailer containing 55-gallon drums. The drums contain contaminated wreckage of the crashed B-52 bomber. The drums will be transported to Thule AB for temporary storage. The airman near the front finder of the tractor is conducting a contamination survey.
152	N5218	This airman is conducting a radiological contamination survey of a truck loaded with aircraft debris before it departs for Thule Air Base.	This airman is conducting a radiological contamination survey of a truck loaded with aircraft debris before it departs for Thule Air Base.

153	N5281	Barrels containing aircraft debris were temporarily stored in old, unused munitions storage igloos	Barrels containing aircraft debris were temporarily stored in old, unused munitions storage igloos
154	N5233	Munitions storage area at Thule AB, Greenland.	Munitions storage area. These munitions storage bunkers were used to store nuclear weapon debris & aircraft wreckage from the four weapons that were destroyed in the accident.
Ice core sampling			
155	N5343	Map showing location where ice core samples were taken.	Following the accident, 2 storms passed through the area incasing the plutonium contamination in ice and snow. To gain information about the distribution and depth of plutonium contamination, about 180 ice core samples were taken and analyzed.
156	N95	Air Force personnel are boring into the ice to obtain an ice core sample to determine the depth and concentration of plutonium contamination.	Three Air Force men are preparing to collect an ice core sample at the crash site. These samples were necessary to determine the depth of the plutonium contamination since two heavy storms occurred at Thule, Greenland shortly after the crash and covered the aircraft and weapons debris and contamination under about 4 inches of ice.
157	N5301	Air Force personnel preparing to collect ice core sample.	Three Air Force men are preparing to collect an ice core sample at the crash site. These samples were necessary to determine the depth of the plutonium contamination since two heavy storms occurred at Thule, Greenland shortly after the crash and covered the aircraft and weapons debris and contamination under about 4 inches of ice.
158	N5582	Ice core samples packaged for transport to Thule AB for analysis.	The ice core samples were packaged in collecting boxes for transport to Thule AB for analysis.
159	N5379	Ice core samples.	Ice core samples.
160	N5380	Ice core samples.	Ice core samples.
161	N5504	Three of the ice core samples taken to determine depth of the contamination.	To gain information about the distribution of the contamination in the aircraft impact area about 180 ice core samples were taken.
162	N5300	Three of the ice core samples taken to determine depth of the contamination.	To gain information about the distribution of the contamination in the aircraft impact area about 180 ice core samples were taken.
163	N5302	Bottom part of ice core sample No. 121 shows depth of blackened area after arctic storms.	To gain information about the distribution of the contamination in the aircraft impact area about 180 ice core samples were taken.
164	N5306	Examination of ice core sample #45 taken to determine depth of the contamination.	To gain information about the distribution of the contamination in the aircraft impact area about 180 ice core samples were taken. Here Air Force personnel are examining core sample number 45.
165	N5309	Maj. Joseph Pizzuto placing ice core samples in plastic bag.	To gain information about the distribution of the contamination in the aircraft impact area over 150 ice core samples were taken. Here Major Joseph Pizzuto, USAF Radiological Health Laboratory health physicist places ice core samples in a plastic bag after they have been examined with a PG-1 gamma detector to locate the depth of plutonium

			contamination.
166		Device for determining the depth of the plutonium contamination.	This crude device was used to determine the depth of the plutonium contamination in the sea ice. The ice core was placed in the wood box and the collimated PG-1 detector was moved along its length until the plutonium contamination was found. With this information one could determine the depth of the plutonium deposition. There was about 4 inches of ice over the contaminated area, the result of two storms that passed through the area shortly after the crash.
167	N5307	Maj. Joseph Pizzuto examines one of the ice core samples with a PG-1 low energy gamma radiation detector.	To gain information about the distribution of the contamination in the aircraft impact area over 150 ice core samples were taken. Here Major Joseph Pizzuto, USAF Radiological Health Laboratory health physicist examines one of the ice core samples with a PG-1 low energy gamma radiation detector. Plutonium emits low energy x-ray and gamma ray radiation in addition to alpha radiation. The lead plate had a one inch wide slit which was moved along the ice core samples with the detector to determine the location and therefore the depth of contamination.
168	N5308	Maj. Joseph Pizzuto examines one of the ice core samples with a PG-1 low energy gamma radiation detector.	To gain information about the distribution of the contamination in the aircraft impact area over 150 ice core samples were taken. Here Major Joseph Pizzuto, USAF Radiological Health Laboratory health physicist examines one of the ice core samples with a PG-1 low energy gamma radiation detector. Plutonium emits low energy x-ray and gamma ray radiation in addition to alpha radiation. The lead plate had a one inch wide slit which was moved along the ice core samples with the detector to determine the location and therefore the depth of contamination.
169	N5224	This instrument is the Eberline PRM-5 with s PG-1 probe. The instrument is used to determine the depth of plutonium contamination.	To gain information about the distribution of the contamination in the aircraft impact area over 150 ice core samples were taken. Here Major Joseph Pizzuto, USAF Radiological Health Laboratory health physicist examines one of the ice core samples with a PG-1 low energy gamma radiation detector. Plutonium emits low energy x-ray and gamma ray radiation in addition to alpha radiation. The lead plate had a one inch wide slit which was moved along the ice core samples with the detector to determine the location and therefore the depth of contamination.
170	N5310	Capt. William McRaney examines one of the ice core samples with a PG-1 low energy gamma radiation detector.	To gain information about the distribution of the contamination in the aircraft impact area over 150 ice core samples were taken. Here Capt. William McRaney, health physicist from the Directorate of Nuclear Safety, examines one of the ice core samples with a PG-1 low energy gamma radiation detector. Plutonium emits low energy x-ray and

			gamma ray radiation in addition to alpha radiation. The lead plate had a one inch wide slit which was moved along the ice core samples with the detector to determine the location and therefore the depth of contamination.
171		Inventory & Packaging of ice core samples	After analysis at Thule AB some of the core samples were shipped to Los Alamos Scientific Laboratory for further study.
172		Personnel in Personnel Protective Clothing (PPC).	Personnel in Personnel Protective Clothing (PPC) are in the process of wrapping a contaminated piece of metal found at the crash site.
173	LA-681164	Chuck of sea ice from the crash site taken for analysis of plutonium content.	Chuck of sea ice from the crash site taken for analysis of plutonium content.
Personnel Monitoring and Nasal Swabs			
174	N5317	Air Force SSGT is monitoring an individual for contamination with a PAC-1S alpha survey instrument.	Air Force personnel are being surveyed for plutonium contamination at the Thule AB Decontamination Center after working on the ice cap. The survey instrument in use is an AN/PDR-60 Eberline PAC-1S alpha survey instrument.
175	N1315	Contamination survey using a PAC-1s alpha survey instrument.	Here an airman is being surveyed for plutonium contamination at the Thule AB decontamination center after working several hours on the ice cap. Military person is being surveyed for plutonium contamination after working on the ice cap. The survey instrument in use is an AN/PDR-60 Eberline PAC-1S alpha survey instrument.
176	N5313	Personnel are being surveyed for plutonium contamination.	After work on the ice cap, all personnel were thoroughly surveyed with PAC-1S alpha survey instruments to determine if they were contaminated.
177	N5316	Contamination survey using a PAC-1s alpha survey instrument.	Here an airman is being surveyed for plutonium contamination after working several hours on the ice cap. Military person is being surveyed for plutonium contamination after working on the ice cap. The survey instrument in use is an AN/PDR-60 Eberline PAC-1S alpha survey instrument.
178	N5314	An army technician is surveying the sole of an airman using an PAC-1S alpha survey instrument	Air Force personnel are being surveyed for plutonium contamination after working on the ice cap. The survey instrument in use is an AN/PDR-60 Eberline PAC-1S alpha survey instrument.
179	N5223	Radiological contamination surveys being conducted on personnel after they return for work on the Ice	After returning from work on the ice cap, personnel undergo radiological contamination surveys at the Decontamination Center on Thule AB to determine if they are contaminated.
180	N5225	Nasal swipes being taken on Air Force person to determine if he might have inhaled plutonium while working on the ice cap.	After a day's work on the ice cap nasal swipes were taken on everyone at the Decontamination Center located on Thule Air Base. These swipes were used to determine if anyone inhaled plutonium.
181	N5358	Collecting nasal swabs n airman after his return from work in the contaminated area on the ice cap.	After personnel returned to Thule AB they reported to the Decontamination Center on base and were surveyed for contamination. At that time nasal swabs were taken and analyzed to determine if any plutonium had been inhaled while working in the

			contaminated area. Urine samples were collected if the nasal swabs showed nasal contamination. Also urine samples were taken on everyone before they returned to the United States. All nasal swabs were analyzed at Thule AB and then sent to the USAF Radiological Health Laboratory, Wright-Patterson AFB, OH for more detailed analysis.
182	N5311	SSgt James H. Taylor from USAF Radiological Health Laboratory is cutting off the ends of cotton swabs used to collect nasal swabs on personnel.	SSgt James H. Taylor from USAF Radiological Health Laboratory is cutting off the ends of cotton swabs used to collect nasal swabs on personnel prior to placing them in a gas proportional counter to determine if they are radiologically contaminated. Nasal swabs were taken on all personnel upon returning to Thule AB after being at the accident site. The results were used as a rough indicator of inhalation of plutonium. The swabs rarely show detectable plutonium contamination.
183	N5312	SSgt James H. Taylor from USAF Radiological Health Laboratory is cutting off the ends of cotton swabs used to collect nasal swabs on personnel.	SSgt James H. Taylor from USAF Radiological Health Laboratory is cutting off the ends of cotton swabs used to collect nasal swabs on personnel prior to placing them in a gas proportional counter to determine if they are radiologically contaminated. Nasal swabs were taken on all personnel upon returning to Thule AB after being at the accident site. The results were used as a rough indicator of inhalation of plutonium. The swabs rarely show detectable plutonium contamination.
Hanford, Washington			
184	N126	A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and personnel protective clothing	A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and personnel protective clothing, including air purifying respirators were worn by the workers to examine parachute debris from the Thule, Greenland. Debris shipped from the Thule, Greenland accident was shipped to Hanford for examination in this facility. Photo #1 in a series of 30.
185	N97	Removing the lid from container No.18 at Hanford. Photo #3 in a series of 30.	Three containers of parachute debris were shipped to Hanford for examination which was carried out in Room 235 of building 234-5. A special double plastic greenhouse was constructed to control contamination and respirators were worn by those involved in this operation. Total plutonium contamination on the parachutes was estimated to be less than 15 grams. Container No. 18, shown here, was a 3.3 ft x 3.3 ft x 3.3 wooden box and held an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four B-28 weapons.
186	N98	Removing the lid from container No.18 at Hanford. Photo #3 in a series of 30.	Three containers of parachute debris were shipped to Hanford for examination which was carried out in Room 235 of building 234-5. A special double plastic greenhouse was constructed to control contamination and respirators were worn by those

			involved in this operation. Total plutonium contamination on the parachutes was estimated to be less than 15 grams. Container No. 18, shown here, was a 3.3 ft x 3.3 ft x 3.3 wooden box and held an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four B-28 weapons.
187	N99	Examining contents of container No.18 at Hanford. Photo #4 in a series of 30	Hanford personnel are beginning the removal of the contents of container # 18 for examination. This container was a 3.3 x 3.3 x 3.3 foot wooden box that contained an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four weapons. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation.
188	N100	Examining the ribbon parachute in container No.18 at Hanford. Photo #5 in a series of 30.	Hanford personnel are examining the ribbon parachute from one of the four B-28 weapons that was shipped in container # 18 to Hanford for examination. This 3.3 x 3.3 x 3.3 foot wooden box contained weapon parachute debris, metal pieces from the B-52 aircraft and a tail fin from one of the four weapons. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation.
189	N101	Cutting of a piece of the ribbon parachute in container No.18 at Hanford. Photo #6 in a series of 30.	A Hanford person is cutting off a piece of the ribbon parachute for radiochemical analysis. The parachute is from one of the nuclear weapons, shipped in container # 18 to Hanford for examination.
190	N102	Part of a parachute pack from a B-28 weapon that was shipped to Hanford in container No. 18 for examination. Photo #7 in a series of 30.	A Hanford person is holding a piece of a parachute pack from one of the four weapons. The piece was part of the contents of container # 18 that was shipped to Hanford for examination. This 3.3 x 3.3 x 3.3 foot wooden box that contained weapon parachute debris, metal pieces from the B-52 aircraft and a tail fin from one of the four weapons.
191	N103	Removing the contaminated ribbon parachute from container No. 18. Photo #8 in a series of 30.	[This is the ribbon parachute that was shipped to Hanford in container No. 18 for examination. The 3.3 x 3.3 x 3.3 foot wooden box contained an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four weapons. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation.
192	N104	Part of the ribbon parachute, serial number 21049-1, from one of the weapons involved in the Thule AB accident. Photo #9 in a series of 30.	A Hanford person is holding a piece of a ribbon parachute from one of the four weapons. The piece was part of the contents of container # 18 that was shipped to Hanford for examination. Photo # 9 in a series of 30.

193	N106	Hanford workers removing contents of container No.18 that was shipped from Thule AB, Greenland for examination. Photo #11 in a series of 30.	Hanford personnel are removing the contents of container No.18. The shipping container was a 3.3 feet cubic wooden box contained an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four B-28 weapons. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation. Total plutonium contamination on the parachutes was estimated to be less than 15 grams.
194	N105	Metal piece from the B-52 that crashed near Thule AB, Greenland that was shipped to Hanford in container No. 18 for examination. Photo #10 in a series of 30.	A Hanford person is holding a metal piece of the B-52 aircraft that crashed near Thule AB, Greenland carrying four thermonuclear weapons. The piece was part of the contents of container # 18 that was shipped to Hanford for examination. A special double plastic greenhouse was constructed to control contamination and respirators were worn by those involved in this operation.
195	N107	A Hanford worker is examining an unidentified piece of foam material that was removed from container No.18, shipped from Thule AB, Greenland for examination. Photo #12 in a series of 30.	A Hanford worker is examining an unidentified piece of foam material that was removed from Container No.18, shipped from Thule AB, Greenland for examination. The 3.3 x 3.3 x 3.3 foot wooden box contained an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the four B-28 weapons. A special double plastic greenhouse was constructed in Room 235 of building 234-5 control contamination and respirators were worn by those involved in this operation.
196	N108	A Hanford worker is examining an unidentified piece of foam material that was removed from container No.18, shipped from Thule AB, Greenland for examination. Photo #13 in a series of 30	A Hanford worker is examining an unidentified piece of foam material that was removed from container No.18, shipped from Thule AB, Greenland for examination. Photo #13 in a series of 30. The 3.3 x 3.3 x 3.3 foot wooden box that contained an unopened parachute, ribbon parachute, part of a parachute pack, metal pieces from the B-52 aircraft and a tail fin from one of the weapons.
197	N109	A Hanford worker is examining an unidentified piece of foam material that was removed from container No.18, shipped from Thule AB, Greenland for examination. Photo #14 in a series of 30.	A Hanford worker is examining an unidentified piece of foam material that was removed from container No.18, shipped from Thule AB, Greenland for examination. A special double plastic greenhouse was constructed in a warehouse at Hanford to control contamination and respirators were worn by those involved in this operation.
198	N110	Hanford workers are removing the lid of container No. 19, shipped from Thule AB, Greenland for examination. Photo #15 in a series of 30.	Hanford workers are removing the lid of container No. 19, shipped from Thule AB, Greenland for examination. This 4.3 x 4.3 x 4.3 foot wooden box contained weapon parachute debris. A special double plastic greenhouse was constructed in a warehouse at Hanford to control contamination and

			respirators were worn by those involved in this operation.
199	N111	Hanford workers are conducting a radiological survey of the main parachute, from one of the four B-28 nuclear weapons. Photo #16 in a series of 30.	A Hanford worker is conducting a radiological survey of the main parachute, serial number 2684, from one of the four B-28 nuclear weapons. The survey instrument used is a "Cutie Pie" type ionization chamber used for gamma radiation detection. Why this instrument was selected instead of an alpha survey instrument is unknown since weapons grade plutonium is primarily an alpha emitter, although very low energy gamma radiation is also emitted. The 4.3 x 4.3 x 4.3 foot wooden box contained weapon parachute debris, and several metal aircraft pieces.
200	N112	Hanford workers, wearing respirators, are looking at the main parachute from one of the four B-28 weapons. Photo #17 in a series of 30.	Hanford workers are looking at the main parachute, Serial number 2684, from one of the four nuclear weapons involved in the Thule, Greenland accident that was packaged in a wooden box at Thule, Greenland and shipped to Rocky Flats, CO for examination. The 4.3 x 4.3 x 4.3 foot wooden box and contained weapon parachute debris. Total plutonium contamination on the parachutes was estimated to be about 6 grams.
201	N113	A Hanford worker holding a piece of a parachute pack. Photo #18 in a series of 30. N113	A Hanford worker is holding a piece of a parachute pack from one of the B-28 weapons. The bright area in the center of the photographs may be a reflection of the camera flash or damaged film. This item came from container No.19, sent to Hanford for examination. The 4.3 x 4.3 x 4.3 foot wooden box contained weapon parachute debris and several metal aircraft pieces. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation.
202	N114	A Hanford worker is cutting out a sample of the main parachute of one of the destroyed weapons to have it analyzed for contamination. Photo #19 in a series of 30.	A Hanford worker is cutting out a sample of the main parachute of one of the destroyed weapons to have it analyzed for contamination. The 4.3 x 4.3 x 4.3 foot wooden box contained weapon parachute debris and several metal aircraft pieces. A special double plastic greenhouse was constructed in Room 235 of building 234-5 at Hanford to control contamination and respirators were worn by those involved in this operation.
203	N115	Hanford workers are repackaging some of the contents of Container No.19. Photo #20 in a series of 30.	Hanford workers are transferring some of the contents of container No. 19 into a plastic bag as part of the repackaging operation. Following examination of all of the material sent to Rocky Flats, the items were repackaged in appropriate containers for final disposal by burial at the AEC's Hanford Facility at Richland, Washington.
204	N116	A Hanford worker is holding a piece of a weapon's parachute pack.	Hanford worker, wearing a respirator, is holding a piece of one of the parachute packs recovered at the accident site near Thule, AB. The item was part of

		Photo #21 in a series of 30.	the contents of container No. 19.]
205	N117	Hanford workers are unpacking contents of container No.18. Photo #22 in a series of 30.	Two Hanford workers, wearing personnel protective clothing and respirators are examining and unpacking the contents of container No.18 which measured 3.3 ft x 3.3 ft x 3.3 ft. The container contents were: an unopened parachute, S/N 21058; ribbon parachute, S/N 21049-1; part of a parachute pack, S/N 2104 (X)-1; an unidentified piece of foam material; metal pieces of aircraft; a piece of a weapon's tail fin and a piece of a weapon's closing plate.
206	N118	Part of a parachute pack removed from container No.19. Photo #23 in a series of 30.	A Hanford worker, wearing personnel protective clothing and respirator, is holding part of a parachute pack from one of the B-28 weapons destroyed in the Thule AB, nuclear weapons accident. This item was shipped to Rocky Flats in container No. 19 for examination.
207	N119	Part of a parachute pack removed from container No.19. Photo #23 in a series of 30.	A Hanford worker, wearing personnel protective clothing and respirator, is holding part of a parachute pack from one of the B-28 weapons destroyed in the Thule AB, nuclear weapons accident. This item was shipped to Hanford in container No. 19 for examination.
208	N120	A Hanford worker is holding part of a parachute pack removed from container No. 19. Photo #25 in a series of 30.	A Hanford worker is holding a piece of a parachute pack from one of the four B-28 nuclear weapons destroyed in the Thule, Greenland accident. The item was removed from container No. 19 at Hanford for examination.
209	N121	A Hanford worker is holding part of a parachute pack removed from container No. 19. Photo #25 in a series of 30.	A Hanford worker is holding a piece of a parachute pack from one of the four B-28 nuclear weapons destroyed in the Thule, Greenland accident. The item was removed from container No. 19 at Hanford for examination.
210	N122	Some of the contents of container No.19. Photo #26 in a series of 30.	A Hanford worker is holding a box containing debris from container No.19 which as been repackaged after examination. The debris is being prepared for final burial at the AEC's Hanford Facility at Richland, Washington.]
211	N123	These boxes contain the debris from container No. 19 that has been repackaged, following examination at Hanford for shipment to the AEC facility at Hanford, Washington for burial.	Packages of some of the contents of container No.19 that have been repackaged and await disposal. Photo #28 in a series of 30.]
212	N124	This is container No.22, a 55-gallon drum containing wet rags, pieces of aircraft metal, and parachute shroud lines. Photo #29 in a series of 30.]	Among the debris that was sent to Hanford, CO for examination was this 55 -gallon drum that contained wet rags, pieces of aircraft and parachute shroud lines. Photo #29 of 30.
213	N125	This is container No.22, a 55-gallon drum containing wet rags, pieces of aircraft	Among the debris that was sent to Hanford for examination was this 55 -gallon drum that contained wet rags, pieces of aircraft and parachute shroud

		metal, and parachute shroud lines. Photo #30 in a series of 30.	lines.
214	N5337	Bill Crismon, weapons expert from Pantex Plant, Amarillo, TX looking at large wooden box containing weapons debris.	Bill Crismon was sent to Thule, Greenland after the accident to identify and package weapons debris. This wooden container held weapon parachute debris that was sent to the AEC's Pantex Facility in Amarillo, TX then to the Rocky Flats Facility for assessment of plutonium content.
215	N5583	Drums containing weapon debris.	As weapon components and debris were found around the crash site they were brought to this warehouse on Thule Air Base, where they were surveyed for plutonium contamination, examined, identified, and inventoried. The weapons debris was then packaged in small drums and shipped to the AEC Pantex Plant at Amarillo, TX.
216	N85	This warehouse on Thule AB was used to examine and inventory weapon debris.	As weapon components and debris were found around the crash site they were brought to this warehouse on Thule Air Base, where they were surveyed for plutonium contamination, examined, identified, and inventoried.
217	N5340	Cylinders containing two of the four reservoirs from the Thule accident.	These cylinders were used to ship two of the empty (ruptured) reservoirs to the AEC's Pantex Plant in Amarillo, TX for evaluation and disposal. The cylinders were pressurized to about 20 psi.
218	D63-1377	Canister used to ship one of the reservoirs to the AEC's Pantex Plant in Amarillo, TX.	This canister was used to ship a tritium reservoir to the AEC's Pantex Plant, Amarillo, TX for examination.
American Ambassador to Denmark – Mrs. Katharine E. White			
219	N5296	American Ambassador to Denmark, Mrs. Katharine E. White arrives at Thule AB, Greenland.	American Ambassador to Denmark, Mrs. Katharine E. White visited Thule AB on February 24 – 25, 1968. Here she is met upon arrival by General Hunziker, to the right of the Air Policeman in white hat, and others.
220	N5297	Maj. General Hunziker talking to Ambassador White on her arrival at Thule AB, Greenland.	On February 24, 1968, U. S. Ambassador to Denmark Mrs. Katharine E. White and her party arrive at Thule Air Base, Greenland for a tour of the accident site and a briefing by Major General Hunziker. Here Gen Hunziker chats with Ambassador upon her arrival. In the center, between Gen Hunziker and Ambassador White is Mr. F. Tucker, Department of State. To the far right is the Chairman of the Executive Committee of the Danish Atomic Energy Commission, Hans H. Koch.
221	N5298	Press conference at Thule AB, Greenland	Maj. Gen Hunziker is conducting a press conference at Thule Air Base, Greenland. On his left is U. S. Ambassador to Denmark Mrs. Katharine E. White. She and her party arrived at Thule AB on February 24, 1968 for a tour of the accident site and a briefing by Major General Hunziker. While there this press conference was held.
222	N5220	US Ambassador to Denmark White, third from left,	On February 24, 1968, during her visit to Thule, Greenland, U.S. Ambassador Mrs. Katharine E.

		attends a briefing at Thule AB, Greenland on the B-52 crash.	White attended at briefing in her honor on the Nuclear Weapon Accident near Thule AB, Greenland. She visited Thule February 24 - 27, 1968. In the front row from left to right are Major General Hunziker, SAC's On-Scene Commander; Dr. J. Wolfe, US Atomic Energy Commission; Ambassador White; and a Danish scientist.
223	N5219	US Ambassador to Denmark White presents Mr. Jens Zinglerson with Air Force Exceptional Service Award.	On February 24, 1968, during her visit to Thule, Greenland, U.S. Ambassador Mrs. Katharine E. White presented Mr. Jens Zinglerson with the Air Force Exceptional Service Award for his outstanding contributions to the Project Crested Ice effort. Mr. Zinglerson, a Danish citizen, was the Thule area representative of Royal Greenland and acted as a guide, interpreter and consultant to Major General Hunziker, SAC's On-Scene Commander.
224	N5300	U. S. Ambassador to Denmark Mrs. Katharine E. White and Maj. Gen Hunziker touring the accident site.	U. S. Ambassador to Denmark Mrs. Katharine E. White and Maj. Gen Hunziker tour the accident site. Ambassador White and her party toured Thule AB and the accident site on February 24, 1968.
225	N5299	U. S. Ambassador to Denmark Mrs. Katharine E. White and Chairman of the Executive Committee of the Danish Atomic Energy Commission, Hans H. Koch	U. S. Ambassador to Denmark Mrs. Katharine E. White and a Danish scientist in front of a helicopter that flew them to the accident site. The Danish scientist may be Henry L. Gjørup of the Danish Atomic Energy Commission. Ambassador White and her party toured Thule AB and the accident site on February 24, 1968.
226	N5222	US Ambassador to Denmark Katherine E. White, is being surveyed for contamination following her tour of the accident site	US Ambassador to Denmark White is being surveyed for contamination by an Air Force Master Sgt. following her tour of the accident site. The instrument used is the AN/PDR-60, the Air Force's standard alpha radiation survey instrument. AN/PDR-60 stands for Army Navy/Personnel Detector RADIAC - Model 60.]
		Scarified Area -Search	
227	N5265	General view of the "Blackened Area" after decontamination.	Aerial view of the contaminated blackened area after decontamination. Saunders Island is in the background.
228	N5217	Major General Hunziker observing Air Force personnel as they dig through sea ice looking for wreckage debris.	Major General Hunziker observing Air Force personnel as they dig through sea ice looking for wreckage debris. The crusted sea ice had previously been broken up by road graders.
229	N5245	Gen. Hunziker on right and two airmen are looking at crash debris.	Maj. Gen. Hunziker, the On-scene Commander, and two airmen are examining and area where accident debris was founded.
230	N5326	Maj. Gen Hunziker and an unidentified Air Force person are examining the sea ice in the "blackened area" where the B-52 crashed and burned.	Maj. Gen Hunziker is examining some of the "blackened area" on the sea ice that was created when the B-52 crashed and burned. This area contained the highest contamination.
231	N5267	Airman shoveling	Clearing the area of blackened snow missed by the

		contaminated sea ice.	road grader during windrowing operations. The man on the right is Gen. Hunziker, the SAC On-scene Commander.
232	N5227	Air Force personnel shoveling contaminated sea ice into windrows.	Clearing the area of blackened snow missed by road graders during the windrowing operations. After road graders windrowed the sea ice, Air Force personnel completed the job by shoveling left behind contaminated material.
233	N5268	Road grader windrowing sea ice.	A road grader is windrowing contaminated sea ice as Gen. Hunziker looks on. Saunders Island is in the background.
234	N5234	General Hunziker observing road grader operations.	General Hunziker, the On-Scene Commander, is observing a road grader as it windrows the contaminated sea ice so that front end loaders and continuous belt loaders can pick up the contaminated sea ice and transfer it to large wooden tubs for transport to the "Tank Farm".
235	N5212	Road grader is windrowing the contaminated sea ice as Major General Hunziker, the Air Force On-scene Commander looks on.	A road grader is windrowing the contaminated sea ice so that it can more easily be picked up by front end loaders, placed in large wooden tubs on flat bed trucks and transported back to the "Tank Farm" where the contaminated sea ice is transferred to large 25,000 gallon converted fuel tanks.
Removal of Contaminated snow and ice			
236	N5320	Front end loader picking up contaminated sea ice.	A front end loader is picking up contaminated sea ice from the crash site. The material will be loaded into wooden tubs on trucks and transferred to the "tank farm" where the contaminated sea ice will be stored in 25,000 gallon refurbished fuel tanks.
237	N5221	Front end loaders, loading contaminated sea ice into wooden tubs.	Two front end loaders are loading contaminated sea ice into large wooden tubs aboard an Air Force flat bed truck. When full the truck transports the material to the "Tank Farm" where the sea ice is transferred to 25,000 fuel tanks for storage.
238	N5213	Contaminated sea ice being loaded into wooden tubs on a flatbed truck.	A continuous belt loader is picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks.
239	N5203	A continuous belt loader is picking up the plutonium contaminated sea ice and transferring it to the wooden tub loaded on the truck for transport to Thule AB.	The plutonium contaminated sea ice was windrowed by road graders. Here is a continuous belt loader picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks for winter storage.
240	N5204	Contaminated sea ice being loaded into wooden tubs on a flatbed truck.	In the foreground is the windrowed contaminated sea ice. A continuous belt loader is picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks.

241		Contaminated sea ice being loaded into wooden tubs on a flatbed truck.	In the foreground is the windrowed contaminated sea ice. A continuous belt loader is picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks.
242	N5205	Contaminated sea ice being loaded into wooden tubs on a flatbed truck.	In the foreground is the windrowed contaminated sea ice. A continuous belt loader is picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks.
243		Contaminated sea ice being loaded into wooden tubs on a flatbed truck.	In the foreground is the windrowed contaminated sea ice. A continuous belt loader is picking up the contaminated sea ice and transferring it to a wooden tub on a flatbed truck. When full the truck transports the material to Thule AB where the sea ice is transferred to 25,000 gallon converted fuel tanks.
244	N5269	Loading contaminated sea ice into a wooded tub mounted on a truck.	A continuous belt loader is loading contaminated sea ice into a wooded tub on a flat-bed truck. The photo shows a sun flare just to the read of the tub.
245	N5357	Tarped wooden tubs filled with contaminated sea ice.	The contaminated sea ice was loaded into large wooden tubs like these and transferred by truck to Thule Air Base where the material was dumped into 25,000 gallon converted fuel tanks for winter storage.
246		Loading contaminated sea ice into a wooded tub mounted on a truck.	The contaminated sea ice was loaded into large wooden tubs like these and transferred by truck to Thule Air Base where the material was dumped into 25,000 gallon converted fuel tanks for winter storage.
"Tank Farm" Operations			
247	N5201	Large crane picking up wooden tub filled with plutonium contaminated sea ice.	This large crane is lifting a wooden tub filled with plutonium contaminated sea ice. The crane will move the tub over to the tank with the funnel to the right of the picture. The wooden tub will then be upended and the contaminated sea ice transferred to the 25,000 gallon converted fuel tank for winter storage. During the summer the now melted sea ice was transferred to smaller containers and loaded aboard Military Sea Transport Ships for return to the United States.
248	N5232	Crane lifting large wooden tub containing contaminated sea.	A crane is lifting a large wooden tub filled with contaminated sea ice. The tub will be positioned over a hole in a 25,000 gallon tank and the contaminated material will be dumped into the tank for storage.
249	N5202	Crane lifting wooden tub filled with plutonium contaminated sea ice.	The crane is lifting a large wooden tub containing plutonium contaminated sea ice. The wooden tub will be positioned over a 25,000 fuel tank. The tub will then be upended and the contaminated sea ice

			will be transferred to the fuel tank
250	N5208	A crane positioning a wooden tub, containing contaminated sea ice, over a large funnel in one of the 71- 25,000 gallon fuel tanks used to contain the contaminated sea ice.	A crane has lifted a large wooden tub from the flat bed truck and is positioning it over a funnel in one of the 25,000 gallon converted fuel tanks. The tub will be upended and the sea ice will transfer to the tank. When the tank has been filled the 3 holes in the top will be sealed.
251	N5229	Large crane dropping contaminated sea ice into a 25,000 fuel tank.	A large crane has picked up a wooden tub containing contaminated sea ice and is transferring the material to a 25,000 retrofitted fuel tank.
252	N5214	Dumping contaminated sea ice into one of the large 25,000 gallon converted fuel tanks.	A crane has lifted a large wooden tub from the flat bed truck and positioned it over a funnel in one of the 25,000 gallon converted fuel tanks. The tub is being upended and the sea ice transferred to the tank. When the tank has been filled the 3 holes in the top will be sealed.
253	N5200	Converted 25,000 gallon fuel tanks used to store contaminated sea ice.	These are some of the 71 converted fuel tanks that were used to store the plutonium contaminated sea ice and other accident debris. To the left is a large crane that was used to pick up large wooden tubs filled with contaminated sea ice and dump into the tanks. In the background is P Mountain, the radar site for Thule AB
254	N5209	Aerial view of the "Tank Farm", the 5.5 acre area where the 25,000 gallon fuel tanks were stored.	An aerial view of the "Tank Farm" where the 25,000 gallon converted fuel tanks were stored. The tanks with the three holes in their tops will be filled with contaminated sea ice then the holes will be sealed as seen with the tanks on the left side of the picture. The small building in the foreground is the site security building. A guard was stationed there 24-hours a day to prevent unauthorized entry into the "Tank Farm".
255	N5215	Aerial view of the "Tank Farm" the 5.5 acre area where the 25,000 gallon fuel tanks were stored.	An aerial view of the "Tank Farm" where the 25,000 gallon converted fuel tanks were stored. The tanks with the three holes in their tops will be filled with contaminated sea ice then the holes will be sealed as seen with some of the other tanks in the picture.
256	N5360	Aerial view of the "Tank Farm" the 5.5 acre area where the 25,000 gallon fuel tanks were stored.	An aerial view of the "Tank Farm" where the 25,000 gallon converted fuel tanks were stored. The tanks with the three holes in their tops will be filled with contaminated sea ice then the holes will be sealed as seen with some of the other tanks in the picture.
257		Melting ice cap	This photograph shows the melting ice cap on July 10, 1968. The tracks are the three roads that ran from the accident site to Thule AB.
258		Melting ice cap	This photograph shows the melting ice cap on July 8, 1968. The tracks are the three roads that ran from the accident site to Thule AB.
Transferring melted ice into the smaller Retrofitted R-4360 engine containers			
259	N5503	The "Tank Farm."	The "Tank Farm". Rows of 25,000 gallon fuel tanks that were used to store the contaminated snow and ice during the winter months. Large holes were cut in the top of the tanks and the contaminated snow

			and ice was scooped from large wooden dump truck-like containers into the tanks. When full a steel plate was welded over the opening. In the spring the tanks were painted black to increase the heat absorption to melt the ice. The melted snow and ice was then pumped into smaller containers.
260	N5502	This F-6 gas truck was used to pump the now melted snow and ice from the large tanks to retrofitted R-4360 engine containers.	In July the 25,000 gallon fuel tanks containing contaminated snow and ice were painted black to increase heat absorption in an effort to melt the snow and ice inside. In August pumping operations began to transfer the melted snow and ice to modified smaller R-4360 engine containers since the large tanks were too heavy to lift and transport to the dock and loaded on MSTS ships. The Air Force Logistics Command, Kelly AFB, Texas had the responsibility for this operation.
261	N5510	An 1860 gallon R-4360 engine container, filled with contaminated water, is being lifted aboard a MSTS ship.	This picture is the first in series to DOC 245; N5510. A retrofitted R-4360 engine container, filled with plutonium contaminated water (melted sea ice), is being hoisted aboard a Military Sea Transport Ship (MSTS). Each container held 1860 gallons.
262	N5508	Eight 1860 gallon R-4360 engine containers filled with contaminated water in hole of MSTS ship.	Eight retrofitted R-4360 engine containers filled with plutonium contaminated water (melted sea ice) in the hole of a Military Sea Transport Ship (MSTS). Each container held 1860 gallons.
263	N5505		
264	N5506	A 25,000 gallon tank is being hoisted aboard an MSTS ship.	One of the seventy-one 25,000 gallon fuel tanks is being loaded aboard an MSTS ship and another is on a truck in the back ground waiting be loaded aboard. Sixty-seven of these tanks were filled with contaminated sea ice and snow and aircraft debris. Four were used for general contaminated debris such as lumber (used to construct temporary facilities on the ice cap - accident scene), tires, brooms, mops, parkas etc. About 237,000 cubic feet of debris was shipped by MSTS to Savannah, GA for burial at the AEC's Savannah River Plant. To the right background is Dundas Mountain. In the right background are two trucks loaded with retrofitted R4360 engine containers containing about 1850 gallons of plutonium contaminated water.
265	N5504	Four 25,000 gallon tanks aboard ship.	Four of the seventy-one 25,000 gallon fuel tanks loaded aboard an MSTS ship. Two are along the side of the ship and two are lashed to the ship's hatch. Sixty-seven of these tanks were filled with contaminated sea ice and snow and aircraft debris. Four were used for general contaminated debris such as lumber (used to construct temporary facilities on the ice cap - accident scene), tires, brooms, mops, parkas etc. About 237,000 cubic feet of debris was shipped by MSTS to Savannah, GA for burial at the AEC's Savannah River Plant. Dundas Mountain is in the background.

266	N5516	LTCOL Corkin, Air Force Logistics Command, Kelly AFB, TX, Maj. John C. Taschner, USAF Radiological Health Laboratory, Wright-Patterson AFB, Ohio & a Danish Health Physicist from Riso, the Danish Atomic Energy Commission.	LTCOL Corkin, Air Force Logistics Command, Kelly AFB, TX, points to an R-4360 container filled with plutonium contaminated water (melted sea ice). Next to him are Maj. John C. Taschner, USAF Radiological Health Laboratory, Wright-Patterson AFB, Ohio & a Danish Health Physicist from Riso, the Danish Atomic Energy Commission.
267	N5518	Two EOD enlisted men aboard one of the MSTS ships that transported the contaminated material to the USAEC's Savannah River Plant for burial. Man in the middle is a member of the MSTS ships crew.	Two Explosive Ordnance Disposal (EOD) technicians escorted each shipment of the tanks that contained the contaminated water (melted sea ice) and aircraft debris from Thule AB, Greenland to a port near the Savannah River Plant near Aiken, GA. There the tanks were loaded on a train and taken to the AEC's Savannah River Plant for burial. The man in the middle is a member of the ships crew.
268	N5517	Two EOD enlisted men aboard one of the ships that transported the contaminated material to the United States Atomic Energy Commissions Savannah River Plant for burial.	Two Explosive Ordnance Disposal (EOD) technicians escorted each shipment of the tanks that contained the contaminated water (melted sea ice) and aircraft debris from Thule AB, Greenland to a port near the Savannah River Plant near Aiken, GA. There the tanks were loaded on a train and taken to the AEC's Savannah River Plant for burial.
269	N5520	Major John Taschner, Air Force Health Physicist aboard an MSTS ship.	Major John Taschner, Air Force Health Physicist from the USAF Radiological Health Laboratory at Wright-Patterson AFB, Dayton, OH. Dundus Mountain is in the background. Major was the last health physicist assigned to the Thule clean up operation. He supervised the radiological control operations during the removal of the contaminated material. It was Major Taschner who, in cooperation with Danish Health Physicist Lars Boetter Jenson, from Riso, the Danish Atomic Energy Commission, wrote the final health physics report.
270	N5521	A Danish Health Physicist demonstrated use of alpha survey instrument to monitor Major John Taschner, Air Force Health Physicist, for contamination.	A Danish Health Physicist demonstrated use of an AN/PDR-60 alpha survey instrument to monitor Major John Taschner, Air Force Health Physicist, for plutonium contamination. Major Taschner is holding the newly developed FIDLER survey instrument. FIDLER is an acronym for Field Instrument for Detection for of Low Energy Radiation.
271	N5522	Major John Taschner, Air Force Health Physicist, and three Air Force Health Physics technicians.	Major John Taschner, Air Force Health Physicist, and three Air Force Health Physics technicians.
272	N5523	Major John Taschner, Air Force Health Physicist, and a Danish health physicist from Riso, the Danish Atomic Energy Commission.	Major John Taschner, Air Force Health Physicist, and a Danish health physicist from Riso, the Danish Atomic Energy Commission. Dundas mountain in the background. The white objects in the bay are ice bergs.
273	N5519	Lars Boetter Jenson, Danish Health Physicist from Riso,	Lars Boetter Jenson, Danish Health Physicist from Riso, the Danish Atomic Energy Commission. The

		the Danish Atomic Energy Commission.	Danish Government had representatives of their equivalent to the USAEC at Thule, AB, Greenland throughout the clean up operations. It was Major John Taschner and Mr. Boetter Jenson that wrote the final health physics report declaring that the facilities used during Operation Crested Ice, the code name for the Thule accident, had been surveyed and were free from contamination.
274	N5514	Two Air Force Health Physics Technicians with PAC-1S (left) and FIDLER (right) survey instruments.	Two Air Force Health Physics Technicians with survey instrument used to monitor for plutonium surface contamination. The instrument of the left is the AN/PRD-60 alpha survey instrument. The one on the left is the newly developed FIDLER. The FIDLER (Field Instrument for Detection of Low Energy Radiation) detector was developed by Lawrence Livermore National Laboratory following the Palomares Nuclear Weapon Accident in January 1966. This instrument measures the low energy x-ray and gamma rays from weapons grade plutonium instead of alpha radiation, making it much easier to measure plutonium surface contamination. This instrument was first used during the Thule, Greenland accident in January 1968. Note the external battery pack. Instrument batteries froze in the subzero temperatures at Thule so it was necessary take them out of the instruments and carry them in pockets of winter clothing to keep them warm.
275		Msgt. Russ and Capt. Bill Moyer, health physicist, check a measurement with the newly developed FIDLER survey instrument.	Msgt. Russ and Capt. Bill Moyer, health physicist, check a measurement with the newly developed FIDLER survey instrument.
276	N5513	Air Force Health Physicist, Major John Taschner holding a FIDLER instrument.	Air Force Health Physicist, Major John Taschner, demonstrates the use of the FIDLER used to survey for plutonium surface contamination. The FIDLER (Field Instrument for Detection of Low Energy Radiation) detector was developed by Lawrence Livermore National Laboratory following the Palomares Nuclear Weapon Accident in January 1966. This instrument measures the low energy x-ray and gamma rays from weapons grade plutonium instead of alpha radiation, making it much easier to measure plutonium surface contamination.]
277		Map of shore line search	In August 1968, Maj. Taschner and two health physics technicians conducted a search and radiological survey along the coast of North Star Bay looking for debris that might have floated ashore after the ice cap melted. They found a canvas B-52 engine cover. All radiation readings along the shore were at background levels.
Star III search, August – September 1968			
278	N91	Grid map of the accident site showing the sea depth in fathoms.	Grid map of the accident site showing the sea depth in fathoms. A fathom is a nautical unit of length equal to six feet.
279	N5585	Star III being off-loaded from a C-124 transport aircraft at Thule AB.	The deep submersible Star III is being off-loaded from a C-124 transport aircraft at Thule AB. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
280	N5586	Star III loaded on a flat bed	The deep submersible Star III has been loaded onto

		trailer for transport to the pier.	a flat bed trailer for transport to the Thule AB pier. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
281	N5587	Star III loaded on a flat bed trailer for transport to the pier.	The deep submersible Star III has been loaded onto a flat bed trailer for transport to the Thule AB pier. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
282	N5589	Close up view of forward end of Star III.	Close up view of forward end of Star III showing video camera and grappling arm. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
283	N5588	Star III at Thule AB pier.	Close up view of forward end of Star III at Thule AB pier. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
284	N5615	Star III being lowered into the water by crane.	Close up view of forward end of Star III being lowered into water by crane. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
285	N5590	Small cutter used to tow Star III to search area.	Small cutter used to tow Star III to search area. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
286	N5591	Star III in water.	Star III in water. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
287	N5592	Star III search diagram.	Star III search diagram. It was used to search the floor of North Star Bay for B-52 aircraft wreckage in August 1969 after the sea ice melted.
288		Star III photograph of sea bottom.	
289		Star III photograph of sea bottom.	
290		Star III photograph of sea bottom.	
291		Star III photograph of sea bottom.	
292		Star III photograph of sea bottom.	
293		Star III photograph of sea bottom.	
294		Star III photograph of sea bottom.	Part of the tether line is shown in this photograph.
295		Star III photograph of sea bottom.	In the lower left is the Star III's grappling arm.
296		Star III photograph of sea bottom.	Part of the tether line is shown in this photograph.
297		Star III photograph of sea bottom.	Aircraft wreckage.
298		Star III photograph of sea bottom.	Aircraft wreckage.
299		Star III photograph of sea bottom.	Aircraft wreckage
300		Star III photograph of sea	B-52 engine cover

		bottom.	
301		Star III photograph of sea bottom.	Tether line and aircraft wreckage.
302		Star III photograph of sea bottom.	Aircraft wreckage
303		Star III photograph of sea bottom.	Aircraft wreckage. In lower right is part of the 50 caliber ammunition feed mechanism for the B-52 tail gun.
304		Star III photograph of sea bottom.	Star III handling arm.
305		Star III photograph of sea bottom.	Aircraft wreckage
306		Star III photograph of sea bottom.	Aircraft wreckage. In the center is part of the 50 caliber ammunition feed mechanism for the B-52 tail gun.