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NATIONAL RECONNAISSANCE OFFICE

14675 Lee Road  
Chantilly, VA 20151-1715

7 March 2018

John Greenwald, Jr.  
27305 W Live Oak Road, Suite 1203  
Castaic, California 91384

Email: [john@greenewald.com](mailto:john@greenewald.com)

REF: FOIA Cases F-2018-00039  
Request Control Number 1003

Dear Mr. Greenewald:

This is in response to your request dated on 28 January 2018 and received in the National Reconnaissance Office (NRO) on 29 January 2018. Pursuant to the Freedom of Information Act (FOIA), you requested copies of "all records on Project HOMERUN."

We have processed your request in accordance with the FOIA, 5 U.S.C. § 552, as amended. A thorough search of our records and databases located eleven records responsive to your request, all of which were recently released in full to another requester. They are being released in full to you in response to your request.

You have the right to appeal this determination to the NRO Appellate Authority, 14675 Lee Road, Chantilly, VA 20151-1715, within 90 days of the above date. You may also submit an appeal electronically by completing the form available on the NRO's public web site at <http://www.nro.gov/foia/AppealInput.aspx>. Please include an explanation of the reason(s) for your appeal as part of your submission. The FOIA also provides that you may seek dispute resolution for any adverse determination through the NRO FOIA Public Liaison and/or through the Office of Government Information Services (OGIS). Please refer to the OGIS public web page at <https://ogis.archive.gov/> for additional information.

If you have any questions, please call the Requester Service Center at (703) 227-9326 and reference case number F-2018-00039.

Sincerely,

*for* Patricia B. Cameresi  
FOIA Public Liaison

Enclosure: Project Homerun documents

## Heart Throb Pilot: Overflights in the European Theater

*Gerald E. Cooke*

The high-altitude Heart Throb reconnaissance effort, along with other overflight operations of the 1950s, arose from American leaders' demands for intelligence during the Cold War. By 1950 it was already clear to the leadership of the defense establishment which military service would carry the offensive burden in any future nuclear war—the U.S. Air Force, and particularly the Strategic Air Command (SAC) under General Curtis E. LeMay. Over the years LeMay's reputation has survived media insinuations that he exceeded or ignored the special authorities and controls established by national command authorities for the conduct of overflight operations. Today, most historians agree that LeMay never acted outside his legal authority. Whatever the speculation, between 1950 and 1965 he was one of the most influential leaders in the United States military and, in the Soviet Union, one of the most feared. When historians look back on the Cold War victory, LeMay also will number among the greatest of America's Cold War generals.

In 1951 the Air Force selected the British Electric Canberra aircraft, built under license by the Glenn L. Martin Aircraft Company at Middle River, Maryland, as a tactical bomber and also as a vehicle to perform high-altitude reconnaissance missions. The first B-57A flew from the Martin plant on 20 July 1953, and its reconnaissance counterpart, the RB-57A, followed with a first flight in October. The idea for a lightweight reconnaissance version of the Martin Canberra probably evolved out of CIA and U.S. Air Force collaboration with the British Royal Air Force, along with input from Brig. Gen. George W. Goddard's team at the Wright Photographic Laboratory and, to a lesser extent, from the tactical reconnaissance operators.

Shortly after the Korean War ended in July 1953, President Dwight Eisenhower decided to continue military overflights of "denied territory" to collect vital intelligence that might forewarn of a surprise nuclear attack against the United States. The Air Force reconfigured several of its military aircraft to meet the needs of this overflight operation, known eventually as the "Sensitive Intelligence Program," or SENSINT. One of these reconfigured aircraft, a

lightweight version of the RB-57A, was identified as the RB-57A-1, called "Heart Throb." Ten aircraft of this configuration were under modification at Martin's Middle River plant by 1954.

My military aviation career began in the U.S. Army Air Corps and nearly ended with World War II. I had completed the P-38/F-5 training program in August 1945 shortly before the end of World War II, and left active duty for reserve status that October. In 1951 I was recalled to active duty and assigned to the 12<sup>th</sup> Tactical Reconnaissance Squadron in Korea where I flew nighttime reconnaissance missions in the RB-26. My next assignment was as a B-26/B-45 pilot with the 4<sup>th</sup> Tow Target Squadron at George AFB near Victorville, California. (It seemed to be an Air Force policy in those years that upon completing overseas reconnaissance assignments, pilots were assigned to non-reconnaissance duties at their next stateside appointment. There never has been a large enough rotational base for this military occupational specialty.)

By January 1955 I had completed duty at Edwards AFB in California, flying the Phase Seven operational test program on the B-57 bomber version of the Martin Canberra. Now qualified as a B-26 and B-57B bomber pilot, I returned to an operations staff job as a tactical bomber pilot with the 461<sup>st</sup> Tactical Bombardment Wing at Hill AFB near Ogden, Utah. This wing activated in December 1953, and I was among five officer pilots in the initial cadre. All five of us were B-26 and B-45 pilots out of the 4<sup>th</sup> Tow Target Squadron.

I was assigned as the wing Flying Safety Officer at the 461<sup>st</sup> Tactical Bombardment Wing in early 1955. When I met our new Vice Commander, Col. Summers, we struck it off well. In a few weeks, he called me in and we talked about jobs and career paths. I had recently become a regular officer, committing thereby to a full Air Force career, and Col. Summers seemed to want to counsel me. He asked if I would be interested in a classified assignment called "Jungle Jim." He told me that I would need a security clearance if interested and that someone would be briefing me on the program. Two or three weeks later, he called me back into his office and said, "Forget 'Jungle Jim.'" He had become enthusiastic about another program and thought I was just right for it. Summers convinced me that I should volunteer even though he could not even tell me the name of this program, or anything else until I was cleared and briefed. He assured me that I was perfect for the job and that I would never regret it. He was right. The program was the Heart Throb project and I have never regretted my decision or my blind confidence in Col. Summers.

On the strength of my P-38/F-5 training, my RB-26 night reconnaissance training, and combat service in Korea, I became a Heart Throb pilot. I reported to the headquarters of the Air

Research and Development Command in May 1955, and traveled to the Glenn Martin factory in Maryland to join the other "Heart Throbbers" to begin our adventure. I arrived in time to witness the crash of a B-57 piloted by Capt. Roy Wagstaff in a single engine go-around that went wrong.



Photo courtesy of Gerald Cooke

**Capt. Gerald Cooke, at left, with Staff Sergeant Hendrus at Rhein-Main Air Base, 1956.**

Wagstaff burned to death in his aircraft while I was at the scene. It was a gut-wrenching experience and has profoundly affected me to this day. I cannot remember if Capt. Wagstaff was one of the pilots selected for the Heart Throb project, but I believe he was a former P-38/F-5 reconnaissance pilot, although I had never encountered him in my

training. But this left five of us at Martin and we were supposed to be six. Shortly after Wagstaff's death, a late-arriving pilot, Capt. Robert Thorne, filled out the contingent of six pilots slated for duty with the European Heart Throb contingent—in the 7407<sup>th</sup> Support Squadron located at Rhein-Main Air Base in the Federal Republic of West Germany. (Four other Heart Throb pilots were slated for the Far East.) The 7407<sup>th</sup> was part of the 7499<sup>th</sup> Support Group headquartered at Wiesbaden Air Base, also in West Germany.

Even at this point, however, I was still thinking, "Why me?" Was it the duty and training in reconnaissance or being current in the B-57? Had Col. Summers taken an interest in my career and pushed me into it? Or had someone merely levied a quota on the 461<sup>st</sup>—furnish one each fresh-faced Captain ASAP?" I never had my question answered. In any case, in spite of the emotional baggage of the Wagstaff crash and all the secrecy and uncertainty, I looked forward to flying the Heart Throb Canberra—with just a modicum of apprehension.

By the end of May 1955, the six pilots that made up the European contingent of the Heart Throb project were at the Martin factory.\* They included Capt. Ralph Findlay, Capt. William Gafford, Capt. Robert Holladay, Capt. Kenneth O. Johnson, Capt. Robert Thorne, and Capt. Gerald E. Cooke. If my memory serves, all were experienced reconnaissance pilots from Shaw Air Force Base in South Carolina, except Capt. Thorne and myself. Although I had reconnaissance qualifications, Capt. Thorne came to the program a bit disadvantaged, having come from a B-47 bombardment wing, with little knowledge of reconnaissance cameras or aerial photography. Five of us had experience in single-



Photo courtesy of Gerry Cooke

**Capt. Gerald Cooke at Rhein-Main  
Air Base with his BMW Isetta,  
ca. 1956.**

pilot reconnaissance aircraft and were current in the RB/B-57, so only Capt. Thorne required a check out.† As I remember it, we had an informal ground school that focused on the configuration of the Heart Throb version of the RB-57. Capt. William "Bill" Gafford was the project officer in charge of our training program, and for planning the trans-Atlantic delivery of our six aircraft to Rhein-Main Air Base. At Martin, we spent a lot of time with the aircraft configuration and the cockpit layout, the "dash 1," and aircraft checklist, as well as the survival equipment and procedures we would use in the trans-Atlantic flight. The aircraft and the training were not all that difficult so things went quickly.

Our Heart Throb team consisted of some extraordinary officers and fliers. Capt. Ralph Findlay was an experienced reconnaissance operations officer and a natural leader. When we arrived in West Germany in August of 1955, Findlay, by virtue of his seniority and leadership, was our first Operations Officer. Within six months of our arrival, however, he transferred to an Air Force reconnaissance wing at Spangdahlem Air Base, Federal Republic of West Germany.

\*I do not remember any association with the Asian contingent of four Heart Throb pilots.

†Later, when we arrived at Rhein-Main Air Base, Capt. Thorne underwent special training in single-pilot photo flying, which left him further behind the rest of us. Consequently, and to the best of my knowledge, he was not included in the early mission assignments, and probably never got the opportunity to conduct any overflights.

For me, Capt. Findlay's transfer was a big loss to Heart Throb. No one explained his quick transfer, although the arrival of Maj. Bert Grigsby, who replaced Findlay as Operations Officer, probably had something to do with it.\* Capt. K.O. Johnson, like Findlay transferred without explanation within six months to a reconnaissance wing somewhere else in Europe. Capt. Bob Holladay was another experienced reconnaissance pilot from Shaw Air Force Base. I knew him from his days in the 12<sup>th</sup> Tactical Reconnaissance Squadron at Kimpo Air Base in South Korea in the early 1950s. Bob had also been attached to the 461<sup>st</sup> Tactical Bombardment Wing as an instrument instructor and T-33 checkout pilot. He and his wife became lifelong friends with my family and me.

The Heart Throb Canberra was simple enough and did not require any special mechanical, electronic or hydraulic knowledge. The aircraft control system was mechanical push-pull rods. The landing gear, flaps, and spoilers were the only hydraulics. There were no speed boards as on the B-57 models. Fundamentally, it was a World War II-era, enhanced design with two simple J65 Curtis Wright axial flow jet engines. It had a simple two-way radio and no navigation equipment except an Automatic Direction Finder (ADF) radio receiver. I cannot recall if it was equipped with a VHF Omnidirectional Range (VOR) navigation receiver, or if there was any VOR navigation in the RB-57 at all. I remember only ADF letdowns and hand-offs to Ground Control Approach. I am unsure if they were equipped with an Instrument Landing System (ILS) or if ILS was available in Europe during those years. Remembering the ADF radio, on the other hand, is easy because it had a nasty habit of hanging up in the tuning cable drive box. When this happened (as it often did), we had to remove the emergency hydraulic handle from its storage container and bang on the cable transmission box to break it loose. The procedure came in handy and was used so often that it almost became a matter of procedure. I cannot recall when this was fixed or modified, but it sure makes it easy to remember ADF radio. Navigation was pilotage aided by an optical viewfinder. Instrument landings were by Automatic Direction Finder, teardrop letdown, and hand-off to Ground Control Approach for final approach. Tip tanks were not used except when ferrying the aircraft. Air defense radar was available for navigation vectors when the mission was on unclassified training operations.

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\*I did not see Findlay again until 1968 or 1969 when he was serving as the commander of the 432<sup>nd</sup> Tactical Reconnaissance Wing at Udorn Air Base in Thailand.

The Heart Throb Canberra differed from the standard RB-57 in many respects. The J65 engines were specifically selected by Curtis Wright Company and supposedly produced higher thrust than other production engines. Over-temperature or "overtemp" operation of these engines was authorized, but it meant that the engines would be scheduled for replacement after logging



Photo courtesy of Gerald Cooke

**RB-57A Heart Throb at beginning of engine start up,  
Rhein Main Air Base.**

25 hours, which was extremely short of the standard "time-between-overhaul" schedules. In the Heart Throb Canberra, the navigator seat was eliminated, as was navigation equipment and armor. The rotating bomb door, hydraulics and bomb racks were removed and the bomb bay was "skinned over."

Optical viewfinders, pilot intervalometer controls and a

pressure suit ventilating system were installed, as were a pressurized camera compartment and cameras consisting of one 12-inch focal length 9x9-inch format mapping camera, and two 36-inch focal length 9x18-inch format target cameras. The 9-inch dimension was fore and aft, while the 18-inch was left to right, with something like 10 to 15 percent lateral overlap.

The Heart Throb aircraft weighed some 3,500 pounds less than the standard RB-57. The internal fuel load when full was 17,635 pounds. Achieving the highest possible altitude was our primary performance objective in order to be above any threat, so tip tanks were never used because they degraded altitude performance. Mission planning included off-loading fuel to accommodate the exact length of flight plus enough fuel to safely reach home base or, in an emergency, an alternate base. For every pound of fuel off-loaded, you got an extra foot of altitude. The standard RB-57 already had an altitude advantage over any fighter aircraft likely to be deployed in our mission areas. Thus with Heart Throb's 3,500-pound weight advantage over the standard RB-57, you could get a total of 5,500 feet by leaving 2,000 pounds of fuel behind.



Unclassified

A highlight of our experience at the Martin Company was a demonstration flight of the Martin Canberra performed by Mr. Pat Tibbs, Martin's chief test pilot of twenty years experience and a premier B-57 driver. He flew the Canberra bomber, with only mechanical flight controls, as though it were a slick fighter, putting it through all the standard air show maneuvers and low- to high-speed passes.

Between May and August 1955, we also spent time at Wright Patterson Air Force Base in Dayton, Ohio, for survival training, an altitude chamber refresher course, and flight clothing indoctrination and fitting sessions. From there, we went to the Dave Clark "Brassiere and Girdle" factory at Worcester, Massachusetts, where we were measured by "sweet little old ladies" for our tailor made T-1 partial pressure suits and water survival suits. All Heart Throb overflights required the pilot to wear the T-1 pressure suit. The RB-57 cabin was pressurized to approximately 23,000 feet altitude at 45,000 feet actual altitude. The cabin pressure climbed upward as operating altitudes increased to 60,000 feet and above. To the best of my recollection, the cabin was about 28,000 feet for 62,000 feet outside. In the event of explosive decompression above 45,000 feet, the pressure suit became a life-saving device, whether on a training or a mission



Photo courtesy of Gerald Cooke

**Capt. Gerry Cooke at Rhein-Main in a T-1 partial pressure suit.**

sortie. On one occasion Capt. Johnson experienced explosive decompression and pressure suit activation. I experienced an accidental inflation, although not due to decompression. It was uncomfortable and made piloting difficult so I imagine Johnson's experience on a penetration sortie was excruciating. I realize that at his altitude how much luck and skill he needed to save the aircraft and himself. In 1955, the T-1 pressure suit was not long off the drawing boards. I believe ours were the first operational models and were not stocked in Air Force supply depots, hence accounting for our trip to the David Clark Company for measurement and special manufacture of our suits. I believe we were the first operational Air Force unit to regularly

Unclassified

operate with the pressure suit. It was tight mesh nylon that fit like a layer of skin from neck to ankles, with foot and glove attachments to cover the extremities. The helmet was a hard shell that fit over a soft helmet that contained headphones. There was a bladder incorporated in the soft helmet that fit around the neck at the Adam's apple and held the helmet pressure upon suit activation. The hard shell cover and the soft helmet provided seal and fastener for a faceplate for vision, and which incorporated a fine wire electric heating grid that was intended but often failed to cope with fogging and moisture buildup. The helmet was also fitted with a breathing tube and a microphone. The suit had two pressure capstans that ran the length of the body. These pressure capstans extended up the arms and down the legs and connected to the pressurized helmet, gloves and boots. Thus, equal pressure was applied on activation to every part of the body, literally from head to toe. The idea was to apply pressure through the capstan and its connections, including the helmet, gloves and boot inserts. In the event that there was a loss of atmospheric pressure, the suit provided the external body and internal lung pressure to sustain life until you could get back to lower altitudes. This was the best that early pressure suit technology had to offer. As yet, the "moon" suit used in the U-2 was not available to our operation, and while the U-2 suit was superior to the T-1, the improved SR-71 pressure suit designs were at least five to six years in the future. As we gained experience, we modified the suit at two points.

The helmet had a tendency to strangle you when the pressure suit activated, so the bladder was modified to fit lower on the chest and not around the Adam's apple. Second, the helmet also had the tendency to pop up on the head like a champagne cork when the pressure suit activated. A pulley-cable modification was devised on each side of the helmet shell with a pull-tab in front that allowed the pilot to pull the helmet down as the pressure tried to pop it upward and off. The biggest problem for me, and it persisted throughout my 165 hours flying in this suit, was perspiration and fogging behind the faceplate. Electric heat to the faceplate grid never coped with the moisture. While moisture could be evacuated through the exhalation exhaust valve, in some cases the build-up was so extensive that this technique was inadequate. At such times, the only way to remove excess perspiration build-up was to snap open the face plate and let it drain. Of course, the risk was that you might not get it snapped back on quickly or correctly. No Pilot was mobile and dexterous enough when bundled into the T-1 suit.

Once fitted for our flight suits, we took off from Martin for Warner Robins Air Force Base in Georgia, where our aircraft underwent last-minute installation of overseas radio and survival equipment. The Heart Throb "six" then lifted off the runway on 18 August 1955 for Goose Bay, Labrador, on the first leg of the flight to Europe. We were all glad that the first leg of the trip was mostly over land and that it was summer. Our flight took four and a half hours from Georgia, skirting Hurricane Edith to Goose Bay. On 19 August, we took off for Keflavik, Iceland, our next stop, where we were delayed by the weather until 23 August. Finally, we flew into Rhein-Main Air Base, near Frankfurt, Federal Republic of West Germany. Capt. Gafford, our project officer, led the flight all the way. We navigated by dead reckoning, using only airspeed, compass, wind calculations, and the clock to find our way. We had no four-engine lead aircraft, no navigator assistance, and no special navigation equipment to get us there. Two Coast Guard ships were on station along the route and they provided us with radio fixes about midcourse on each of the water legs, thus giving us confidence in our dead-reckoning calculations.

While waiting for the weather to clear at Keflavik, we met our future commanding officer, Maj. Walter Raynor, who was returning stateside after delivering the first RB-57 "Sharp Cut"\* version reconnaissance aircraft to the Rhein-Main Air Base. Maj. Raynor was the Sharp Cut project officer and, by virtue of his seniority, he became the first commander of the 7407<sup>th</sup> Support Squadron. Most of us had never met Raynor before and, to the best of my knowledge, he had made no input into the Heart Throb activity at Glenn L. Martin, other than perhaps technical expertise. Maj. Raynor was well known, however, as an aerial photo expert who had worked with General Goddard at his Wright laboratories. Also, to the best of my knowledge, he had no knowledge of, nor did he provide any input, to our flight leader, Capt. Gafford, other than "Proceed and I'll see you when I return." Such was the nature of these compartmented projects.

During our flight overseas, we were fully aware of the water survival odds if we were forced to ditch or bail out in the North Atlantic, even in August. We flew the entire route in cumbersome and uncomfortable water survival suits, with a small emergency life raft and a survival and first aid kit. Clearly a pilot would perish if he went into the North Atlantic at any place other than a location close to the departure or arrival point. The formation did not have fuel

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\*See Cargill Hall's introduction to this volume for an account of Project Sharp Cut and Project Robin. Ed.

reserves to circle a downed crew while awaiting rescue support. Rescue service at that time was limited in range. Physiologists estimated that a downed pilot, properly equipped, could survive in the water of the North Atlantic for approximately 45 minutes in August.

Our flight of six Canberras arrived in a formation of four and two at Rhein-Main Air Base on 23 August 1955. Although the one Sharp Cut Canberra had arrived the preceding month, our RB-57s were the first jets to arrive at the base in a large formation. The tower was accustomed to handling only air transport traffic so we caused a little excitement as our six jets formed in the pattern for landing but they handled it. The base made a fuss over us that day with eighteen members of the 7407<sup>th</sup> Support Squadron ground crew, pre-positioned and previously trained at the Martin factory, meeting us as we taxied in. We parked on the apron and reported to the operations center in a nearby Quonset hut, complete with personal equipment support. We needed to defrock from our equipment and turn in the water survival paraphernalia, hoping never to have to use the stuff again. Temporary quarters and transportation were available and we were ready to celebrate this as the end of our preparatory training and the beginning of our new mission.

Organizationally and administratively, the 7407<sup>th</sup> Support Squadron was one of three assigned to the 7499<sup>th</sup> Support Group that was based at nearby Wiesbaden Air Base. The 7405<sup>th</sup> Support Squadron was also based at Wiesbaden. The 7406<sup>th</sup> Support Squadron was soon to be activated at Rhein-Main Air Base and was located adjacent to our 7407<sup>th</sup> Support Squadron. The 7405<sup>th</sup> had a mix of all types of conventionally powered air transport aircraft. They had a covert intelligence mission in the European Theater that dated back to the origin of the 7499<sup>th</sup> Support Group in 1947 or 1948. The 7406<sup>th</sup> Support Squadron operated C-130s equipped for electronic (ELINT) and communications (COMINT) intelligence missions. I believe it was June of 1958 when the 7405<sup>th</sup> lost a C-118, and in September of the same year the 7406<sup>th</sup> lost a C-130 with 17 persons on board. I never knew if they were on authorized intrusions or not, but they both came down in denied territory. Both losses produced many personal tragedies in the 7499<sup>th</sup> Support Group and had an effect on morale for quite a while. Another compartmented project was Detachment One of the 7407<sup>th</sup> Support Squadron named Project Slick Chick, commanded by Maj. Bert Dowdy. Slick Chick operated the RF-100s from Bitburg Air Base, also in West Germany, and included pilots Capt. Cecil Rigsby and Capt. Ed Hill. They were also

compartmented within the 7407<sup>th</sup> Support Squadron and we had only infrequent visits from them.

We began our operations under Maj. Raynor's command. His Sharp Cut RB-57 was configured differently from our Heart Throb models. It was a "peripheral flyer," equipped with a James Baker designed camera with a 240-inch focal length f/11 lens that employed folded optics. This camera, mounted in the bomb bay, could reach out obliquely

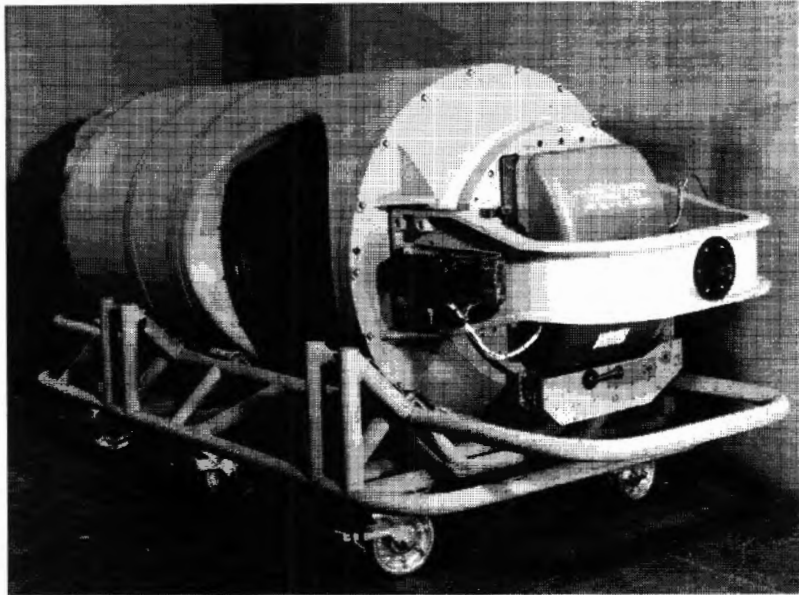


Photo courtesy William Britton

**The 240-inch focal length Sharp Cut camera at Boston University Optical Research Laboratory, ca. 1953/1954.**

and take good pictures (weather permitting) 65 to 75 miles deep inside enemy territory. At this time Raynor was promoted to Lieutenant Colonel. In addition to Sharp Cut, Raynor was also responsible to the 7499<sup>th</sup> Wing Commander, Col. C. J. Moore, Jr., for military command, if not operational control of the Heart Throb and Slick Chick overflight missions of the 7407<sup>th</sup> Support Squadron. In November 1955, Lt. Col. Raymond L. Fitzgerald reported in as Squadron commander and Lt. Col. Raynor then worked only Sharp Cut, with additional responsibilities as Squadron Executive Officer.

Captain Findlay became the Operations Officer after our arrival at Rhein-Main since he was the most senior pilot after Raynor. Sometime in November or December 1955, Maj. Bert Grigsby replaced Findlay. Both Fitzgerald and Grigsby came out of the RB-45 wing stationed at Sculthorpe Royal Air Force Base, England. The command and operations positions at this time encompassed traditional command control responsibilities for all administrative, training, and operations activities, but not overflight missions or security. Headquarters U.S. Air Forces in Europe (HQ USAFE) controlled the intelligence and operation of Heart Throb missions, and I was never sure about the extent of knowledge or "read in" on Heart Throb missions enjoyed by

the 7407<sup>th</sup> Commander or Operations Officer during the early months of our operations between November 1955 and April 1956. Neither Fitzgerald nor Grigsby were current in the aircraft, photo equipment or pressure suit training when they reported to the 7407<sup>th</sup> Support Squadron so they may not have been cleared into the Heart Throb overflight missions.

The early overflight operations through the spring of 1956 were conducted by the original six Heart Throb pilots. We were under direct operational and mission-planning control of the Special Project Officers at HQ USAFE at Wiesbaden Air Base. Later in 1956, when Captains Finlay and Johnson were transferred, the Operations Officer, Maj. Grigsby, and Capt. Norman Fredkin replaced them as Heart Throb pilots. Because at that point both pilots still needed training in the mission, the aircraft and the equipment, I cannot be certain that either received overflight assignments during the time period from January to August 1956.

Despite the mission compartmentalization, I am reasonably sure that five of us (Findlay, Johnson, Holladay, Gafford, and myself) flew multiple intrusions, perhaps 15 to 19 overflight sorties, into Eastern bloc airspace between November 1955 and August 1956. I recall planning for four overflights and as best as I can reconstruct things, I think I flew three missions and aborted the fourth. My first mission included targets near Brno and Bratislava Czechoslovakia. I recall getting only one of my targets on one overflight (probably the third flight) because of cloud cover. I also remember seeing MiG-17s on one mission in the vicinity of Budapest,



Photo courtesy of Gerald Cooke

**RB-57A Heart Throb preparing for take-off at Rhein-Main.**

Hungary, probably on my second or third mission. My fourth mission was aborted because I was forming contrails at the point of penetration over Communist territory. (Certain atmospheric conditions cause condensation to form at high altitudes. Such cloud-like trails spinning out behind the aircraft clearly identified it and its direction of

travel—conditions we always wanted to avoid. A second aircraft was often assigned to accompany the mission aircraft to signal a “go or no-go” depending on the forecast of contrails.

Our very first briefing on the Heart Throb missions took place at HQ USAFE. The staff officers present were Lt. Col. Ralph D. “Doug” Steakley and Lt. Col. Robert J. “Bob” Holbury. My recollection is that Holbury replaced Steakley at this time, and that Holbury was in charge of my overflight assignments.\* The individual briefings that I received made clear that the Heart Throb missions would follow a special line of control between Lt. Col. Holbury, acting for the USAFE Commander, Lt. Gen. William H. Tunner, and the individual mission pilot. The missions involved overflight of selected “Eastern Bloc” countries. No deeper penetration beyond bloc territory was ever suggested to me. The overflights, conducted under special security wraps, were designed to provide deniability of deliberate overflights if there was an emergency landing or bailout in denied territory. Each pilot was personally responsible for safeguarding mission information, as well as maintaining a “low profile” concerning flight operations.

Heart Throb pilots were denied personal travel in areas of high Communist political presence. For example, we were not allowed to visit places like Berlin. We could not behave in ways that would reveal or suggest what we were up to. If captured or kidnapped, or compromised in any way or in any place, we were required to dissemble and lie with whatever cover story was likely to work—poor navigation, hypoxia, blown off course, engaged in normal NATO operations, etc. Mission information was not shared within the squadron, not with its Commander, the Operations Officer, nor among pilots, not even other Heart Throb pilots.

Even our training missions, photographing military installations in NATO and other European countries, were kept secret since the United States was bound by treaty agreements with many of those governments that prohibited such reconnaissance overflights. All training photography in and of NATO countries, Spain Middle East and North Africa also were treated as classified activity, even if not at the level of Heart Throb secrecy. When we were traveling and landing in countries like Turkey, Italy, Spain, Morocco, Libya or Greece, we always had to arrange for a U.S. uniformed security guard for our aircraft when on the ground.

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\*Both men moved on to become flag officers and both made careers in covert intelligence and overflight operations. Brig. Gen. Steakley later played a major role for the Joint Chiefs of Staff and Department of Defense in control of overflights during the 1962 Cuban missile crisis. His photograph appears in this volume. Brig. Gen. Holbury commanded reconnaissance wings in Southeast Asia and in the United States during later operations. Ed.

Our activities in the Heart Throb overflights were kept strictly within the military and intelligence channels laid out by Lt. Col. Holbury. In later times, with security management and classification terms, Heart Throb would probably have been categorized as one of the “special access-black programs,” if we had been using such a classification system in our time. In contrast, the 7407<sup>th</sup> Support Squadron training and support operations in Western Europe would be guarded by the standard Air Force security classification procedures. Heart Throb target assignments, and the “go or no-go” decisions, weather assessment, and flight following, as well as control over the photo results remained under the control of Lt. Col. Holbury. I never quite knew who was in the Heart Throb “need to know” chain, but I worked under the impression that our missions and results moved from Holbury to General Tunner. Next in the chain of command were General Orval R. Cook, Deputy Commander in Chief, U.S. European Command. I also believed that Brig. Gen. [at the time] Andrew J. Goodpaster, then serving in the White House as Staff Secretary and Defense Liaison to President Dwight D. Eisenhower, was a point of contact for our project and that Heart Throb missions rose to that level of concern, if not direct oversight.\*

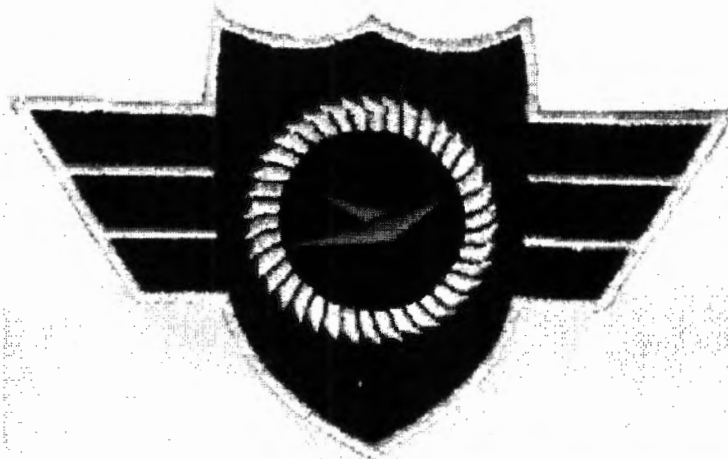


Photo courtesy of Gerald Cooke

**Heart Throb emblem patch, 7407<sup>th</sup> SS.**  
Colors are black, white, and a red symbolized airplane at the center of the turbine blades.

Our overflight missions were planned in a security area at HQ USAFE. Lt. Col. Holbury assigned the targets and supervised the rout planning, including turning points, entry points and times into East Bloc territory, the altitudes, photo runs, camera operations, and exit points and times—in short, the complete and detailed flight plan. As I remember it, each of my flight plans included approximately six targets or fewer. I do not recall film supply limiting target numbers and there were times when the cameras were left running to cover a target strip of some length.

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\*See Andrew Goodpaster's "Cold War Overflight: An Overview From the White House" in this volume. Ed.



Four missions were assigned to me between January and August 1956. Each mission contained a complete flight and navigation plan, and was referred to as a "canned" Heart Throb mission. In this way, it could be identified and called out in the clear. A mission could be executed by reference to a code when all conditions were met. The "canned" and coded flight plans were hand-carried back from Wiesbaden to the squadron operations office by the individual pilot, and were stored in that pilot's Top Secret safe. Each pilot had his own safe that nobody else shared. None of us knew anything specific about each other's "canned" missions. This was the standard operating procedure and it worked so well that to this day I do not know exactly when and where the other Heart Throb pilots flew their missions. In the early months, I was convinced that some missions were scheduled and some flown in deception. There were times when I could guess, however, as there seemed to be a higher level of intensity and concern throughout the squadron when an overflight sortie got underway. The operational activity was a little different when it was a real mission and not a training flight, although at times we experienced that same rise in concern for sorties that turned out to be weather or contrail aborts, and we even occasionally misread training missions.

The code word "Pronto" designated overflight missions. When all the signs were right, such as theater and political intelligence, and we had good weather in the mission area, the Heart Throb pilot would get the word from Lt. Col. Holbury and would be given a "window" for take-off. The Squadron Commander and Operations Officer were alerted and a Heart Throb overflight mission would commence. Personal equipment was made ready for pressure suit fitting.

The pilot would "pre-breathe" 100 percent oxygen while ground crews prepared the aircraft and cameras, and a fellow pilot ran through the aircraft preparation and checklist. Initially, the pre-breathing requirement was four hours on 100 percent oxygen, a procedure intended to purge the blood of nitrogen. Human exposure to extreme altitudes above 45,000 feet forces nitrogen in gaseous form out of the blood solution at such a fast rate that the blood literally boils. The lungs and the blood vessels explode, causing sudden death. After several weeks, we lowered the pre-breathing to two hours, and later in the program it was reduced to one hour, accepting the increased risk in the interest of expediency. When the T-1-attired pilot completed the pre-breathing, he was attached to an oxygen bottle for the flight, which he then carried out to the aircraft. During the pre-breathing, the aircraft had been preflight checked by a

fellow pilot. The crew chief assisted the pilot by buckling and connecting him to the things he could not reach, such as oxygen, the T-1 pressure suit, parachute harness, suit ventilation motor, life raft and survival pack. Once secure in his seat, the pilot started the aircraft by firing two black powder cartridges, one in the nose cone of each engine. The cartridges powered up small starter turbines that engaged the engine. This action discharged a plume of jet-black smoke about 12 to 20 feet high. It was quite a show that everyone on the flightline always enjoyed watching.

After the pilot was buckled in, hooked up, and had started the aircraft, he turned on radios and announced to the control tower: "PRONTO departure taxiing, southwest quadrant departure outbound." The PRONTO call sign signaled air traffic control in the tower to clear the taxiways and runways, as well as the requested quadrant. (This,

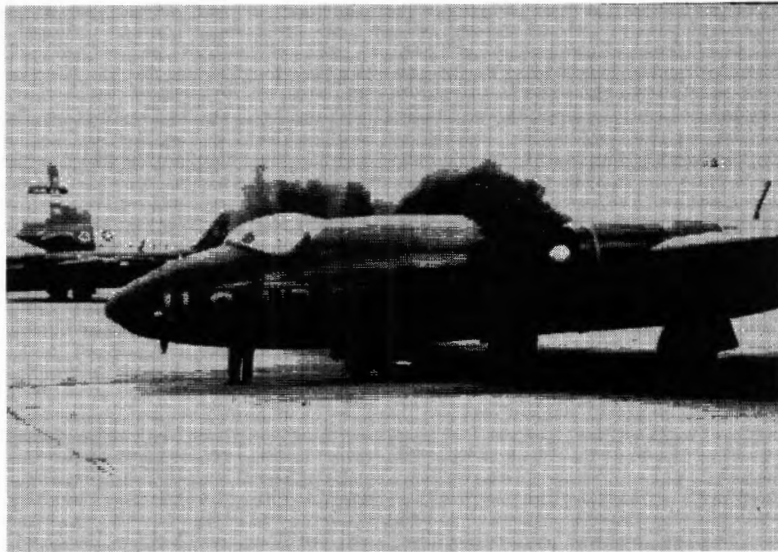


Photo courtesy of Gerald Cooke

**RB-57A Heart Throb during engine start.**

incidentally, was the last radio transmission until descending for approach and landing after completion of a mission.) The pilot then applied full power to the engines, producing 15,000 pounds of thrust, and lifted off at about 100 knots after a roll of 2,400 feet. On board was an ADF (Auto Direction Finding) radio for navigation, maybe a VOR (VHF Omnidirectional) radio, a two-way radio for voice communication, an Identification Friend or Foe (IFF) transponder that remained turned off, and an optical viewfinder to line up on selected sites and take pictures. There was a pilot-controlled intervalometer for the cameras that set the shutter speeds and time between picture exposures, thus producing the necessary picture overlap for the photo intelligence. There were no flight control assists other than normal trim, and no autopilot. The flight instrument group was not much more sophisticated than the Second World War advanced trainer, bearing in mind that the basic Canberra design was of World War II vintage. This was

not a hi-tech airplane compared with the F-100, B-47, B-52, and other post-war designs in service at the time.

Once airborne, the climb was established at .74 mach, achieving an initial rate of climb of 6,500 feet per minute. After about 25 minutes, the pilot was at 45,000 feet, continuing cruise climb to penetration altitude. According to plan, he was ready to penetrate the mission area and sought out his target by pilotage, a technique little different than that used by Lindberg and Doolittle in the 1920s and 1930s. The pilot read a map and looked at the ground, establishing his location by recognizing map symbols and terrain features, while steering by compass and computing speed over the desired ground track by the clock. The power was still at full throttle where it remained until reaching the exit point. The engines had been rated to exceed normal power and temperature limits, so power was only reduced when the exhaust temperatures became dangerous. The pilot continued this cruise climb method, trading burned-off fuel for altitude throughout the mission.

As I recall, the Heart Throb RB-57A had a maximum unrefueled mission range of about 1,800 miles, so we never conducted overflights at that limit. Once over denied territory, the pilot turned his attention to his targets. He found the identification point or IP for a run on the target and placed the airplane over that point on the ground, literally placing the site to be photographed in the cross hairs of his viewfinder. Calculating his ground speed and drift, he set the aircraft on course, and set the intervalometer settings as he made his photo run. He took anywhere from 6 to 12 photos each depending on the target and his confidence in getting the required coverage. On some target areas, the cameras could be set to run continuously along a desired path. I recall that the viewfinder looked forward 30 degrees from the vertical and 15 degrees to the rear, and rotated 15 degrees left and right of the aircraft centerline for drift and ground speed calculations. These numbers may be off a bit, but serve to explain how the viewfinder was used in the operation. At 55,000 plus feet, the pilot would see a 12,000-foot airport in the viewfinder at the apparent size of his thumbnail. At this altitude the viewfinder presented approximately 12 miles of geography in the lens from left to right. It was difficult distinguishing these thumbnail-sized targets when the T-1 faceplate was fogging. In any event, the pilot repeated this procedure for each target in his mission plan.

The nature of these missions usually called for a triangular route to be flown within the overflight area. There were two reasons for this. First, banking the aircraft at these altitudes was

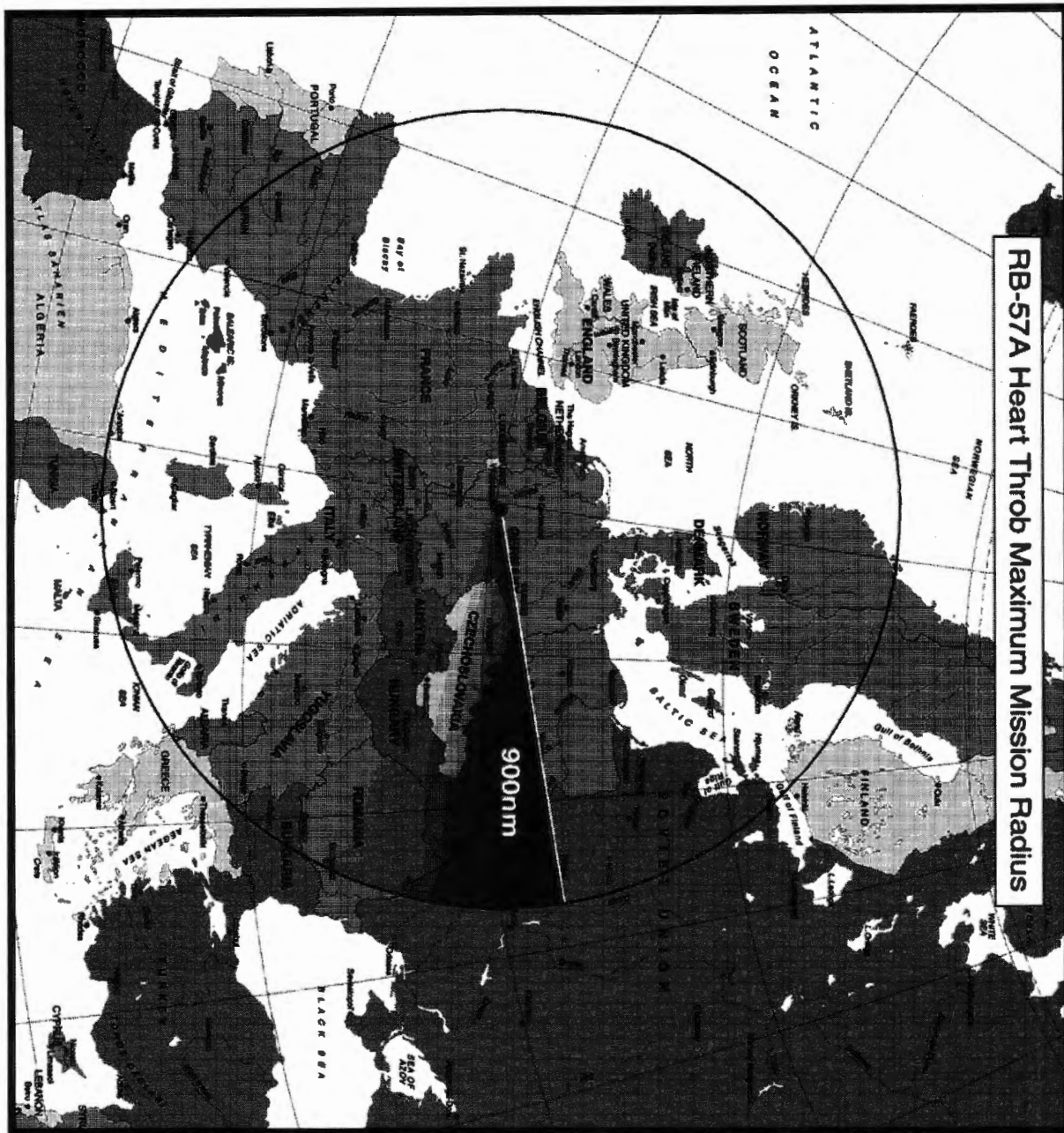
a matter of delicate control due to the instability that comes with a lack of atmosphere. Turns could cause the loss of some altitude, so 10 to 15 degrees was the maximum bank. The shallow bank produced a very slow rate of turn that also resulted in a wide circle track over the ground. This made it necessary to plot the turns on the map in order to achieve the correct tracking on the ensuing flight leg. We made one serendipitous discovery while plotting these turns—our desired radius of turn could be plotted on the map with a half-dollar coin. It happened that the circumference of a 50-cent piece laid on a World Aeronautical Chart precisely defined the correct circular track over the ground. In addition to ease of plotting, there was another advantage to the shallow bank. We were told that shallow banks were harder to detect on radar than steep banks.

At the end of about one hour in the target area, the pilot would have been anywhere from 62,000-68,000 feet in altitude and nearing the point of exit, and as much as 400 nautical miles from base. At that point, he would reduce the power control to "idle" setting. We ran the engines at 103.5 percent and more if we could get it. We routinely ran the tail pipe temperatures above the "redline," or maximum thrust, throughout the target area, in a constant cruise-climb configuration, trading off the fuel consumed for altitude. A "full back idle" setting, for descent would usually not reduce power below 98 percent engine thrust at this altitude. This was characteristic of most axial flow jet engines and the fuel controls of the time. Fortunately at lower altitudes, the power control in "idle" setting would produce lower idle power. Because of this characteristic, the pilot had to navigate and maneuver carefully through his descent.

There was no drag mechanism on the Heart Throb aircraft to counter the power produced at altitude in full "back" power control position. There were finger-like spoilers that protruded on the top of each wing. These could be extended, but they were totally ineffective in rarefied air. The nose could not be lowered too much or you would exceed the airframe's mach limitation. So the unavoidably high thrust slowed the ability to descend. Lowering the nose had to be slight, since that maneuver increased speed and threatened the mach limitation. The Strategic Air Command B-47 crews had already named this speed parameter the "coffin corner." To avoid this situation, the descent had to be started as much as 200 to 400 miles from base.

After the aircraft was in friendly airspace, the pilot radioed ahead with his Pronto designation and checked the weather to determine if he was going home or to an alternate

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airfield. Going to an alternate base presented several real problems. First, the pilot needed assistance with the T-1 suit and cockpit equipment. Even more serious, landing at any base other than home or another planned destination would breach security and risk confiscation of the mission film. About 200 nautical miles from base, the aircraft should have reached 45,000 feet or lower where aircraft and engine control returned to near normal, and the pilot could be in communications with radar and approach control.

At this point in time, Rhein-Main Air Base approach control radar was still in the hands of U.S. Air Force military personnel. A year later, it was turned over to the West German government. When the pilot reported his descent with his PRONTO call sign, approach control identified him, then granted clearance to the "high cone" for a teardrop let-down with hand-off to GCA. This was the procedure whether flying visual or instruments. The GCA final was flown aiming at 70-80 knots speed over the fence and touched down, with the landing roll being as little as 1,000 feet, depending on the pilot's technique. As soon as the pilot taxied to the ramp, photo technicians and personal equipment crews met the aircraft and did their respective post-flight jobs. The film went, under guard, to the photo laboratory at Wiesbaden and the pilot underwent debriefing at HQ USAFE, reporting the results and outcome of the mission.

The earliest overflight sorties were probably flown some time between September and November 1955 by Findlay, Johnson, Gafford, and Holladay, as they were the most experienced and ready reconnaissance pilots. Early on, these four pilots were very active in T-1 pressure suit missions, the hallmark of a PRONTO mission. Weather aborts and contrail encounters made a mission count difficult. When contrails were forecast, the aircraft usually went out in pairs, with the wingman observing for "trails" and, if they were present, both aircraft would turn back and the overflight was cancelled. I also believe that some of these two-ship operations often separated and turned into two overflight missions when contrails were not forming.

From personal observation I concluded that the early flights were in the north over East Germany, Poland, and as far east on the Baltic coast as the Soviet city of Kaliningrad. I also remember a Holladay mission where I guessed he flew over the Upper and Lower Silesia area of East Germany, southern Poland, and perhaps even Czechoslovakia. I am guessing that these four pilots must have flown 12 to 16 sorties in this area sometime between September 1955 and April 1956.

My flight planning was for the middle area of the Eastern Bloc, including Czechoslovakia, Hungary, and the northern provinces of Yugoslavia. I planned four missions around and en route to the cities and airports located near Brno and Bratislava, Czechoslovakia, and Budapest, Hungary, as well as other targets east of Budapest to the Romanian border. Several cities in Slovenia and northern Bosnia-Herzegovina are familiar to me, although I do not believe they were targets but navigation checkpoints. To the best of my memory, I flew two of these missions and a part of the third, at some point in January, March, or August 1956. I believe only one target on the third mission was visible, as the others were obscured by clouds.

My first mission included targets in and around the cities of Bratislava and Brno, Czechoslovakia. Usually our targets were very large airports and industrial complexes, but often they consisted just of a quadrant of a city or a convergence of highways and railroads. I felt that we were trying to confirm or prove forward deployments of Soviet fighters and the locations of marshalling areas. The city of Brno has particularly stuck in my memory because of its spelling and because interest in this area made intelligence sense in 1956 because of the growing unrest in Hungary that worried both the United States and NATO Allies as potentially destabilizing. Soviet intervention there seemed a certainty.

The city and targets that I remember most were near Budapest, where I had my only encounter with aircraft on these missions. While making a right turn off one target, below my right wing and slightly to the rear and about 5000 feet below, were two MiGs. I guessed MiG-17 because they resembled F-86s more than the distinctive MiG-15's profile.\* A few moments later, two more appeared below and behind the first two. This raised my adrenalin a bit, but somehow I did not feel threatened. I continued the flight plan and they fell out of sight. They did not appear to be in position to perform a "zoom" or "pop up" maneuver. I did not know then, and do not know now what kind of threat they might have presented. I was never briefed on the likelihood of being intercepted. At that time our pilots believed (rightly or wrongly) that only the French-based Canadian F-86s had shown any ability to reach altitudes of 50,000 feet, excepting our Slick Chick RF-100s of course. Heart Throb mission penetration altitude was above 50,000 feet and exit altitude averaged 62,000 feet. The flight profile was constant cruise-climb at 103.5 percent power setting. Average time of flight was about 3½ hours, rarely more than 4½ hours.

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\*I think in the debriefing we agreed that they were probably MiG-17s. This made sense because the U.S.S.R. was moving assets forward in response to the Hungarian uprising in 1956.

The time in a target area for an "in-out" triangular mission could average one hour, and was rarely longer than 1½ hours. Considering all these factors, we were not concerned with "zoom" maneuver threats from Eastern Bloc fighters.

My fourth and last Heart Throb mission in August 1956 was aborted owing to contrails. On this mission, Capt. Thorne flew on my wing to check for contrails. The entry point for this overflight was a peninsula in Croatia on the Adriatic coast of Yugoslavia, just south of the city of Trieste. I remember this was also an exit point for an earlier mission. Thorne signaled visually that contrail formation was very strong at the entry altitude. Since there was no reason to believe that the contrails might subside, the mission was aborted. In summary, my mission score was probably two flown successfully, a third partially successful, and a fourth mission aborted for contrails at the point of entry.

My flight log indicates that I conducted overflight missions primarily between January and April 1956, indicated by an increase in flying and pressure suit hours.\* The second peak in operational tempo occurred in June, July, and August 1956, and in August alone I flew 26 hours of pressure suit time, four to five times more than the monthly average, indicating a high operations tempo. By October 1956, I had logged 113 total pressure suit hours. I flew just 52 more pressure suit hours over the next 12 months, which conforms to a training and readiness schedule. I flew the last pressure suit sortie in November 1957 in what must have been a training mission. This pressure suit operations tempo coincided with the uprising in Hungary between August and November of 1956. A few months earlier, in July 1956, the Suez Crisis also erupted between Egypt, Great Britain, France, and Israel, culminating in the Anglo-French military intervention to seize the canal and the subsequent Israeli attack and conquest of the Gaza strip in October 1956. With these international developments, I believe American leaders decided that the Heart Throb military missions were not productive enough to continue the risk, and when the squadron resumed normal operations, Heart Throb overflights were no longer in the repertoire. I believe Eastern Bloc overflights concluded by the end of August 1956, as that was a peak month for me in terms of total flying hours (50) and pressure suit hours (26). Thereafter, overflight operations "stood-down," probably in response to the Soviet intervention in Hungary and the greatly increased international tensions.

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\*High pressure suit hours in short time frames can be an indication of overflight missions.



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I have reason to recall one Heart Throb aircraft emergency in this four-year assignment. I was returning from a mission wearing the pressure suit. When I let down for final approach phase after turning inbound on the tear drop let down, I discovered that my nose gear and left landing gear had not extended. I was in a tough spot. Pursuant to my flight plan, I had off-loaded fuel, leaving only enough for letdown, landing, and one go-around. This time the fuel level was a little higher than planned, but not enough to keep me flying very long in an emergency. Now I had to go around and orbit in the pattern, working with the system to get the gear down. I was flying at reduced speeds with low power and fuel consumption but still consuming too much even at this low altitude. I did two circles of the field and finally the nose wheel extended, but not the left main landing gear. On the advice from the operations section, I decided to land with what wheels I had down: a nose wheel and right main gear. While I circled, the fire department had foamed the runway. I touched down as slowly as possible in the foam. The aircraft stayed level with nose up until I no longer had enough airflow for aileron and elevator control. At that point, holding the wings level and the nose up was no longer possible. The left wing drooped about the same time that the nose wheel touched down. The aircraft skidded to the right and, with the left wingtip dragging, the aircraft spun off to the left, leaving the runway and onto the grass. I already had shut down the engines and turned off the fuel valves and electrical power at or just before touchdown, and before the left wing hit the ground. Staff Sergeant Hendrus, my crew chief, had ridden his bicycle out to the side of the runway while they were foaming, and he was on scene immediately. He beat the fire and rescue crews to the aircraft and opened the cockpit door entrance on the right side, which was now tilted upward, elevated above normal. Hendrus got in the cockpit, unbuckled my flying clothing, and disconnected equipment and the parachute and survival harnesses. He pulled me and the T-1 suit paraphernalia out and away from the aircraft while the engines were still spooling down—just as the fire and rescue team arrived. He had anticipated the worst, of course, and had there been fire on board he was certainly there soon enough to save me.

The subsequent accident investigation determined that maintenance had been using the wrong lubricant on the landing gear locking mechanism. The standard lubricant was not rated for use at the severe low temperatures we encountered above 50,000 feet, and it had congealed, in effect had frozen the gear up-locks. The cold-soaked Heart Throb airframe prevented it from warming sufficiently to let the all three gear mechanisms unlock properly. The nose gear and

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right main had thawed, and if I had more fuel to circle and warm up the left main gear assembly it might also have thawed. The damage to the left wing was nonetheless minimal, just paint and skin repair. The manpower and resources involved were insufficient even to rate the event as an accident under the Air Force safety criteria.

In the secure operational control system devised for Heart Throb, it was impossible for me to know of the actual sorties flown by other pilots but I can reasonably guess from the operational tempo reflected in pilot and aircrew activities. My flight log also provides a reliable record of general activities, although I cannot remember many specifics of my own sorties, which I was told to forget. At the time, and over the years, I regularly put the overflight experiences out of mind and practiced a security mindset. I would turn to other subjects if I thought I might be too forthcoming about what I knew. At the end of each mission, when we were debriefed, we were specifically advised to "put it all out of your mind," and we did so. In this case, fortunately, one of my personal traits is to put something aside when it is done and move on. I rarely dwell on the past. This personality trait, coupled with the length of time that these sorties have been out of mind, for me has made accurate recall difficult.

The secrecy culture was another element in this Heart Throb environment that has worked against memory and recall. Most of us in the Heart Throb environment found ourselves for the first time in a "Top Secret," "need to know," "compartmented program," national level controlled security apparatus. Personally, up to this time I had never heard of any security clearance category above Top Secret, and except for combat security operations in Korea, I had never handled Top Secret documents until selected for Heart Throb. I do not remember even having a Top Secret clearance prior to this assignment, so I was impressed. Yet not once do I recall pilots discussing a classified overflight mission with each other or anyone else in our squadron operations, or in our social situations, during these four years. Furthermore, our subsequent reassignments from Heart Throb scattered us throughout the Air Force. Even if we were inclined to revisit our missions in the 7407<sup>th</sup> Support Squadron, we had no opportunity to share our common experiences in subsequent assignments, nor did we find ourselves in close proximity after retirement. We also had no squadron reunions. This inhibited any mutual sharing

or reinforcement of our memories. Furthermore, we were never released to talk about these experiences until now.\*

Security also became a family responsibility. Our spouses undoubtedly knew, in general terms, what we were up to. Any explanation of the RB-57A-1s, in plain sight on the ramp at Rhein-Main Air Base, was a vague generalization of our "mission to support NATO, the Commander in Chief Europe, and U.S. Air Forces in Europe" with special photo reconnaissance in Western



Photo courtesy of Gerald Cooke

**Capt. Gerald Cooke and family at Rhein-Main Air Base.**

Europe, North Africa, and Great Britain." In those days spouses and children simply did not talk about "Dad's job." All military things were secret as far as they were concerned, and our children were at a young age where military things held little interest. The children did become aware of the Soviet threat when they received evacuation briefings at school at the time of the Hungarian uprising in November 1956. Of course the wives had a conceptual view of what was going on, but they neither speculated nor engaged in talk about our military operations. My wife never knew where I flew in the Heart Throb program until the summer of 2000 when we were informed that the Heart Throb missions had been declassified.

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\*Twenty years after the Heart Throb experience, while I was the J-35 on the Joint Staff, I approached a good friend, John Hughes, who was the ranking civilian agent in J-2 at the Defense Intelligence Agency. I asked him to "talk around" and see if there was any sentiment to declassify Heart Throb. He came back a few weeks later and said: "Forget it, put it out of your mind." Again. At this time, only twenty years had lapsed. In 1976, I might have recalled more useful and credible details for historians. Nevertheless, again I "put it out of my mind." Now some twenty-five more years have lapsed and I'm asking where I put it. My graduate studies have been in cognitive science but that hasn't helped with answers. I can't help thinking that this would be a good subject for research: "Why can't some old pilots remember a damn thing, while others can spin out their stories interminably?" Another day, another project perhaps.

After August 1956, we entered a new phase of operations that didn't include overflight. My pressure suit flying declined sharply after September of that year. We continued to fly and train in the T-1 suit on Heart Throb profiles in friendly airspace. We took pictures of everything in Europe from the New Hebrides off Scotland's coast, to Gotland Island off the southeast coast of Sweden, to Turkey, Saudi Arabia and North Africa to Morocco. Our thinking was that perhaps the photos were finding their way into the NATO photo reference libraries. We deployed to many places and trained constantly. At one point we flew four aircraft into Bandirma, Turkey, a primitive place, where we flew off grass strips. I can't recall if this was overflight, or deception. This was a new experience for me in this aircraft. The Heart Throb bird did well on grass. It proved an easy deployment. Ground support needs were minimal if all four pilots were not in the pressure suits. All we needed was a box of starter cartridges, a case of engine oil, and a screwdriver—and some bottled oxygen. However if there was any clandestine picture taking in all this, it has escaped me. One sortie in the winter of 1956 or 1957 took me to Gardemoen, Norway, where the snow was about 10 feet deep except on the runways and the revetments. I do not remember what I was doing there, but as I taxied in to park, I passed a Royal Air Force Canberra parked in a revetment. It looked very much like a reconnaissance bird to me.

It seemed that Heart Throb ended at some point in the late summer of 1956. No one explained the change in any way other than that we were to train and maintain our mission capability. I suppose many of the latecomers to the program saw the situation differently and maintained a level of excitement and satisfaction in this mission of training and readiness. But for me, the high point had been reached and passed. It was a great assignment compared with other duties in Europe. Still, I am sure the organization puzzled many, and as time went by many Air Force personnel came to believe we were doing surreptitious things, when Heart Throb had been long over. Maybe the NATO Europeans thought we still were overflying the Eastern Bloc countries and maybe even the U.S.S.R., too.

In 1958, the Black Knight RB-57D version of the RB-57 began arriving at the 7407<sup>th</sup> Support Squadron from Laughlin Air Force Base in Del Rio, Texas. It was a swept extended wing version of the Martin Canberra with two extra jets on pylons beneath each wing. In the Air Force Canberra evolution, it was the model just before the "big wing" Canberra, the RB/ WB-57F. At the time we thought the Black Knight was to be some kind of replacement for the Heart Throb projects and aircraft. The Del Rio crews came with them. This spoke clearly that Heart

Throb missions would not be flown again. To me the "D" airplane was unimpressive. It lacked the grace and élan of the basic clean Canberra shape.

Furthermore, U-2s had arrived in theater, first in England and then at Wiesbaden in 1956, before moving quickly to Giebelstadt, West Germany, and soon thereafter to Incirlik Air Base at Adana, Turkey. Since the 7407<sup>th</sup> Support Squadron frequently operated from Adana on temporary duty, some of us were briefly involved in the orientation of the U-2 personnel at Incirlik. A Col. Perry, I believe, from the Strategic Air Command, was the Air Force officer assisting the CIA officer in charge of the unit, whose name totally escapes me. Gary Powers trained there at some point in time, but I never met him. Although impressed with the U-2's performance, I could not muster much feeling for this operation. The civilian intelligence control combined with using "demilitarized" Air Force fighter pilots who were receiving salaries almost seven times our own, produced mixed feelings. With my Heart Throb experience behind me, I would not have been comfortable in this kind of operation and thought it a strange setup, often wondering how long this kind of intelligence-reconnaissance-civilian spy operation would work. I never envied those in the program, although their salaries were head-turning. Subsequent events confirmed the accuracy of my uninformed misgivings, and General LeMay's early scorn for the program. The Air Force, of course, subsequently turned the U-2 to salutary use during the Cuban Missile Crisis in 1962.

The first year of the 7407<sup>th</sup> Support Squadron was exciting and I felt that I was involved in something very important. We saw the contribution we might be making in unfolding world events and it was a professionally maturing experience. It brought recognition by senior people that continued to pay off in relationships for the rest of my career. My family was able to visit and enjoy many places in Europe and learn the German language in what was probably the most valuable and rewarding assignment of my career. In July 1959, I concluded four years in the Heart Throb project. That time for me was truly the best of two worlds—the excitement of the first year of Heart Throb overflight missions, and the subsequent duty of a Canberra photo reconnaissance pilot training and maintaining readiness.

The RB-57A Heart Throb Canberra was a great airplane and a joy to fly. In subsequent flying jobs, I was never again to experience the measure of pilot freedom to decide and act, and to exercise personal judgments about flying and operational matters, as I did in Heart Throb. I believe we represented the tail end of the kind of military flying that began in World War I and

last existed in the 7407<sup>th</sup> Support Squadron in the 1950s. We were given objectives and responsibilities—and entrusted to deliver. I believe we did, and if we had not “stood down” in 1956, we could have done even more.



**Maj. Gen. E. Gerald E. Cooke at the Early Cold War Overflights Symposium, Defense Intelligence Agency, 22 February 2001.**

## A Daytime Overflight of the Soviet Union

*Harold R. "Hal" Austin*

In the early 1950s, the hot subject on both sides of the Iron Curtain was intelligence gathering. By May 1954 the Cold War was in full swing. Leaders of the United States, and in particular the Strategic Air Command (SAC), were quite concerned about the Soviet Union's capability to launch a preemptive attack on Europe and the United States directly over the North Pole with bombers flying through Canada. Soviet leaders were equally concerned about a direct attack by the United States. In 1955 President Eisenhower, after careful evaluation of U.S. policy on disarmament, invited the other three major powers (France, Great Britain, and the U.S.S.R.), to join in an agreement for arms reduction. To reduce the fears of surprise atomic attack, on 21 July 1955 at the Geneva Summit Conference, he proposed "Open Skies," a plan to conduct mutually supervised reconnaissance overflights in each nation's airspace. Regrettably, the Soviets rejected the offer.

Because aerial intelligence gathering, both visual and electronic (ELINT), became such an extremely important part of the Cold War during the early 1950s, the Strategic Air Command formed ELINT collecting units and four photographic reconnaissance wings, two RB-47E wings at Lockbourne Air Force Base, Ohio, and two RB-36 wings, one at Ellsworth Air Force Base in South Dakota, and the other at Fairchild Air Force Base in Washington, all these assets combined totaling some 150 aircraft. These aircraft would have conducted the "Open Skies" Project had President Dwight D. Eisenhower negotiated such an agreement with the Soviet Union. It would have been very interesting to try to cover the U.S.S.R. with about 150 aircraft!

Between 1951 and 1953, my unit, the 91<sup>st</sup> Strategic Reconnaissance Wing (SRW) based at Lockbourne Air Force Base, routinely had eight RB-45Cs and a similar number of KB-29P tankers deployed on temporary duty in England. In late 1953, we transitioned to the new RB-47E and the KC-97 tanker. Both the RB-45C and the RB-47E aircraft were similarly equipped with a 0-15 radarscope camera for the navigator, a forward oblique visual camera in the nose, and a trimetrogon area visual photo in the belly, along with two 36-inch focal length target cameras. Our "official" job was to do uncontrolled photo mapping for the U.S. Army over

Unclassified

Europe, primarily in the Rhine River basin and later all of Spain, so our maps could be geodetically tied into Eastern Europe. It was very important work in preparation for deploying ballistic missiles in Europe under the North Atlantic Treaty Organization. A secret part of our mission, I found out nearly 40 years later, was to occasionally furnish our RB-45Cs to Royal Air Force crews, repainted with British markings for nighttime overflights of Eastern Europe and the U.S.S.R. One in a flight of three RB-45Cs flew nearly to Moscow and back on the night of 28-29 April 1954, causing the Soviet air defense system to go on full alert.

Electronic Intelligence was collected around the periphery of the U.S.S.R. by RB-29s, RB-50s, and later by RB-47s, primarily to identify air defense radars and keep the Soviet radar-order-of-battle up to date. In the early 1950s, the fighter and bomber air-order-of-battle for the northwestern Soviet Union was of primary concern, because, in the event of war, the main SAC bomber routes to the European U.S.S.R. would proceed through that area. General Curtis E. LeMay, the SAC Commander-in-Chief, needed to know for sure whether the Soviets had the bomber capability to strike the United States and whether the newer MiG-17, a much better fighter than the MiG-15 used in the Korean War, was operational in numbers. LeMay was a dedicated patriot and, as history is confirming, a very smart military strategist and tactician. I was fortunate enough to get to know him in the 1980s, before and during his time at Air Force Village West, a retirement community for military officers near March Air Force Base, California.



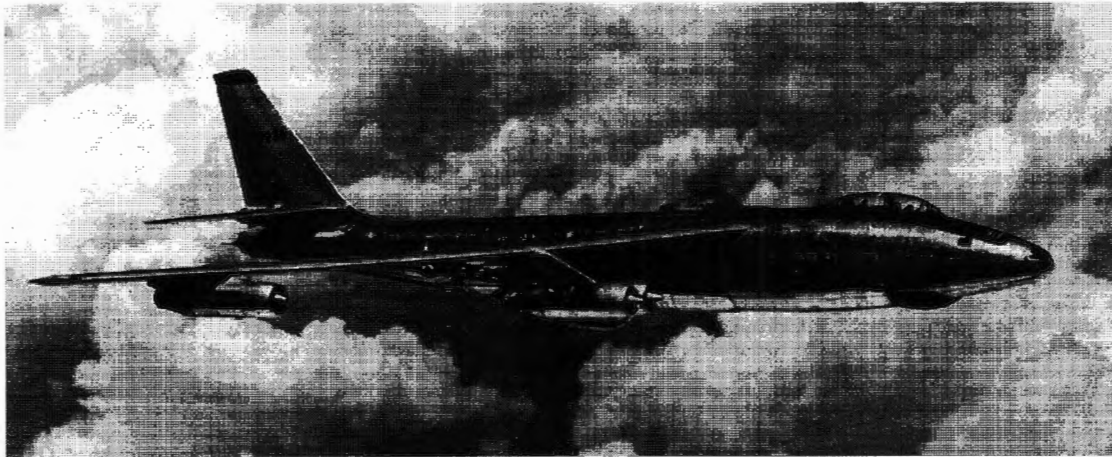
Courtesy of National Archives

**General Curtis E. LeMay, Commander-in-Chief, Strategic Air Command, October 1948 - July 1957.**

My crew was called upon to conduct an overflight of the northwestern part of the U.S.S.R. on 8 May 1954. I believe it was the first daylight mission over the European U.S.S.R. by a RB-47E visual photo aircraft and, unbeknownst to us, it would take place just nine days after the British stirred the air defense cauldron with their nighttime overflight. Prior to flying this mission, we had deployed from Lockbourne Air Force Base to England, and Carl Holt, my

Unclassified





U.S. Air Force Photo

**RB-47E in flight. Note the forward oblique camera window in the nose and the stinger in the tail.**

co-pilot, and Vance Heavilin, my navigator, and the remainder of the maintenance crew, had already been at Fairford Royal Air Force Base for a couple of weeks. On 6 May we were one of six RB-47E aircraft undertaking a peripheral reconnaissance mission to the north along the Scandinavian coast, roughly 50 miles out, to photograph the Spitsbergen Islands above 75 degrees north latitude. We refueled in the air under strict radio silence with our own KC-97 tankers an hour or so after takeoff in an area off Norway's coast. In retrospect, this mission was obviously a "feint" for a similar one to be conducted two days later.

Early on the morning of 8 May 1954, we were briefed to perform another peripheral mission, except that three aircraft would turn due east around the northern end of Norway and then proceed to a point 100 miles north of Murmansk, U.S.S.R., then reverse course and return to base. As my crew departed the briefing room, Col. Joe Preston, the Wing Commander, asked us to go down the hall with him to one of our target study rooms. Here two SAC colonels from headquarters met us—one of them an operations officer and the other an intelligence officer. On reaching the point 100 miles north of Murmansk, we were instructed to continue flying south and east into the Soviet Union, and to photograph airfields and industrial sites before turning west and leaving Soviet air space for the return flight over Finland, Sweden, and Norway to our base. We were to enter the U.S.S.R. at 40,000 feet and follow a route toward two airfields near Murmansk, then turn southeast toward another airfield, then two more in the vicinity of Arkhangelsk, and then on to the southwest to photograph four other targets on the way home. We were told to replace our planned mission maps with another set and that the other two aircraft

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Photo courtesy of Harold Austin

**Maj. Hal Austin ca. 1954.**

Photo courtesy of Harold Austin

**Capt. Vance Heavilin, ca. 1954.**

Photo courtesy of Carl Holt

**Capt. Carl Holt, ca. 1954.**

would not be accompanying us. The colonels gave us a strip map cut roughly 100 miles either side of the route of flight covering the nine targets and instructed Vance to destroy it, eat it if necessary, if anything happened to us!

We finished the briefing, boarded our aircraft, and the flight took-off about 0700, as we had two days earlier. This time we were number six to take-off on a routine run to the refueling area, where we topped off the fuel tanks with our KC-97 tankers, again maintaining radio silence. We then set a course to a point 100 miles north of Murmansk. In route we used radar station keeping technique, which is done by maintaining about a one-mile separation between aircraft. When we reached a point along the northwest corner of the Scandinavian coast, three aircraft proceeded north toward Spitsbergen, well above 75 degrees north, as all six had done two days before. My flight of three aircraft turned east toward the point 100 miles north of Murmansk. Upon arrival at that point, the other two aircraft reversed course toward Fairford, while my crew turned south toward Murmansk. Later, one of the other crews told us they thought we had lost our mind and almost broke radio silence to ask us what we were doing heading south, thought better of it, believing *we must have been briefed* to do something different.

During the morning briefing it had been indicated that our three aircraft flight was to proceed along the northern tier of the Soviet Union to gauge the reaction of their air defenses. Mission timing was so planned that my aircraft would coast in over Murmansk at high noon local time giving us the best visual photographic angle. We completed our climb to 40,000 feet, which

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was at least 4,000 feet above the optimum altitude for our gross weight at that point during the mission.

Condensation trails are always a real concern when flying in broad daylight over enemy territory, and we were pleased to see that we were not putting out contrails prior to reaching the Murmansk area. The weather was as briefed, clear, and you could see forever, no doubt the reason we were doing this particular mission that day. Yet, shortly after we arrived over Soviet territory we began putting out heavy contrails, which meant that we were visible both from the ground and in the air. As we neared the coast and Murmansk, we pushed the power up as much as possible, to about 420 knots true. The navigator, Vance Heavilin turned on the 0-15 radar and the Tri-met cameras. Copilot Carl Holt and I were looking all around for any sign of Soviet fighters. We made heading corrections while approaching the first airfield target and Vance turned on the K-38 target cameras, and then turned them off after we had proper overlap for target coverage. The same procedures were used with the K-38 cameras for the rest of the mission as we covered all nine airfields. Additional heading changes were necessary as we moved on to the next target almost due south of Murmansk and fifteen minutes or so after coast-in. We changed headings again toward target three and again toward the



**Soviet airfield located near Murmansk, USSR, imaged during the RB-47E mission on 8 May 1954.**



**Enlargement showing MiG fighter activity on the tarmac and runway.**

southeast, going toward targets four and five in the vicinity of Arkhangelsk.

Carl spotted a flight of three MiGs below us to the left rear well below our altitude, between the second and third airfield, no doubt checking whether we were friend or foe. As we moved on toward target four, a flight of six more MiGs showed up again to the left rear, a couple of hundred yards out, but closer to our altitude. We did not believe that either of the first two MiG flights were armed, but in fact were just sent up to check us out. The SAC Intelligence colonel had told us that we could outrun the MiG-15, and that the MiG-17 was probably not yet deployed in any large numbers. We were also briefed that both MiG fighters were armed with



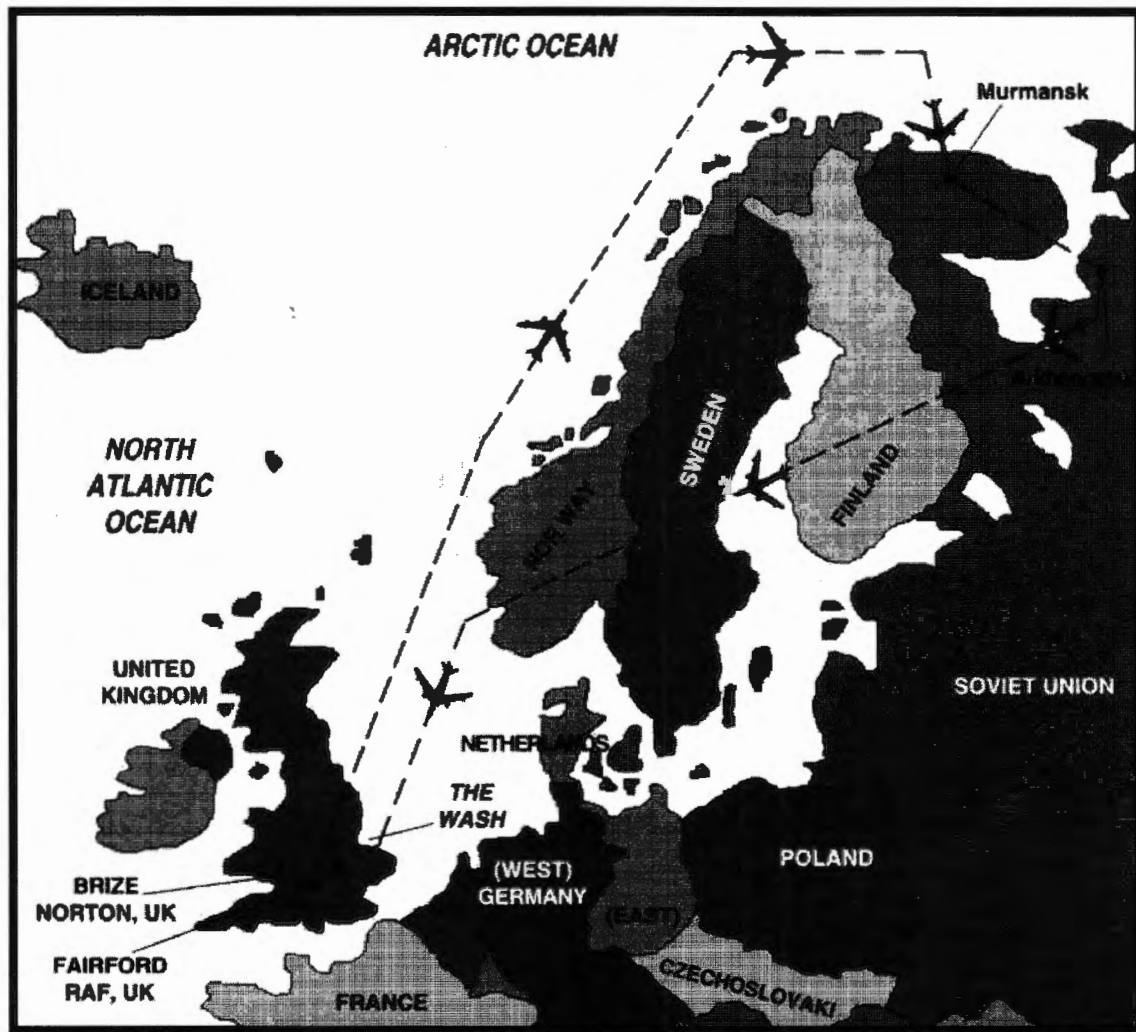
**Large industrial complex located near Kandalaksha, south of Murmansk, imaged during the RB-47E mission on 8 May 1954.**



**Enlargement showing industrial complex.**

23mm. cannon, and both were very unstable gun platforms at 40,000 feet, the reason we were instructed to fly at that altitude. Shortly after reaching our fourth target, however, a third flight of six MiGs, operating in two groups of three, arrived again to our left rear and nearly at our altitude. At this point we had been over Soviet territory for a little more than one half hour.

After completing coverage of target five we turned to the southwest toward the other four targets. Very soon a fourth flight of six MiGs again appeared at our left rear and, to our surprise, at our altitude. They began a pursuit, making firing passes at us one fighter at a time. Carl and I both said "HEY! These must be MiG-17s," and the next thing we knew we saw white phosphorus tracer shells going both above and below our aircraft. You can imagine what we were thinking about



Map courtesy of Harold Austin

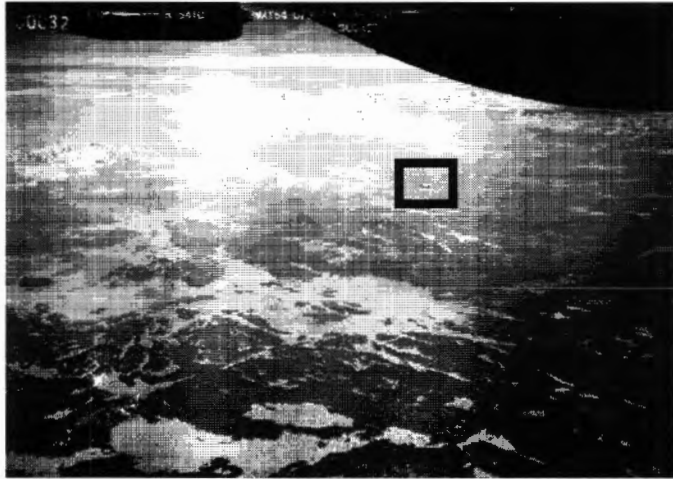
**RB-47E overflight route on 8 May 1954.**

the intelligence officer who had assured us “that significant numbers of MiG-17s have not yet been deployed!” Before coast in, Carl had rotated his seat to the rear, as is necessary to operate the tail guns on the RB-47E, and had checked out our two 20mm. cannons as well as the radar that operated them. When we started seeing tracers I told Carl to get turned around and fire at the next fighter approaching us. He was able to get the guns to “burp” only once for about two or three seconds as the third fighter was making his pass. However, it was enough to convince all of the other MiGs to stay further out to our left rear to avoid the 45-degree angle cone-of-fire of our guns. Carl said that the guns wouldn’t fire again—I said “you better kick something back there to get them to fire or the fighters will come right up our tail pipes and we are going to be dead ducks!”

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While this was going on we completed coverage of target six and Vance called for a left turn of about 30 degrees toward target seven. I banked the aircraft to the left starting the turn and about half way through, our intercom went dead and we felt something like "whap," or a bit of rough air as we rolled out on the new heading. I also decided enough of this 40,000 feet stuff and pushed the aircraft over and down about 4,000 feet and picked up about 20 knots indicated airspeed, which would make the MiG gun platform even more unstable! The ground crew chief told me later that he thought I had bent number 1 and 6 throttles during this maneuver.

In a tandem airplane without an operational intercom you are in a world of hurt. Also, our true airspeed being well over 450 knots made the noise very loud. I yelled at Carl to get out of his seat and into the aisle and tell me the next heading that Vance wanted. Our mission was to cover the briefed targets and I knew from past experience that the heading would need to be refined if we were going to get target coverage with the K-38 cameras. When Carl got down into the aisle he told me we must have been hit by one of the MiGs and that it knocked out our intercom. After the mission we determined that the fourth fighter of the fourth flight of MiGs had made the one lucky hit while we were in that left turn. The hit was through the top of our left wing, about eight feet or so out from the fuselage, with about a four-inch hole on top of the wing through the flap, making a much larger hole on the bottom. It then exploded into the fuselage in the area of



**One of the MiG-17s imaged by the RB-47E side-looking camera during the 8 May 1954 overflight.**



**Enlargement showing Soviet MiG-17 climbing in pursuit of the RB-47E.**

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the forward main wheel well and #1 main fuel tank with many shrapnel holes, the largest about nine-inches across and six-inches wide.

The other two MiGs in that flight made firing passes at us but were unable to hit us again. With Carl in the aisle passing Vance's heading information to me, we made a couple of small turns toward target eight. Yet another flight of six MiGs came up on our left rear, and again made firing passes at us without success. We proceeded on to the last airfield fairly close to the Finnish border. When we had covered it, we turned southwest toward friendlier territory with this flight of MiGs still making passes at us even after we had crossed into Finland. When these MiGs dropped off, we thought that was it, but yet another flight of three MiGs came up to check us out, probably not armed because we didn't see any tracers. The leader of this flight actually came up on our right wing, close enough to shake hands and just sat there for a few seconds before repeatedly dipping his left wing toward us. We found out some 40 years later that their combat tactics were to actually ram any intruder to knock them out of the sky as a last resort, if they were unable to shoot them down. I did not change my heading or do anything in reaction to his wing dipping. Our outbound flight would take us south of Helsinki and Stockholm, over the southern end of Norway, and back to the United Kingdom over the North Sea. The last flight of MiGs followed us nearly 100 miles into Finland. I firmly believe that my crew's reaction to the MiG attacks, and that we flew on to cover all assigned targets as briefed, reflects well on the good, tough, Curtis LeMay-type SAC training given combat crews during the Cold War.

Later back home, I cut two different articles out of the Columbus, Ohio, *Dispatch*, newspaper, the first dated 10 May 1954 with a Stockholm dateline. It read in part, "The Swedish Defense Staff Sunday reported another violation of Swedish territory by foreign planes of unnamed nationality. A communiqué said a group of planes "crossed into Sweden from Finland at high altitude," with officials in Helsinki confirming the accuracy of the Swedish report. The second article, dated 16 May 1954, with a Helsinki dateline, stated that "A Helsinki newspaper told today of an air battle between jet planes of unknown nationality over northern Finland. But the Finnish foreign ministry denied any such flight had taken place." At the end of the short article "a spokesman at U.S. Air Force headquarters in Wiesbaden said no American planes have been in the area."

Back during the SAC special briefing on 8 May, my crew was given a set of maps to replace those we had prepared for the mission that we thought we were going to fly. Preparing

such maps was standard practice and, of course, the pilot's maps were not in as much detail as the navigator's maps. Vance was given a strip map extending roughly 100 miles either side of our new planned flight route with details given for the airfield targets. His instructions were to eat the map if anything happened to us. We asked if we should examine the mission maps that first had been given to us, but the answer was "no need to since you are not going there anyway." These bogus maps had obviously been prepared to "prove" we had gotten lost were we shot or forced down inside Soviet territory.

Our excitement in this mission was far from over. We were convinced we had been hit once by the fourth flight of MiGs, but had no way of knowing the extent of damage. We knew for sure our intercom was out, but were unsure what if anything else was damaged. When the last MiGs departed, Carl was asked to take a fuel reading and Vance asked how our flight time was against that planned, to see where we stood on fuel. After both readings were completed it appeared we were only about 30 minutes behind plan in both cases, indicating we would not need to refuel to get back to the United Kingdom. One of our KC-97 tankers was flying in a refueling track some 50 miles off Stavanger, Norway. The tanker had a preset time to depart if there were no requests for air refueling, and so I checked with Vance to determine that time so I could call the tanker if it looked like we needed fuel to get back to the United Kingdom. A half-hour later we again reviewed our time and fuel status and it appeared we had fallen further behind schedule. We made the decision to climb to 43,000 feet and pull back the power to long-range cruise which meant it would take longer to get there, but we could then get more distance out of the fuel remaining.

At this point Vance suggested that I call the stand-by tanker, and as I started to call I realized there was no feedback on the headset, like you normally hear when transmitting. The thought then occurred that we had lost our UHF radio too. We knew the UHF set was located behind the forward main gear area, the general location of the intercom equipment. I asked Carl and Vance to check their radio to see if they could transmit and they had the same results. The radio appeared to be dead. By this time we were nearing the point to start a let down toward the stand-by tanker. Air refueling between the KC-97 and the RB-47 was normally conducted while descending to around 12,000 to 15,000 feet or so, descending some more if necessary so the prop-engine tanker would have enough speed to accommodate the jet-engine bomber. But I was not about to descend without radio contact with the tanker. Within 75 miles or so of the tanker's



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location I heard on the radio a garbled transmission from our tanker's call sign that stated it was leaving the assigned area at the appointed time. I doubled checked with Vance on the time and he said that's about the right time for him to leave. We again took readings on time and fuel status and, as expected, we were falling further behind on time and Carl said we no longer had enough fuel to get back to England. He also said that if we had to bail out, and if we survived, how could we prove where we had been without the film in our cameras! Over the next half-hour, well out over the North Sea, we doubled-checked the winds, our fuel consumption, and headings to the nearest bases in England. I was convinced we could reach at least one of them and hopefully be able to contact our stand-by KC-97 tanker stationed at Mildenhall. Carl was quite concerned that there was no way we could get to one of the bases in the United Kingdom, and, because we were without radios, we had no way to contact the stand-by tanker. The thought did cross my mind that no one had ever tried to "dead-stick" a B-47—that is land without fuel or any of the six engines running. We were approaching a point where even if we turned around, it was doubtful that we could get back to Stavanger, Norway, to make an emergency landing.

As we reached a point about 150 miles north of Mildenhall, I started calling in the blind on our command-post "common" frequency for the stand-by tanker, the frequency our radio was apparently stuck on. We normally left the UHF radio on that frequency and since our radio would not channel, if it was working at all the tanker would hear our call from our position at that time. I was pretty sure we could get to Mildenhall, Sculthorpe, or Brize-Norton Royal Air Force bases with all six engines running. I continued calling in the blind every couple of minutes for our stand-by Mildenhall tanker. We made the decision to start a slow descent, reducing power and trading altitude for distance. Vance was checking the coastline with radar and pretty soon I could make out what appeared to be The Wash area of the northeast United Kingdom. It was now late afternoon and the weather was still great as it had been for the entire flight, a real plus in our situation.

Jim Rigley was the aircraft commander of the stand-by KC-97 at Mildenhall, near the end of the primary runway, and he knew that six of our RB-47s had gone through the air refueling area off Stavanger that morning and that only five had returned. He also had several members of his crew listening on the radio and others up front looking north for the sixth aircraft. One of the crew heard a garbled transmission and thought they recognized my voice. In those days we worked air-refueling training mostly with our own tanker crews so it was not at all

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uncommon for aircraft commanders to recognize each other's voice on the radio. Jim Rigley knew he would be of no use to us on the ground, if, in fact, it had been my voice he heard on our command-post common frequency. He contacted the tower for take-off clearance and was advised to wait five minutes for traffic to clear. Jim told the tower he could not wait because of an emergency situation with an airborne RB-47 and took off immediately! Of course he promptly received a violation from the tower and also from British air traffic control. General LeMay, however, later praised him for his initiative and had both aerial violations removed from his record.

By the time Jim got airborne we were descending to about 10,000 feet, reaching a point where we either had to land at Mildenhall or go for the tanker. We definitely wanted to return to Fairford if at all possible, knowing we had some very sensitive and important film onboard. I could see Mildenhall and all of a sudden an airborne KC-97. What a great sight! I had never before been more thrilled to see another airplane than I was to see that KC-97 that day! I immediately flew toward it using RB-45C rendezvous procedures. We were to fly under the tanker to indicate we were there, causing him to increase his power to pick up airspeed. Then we would pull-up in front of the tanker kill airspeed, wing over as we slowed down to keep the tanker in sight, and then work our way back under the tanker into refueling position.

Carl was concerned we were going to run out of fuel before we could make refueling contact, so I told him to open all three main fuel tanks so we would be ready to take on about 10,000 pounds of fuel before proceeding to Fairford. Jim Rigley, meanwhile, had climbed to barely 3,000 feet when we flew under his tanker to let him know we were anxious to get some fuel. He pushed up to maximum power, had the operator drop the boom into refueling position to begin the transfer. Without a doubt, that was the quickest and smoothest approach to refueling and boom contact I had ever made in my three-plus years of air refueling experience to that time behind KB-29 and KC-97 tankers. I yelled at Carl, who had spent most of his time in the aisle after we lost the intercom, to tell me when we were taking on fuel, when we had 10,000 pounds, and when we had a heading to Fairford from Vance. We did all of that in record time, I saluted the boom operator, hit the disconnect button, and headed for Fairford.

The word was passed that it would only take us about 20 to 25 minutes to get to Fairford if we stayed at low altitude. We not only stayed low, but I also pushed the throttles up a little and in no time we could see our destination. To establish contact, we elected to buzz the tower,

which gave us a green light. We turned to a down-wind leg, let the gear down, and were thrilled when all four wheels indicated in the green. We went to 20 percent flaps, which, much to my relief, worked, turned base leg, then final, went to full flaps, and landed.

As we were taxiing toward our parking spot we sighted the largest crowd we had ever seen on returning from a flight; it appeared that the whole detachment of eight RB-47 flight and ground crews were gathered there. Of course we were well over an hour late and without radios. The first one up the ladder was our ground crew chief, eyes as big as silver dollars, who exclaimed, "what the hell kind of bird did you hit—a big gull?" Flying in the United Kingdom, there were very friendly sea gulls around the bases and when hit they tended to make a sizeable dent in the wing or engine cowl, or, when sucked into an engine, causing it to shell-out. We could not tell him what it was we had hit, but we could hardly wait to see the damage. Our wing commander, Col. Preston, let us peek at the damage before telling us to get in his staff car. He took us to our Quonset hut to shower and change into Class A uniform's before being whisked off to the U.S. Ambassador's home in London. When we arrived, the Ambassador to the Court of

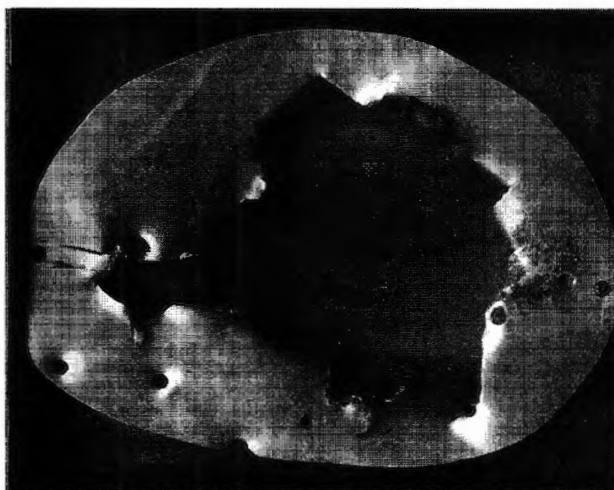


Photo courtesy of Harold Austin

**The RB-47E encounter with a Soviet MiG-17's 23mm cannon round is evident by this skin fragment salvaged by the ground crew and presented to Austin.**

St. James, the Honorable Winthrop W. Aldrich, offered us a drink, which we gratefully accepted, and then asked us to go into the yard because, he confided, the house might be bugged! Out in the garden, he asked us to brief him on Soviet air defenses, which we did, including the account of being hit by Soviet MiG fire. We were not there very long, but Mr. Aldrich asked that we return to the base, get some sleep, and, since our aircraft would need some patching, take another airplane home directly to Lockbourne Air Force Base. We were then to proceed immediately to Offutt Air Force Base in Bellevue, Nebraska, south of Omaha, to brief General LeMay. That he reported this near-international incident to his boss, the Secretary of State, I think followed without his saying it. To be sure, six months later in November, President Dwight Eisenhower

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approved the start of work on the U-2 aircraft that could fly at altitudes above current Soviet air defenses. As far as we know, our mission was the last (and perhaps the first) daytime overflight of European Russia made by an American reconnaissance bomber.

Early the next morning, on 9 May, we departed for Lockbourne in another aircraft, met one of our tankers off the west coast of the United Kingdom, topped off our tanks, and proceeded non-stop to Lockbourne. The wing commander arranged for our wives to meet us at the airplane, told us to talk to no one except to conduct the usual maintenance debriefing, to go home and be back to base operations at 0700 for departure to Offutt Air Force Base aboard a B-25. At Offutt on 10 May we were met by a colonel who took us in a staff car to General LeMay's office in SAC headquarters, at that time located in the old World War II Martin Aircraft Plant. In my nine-year military career, I had never seen so many stars assembled. General LeMay had four; Lt. Gen. Thomas S. Power, Vice-Commander of SAC, had three; the Chief of Staff had two, the Director of Operations two, and the chief of intelligence, one. After offering his congratulations

for a mission well done, LeMay's first question was why we were not shot down with that many MiG-17s after us? "Sir," I replied, "they were not willing to come right up our tail pipes." General LeMay said that he was firmly convinced fighter pilots were cowards anyway. Then he asked about the tail guns, and Carl answered that he was only able to get them to "burp" once for about two seconds,

but that had been enough to cause the fighters to stay out of the guns effective envelop, which probably saved us. We discussed the mission for well over an hour, before again being individually congratulated by each of the officers on our professional execution of the mission. We were told not to discuss the mission with anyone, a promise the three of us kept for some 40 years. Almost



Photo courtesy of Harold Austin

**1994 Reunion of the RB-47E Kola Peninsula overflight crew. Left-to-Right: Vance Heavilin, Hal Austin, and Carl Holt.**

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every one in our wing knew that we had flown some kind of a special mission, but were kind enough never to ask about it.

My crew was soon separated and reassigned, as you would expect under the circumstances. Vance transferred to MacDill Air Force Base in Florida to be a SAC navigator evaluator. Carl checked out as an aircraft commander and was given his own crew in the 91<sup>st</sup> SRW, and I was sent to a different stand board crew for a brief period before being assigned to be chief of maintenance for the wing.

After a couple of months had passed, Carl Holt and I were told one day to report to Lockbourne base operations for reasons unspecified. A short while later a K-97 aircraft landed and General LeMay got out. He came straight toward Carl and I. After shaking our hands he ask us to follow him inside, telling the others with him to stay out. He closed the door of the briefing room and proceeded to decorate us both with the Distinguished Flying Cross with oak leaf



**Hal Austin, former Secretary of the Air Force Tom Reed, and Carl Holt at the Early Cold War Overflights Symposium on 22 February 2001. (Vance Heavilin died in January 1998)**

cluster. He said that these two awards he could approve, and were in lieu of a Silver Star, which we deserved. But a Silver Star required a formal request to an awards committee in Washington, D.C., which he wished to avoid. First, he said, the committee would probably screw it up, and, second, he would have to tell too damn many people who weren't cleared to know about overflights of denied territory,

exactly why such a decoration was being awarded. Thereafter, for the balance of my career, Air Force personnel people bugged me about how I received two Distinguished Flying Crosses for just one mission, and I would just show them a copy of the orders. In Florida, the commander at MacDill Air Force Base presented the two DFCs to Vance Heavilin with the comment: "it must have been one hell of a mission!" Vance said he smiled, but did not respond.

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## Overflight of the Franz Josef Land Archipelago

*Roy E. Kaden*

An overflight of the Franz Josef Land archipelago in the U.S.S.R. took place on 17 September 1952. The aircraft selected for this 14-hour unrefueled flight was an RB-50E manned by a 12-man combat reconnaissance crew of the 38<sup>th</sup> Reconnaissance Squadron, 55<sup>th</sup> Strategic Reconnaissance Wing, both units home-based at Ramey Air Force Base in Puerto Rico. The aircraft launched from Thule Air Base in Greenland, then under construction, and it is the opinion of the four living members of the aircrew that this "overflight" into completely unknown Soviet arctic territory numbered among the most hazardous and unheralded intelligence missions of the early Cold War.

The Franz Josef Archipelago consists of a group of approximately 190 islands in the high Arctic Ocean adjacent to the Barents Sea, above 80 degrees north latitude, and between 45 and 60 degrees east longitude. It is the northern-most land in the Eastern Hemisphere. The island grouping is approximately 180 nautical miles long and 110 nautical miles wide. The most eastern islands are 500 nautical miles west of the Soviet air base at Dikson, and 250 nautical miles north of the Soviet island of Novaya Zemlya. The islands themselves are 85 to 95 percent ice covered and low-lying, with the highest point reaching approximately 2,000 feet above sea level. The archipelago has a harsh climate with extremely cold winters and unstable weather, with average winter temperatures registering between minus 25 to minus 30 degrees Centigrade.

In 1952 the 38<sup>th</sup> Reconnaissance Squadron flew RB-50Es that normally operated with a crew of ten. Our assigned crew, however, was augmented with an additional navigator and photographer because of the exceptional requirements of the project. Our crew members were: Maj. Roy E. Kaden, aircraft commander, 1<sup>st</sup> Lt. Thomas McMillian, co-pilot, Captains Jack E. Welch, navigator, and Donald M. Burkhead, additional navigator, Maj. Grover G. Heiman, radar navigator, Capt. Earl L. Schureman, electronic countermeasures observer, Technical Sergeant John D. Goolsbee, flight engineer, Technical Sergeant Charles L. Morrell, CFC (central fire control) gunner, Staff Sergeant Robert A. Fagan, photographer, Technical Sergeant Roscoe C.

Lindsay, added photographer, Staff Sergeant Elmer M. Fiedler, waist gunner, and Staff Sergeant James R. Turner, tail gunner. Technical Sergeant Goolsbee replaced our regular flight engineer.

With the Korean War in progress, intelligence reports indicated that Soviet TU-4 bombers, similar in design and capabilities to the U.S. Air Force B-29 Superfortress, were being staged onto the airfield at Dikson on the northwestern coast of Soviet Siberia, at the mouth of the



Photo courtesy of Roy Kaden

**Crew of the RB-50E "High and Lonesome," ca. January 1951.  
Standing L-to-R: Maj. Roy Kaden, Lt. Thomas McMillian, Capt. Jack Welch, Maj. Grover Heiman, Capt. Earl Schureman. Kneeling L-to-R: MSgt. Albert Nickodemus, SSgt. Robert Fagan, SSgt. Elmer Fiedler, SSgt. James Turner, TSgt. Charles Morrell.**

Yenisey river that empties into the Kara Sea. With nuclear weapons, these bombers, built in the hundreds, posed a direct threat to the continental United States because they could be employed on one-way bombing missions across the high arctic to strike targets in North America. In July 1952 a request was submitted to high-level government and military officials for approval of a

photographic and electronic reconnaissance overflight of the islands of Franz Josef Land. The purpose of the mission was twofold: to determine whether the Soviets were establishing air fields there capable of basing TU-4s, and to conduct an electronic signal search to determine whether they had established operating radar facilities in the archipelago. At what level this request was initiated is unknown, but owing to its high degree of political sensitivity and proximate timing with a Presidentially-approved eastern Siberian overflight,\* we believe only the President could have approved it.

\*See Donald E. Hillman's memoir "A Daytime overflight of Soviet Siberia" in this volume. Ed.



I presume that this information was deemed critical and vital; not only for U.S. defense planning, but also for war planning that included plotting the course of bomber streams over the high arctic into central and European Russia. In the event of hostilities between the United States and the Soviet Union, these bomber flights would be essential to our ability to launch offensive operations in response to an atomic attack. The Franz Josef Land islands were astride the flight path that some of these bomber streams would be required to take.

From 5 April until 8 August 1952, the 38<sup>th</sup> Reconnaissance Squadron was on a routine deployment in the United Kingdom on project "Round Out." Initially flying out of the Royal Air Force Base at Sculthorpe, England, the squadron relocated on 15 May to the RAF base at Upper Heyford. During this deployment, the squadron engaged in the Peacetime Airborne Reconnaissance Program known as PARPRO, where electronic intelligence and photographic reconnaissance missions were flown over the Baltic Sea, within the Berlin air corridors, and over other areas of interest near the periphery of East Bloc states. These flights, which were restricted to distances no closer than 40 miles of the Soviet border, lasted from 12 to 15 hours. Thus, in July 1952, intelligence personnel at U.S. Air Force headquarters in London requested that the 38<sup>th</sup> Reconnaissance Squadron provide a navigator and a flight engineer to conduct a feasibility study for a special top secret, electronic and photoreconnaissance mission from a base in the United Kingdom. In response, our squadron commander, Lt. Col. Lee R. Williams, dispatched a navigator, Maj. William J. Sommers, and a flight engineer, 2<sup>nd</sup> Lt. James P. Rosen, to London. At this meeting with U.S. Air Force intelligence personnel, Sommers and Rosen first learned of a directed overflight of Franz Josef Land. After evaluating the requirements, Major Sommers, Lt. Rosen, and the intelligence personnel concluded that the requirement could not be met with confidence using an RB-50 based in the United Kingdom because of the distances involved. The 38<sup>th</sup> Reconnaissance Squadron thus returned to Ramey Air Force Base in Puerto Rico from the United Kingdom on 8 August 1952. Upon our arrival, the flight crews and personnel of the 55<sup>th</sup> Strategic Reconnaissance Wing were beginning to prepare for a PCS move from Ramey to Forbes Air Force Base in Topeka, Kansas. Our squadron aircrews and personnel were soon very busy packing and arranging for the shipment of household goods, vehicles, wives, and children for the projected move later that month. As things turned out, our crew would not move immediately with the rest of the wing, but would join our families at a later date.

On 13 August 1952, Headquarters 55<sup>th</sup> SRW directed that the 38<sup>th</sup> Reconnaissance Squadron provide an aircraft and crew to fly a special top secret photographic, and electronic intelligence reconnaissance mission from Thule Air Base in Greenland. Our squadron commander asked me whether my crew would volunteer for this assignment. What do you say? To me this seemed to be the most logical choice. We were a complete crew that had flown together for some time, including responsibility for single aircraft overseas assignments. We had had the same aircraft for the past three years, an RB-50E, #47-130, and had named it "High and Lonesome." We were fully confident of our own professional experience and ability and that of our fellow crewmen. In addition, we had one of the few aircraft that had an installed K-30 100-inch focal length oblique camera, normally employed to provide high definition photography of installations or targets from a considerable distance. Our other camera installations included three cameras with 6-inch focal length in a tri-met setup for photo-mapping, a four camera, multi-station installation with 36-inch focal length cameras in two mounts capable of high resolution target acquisition, and a 12-inch focal length camera in a stabilized vertical mount.

The next several days were busy ones because the families of the crew had to be assisted in their preparation for the move back to the states. The crew devoted much of the available time to preparing the aircraft. Systems were checked; engines were stripped down and evaluated for discrepancies and run up, camera installations inspected, cleaned, checked for operation, and film magazines loaded. The two racks of electronic countermeasures equipment were operationally checked along with the radio equipment. Guns were cleaned, turrets operated, and fully loaded with 50-caliber ammunition. Our required survival and personal equipment would be loaded last.

On 28 August 1952 we were confident that our aircraft was ready for the project and two days later we received our temporary duty orders (55<sup>th</sup> Strategic Reconnaissance Wing LO #52-509 dated 29 August). The orders did not specify a destination or a purpose. I received verbal instructions to report with our aircrew to Headquarters Second Air Force at Barksdale Air Force Base, Louisiana, for a briefing by Strategic Air Command intelligence officials. The aircrew members, the squadron intelligence officer, Maj. Bernard Zimmerman, and our crew chief would proceed there on our aircraft. The maintenance specialist team bringing the maintenance flyaway spare parts kit would follow on a C-97 Military Air Transport Service aircraft. Having received our temporary duty orders, we departed Ramey Air Force Base on 1 September. We made a

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nighttime flight to Barksdale Air Force Base to receive our briefing for the mission. After getting some rest we contacted the Strategic Air Command intelligence briefing personnel and arranged for our briefing on the morning of 2 September. In the meantime, we serviced and checked the aircraft for the next leg of the flight.

That next morning, the SAC briefing team presented the photographic and electronic intercept objectives to be accomplished on an "overflight" of the Franz Josef Land archipelago from the air base at Thule, Greenland. To the best of our recollection, we were briefed to obtain photography while flying over the archipelago at a flight altitude of 20,000 feet. Without the availability of our flight records, we cannot recall with certainty which islands were briefed to be of special interest. The islands of Zemlya Aleksandry and Graham-Bell are distinct possibilities because each shared flat terrain needed for air base construction. At the time of our flight, there had been considerable speculation in the news media to the effect that Rudolf Island was home to a possible Soviet TU-4 bomber base. In addition to photography, a comprehensive electronic intercept search was to be conducted for signals transmitted by Soviet radars. No specific frequencies or bands-to-search were suggested. The purpose of the mission was to obtain all possible intelligence information relative to a Soviet military presence in the archipelago, about which Strategic Air Command headquarters knew nothing. To the flight crew, the briefed mission requirements were nothing more than a routine reconnaissance sortie. What made the requirements exceptional were the hazards of the high arctic operational environment, and that we would be almost 1,500 miles from Thule with no place to land in the event of an emergency. In addition we would be flying into an area where an unknown potential existed for hostile Soviet



U.S. Air Force Photo

**Base Operations at Thule, Greenland, ca. 1952.**

Unclassified

fighter attacks.

With the briefing in progress it became apparent that briefing personnel could tell us very little about what to expect. They had no information to impart other than the perceived possibility of Soviet activity or air base installations. They had no information relative to the environmental hazards of the islands because the charts were based on nineteenth century information, and because there was not even positive assurance that the location of the archipelago itself was accurate. Knowing that we would be invading and violating Soviet territory, we were interested in the possibility of encountering Soviet fighters. The Soviets had shot down an RB-29 a few months before; we were well aware of the risks involved. We asked about the possibilities of a rescue operation in the event we had an emergency. The SAC officers replied honestly: rescue would not be possible. I then asked about a Navy submarine contact, surveillance, or pick up. They said forget it. Ditching in arctic waters was not an option in my book. Following the briefing, there was no question in our minds that if we had a problem we were on our own. Weather over the archipelago was a controlling factor from the photographic standpoint. We were briefed to inform those at Headquarters Strategic Air Command when we were in position at Thule and ready to fly the mission. SAC weather forecasters would attempt to forecast the best photographic weather conditions for our mission, and on that basis they would send us an execute order.

Following a rest period, we took off for the air base at Goose Bay, Labrador. We serviced the aircraft, rested, and

on 4 September made an early morning take-off for the air base at Thule. A Military Air Transport Service C-97 transporting our maintenance support team with our fly away spare parts kit joined us at Goose Bay. The next morning the C-97 accompanied our aircraft to Thule. Maj. Bernard Zimmerman, our non-rated squadron intelligence officer, assumed supervision of this



Photo courtesy of Grover Heiman

**Living quarters at Thule, September 1952.**

team and served as security control officer. He would be my ground representative while we were on the flight. Upon arrival at Thule, I informed Headquarters Strategic Air Command that we were in place awaiting an execution order. The ground crew serviced the aircraft and, following this, everyone was issued the essential arctic clothing and assigned quarters in a building that resembled a cold storage box. Thule Air Base, on which construction had begun in May 1951, featured rudimentary facilities still being assembled. Needless to say, we found the temperature quite a change from Puerto Rico.

While waiting for a break in the weather over Franz Josef Land, we determined that the outside ramp area was not a suitable place to park our aircraft if we were to maintain it in a constant state of readiness. One solitary black-colored hangar had recently been erected and I decided that such a place was just what I needed. While meeting with the base commander, I asked if he could provide us with hangar space. Because he had no knowledge of our project, he declined. I advised him about the importance of our being at Thule, that I received my orders directly from Headquarters Strategic Air Command, and suggested he call the command. I do not know if he did or not, but he soon advised me that hangar space had been arranged.



Photo courtesy of Grover Heiman

**Rescue airplane outside of the only completed hangar at Thule, September 1952.**

At Thule, we were provided with a vehicle and the base staff was most helpful, but we soon found out that we had security problems. Shortly after we arrived, newspaper and magazine reporters appeared at Thule, flown in by the U.S. Air Force for public relations to showcase this formerly secret base to the public. Why did they have to be here at this particular time? Public affairs officers, of course, would have had no knowledge of our overflight mission, but we became concerned that it could be compromised. The journalists approached aircrew members and asked questions. Dining with us at the same time in the mess hall, they inquired: "How long

have you been here?" or "What is your job here?" The questions seemed routine enough for the permanent party, but we avoided answering them. Our RB-50 was in and out of the hangar for maintenance and preparation purposes, and the media people could not help but observe the novel bomber that mounted wing tanks. It certainly was not the usual transport aircraft. On the day of our overflight we took off in the early morning hours and returned after dark, having flown 14 plus hours. An astute observer could calculate a radius of action and guess where we had been.

In fact, one of the journalists present wrote an article that appeared in *The New York Times* two days after our mission, on 19 September 1952, in which he opined: "If the Russians have anything comparable [with Thule] in the way of advanced polar bases such bases are generally thought to be in the Franz Josef Land group of islands. Officials would not comment about the probability beyond saying, in answer to press questions, that the Franz Josef Land terrain was suitable for air base construction."\* President Harry S. Truman's approval of the overflight of Wrangel Island and Eastern Siberia in search of air bases was secured a few months earlier, on 2 August 1952, before the 38<sup>th</sup> Reconnaissance Squadron returned to Puerto Rico from the United Kingdom on 8 August. Our flight crew and support team were assembled and alerted to prepare for the Franz Josef Land mission a few days later. But the planning and after action records have not been found. I received all orders and direction from Headquarters Strategic Air Command. Why were we briefed and debriefed at Headquarters Second Air Force in Louisiana rather than at SAC headquarters in Omaha? Many more questions regarding our mission remain unanswered, and perhaps will never be answered. The compartmented security that cloaked this mission prohibited revealing its details and accomplishments for nearly 50 years, and now it is too late; the records doubtless destroyed and the key participants deceased, their recollections carried to the grave.

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\*Austin Stevens, "U.S. Creates Huge Air Base in Far North of Greenland," *The New York Times*, 19 September 1952, p. 1 (quote at p. 5). Cf., "Birth of a Base: Now U.S. Can be Told of the Huge Effort to Build 'Blue Jay' in Northern Greenland." *Life*, 22 September 1952, pp. 130-151. Without a byline, the account affirmed: "This week the Defense Department gave the public the first detailed announcement of the nation's biggest secret military operation since . . . the Normandy invasion: the establishment on Greenland, only 900 miles from the North Pole, of a full-scale, year-around base for big bombers. . . . The Russians are rumored to have set up a counterpart to Thule somewhere in Franz Josef Land" (quote at p. 130). Ed.

In any event, on 8 September 1952 we received orders to execute the mission. The SAC weather forecasters advised that we should take off next morning. We planned the overflight so that the sun would be over the islands when we arrived to give us the best possible light conditions for the photography. This dictated a take-off in the pre-dawn darkness. I filed a "round robin" flight plan with base operations for a flight time of 15 hours. Our alternative, in the event Thule was socked in on our return, was the air base at Sondrestrom Fjord some 750 miles south of Thule.

The next morning, with the crew in place, we started engines, received the light signal for taxi clearance and moved into #1 position at the head of the runway. While performing the pre-take off checklist and engine run-up, the flight engineer, T/Sgt. Goolsbee, informed me that we had a problem: we had no control over the #2 engine propeller. On investigating, Goolsbee observed electrical arcing near the propeller governor junction box. Canceling the flight for that day, we taxied back to the ramp, shut everything down, and went to work. I closed out our flight clearance and advised SAC of the reason for the abort.

With the aircraft in the hangar, work proceeded to repair the electrical malfunction encountered with the propeller operation. When this work was completed, the aircraft was towed out, the engine run-up, and the propeller operation checked. During the engine run-up, however, a fuel leak was discovered in a right wing fuel cell. The tank was de-fueled, repaired with much



Photo courtesy of Grover Heiman

**Open storage at Thule, September 1952. Note ice-filled North Star Bay in the background.**

difficulty, and refueled. At the same time, we topped off the remaining fuel tanks. The dramatic change in temperature and humidity between Puerto Rico and Thule evidently had created some problems. On 10 September I advised SAC once again that the aircraft was in commission and that we were on standby awaiting orders to

execute the mission. This wait period provided additional time to review and recheck all aircraft systems. I was determined that there would not be another last minute abort.

After was seemed a very long wait, on 16 September orders were received directing us to proceed with the mission. Take-off was established for the early morning hours of 17 September. That next morning, however, was one of those days that you don't like and don't want to think about. The base was enveloped in a dense ice fog. The darkness along with the poor visibility made walking to the mess hall and on to the hangar a navigational exercise for all of our people. I again filed a round robin flight plan as before, with the estimated time of 15 hours. Visibility was 1/8th of a mile or less. Radio communication and light signals from the tower were not an option, but there was no inbound traffic to hinder our take-off.

After starting engines and preparing to taxi, the fog became so thick that I could not readily discern the taxi strip leading to the runway. A follow-me vehicle led us slowly down the taxi strip, turned us onto the runway centerline, and departed. Despite the fact that the runway lights were at high intensity, I could only see one light on either side of the runway. On lining up on the centerline, I checked all of my instruments, and set my directional gyrocompass to the runway heading. Technical Sergeant John Goolsbee made an engine run-up check, my checklist had been completed, and the engineer was ready. I advanced the throttles, the power was up, and the take-off roll began into the fog. Despite the lack of visibility and the fact that this was a strictly "no-see" instrument take-off, lift off was smooth and I called for gear up. Now we were on our way to our rendezvous with Franz Josef Land. T/Sgt Goolsbee, our flight engineer, set the power for climb-out while Grover Heiman, our radar navigator, monitored our climb over Baffin Bay. At 6,000 feet, as we continued to climb, I made a right turn to our planned map grid heading where we leveled off on top of a lower cloud deck at about 18,000 feet.

Shortly thereafter, we started the fuel transfer from the 700-gallon pylon fuel tanks mounted beneath each outboard wing panel. Soon after the transfer began, Goolsbee advised me that he had a problem with the transfer. The fuel booster pump circuit breaker for the right pylon tank had popped out, and after trying to reset it several times he could not get it to stay set. It was apparent that we that we had a booster pump failure. We continued with the fuel transfer from the left pylon tank because our calculations indicated that even without the unavailable 600 to 700 gallons in the right pylon tank, we would be able to complete the mission.





Photo courtesy of Grover Heiman

**Navigator Jack Welch with Thule's first motorcycle that flew to Greenland on board "High and Lonesome," September 1952.**

Navigation in the "high arctic" requires a totally different approach as well as a high degree of professional ability and experience. Normal long-range navigation procedures conducted in the lower latitudes cannot be employed in the arctic above 70 degrees north latitude, and require extra attention to detail. The

establishment of a direction to maintain a true course is one of the most difficult problems. It is not possible to employ a magnetic compass for direction because of errors imposed by the location and orientation of the magnetic pole. A directional gyrocompass heading also degrades near the pole. A fluxgate compass is best, but at the poles it loses some effect and requires constant resetting according to the navigator's plot as the flight progresses. To assist in solving the problem of true direction, a SAC-devised navigation system known as GRID navigation is employed. It requires plotting a true course as a grid course. The establishment of a grid direction is derived from the angular relationship in degrees from the true course and a meridian of longitude at the starting point. The grid direction remains constant for its length to the ending point. Jack Welch, our primary navigator,\* and Donald Burkhead, who was assigned to augment our navigational crew for this mission, and our radar navigator Grover Heiman, planned and implemented the navigational part of the mission. The RB-50 had a communication tunnel running over the top of the bomb bays similar to that on a B-29. On the forward end of the tunnel was a plastic dome, called an astrodome, in which sat an astrocompass. Welch sat in the forward end of tunnel under the dome using the astrocompass to take almost constant readings

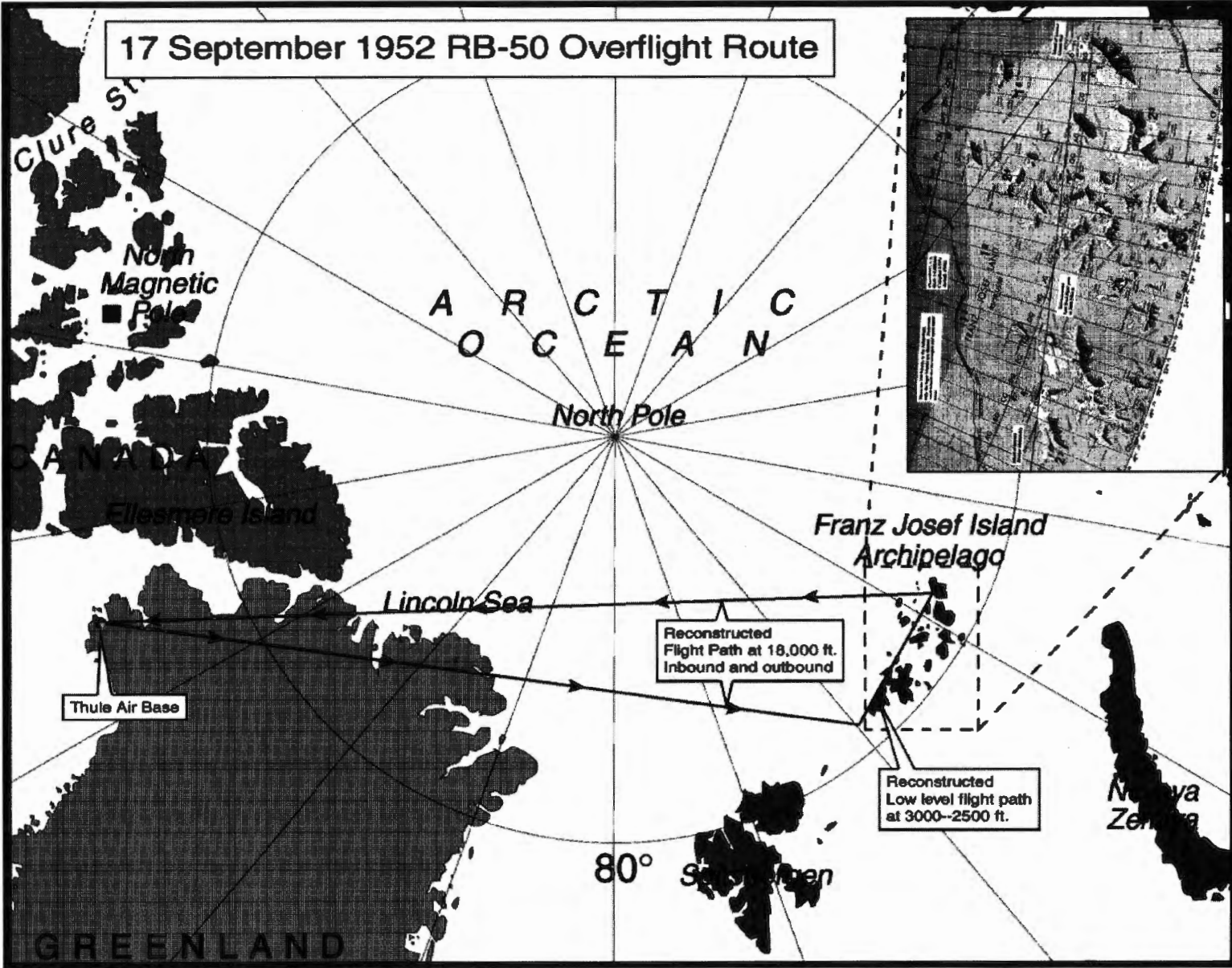
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\*Maj. Jack Welsh subsequently served as the primary navigator for Col. Patrick D. Fleming in flight tests of the B-52, and died with him in the crash of a B-52 at Castle AFB, California, in 1956. See Hyko Gayikian's memoir "Meteorology for Project Home Run, and Other Special Operations" in this volume. Ed.

on the azimuth of the sun. Burkhead, who had the most difficult job, worked at the navigator's desk in the nose of the aircraft. He was responsible for maintaining a dead reckoning plot of position, applying and averaging the astrocompass readings given to him by Welch, so as to plot an accurate line of position, compute wind direction, velocity, and ground speed. The progression of the flight required nearly constant corrections to the fluxgate compass. Again, the grid course was always the same. True course changed with the passage of each meridian of longitude. Maintaining 18,000 feet with the grid course established, Welch and Burkhead were well into their routine with Welch obtaining azimuth readings on the sun and Burkhead doing the plotting. Heiman assisted both by providing radar fixes of position while over Greenland, although in 1952 the reliability of the charts we were using was questionable because of inaccurate or incomplete surveys possibly resulting in errors of several miles.

After leaving the northeast coast of Greenland, we passed our last possible land and radar checkpoint and faced some 1,000 miles of open water in the Arctic Ocean, now the only thing separating us from the Franz Josef Land archipelago. The accuracy of the navigation from this point on depended entirely upon the accuracy of sun observations, the attention to the details of the dead reckoning plot, and the navigator's computation of the wind direction and velocity. At this time I alerted the crew and instructed the gunners to operate the turrets and to test fire the guns. The firing of the guns and the operation of the turrets without problems proved that our defensive systems were ready.

With the flight proceeding normally, we remained at our cruising altitude over a cloud deck in order to observe the sun. Approximately six hours into the flight, Burkhead told the crew that according to his plot the islands were not much farther. Heiman, with his radar at long range, was beginning to see some of the islands creep up on his scope. Earl Schureman, the electronic countermeasures observer, had two racks of signal acquisition equipment, as well as radio equipment, and during the inbound flight he was frequently advising us that his search for electronic or radar signals on all bands was producing nothing. A good sign for us, perhaps. Flying above a lower overcast cloud deck as we were, it was obvious that photography from the planned altitude was impossible. As Schureman was not receiving any signals indicating probable Soviet radar activity, I started a descent, breaking out at about 12,000 feet flying between cloud layers. The islands were fast approaching and Heiman was giving us a blow-by-blow report on the islands. The Strategic Air Command weather forecast was a complete bust.



The gunners had been on alert for some time and our photographers were ready. We were maintaining our inbound heading and I was hoping to salvage something from the effort that everyone expended to get us here. The crew was ready, and I made the decision to give the mission the best shot. I continued the descent through thin clouds as small dots of islands became visible below us. Finally, we were under a very thin layer of scattered to occasionally thin broken clouds where I leveled off at 3,000 to 2,500 feet. The visibility under the thin clouds was surprisingly good, at perhaps 8 or more miles, and we could see islands at some distance on either side of our flight path. Continuing to hold our last heading, I reduced airspeed to about 180 miles per hour. At that altitude and airspeed, obtaining photography of the islands with our complete camera installation was not practical. The use of the 36-inch multi and the vertical camera installations was out of the question. We would have to rely on the tri-met and the oblique camera for photographing anything of interest that we encountered. During our flight through and over the islands, the photographers took a series of selected photographs of some of the larger islands in the hopes that the photos would show something that we could not see with the naked eye. The photographic reconnaissance part of the mission thus became mostly one of visual observation of each ice-covered, desolate, barren island that we overflew, or which passed on either side of the aircraft. Maintaining our heading we passed over a larger island that may or may not have been Zemlya Aleksandry. We continued to pass over numerous islands, while over one of the smaller islands, to our surprise, some of the crew observed a long and low brown colored structure half covered with ice or snow, which we collectively estimated to be 100 feet long and 50 feet wide. A short distance from this larger building, were two small sheds perhaps 10 feet square. We could only speculate as to the purpose of these structures that showed no evidence of habitation. In our flight at 2,500 to 3,000 feet over numerous large and small islands, we did not observe anything that would indicate a Soviet presence, let alone military activity. There was no evidence of airfields, of construction of any sort, or of ships, wharves or docks. Heiman was following our flight and at intervals taking radarscope pictures.

We had been flying over the islands for a considerable length of time, and how long or how far we had traveled, I do not recall. I do remember that I was starting to make a left turn when someone on the intercom said, "let's get the hell out of here." I did not know who made the statement, but as I believed we were out of film and that we had accomplished all that we could under the circumstances, and because there were just too many islands, I had no desire to stretch

our luck and agreed that it was time to go. The navigators provided a heading for our return to Thule, so I asked Goolsbee for climb power, started the climb, and again leveled off at 18,000 feet. After leveling off, the crew managed to relax a bit or at least they were less tense. The navigational procedures previously described were used for our return. On this flight, Schureman diligently continued his electronic intelligence search for Soviet radar or any other electronic signals—all without results. Heiman was obtaining long-range images of the Greenland coast and, while still over the Arctic Ocean, I alerted the gunners for a gunnery practice exercise, which was part of the Strategic Air Command's combat crew training requirements. I did not want to take any live rounds back to Thule, so all of the ammunition for each turret was expended.



Photo courtesy of Roy Kaden

**RB-50E**

On approaching Thule, I started a descent leveling off at 8,000 feet. Having maintained radio silence through the mission, I had no idea of the weather existing at the base. Considering the weather on take-off some 14 hours earlier, I had no assurance that it would improve. It was now dark, and I asked myself "was Thule experiencing one of its infamous 'blows' of 100 mile-per-hour-plus winds or what?" When almost over the field I broke radio silence, contacted the Thule tower requesting landing instructions and clearance. The tower reported that the weather was above minimums. It was a relief to know that with the ground control approach operating,

we would have no difficulty landing at Thule. Letting down to 6,000 feet, Heiman guided us over Baffin Bay on radar continuing the let down. I made a procedure turn and proceeded inbound on the runway heading, where, with ground control approach direction, the glide slope was intercepted. The very sharp ground control approach team held us on the glide slope and on the centerline down the approach with almost no correction until we were over the runway. The landing was normal. I had trimmed the aircraft to compensate for the nearly 4,500 pounds of fuel remaining in the right pylon tank. After taxiing to the ramp we turned the aircraft over to our waiting ground crew. The rest of the crew headed for the barracks for chow and sleep. We had been at work for nearly 24 hours. I closed out my flight clearance with base operations and then advised Strategic Air Command headquarters of mission completion.

During the next two days, the maintenance and flight crews busied themselves cleaning up the aircraft and the guns, and getting rid of ammunition belt links, etc. The maintenance crew installed a new booster pump in the right pylon tank, checked the engines, and serviced the fuel tanks. We were soon ready for our return to Barksdale Air Force Base. The C-97 with our support team was also ready to go; it would proceed to Forbes Air Force Base as planned. On 20 September 1952 we made a 7:10 a.m. flight to Goose Bay, Labrador, leaving there the next day at 10:15 a.m. on a flight to our starting point at Barksdale Air Force Base.

At Barksdale, on 22 September, we made contact with intelligence officers from Headquarters Strategic Air Command to schedule a debriefing. Meanwhile, other intelligence personnel collected the photographic film that had been unloaded and made it ready for the reconnaissance technical personnel. They also collected all of our radar film, navigator's logs, photo logs, engineer's flight logs, electronic reconnaissance tape recordings, Form 1 flight records, notes, and worksheets. On the day of the debriefing, we presented and discussed in detail essentially what has been written in this narrative. Despite the unexpected weather over Franz Josef Land that prompted us to conduct a low level visual search of the islands, we judged the mission to be successful. And despite the risks entailed in the low level search, we could report with assurance that there was in fact no operating Soviet search or acquisition radar on the islands. Moreover, based on visual observation while flying over and near large and small islands for a considerable distance, we detected no Soviet military presence whatsoever. We observed no evidence of air bases in being or under construction, no boats, docks, piers, or associated activity. We also reported seeing the long, low structure partially covered in snow and two small sheds on

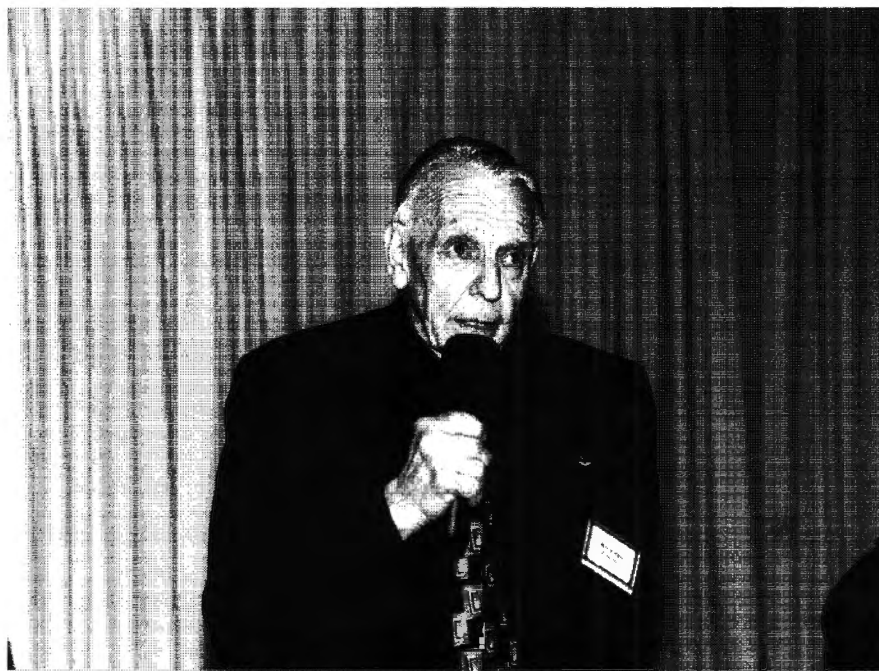
one of the islands. In sum, we reported that in that inhospitable archipelago there were no Soviet installations that threatened our forces or nation. The reconnaissance technical unit produced photographs from our film and, although limited, they confirmed our visual observations: the images showed uninhabited islands and portions of islands covered with ice and snow surrounded by water. The debriefing intelligence officers seemed almost disappointed to learn that Soviets had no military presence in Franz Josef Land, and it was our impression that they would have been better served, for purposes of preparing their own reports, had we returned with positive electronic intercepts of Soviet radar as well as photographs of an active Soviet air base. But we did not know what we would find in Franz Josef Land when we left Thule on 17 September. We did know what the risks were, if attacked, or if we had an in-flight emergency with no place to go, and that we would be a long way from a friendly base without prospect of recovery.

Following the debriefing at Barksdale, we were left without a shred of evidence that we had flown over Franz Josef Land. Our letter orders did not set forth the location in the pre-overflight briefing or state our ultimate destination. All directions and instructions were given verbally because of the sensitive security requirements of the project. Some weeks after returning to our home station at Forbes Air Force Base, the record of our flying time arrived in the form of a memo that included points of take-off and landing, as well as our round robin flight from Thule. Presumably the flying time portion of the Form 1, which also showed the names of the flight crew, also was destroyed. A copy of the temporary duty letter orders was located recently after a search of several months. Until that time the names of our augmented flight crew could not be recalled. These orders, and the flying time supplemental notation, are the only known records that support our Franz Josef Land overflight. The debriefing records and film have not been located. We believe that the high classification and political sensitivity of the directed overflight prompted the immediate sanitization or destruction of all records associated with the mission.

Whatever the disposition of the records and film, we kept this top-secret overflight to ourselves for nearly 50 years, until informed that it, along with other early Cold War overflights, had been declassified. In committing our recollections to paper, I wish to acknowledge the professional performance of a dedicated flight crew, most members of which are now deceased.

This account is based on the best recollections of those living members, Lt. Col. Roy E. Kaden, Col. Grover G. Heiman, Maj. Earl E. Schureman, and Senior Master Sergeant John D. Goolsbee.

In all of my flying experience in remote parts of the world and through a world war, nothing impressed me as much as the low-level flight over those forbidding, desolate, ice-covered islands. Observing them from a high altitude would have brought with it a detached and far more impersonal perspective. Flying 180 miles-per-hour at less than 3,000 feet, under a scattered to broken cloud cover, while searching visually for evidence of a Soviet presence on one island after another, so impressed me that I never forgot it. All of us on that mission knew then, and now, that we had seen an utterly fantastic land that nearly defies description—a land that few people in this world will ever see.



**Lt. Col. Roy Kaden at the Early Cold War Overflights Symposium, Defense Intelligence Agency, 23 February 2001.**



## **A Daytime Overflight of Soviet Siberia\***

*Donald E. Hillman with R. Cargill Hall*

With the demise of the Soviet Union in 1991, accounts of early clandestine American aerial reconnaissance flights began to appear publicly in Russia and the United States. Virtually all of these flights took place around the periphery of the Soviet Union, probing its radar defenses and attempting to obtain oblique photographs of military installations a few miles inside Soviet territory. But some of them, an exceptional few in violation of international treaties, actually traversed the territory of the Soviet Union or its satellite states seeking indications of any military preparations that might portend an atomic surprise attack on the United States or Europe. Whatever the mission, pilots and crews of these United States Air Force and Navy reconnaissance aircraft knew of the risks they took and, in the interests of national security, accepted them. During the Cold War a number paid for that risk—lost to Soviet fighters that engaged them over international waters or in Soviet airspace when they strayed across the border.<sup>†</sup> But of the American flights that intentionally overflew Soviet territory on White House orders, none was lost until Francis Gary Powers' U-2 was shot down on 1 May 1960. Now that the security restrictions associated with these early flights have been lifted and most of the documents declassified, I can tell you about one of the first overflights of the U.S.S.R. authorized by the President.

### **Background**

International events in the late 1940s and early 1950s brought the major powers closer to another war than is generally supposed. In February 1948 a Communist coup in Prague ended the independence of Czechoslovakia. In June of that year, Soviet troops blockaded Berlin to surface transport, prompting from the Western powers the successful "Berlin Airlift." In August 1949

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† The tension thus created for service participants on both sides was enormous; military careers could be secured or ruined depending on the aerial outcome. This state of constant tension helps explain the tragic shooting down of Korean Airlines flight 007 that inadvertently entered Soviet airspace on 21 August 1983.

the Soviet Union exploded an atomic device and eight weeks later Communist forces seized the Republic of China. A few months afterward, in the spring of 1950, Communist North Korean forces launched a surprise attack on the Republic of South Korea and, in November, Chinese Communist forces entered that conflict. The sequence and pace of these events, coupled with available intelligence, prompted American political and military leaders to believe that their Soviet counterparts might well be preparing to occupy Western Europe, coincident with a surprise aerial attack on the United States. While the Joint Chiefs of Staff prepared war plans to counter a Soviet strike into Europe, in December 1950 President Harry S. Truman authorized the first overflight of Soviet territory to determine with certainty the status of its aerial forces in those regions of Siberia closest to this country.<sup>1</sup> That mission had to be cancelled in early August 1951, however, when the aircraft selected to conduct it, the fourth B-47B specially-modified on the assembly line, was destroyed by fire during refueling operations at Eielson AFB in Alaska.<sup>2</sup> Any rescheduling awaited the production of more B-47Bs.

In the spring of 1952, with Communist and United Nations forces on the Korean Peninsula locked in a military stalemate, U.S. leaders received firm intelligence that the Soviet Air Force had begun staging bombers into Siberia. These TU-4 aircraft, essentially copies of the Boeing B-29, were flying together in unit numbers into and out of airfields on Dickson Island in the Kara Sea, at Mys Schmidta on the Chukchi Sea, and at Provideniya on the Chukotskiy Peninsula, just across the Bering Strait from Alaska. Given increased numbers of nuclear weapons presumably available to the Soviet Air Force, these TU-4s could be directed on one-way flights against the United States in a devastating attack. Officials in the Department of Defense and the Central Intelligence Agency (CIA) again sought permission to photograph certain air bases in Siberia through aerial overflights. On 5 July, Headquarters USAF directed the Strategic Air Command (SAC) to modify two B-47B bombers for just such a special photo-reconnaissance mission over "unfriendly areas," in the event it was requested.<sup>3</sup>

A few weeks later, on 12 August 1952, Secretary of Defense Robert A. Lovett delivered to President Truman memoranda from General Omar N. Bradley, Chairman of the Joint Chiefs of Staff, and General Walter Bedell Smith, Director of the CIA, requesting two reconnaissance overflights of Soviet Siberia. After discussion, the President approved "the Northern run" between Ambarchik on the East Siberian Sea and Provideniya on the Chukotskiy Peninsula, but disapproved a "Southern run" between Petropavlovsk on the Kamchatka Peninsula and

Provideniya. His approval of the one reconnaissance overflight, Truman told Lovett, moreover, was contingent on the concurrence of "appropriate officials of the State Department."<sup>4</sup> Secretary of State Dean Acheson must have concurred, because, on 15 August, Headquarters USAF issued instructions for the mission and directed SAC to deploy the two modified B-47Bs to Eielson AFB.<sup>5</sup>

In 1952 I served as Deputy Commander of the 306th Bombardment Wing, at that time the first and only B-47-equipped wing in the Air Force, stationed at MacDill AFB, Florida. Although unaware of the preceding actions and events in Washington D.C., I became involved in the mission in late July or early August. At that time, without offering any specifics, Maj. Gen.

Frank A. Armstrong, Jr., Commander of the 6<sup>th</sup> Air Division, which was co-located with us at MacDill, asked me to accompany him to Headquarters SAC at Offutt AFB, in Omaha, Nebraska. There, the CINCSAC, General Curtis E. LeMay, briefed us personally. Intelligence reports from several sources, he said, indicated that the U.S.S.R. was constructing a number of



Photo courtesy of Donald Hillman

**Left-to-Right: Maj. Gen. Frank Armstrong, Cmdr. 6<sup>th</sup> Air Division; Lt. Col. Donald Hillman, Dep. Cmdr. 306<sup>th</sup> Bombardment Wing; Lt. Col. Charles Wolfendale, Cmdr. 306<sup>th</sup> Air Refueling Squadron, taken at MacDill AFB, in 1951.**

air bases in Siberia from which attacks against the United States could be staged. In the interests of national security, it was judged necessary to verify these reports with aerial photography if possible. To that end, I had been selected to lead a flight of two B-47Bs over the Soviet territory in question.

The Boeing B-47 Stratojet was the first swept-wing, jet-turbine-powered bomber. One hundred-seven feet in length, with a wingspan of 116 feet (the wings swept at 35 degrees), the bomber carried a crew of three (pilot, co-pilot, and bombardier-navigator). Six General Electric

J47 engines powered the B-47Bs, and each engine produced 5,200-pounds of thrust at rated military power. Designed for performance, the thin, high wings of the B-47 could neither contain fuel nor house landing gear. Fuel tanks mounted in the fuselage, fore, over, and aft of the bomb bay, carried 10,196 gallons of jet fuel (excluding wing-mounted



Photo courtesy of Donald Hillman

**Left-to-Right: Maj. Edward Lasch, Maj. David Williams, and Col. Donald Hillman at MacDill AFB in March 1952.**

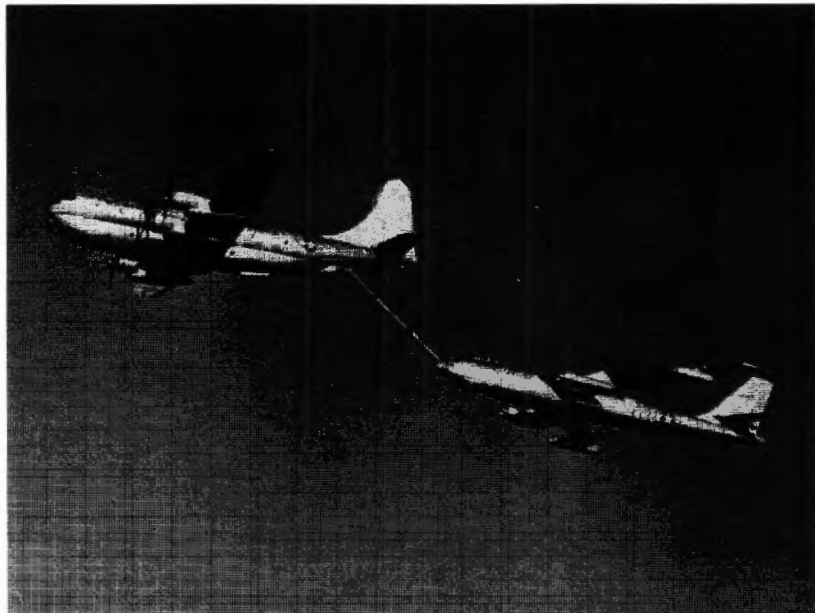
drop tanks or a bomb bay tank). Bicycle landing gear were stowed in wheel wells fore and aft of the bomb bay, with outrigger wheels mounted between the inboard engines on each wing. The airplane had an empty weight of 79,000 pounds, a maximum bomb load of 20,000 pounds, and a maximum takeoff weight of approximately 185,000 pounds. Underpowered for its weight, the B-47 demanded a lot of runway. The bomber nonetheless cruised at some 448 knots (516 mph) at a maximum altitude of about 41,000 feet after fuel burn-off, with a combat radius (out and back) of 2,000 nautical miles—a range greatly extended on one air refueling. In sum, the B-47 represented the most modern and fastest, if not the highest flying, combat aircraft in America's inventory available for this mission.<sup>6</sup>

### **Project 52 AFR-18**

The mission itself, identified only as Project 52 AFR-18, had been assigned the highest security classification. At Headquarters SAC, only General LeMay, the Director of Operations, Maj. Gen. John B. Montgomery, and the Director of Intelligence, Brig. Gen. James H. Walsh, knew the details. In the field, for the time being LeMay advised, only General Armstrong and I were to know the mission plan. It called for two B-47Bs, one designated as primary and a second as a backup to improve chances for a successful mission, to stage out of Eielson AFB.

The two aircraft would fly together in a northwesterly direction, each refueled by a KC-97 shortly before leaving the Alaskan Arctic. Both B-47s would fly westward off the north coast of Wrangel Island to the East Siberian Sea. There, the second aircraft would turn back eastward, overfly and photograph Wrangel Island, and then orbit on station over the Chukchi Sea, flying a racetrack pattern while serving as a communications relay. The primary aircraft would continue on an eastward course, then swing to the southwest until it made landfall in northern Siberia between Ambarchik and Stanovaya, turn due south for a time, then swing eastward back toward the Bering Strait, flying a zigzag pattern that would take it over the reported air bases. Some of these, intelligence believed, were refurbished airfields built to accommodate the westward movement of B-25s, C-47s, and P-39s flown to the Soviet Union during the World War II lend-lease program. Finally, flying in an easterly direction, the primary aircraft would exit Soviet territory over the Chukotskiy Peninsula and turn northeast over the Bering Strait for the run home to Fairbanks, Alaska.

Back at MacDill, I began planning details for the flight in the strictest secrecy, spending long hours in my office behind locked doors. Two B-47Bs were modified in mid-August with special radar and photographic cameras installed in the bomb bay. My co-pilot in this venture, Maj. Lester E. "Ed" Gunter, recalled at that time all Boeing B-47s



U.S. Air Force Photo

**KC-97 tanker refuels a B-47B in mid-air in late 1952.**

were grounded while the Air Force investigated the cause of several fatal accidents. But we were directed to continue to fly training missions with our two aircraft, underscoring the urgency of the impending mission.<sup>7</sup> Two KC-97 tankers, of the 36<sup>th</sup> Air Refueling Squadron, were

designated to transport the necessary men and equipment from MacDill to Eielson AFB and to refuel both the B-47s just as they left Alaskan territory on the outbound leg of the mission.

On the planned flight north, to maintain cover for the mission, all four of the aircraft would stage through Rapid City AFB in South Dakota, as though on a routine training exercise. Not until we reached Eielson in September would the rest of the flight crews be briefed on the mission details and its true purpose. Air Force intelligence advised me that we could expect resistance from a MiG-15 regiment that was stationed in the Siberian target area, headquartered in Provideniya. Furthermore, once detected, we could also expect fire from anti-aircraft artillery. Because this photographic reconnaissance mission absolutely depended on the presence of fair weather in Siberia, we would be all the more exposed to detection and interception. Our defenses relied on surprise, navigational tactics, the aircraft's speed and high altitude, electronic countermeasures, and two temperamental, electronically-controlled, General Electric 20mm cannon in the tail of the B-47B.

At MacDill, we filled the last few weeks of August and early September with training flights to acquaint ourselves with the operation of the radar and camera equipment. General Armstrong, who held authority to approve or deny the start of the mission based on weather predictions, named me pilot of the primary aircraft and Col. Patrick D. Fleming as pilot of the backup aircraft. The hand-picked aircrews consisted of Majors "Ed" Gunter, co-pilot, and Edward A. "Shakey" Timmins, navigator, serving with me in aircraft one, and Majors Lloyd F. "Shorty" Fields\*, co-pilot, and William J. "Red" Reilly, navigator, with Fleming in aircraft two. When our families gathered at a MacDill Officers' Club social a few evenings before our scheduled departure for Rapid City, Armstrong took my wife aside and told her: "I feel like I'm sending Don on a mission equivalent to sending Christ to Calvary." If the words eased his conscience, they certainly generated wifely concerns on the home front, and there was little I could do or say to allay them.

The four mission aircraft departed MacDill on Sunday, 21 September 1952, and flew the first leg to Rapid City AFB. There, during a six-day layover, we conducted some additional training flights. The B-47B had just begun to be produced at Boeing the year before and was still quite a novelty. For that reason, the wing commander at Rapid City AFB, Brig. Gen. Richard E.

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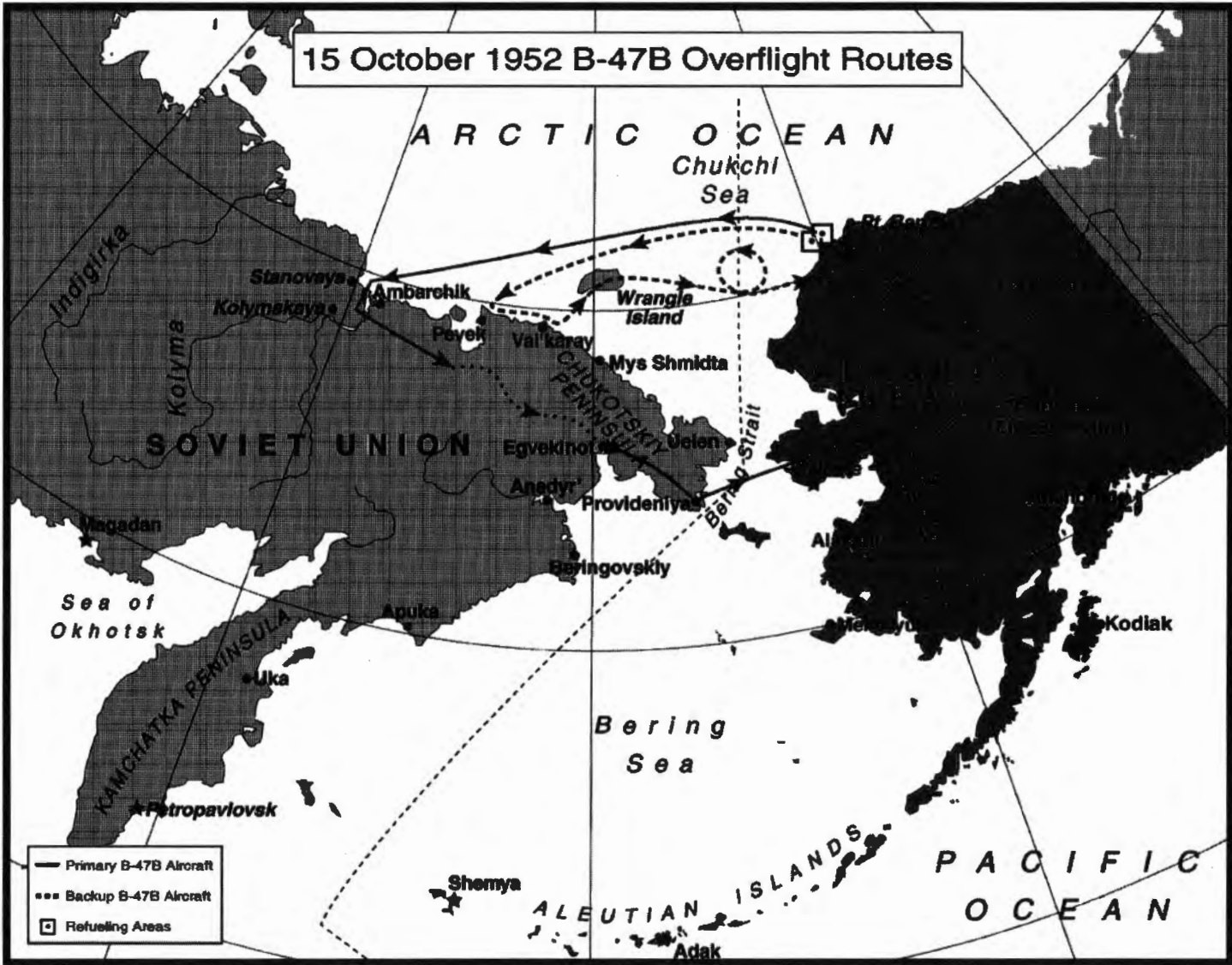
\* For Lloyd Field's account of this mission, see "Wrangel Island and Project Home Run Overflights" in this volume. Ed.

Ellsworth, asked for a ride on one of our local flights. We strapped him in the copilot's seat in the rear, while Ed Gunter, my co-pilot, rode in the aisle alongside. The navigator, Shakey Timmins, occupied his normal position in the nose. After completing the preflight checklist, we started down the runway at full throttle. Gathering speed, about one third of the way along, I glanced down at the instruments and saw to my horror that the flaps were fully retracted. Somehow, in the mixed crew configuration, we had missed that vital check. Without flaps, our takeoff could not succeed and would end in a disastrous fireball when we ran off the end of the runway at 200 knots. At this point, our speed and position ruled out a ground abort. I pulled down the flap handle and watched the flap indicator creep slowly downward—very slowly downward! Somehow we did make it, but I was looking at grass when our B-47 reached flying speed. Almost every pilot experiences a close call of one sort or another in a career of flying—and I *never* forgot that one. Project 52 AFR-18, and the lives of its primary crew, nearly ended in Rapid City, South Dakota.

On Sunday, 28 September 1952, we flew our B-47Bs from Rapid City to Eielson AFB. One KC-97 had departed for Eielson a day earlier, on Saturday, and the second followed a day later, on Monday. Clear weather during daylight hours now became the determinant, for only these conditions would ensure the success of visual photography; radar imaging, also an important part of our mission, would be unaffected by darkness or cloud cover. At that time of the year, at 65 degrees north latitude, there are approximately ten hours of daylight between 0640 and 1645 local time. Therefore, General Armstrong, who had flown to Eielson aboard one of the KC-97s, would approve start of the mission when meteorological data signaled clear weather in the Siberian region of interest. Regrettably, clear weather was not the order of the day—or of the week. Bad weather dogged the northern latitudes for two weeks. That allowed more than enough time for the flight crews to become thoroughly familiar with their respective assignments and routes. Finally, on the evening of 14 October forecasts called for favorable weather, and Armstrong gave us the “thumbs up” for the mission on the next day.

### **The Mission Executed**

On Wednesday morning October 15, after sunrise, Project 52 AFR-18 began with departure of the two KC-97s. One hour later, Pat Fleming and I followed them into the air in the B-47s. Our aircraft rendezvoused with the KC-97s in the area of Point Barrow, Alaska, and took





on full loads of fuel. Because both B-47s remained fully operational at this time, we proceeded with the mission as briefed. Fleming and his crew returned to the communications area over the Chukchi Sea and took up station in a racetrack pattern. All the while maintaining radio silence, our crew turned southwest toward the Soviet coast. We made landfall close to noontime, swung south for a short period, and then turned eastward and flew back toward Alaska, through the heart of Siberia. (See map on facing/next page.) In this fashion, we hoped to disguise our presence and appear to Soviet ground control as if we were a friendly, though unidentified, aircraft approaching from the western U.S.S.R. The weather, which had been bright and clear throughout the flight, changed as we crossed the coast into Siberia and turned on the cameras. Beneath us, about two-tenths scattered clouds appeared; occasional haze at the ground obscured photography of the surface for much of the remainder of our flight over Soviet territory.

By now we had burned off enough fuel and the bomber had become light enough to be flying above 40,000 feet and well over our normal cruising speed, at approximately 480 knots true. We had finished covering two of our five targets, taking radar and visual images,<sup>9</sup> when warning receivers on board announced that we were being tracked by Soviet radar. Sitting in the rear seat behind me, Ed Gunter was alerted to be ready for a possible encounter with MiG-15s, which we knew to be stationed in the area. Ed swiveled his seat 180 degrees to the rear to control the bomber's only defensive armament, the GE tailguns. A few minutes later he advised over the intercom that he had Soviet fighters in sight, below and to the rear, climbing desperately to intercept us. Now identified as a hostile intruder, I broke radio silence and notified Pat Fleming and Lloyd Fields, still orbiting off the coast in the backup B-47B, of our position and situation. In case events went badly for us, at least others would have an idea of what had happened. Gunter kept his eyes on the fighters, but they had apparently scrambled too late. Because of our altitude, speed, and position, at least this flight of interceptors could not overtake us. The tactic of surprise had worked, though we worried, with our position and heading now known, other jet fighters ahead might already be airborne and climbing to altitude to make an interception. Moreover, we had yet to overfly Provideniya—home to the MiG regimental headquarters.

We completed photographing the three remaining targets without encountering any more fighter aircraft, perhaps because we changed course from time to time, or perhaps because the Soviets simply did not have large numbers of interceptors stationed in the area. We continued eastward at altitude, passing over Egvekinot, then over Provideniya, and turned northeast, exiting

Soviet territory at the coast of the Chukotskiy Peninsula. Across the Bering Strait we encountered the welcome sight of Alaska's Seward Peninsula and flew straight into Fairbanks, landing at Eielson well after dark. A few minutes behind us, Pat Fleming's backup B-47 touched down. Altogether, the mission spanned seven and three-quarter hours in the air, while the primary B-47 had made a 3,500-mile flight and overflown some 800 miles of Soviet territory.<sup>10</sup> Technicians immediately took the exposed film to the photo lab for development and to make duplicates prior to its aerial shipment to Washington, D.C.\* (The photographs, though limited by cloud cover, proved valuable. Dino Brugioni, a photo-interpreter at the Central Intelligence Agency, recalled analyzing those taken of Provideniya during our flight.)<sup>11</sup> Needless to say, General Armstrong was well pleased. As for the Russians, we learned from intelligence officers on Thursday morning, 16 October, that intercepted messages revealed the Soviet regional commander had been sacked and that a second MiG regiment was to be moved into the area. A few hours later, Ed Gunter and I boarded our B-47 and flew nonstop from a cold and damp Eielson AFB in Alaska, to a warmer and sunnier MacDill AFB in Florida. Until the records were declassified some forty years later, we remained under restrictions that prevented our discussing any aspect of this most secret mission.<sup>12</sup>

#### Afterword

Six months after this early Cold War overflight of Soviet territory, in April 1953 during a normal rotation of duty, the Air Force reassigned me to Headquarters SAC. One day not long after arriving, I was summoned to the CINCSAC's office. When I entered, General LeMay rose and came around the desk, closed the door, and without a word pinned on my blouse a Distinguished Flying Cross. When he saw my puzzled expression, he flashed a very slight and very rare smile, and said, "it's secret."

A year later, on 23 June 1953, the Air Staff presented a special intelligence briefing for the new Secretary of the Air Force, Harold Talbott, recently appointed by President Dwight Eisenhower and confirmed by the U.S. Senate. The briefing summarized "deficiencies in our knowledge of Soviet [military] strengths and purposes which imperil the security of the United States." It included examples of recent attempts to acquire intelligence, including our flight:

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\*Regrettably, film from this mission has not been found. Film from the Wrangel Island overflight was located and several frames are printed in Floyd Fields' memoir. Ed.

Perhaps the most significant demonstration thus far of our reconnaissance capability was a recent overflight of Northeastern Siberia. Two camera-equipped B-47s, utilizing air-to-air refueling, were authorized to overfly the CHUKOTSK peninsula, the nearest Soviet territory to the continental United States. This 3500 mile flight was made in daylight without incident. Valuable radar data as well as confirmation of other intelligence on suspected installations, were acquired. Conventional photography was limited by cloud cover.

The Air Staff briefers concluded with an urgent request for a change in national policy that "will permit . . . overflights of Soviet-controlled territory with an absolute minimum of delay."<sup>13</sup> President Eisenhower indeed did change national policy in late 1954, after another B-47 was nearly shot down on a similar reconnaissance mission.<sup>14</sup> To conduct Presidentially-authorized overflights, he approved construction of the high flying Lockheed U-2 and further tightened security restrictions. The Air Staff team could not have imagined in 1953 that a decision made seventeen months later would change national policy and eventually remove the Air Force as the controlling agent and operator of overflights, and instead make the service a partner in a super-secret project directed by the Central Intelligence Agency.<sup>15</sup>

#### Acknowledgments

We are indebted to numerous individuals who contributed important suggestions, corrections, and additions to this accounting, most especially Lester E. Gunter, Lloyd F. Fields, Vance O. Mitchell, S. Dow Smith, Robert M. Robbins, Richard C. Neeley, and Dino A. Brugioni.

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1. John T. Mason, Jr., Interview with General Nathan F. Twining, August 17, 1967 in Arlington, Virginia, (third of four interviews), "Eisenhower Administration Project," Columbia University, Oral History Research Collection, Butler Library, pp. 130-32. To sense the real alarm among U.S. leaders caused by these events, see *Foreign Relations of the United States, 1950, Vol I, National Security Affairs; Foreign Economic Policy*. (Washington, D.C.: Government Printing Office, 1977), and *Foreign Relations of the United States, 1952-1954, Vol II, Parts 1 and 2*. (Washington, D.C.: Government Printing Office, 1984), especially NSC 20/4, NSC 68/2, and NSC 135/3.
2. R. Cargill Hall, Telephone Interview with Brig. Gen. Richard C. Neeley, USAF (Ret), August 1, 1995.

3. Declassified letter from Maj. Gen. Robert W. Burns, Acting Deputy Chief of Staff, Operations, Hq USAF, to General Curtis E. LeMay, CINCSAC, Subject: Special Aerial Photographic Operations, July 5, 1952, NARA (St Louis), RG 342, Accession 810-60, Package 129.
4. Declassified memorandum from Robert A. Lovett, Secretary for Defense, to General Omar N. Bradley, Chairman, Joint Chiefs of Staff, Subject: Reconnaissance Requirements, August 12, 1952, in NARA (St Louis), RG 342, Accession 810-60, Package 129.
5. Declassified letter from Maj. Gen. Roger M. Ramey, Director of Operations, Hq USAF, to General Curtis E. LeMay, CINCSAC, Subject: Special Aerial Photographic Operations, August 15, 1952, with attachment: Memorandum to Gen. Montgomery from Lt. Col. P. O. Robertson, Acting Chief, Reconnaissance Division, Subject: Project 52 AFR-1 8 [Instructions], August 13, 1952, in NARA (St Louis), RG 342, Accession 8 10-60, Package 129.
6. See Lindsay Peacock, *Boeing B-47 Stratojet* (London: Osprey Publishing, Ltd., 1987); USAF *Standard Aircraft Characteristics*, Boeing B-47E Stratojet, July 1964.
7. Letter, Lester Gunter to Donald Hillman, June 15, 1995.
8. General Ellsworth died in an airplane crash in 1953, and Rapid City AFB was renamed Ellsworth AFB in his memory.
9. Available aerial cameras only carried about 300 feet of film. Located in the unpressurized bomb bay in temperatures far below freezing at extreme altitude, once turned on they normally were left on to avoid a camera "freeze-up" caused when operators cycled the cameras on (warmed, which generated moisture) and off (cooled rapidly) under these conditions. Dow Smith has calculated that the primary camera featured a 12-inch focal length lens. Such a camera would use about 300 feet of film over an 800-mile distance, assuming 9-inch-wide film (which would give 400 images), an altitude of 40,000 feet, and a standard 60 percent overlap for stereo coverage.
10. Regrettably, my flight log contains only dates and elapsed flight times, not the times of takeoff and landing.
11. R. Cargill Hall, Telephone Interview with Dino Brugioni, November 1, 1995.
12. Both Ed Gunter and I are long retired and preoccupied today with other matters. Pat Fleming, the pilot of B-47B #2, the backup aircraft, died in the first crash of a B-52 bomber at Castle AFB, California, in 1956.
13. Declassified "Briefing for the Secretary of the Air Force," June 23, 1953, Directorate of Intelligence, HQ USAF, in Washington National Records Center, 342-81-0325, Box 1 of 2, Case 14. Special Studies Group (AFIS); quotes at pp. 1, 6, and 16, respectively.

14. See Colonel Harold Austin, USAF (Ret), "A Cold War Overflight of the U.S.S.R.," *Daedalus Flyer*, Spring 1995, pp. 15-18.
15. R. Cargill Hall, "The Eisenhower Administration and the Cold War: Framing American Astronautics to Serve National Security," *Prologue*, Vol. 27, No. 1, Spring 1995, p. 62.



## Wrangel Island and Project Home Run Overflights

*Lloyd F. Fields*

I always wanted to be a pilot. As a boy on a tobacco farm in Georgia, I could see airplanes flying overhead and wondered what it would be like to command one of those aerial machines. In High School I acted on the dream and went down to the Army recruiting office to find out what it took to become a pilot. I learned that I needed two years of college with courses in math and physics. Thereafter, my goal was to get that college education so I could go into the Army Air Corps or, if I did not qualify, teach vocational agriculture.

During my second year at Abraham Baldwin Agricultural College in 1941, I learned about a new government program for civilian pilot training. The program allowed one to take flight lessons through the school. About ten of us signed up, including one woman, Catherine Rice. We underwent thirty-five hours of training to obtain our private pilot's license. At the time of our graduation in June 1941, an Army Air Corps recruiting team visited the campus and several of us signed up.

I entered the Army Air Corps at age 20 on July 12, 1941. My flying school training took place at Stanford, Texas, at Randolph Army Air Field in San Antonio, and at Brooks Army Air Field. Commissioned a 2<sup>nd</sup> Lieutenant, I was initially assigned to the 305<sup>th</sup> Bombardment Group, Heavy, stationed in Salt Lake City. Equipped with B-17s, this unit was commanded by a demanding Colonel, Curtis E. LeMay. In 1943, my Bomb Group participated in some of the roughest aerial combat then known to man over occupied Europe and Germany. After completing an assigned tour of twenty-five missions, I returned to the United States and trained B-17 crews who were also scheduled to fly over Germany and occupied Europe. Upon the conclusion of the World War II, I flew as a pilot for American Airlines until the summer of 1947, when I returned to the Army Air Corps with a regular commission. The United States Air Force was created that fall, at which time I was assigned to MacDill Air Force Base in Tampa, Florida, where I flew B-17s and then B-29s equipped with special reconnaissance camera equipment. We photomapped large uncharted and inaccurately charted parts of the United States and South

America. In 1950, I began training as a navigator, radar operator, and in bombardment operations for the new six-engine swept wing jet bomber known as the B-47.

### **Wrangel Island – 1952**

In early 1952 I commanded a B-47 bomber in the 367<sup>th</sup> Bombardment Squadron, again at MacDill Air Force Base. The 367<sup>th</sup> was one of four bomb squadrons in the 306<sup>th</sup> Bombardment Wing, commanded by Col. Michael McCoy. A premier wing, the 305<sup>th</sup> at that time was the only bomb wing in the command equipped with the new B-47B jet powered bombers. In the late spring I was summoned to the wing commander's office, where the wing commander, his deputy, Col. Donald E. Hillman, and the Director of Operations, Col. Trift, greeted me. McCoy spoke first as I stood braced at attention and he chewed me out for about five minutes. I stood accused of communicating directly with Headquarters Strategic Air Command (SAC) without the wing's permission or authority. After a thorough and intimidating interrogation by the others, I left the meeting totally confused as to what had just taken place. Two or three days later I was called again to Col McCoy's office where I faced the same three gentlemen, and the same thing happened, only this time with a little more vigor. Going back to my squadron I was still confused about the charge, of which I had no knowledge.



U.S. Air Force Photo

**RB-47B in flight, ca. 1952.**



A few days after the second scolding, things began to come clear. In the command section, I was handed a TWX from Headquarters Strategic Air Command to McCoy that said, contrary to your two previous replies, our records indicate that there are indeed four B-47-qualified pilots with previous reconnaissance experience serving in the 367<sup>th</sup> Bomb Wing. Headquarters SAC consequently assigns Lloyd F. Fields to Project 52AFR-18. That was the first inkling I had about what was going to happen. I was directed to take aircraft B-47B, tail number 0028, to Oklahoma City, Oklahoma, for special modification involving installation of camera equipment in the bomb bay. Shortly before leaving, I overheard someone in the command section murmur: "why in the world would Headquarters SAC want to put cameras in a perfectly good bomber?" I took Glenn A. McConnell along with me as my co-pilot. We flew 0028 to Tinker Air Force Base and left it for the modifications while we returned by commercial airline to our base. When the modifications were completed, we returned and flew the aircraft back to MacDill. The camera suite installed in the bomb bay was similar to what we used in the B-29s and B-17s for photo-mapping in the late 1940s, designed to take both vertical and near-180 degree photographs, i.e., from horizon to horizon.

After we picked up 0028 following the modifications, we continued to perform our normal duties, training to fly and fight in a nuclear war. Though I had not received specific orders for an assignment with this airplane, clearly something was up. It could only be a special assignment involving flights over or near the Soviet Union. At this point, in the early summer, the project increased in magnitude. A second B-47B was assigned to the project and also received the special modifications. Two highly qualified reconnaissance-trained navigators from the 91<sup>st</sup> Wing at Lockbourne Air Force Base, Ohio, Edward A. Timmons and William "Red" Reilly, also were assigned to train for this special mission. Col. Don Hillman and Col. Patrick Fleming were selected to command the two airplanes. Col. Fleming had distinguished himself as an Ace with the U.S. Navy during World War II and then had transferred to the Air Force, and I was assigned as his copilot. With these assignments, in August we began to fly practice missions and fine-tune the new cameras installed in the aircraft.

All the while I continued to wonder about the nature of the special assignment. Finally we were ordered to fly to Eielson AFB in Alaska, near Fairbanks. We left MacDill on 21 September 1952, and flew through Rapid City AFB, now called Ellsworth AFB, as a diversion so that it would not appear that Alaska was our destination. Two K-97s tankers were assigned to go along with us for maintenance and air refueling support. One week later, on 28 September, we left



Photo courtesy of Lloyd Fields

**Left-to-Right: Maj. Lloyd F. Fields, Maj. William J. Reilly, and Col. Patrick D. Fleming at Eielson AFB, a few days before the overflight of Siberia.**

Rapid City and flew directly to Eielson Air Force Base. Maj. Gen. Frank Armstrong, Commander of SAC's 6<sup>th</sup> Air Division, accompanied us in one of the tankers. He had final authority over the mission. Secrecy was strictly maintained. Not once did we learn of the specific target and routes of the mission until the day before the actual flight. However, we were not so naive as to not be aware that this secret mission would be a flight over territory in the Soviet Union. We didn't have to talk about it, we just knew it.

At Eielson, we flew practice missions while awaiting good weather. On 14 October 1952, Maj. Gen. Armstrong learned that weather over eastern Siberia was supposed to be good, and he approved a go for the following day. Col. Hillman called us to his quarters for a briefing. He had the maps laid out and explained our mission for the next day. It was no surprise. We were headed on a strategic reconnaissance mission over the Soviet Union. More than anything else, we were concerned about flying into a dangerous situation. Having flown many combat missions over Germany, I had familiar feelings, although I didn't think it would be quite as dangerous. We were assigned a cover story of "being lost" if shot down. But with all the cameras on board, I doubted whether that story would "wash," if we lived to tell it. The assignments: Col. Hillman and Maj.

Lester E. "Ed" Gunter were to pilot the first airplane, with Ed Timmons navigating; Col. Fleming and I piloted the second one, with "Red" Reilly navigating.

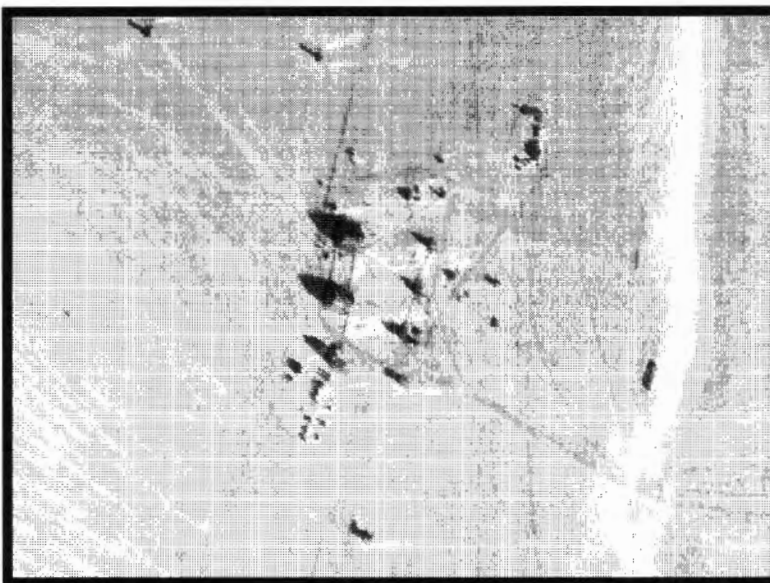
We departed on the morning of October 15, 1952. Because the B-47 used a tremendous amount of fuel for start up, taxi, take-off and climb, we refueled a short time after reaching altitude, near Point Barrow. Our two B-47Bs flew in formation, maintaining radio silence. We were ready to take over the primary mission if Col. Hillman's aircraft experienced mechanical problems. We flew westward, north of Wrangel Island, into the East Siberian Sea. The primary aircraft eventually turned to the south and made a deep penetration of the Soviet

Union. Inside Siberia, it turned eastward and photographed numerous airfields as it returned to the Bering Straits.\* Just before Col. Hillman entered Soviet Union territory, we began to perform the secondary mission. We turned south and then headed westward towards Alaska,

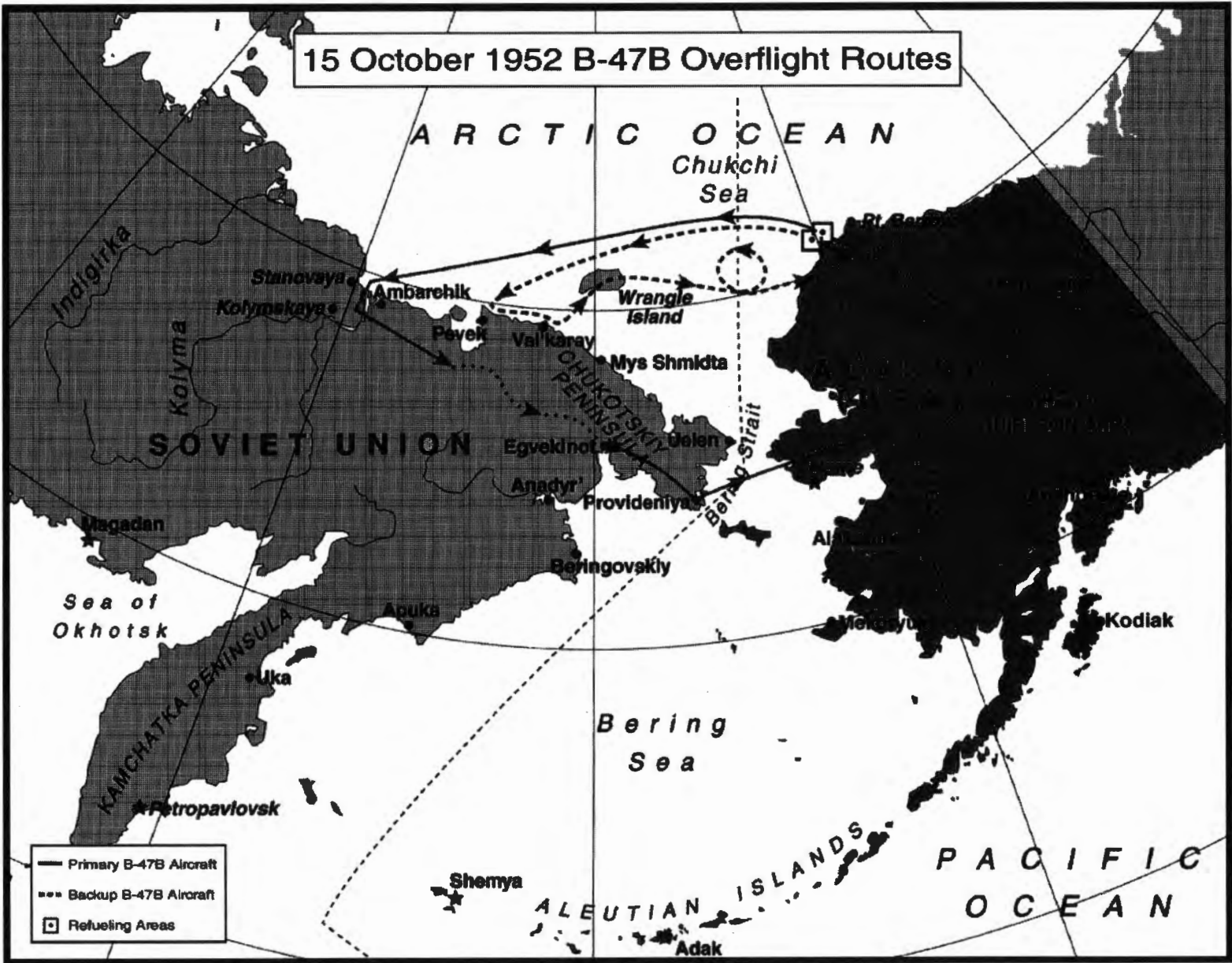
\*Col. Hillman's account of this overflight, "A Daytime Overflight of Soviet-Siberia," appears in the volume. Ed.

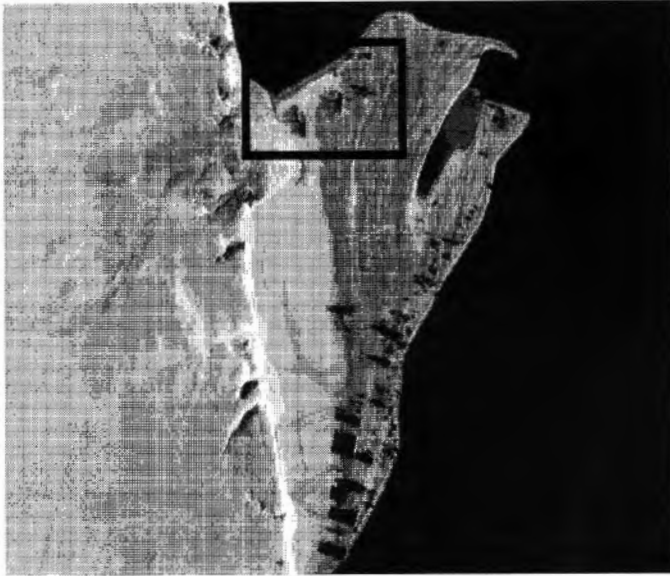


**Shoreline of Wrangel Island imaged during the 15 October 1952 overflight.**



**Enlargement showing one of the few inhabited areas imaged on Wrangel Island. Note: the long shadows cast by the houses.**





**Wrangel Island weather station imaged during the 15 October 1952 overflight.**



**Enlargement showing the only airplane located on Wrangel Island.**

parallel to the Soviet coast. Reilly turned on our trimetrogon cameras hoping to get some shots of coast. It was a beautiful clear day over the East Siberian Sea, and we could see for hundreds of miles. We kept a keen eye out for MiG aircraft, hoping that we had not been sighted either visually or on radar. Our planned course took us directly over Wrangel Island, which we also photographed. I recall discussing with Fleming what a desolate, snow-covered place it was. We then returned straight back to Fairbanks. Although we later learned from Ed Gunter that he actually saw MiGs scrambled to go after them, we were unaware whether our own presence had been detected.\*

Both B-47 aircraft landed without incident and the film was whisked away by reconnaissance technical squadron personnel at Eielson AFB, never to be seen again.

We later learned, however, that there was considerable intelligence information gathered during that flight that helped in future planning. The following day, on 16 October, both aircraft flew from Eielson back to MacDill

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\*The B-47 was a formidable airplane for its time because of its speed, altitude, and range. The airplane's absolute altitude was 51,000 feet, but gross weight had a lot to do with it. If you took a fully fueled B-47 from sea level to its highest altitude, you could reach 37,000 feet. At minimal fuel levels, however, you could reach as high as 51,000 feet. The highest altitude I ever reached in a B-47 was 47,000 feet. With those capabilities, we were fairly confident that we could stay out of trouble.

AFB in Florida, a long direct flight during which we picked up a tremendous jet stream and made incredible time. On landing at MacDill, all of us were assembled and greeted by Col. McCoy, who had just received a call from the CINCSAC, General Curtis LeMay. He had been instructed, he said, to inform us that the mission we had just completed had never taken place; "it did not exist."

### Project "Home Run" – 1956

In late January 1956 at Lockbourne AFB, Ohio, Col. William J. Meng, Commander of the 26<sup>th</sup> Strategic Reconnaissance Wing, a part of the 801st Air Division commanded by Brig. Gen. Hewitt T. Wheless, summoned me to his office. Meng's 26<sup>th</sup> Wing consisted of one KC-97 tanker squadron and three RB-47E photo-reconnaissance squadrons. At that time I was a Major and commanded the 10th Strategic Reconnaissance Squadron. When I arrived at Col. Meng's office he told me to be seated; then he asked his Deputy Wing Commander and secretary to please excuse themselves. When they had departed, he advised me that the Commander in Chief of Strategic Air Command, General Curtis LeMay, had directed him to select one RB-47E



Photo courtesy of Earl O'Loughlin

**Maj. Lloyd Fields, October 1954. Note the picture on his desk is of the 1952 overflight crew.**

squadron of sixteen airplanes, which would be augmented with four RB-47H electronic reconnaissance aircraft from the 343rd Strategic Reconnaissance Squadron, 55<sup>th</sup> Strategic Wing, located at Forbes AFB in Topeka. All of the aircraft selected would proceed to Thule, Greenland, to perform a special mission. Col. Meng said that this mission involved reconnaissance overflights of the Soviet Union, and that assignment to it would be voluntary. If I desired, I could volunteer my squadron. I replied that I would be pleased to volunteer for this operation. Our squadron's reputation was well known, however, and I have no doubt that Meng knew I would

immediately volunteer. Afterward, I returned to the squadron and briefed my immediate staff, which at that time consisted of Maj. John Rees (Squadron Operations Officer), Maj. George W. Stowbridge (Squadron Navigator), and Capt. Calvin Pace (Engineering Officer).



Photo courtesy of Earl O'Loughlin

**Maj. John C. Rees, October 1954.**



Photo courtesy of Earl O'Loughlin

**Lt. Calvin K. Pace, October 1954.**

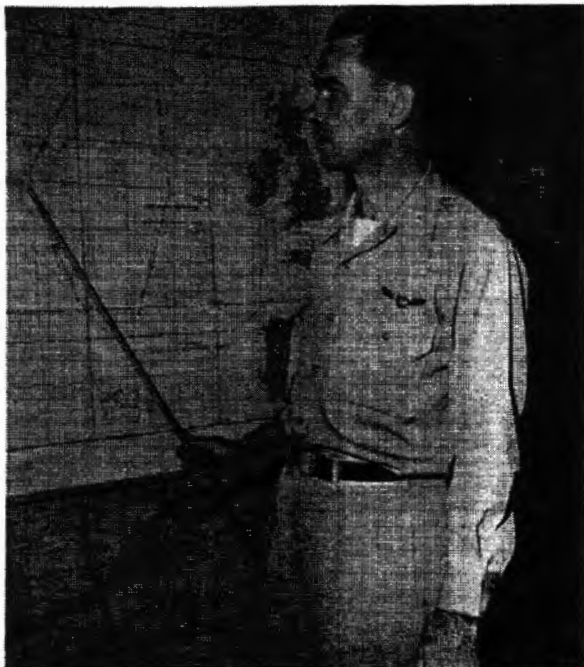


Photo courtesy of Earl O'Loughlin

**Maj. George W. Stowbridge, October 1954.**

Meng determined that we needed to make a survey trip to Thule, to see what additional equipment would be needed to perform our mission in the Arctic. Because I had flown the 1952 mission over Soviet territory, I knew basically what to expect on this particular mission. The code name assigned: Project "Home Run." The purpose: conduct photo and electronic reconnaissance of pre-selected regions of the Soviet Arctic. The cover story: "cold weather testing" of SAC aircraft. We proceeded to Thule by way of Goose Bay, Labrador, in early February. Thule Air Base is north of the magnetic North Pole and only about 700 miles from the

geographic North Pole. It is the northernmost operational air base on Earth, located close to an Eskimo village of the same name. We arrived at the base in mid-afternoon, but it was cloaked in total darkness as the sun had set around 15 November the previous year and was not scheduled to rise again until 15 February 1956, a few days after our arrival. When we landed the temperature was minus 42 degrees, which is pretty cold for a Georgia boy like myself, born and raised in the Deep South and who had never seen a flake of snow until he was 21 years old.

We found Thule Air Base to be a compact, efficient place, housing approximately 3,200 officers and airmen, including two female nurses. It was an important part of the Strategic Air Command's emergency war plan during those days, and maintained detachments of tankers and F-84 fighters for security and air defense purposes. On arrival, we received a briefing and orientation by the Strategic Air Command liaison commander, a Col. Alice. He briefed us on the quarters we would occupy and about several other things that were considered important for newcomers to know. I recall making the mistake of asking why all the arctic parkas had big numbers on the back, and was told that some of the parkas had ended up being worn by female Eskimos. Base officials subsequently identified all GI parkas with serial numbers. "If your parka is missing," I learned, "you'd better have reported it stolen." We completed our initial survey and returned to Lockbourne AFB in mid February and trained intensively for the next four weeks.

On 21 March 1956 the Home Run contingent arrived at Thule with sixteen RB-47Es and four RB-47Hs. During the first week, all of the aircrews underwent special arctic training related to the facilities, prevailing weather conditions, and specifically Arctic survival. Arctic survival training consisted of how to act in the Arctic in case we were downed or had to bail out. We learned how to build igloos and how to obtain water using slow burning candles. You have to melt the snow a little bit at a time. The gist of the abbreviated Arctic survival course emphasized staying with the aircraft, as that would be all that you had until rescued, presuming you were found quickly. It surprised me to find that igloos were warmer than you might think, despite being made out of snow and ice. Though many disliked the exercise, I found Arctic survival training interesting and almost enjoyable, working closely with aircrews outdoors during that time.

Thule, Greenland, is a unique place with unusual weather conditions. On arrival it was completely covered with snow, and it was so cold and dry that the snow would blow around like dust. The weather when we first arrived averaged about 35- to 40-degrees below zero. An



especially important part of the knowledge one needed to survive at Thule consisted of weather information. Environmental conditions were divided into four phases, with phase one being a normal day for operations and activity. From there the weather progressed, or rather deteriorated, by degrees to phase four, which was a complete weather nightmare. Phase four involved a "white out" of very fine, dust-like snow. It would blow around on the high winds at 60 to 70 knots and became so thick that you could not see your hand in front of your face. It would literally white out everything, giving one essentially zero visibility. Throughout Thule Air Base were scattered numbers of what we called "survival shacks" that resembled outhouses. Each contained all of the emergency equipment and food that you would need to survive an unannounced period of phase four weather. Fortunately while we were there, we never had to experience or endure phase four weather.

The barracks that we lived in at Thule—the Bachelor's Officer's Quarters—were constructed and insulated essentially like refrigerators. They were fully self-contained with water, food, and emergency supplies. Here again, during the most severe weather phase you were to stay in your barracks and not move and use the supplies and equipment, including food that you needed, until after the phase four was over. We also found that the flight operations at Thule required a different approach than at most air bases. Careful navigation and fuel conservation became critical. Although it is not a long way to the North Pole, just a little less than an hour and a half flight time from Thule, the closest suitable alternate air base in the event of an emergency was approximately twelve hundred nautical miles away at Goose Bay, Labrador.

I was in charge of the 10<sup>th</sup> SRS aircrews and equipment, facilities, and the like, but I wasn't responsible for the KC-97s. Maj. George Brown provided the briefings on assigned overflight targets chosen by SAC. We planned these missions most carefully. As mentioned, if we were down to landing weight, it would be difficult to proceed to any alternate location with the fuel remaining because of the distances involved. Fortunately, the weather support SAC sent with us to Thule was absolutely outstanding. I have never seen anything to this day that equaled the accuracy of their meteorological reports.\* SAC also maintained a KC-97 squadron at Thule as part of our emergency war plan to refuel airplanes directed against the Soviet Union in the event of war with that nation. We were briefed on the KC-97 capabilities when we first arrived.

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\*See Hyko Gayikian's memoir "Home Run Meteorology and Other Special Operations" in this volume. Ed.

It was determined on some missions we would require more than the normal one-on-one air refueling. Thus, in some instances, two tankers would be required to transfer the necessary fuel to a reconnaissance bomber for it to complete a mission. Maj. Brown briefed the aircrews individually on their respective missions. Flight plans and the amount of fuel they would need would be gone over. All air refueling was accomplished completely in silence. In the event, no one ever missed an air refueling. However, during the first scheduled overflight in early April there were mechanical problems with the KC-97 tankers so that the first mission could not be completed. This prompted General Wheless to have a face-to-face conference with the tanker squadron commander in order to impress upon him the importance of these missions. Thereafter, we did not have any missions that had to be aborted for any reason during our stay at Thule.

Our overflight missions to Soviet territory started in early April 1956, shortly after our arctic training, and lasted through early May. After the initial tanker-related problem on the first scheduled overflight, we flew a total of one hundred and fifty six flights without a single abort or a single ineffective mission. On one occasion we had six RB-47s recover into Eielson Air Force Base and return the next day. The missions involved both photographic and electronic reconnaissance, with the planes departing in pairs. We mapped not only Novaya Zemlya, the island we called "Banana Island," but also most of the Arctic portion of the Soviet Union. There would be multiple missions per day taking off from and returning to our single, snow-covered runway. We located, identified, and photographed many items of interest to SAC. These included air bases, radar stations, atomic testing sites, and numerous towns and industries.

One incident that happened at Thule I would like to relate for you. It involved an aircraft commander by the name of John Lappo, one of the most reliable of the airplane commanders assigned to the 10<sup>th</sup> SRS. John was approximately forty-five minutes late returning to the base during one mission. In the command post, I was getting nervous. Col. Meng was getting nervous. General Wheless was getting nervous. Finally, General Wheless said, "Lloyd, let's break radio silence. I want you to call John and see how and where he is." I got on the radio and called, saying, "John, how much fuel have you got?" Lappo came back immediately: "I have enough." I repeated, "John, how much fuel have you got?" John repeated, "I have enough." Finally, I changed my approach and said, "John, how many pounds of fuel do you have?" John replied, "I have 8,000 pounds." This was trouble. According to RB-47 safety ground rules, that airplane was supposed to park on the ramp with no less than 8,000 lbs of fuel. I knew it took about 6,600

lbs of fuel per hour to fly the RB-47 at Lappo's current altitude, so I asked John, "How far are you from the base?" He said, "Forty-five minutes." He would indeed be very short on fuel. As we had a tanker standing by in the event of an emergency, I asked John if he wanted a tanker.



Photo courtesy of Nicholas Yanuzzi

**RB-47E on Operation Home Run mission.**

Lappo advised us that he didn't want a tanker because if he missed connecting with it he would be in real trouble. So John came straight in and landed. During the debriefing, General Wheless inquired, "John why were you forty five minutes late?" John's response: "Well, General,

it was like this. The visibility was not good at the target area when I arrived and I didn't think you would want to send another air flight over to finish the job, so I made another pass." To that, General Wheless replied with words to the effect: "Captain Lappo, I wish I had an air division of pilots like you."\*

During our stay at Thule, the Secretary of the Air Force Donald A. Quarles and his party came through on a survey and goodwill tour. I had an enjoyable conversation with the Secretary that evening at a reception held for him. Interestingly enough, there was never once any mention of the mission assigned to our large reconnaissance contingent then at Thule, but I had a feeling that he knew what it was all about.

Project Home Run was probably the most successful single operation that I undertook during my entire military career. I know that it was the most satisfying project. But it could not have been accomplished without the solid dedication not only of the aircrews, but also of the

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\*Nevertheless, this failure to follow mission instructions and the risk it entailed earned CINCSAC General Curtis LeMay a reprimand from the Air Force Chief of Staff. See Roger Rhodarmer's memoir "Recollections of an Overflight 'Legman'" in this volume. Ed.

ground crews that worked outdoors on the aircraft in sub zero weather through many hours of darkness and, later, through the hours of sunshine.

During Project Home Run, we batted one hundred and fifty six home runs without a single strike out, and returned to Lockbourne Air Force Base on 10 May 1956. The achievements of this mission were locked away in a vault for many years and no one spoke of them. Many involved in this project are gone now, but all those who participated directly deserve great credit for their significant contributions to its success. With the declassification of this operation, I hope their contributions will be recognized. I truly believe the world is a safer place to live because of the intelligence that we gathered and the way that the United States of America used this information in the Cold War.



**Lt. Col. Lloyd R. Fields at the Early Cold War Overflights Symposium, Defense Intelligence Agency, 23 February 2001.**

## Project Home Run Operations

*George A. Brown*

At Lockbourne Air Force Base, Ohio, in the late winter of 1956, the RB-47E-equipped 10<sup>th</sup> Squadron of the 26<sup>th</sup> Strategic Reconnaissance Wing was alerted to prepare for a reconnaissance project nicknamed "Home Run." In addition to the 26<sup>th</sup> Strategic Reconnaissance Wing, the mission would also involve the 26<sup>th</sup> Air Refueling Squadron and a detachment of four RB-47H's, plus one spare RB-47H, from the 343<sup>rd</sup> Strategic Reconnaissance Squadron (electronic), part of the 55<sup>th</sup> Reconnaissance Wing based at Forbes Air Force Base in Topeka, Kansas. The operational station was Thule Air Base, Greenland.

Thus in February 1956, as part of an advance survey party, I flew to Thule Air Base as a passenger in a C-124. At Thule we were to coordinate project operations, maintenance, and communications, arrange for quarters, and all other support aspects for aircrews. It was, of course, dark when we arrived, and what a reception we got from the weather. We stepped out of the aircraft into a temperature of minus 42 degrees Fahrenheit and a wind blowing at 40 knots. I quickly concluded that I wouldn't much relish the prospect of spending a couple of months in this inhospitable place. We completed our business within 24 hours and hurried back to the C-24 to depart as quickly as possible. It was dark again, as it had been 24 hours per day, except for a couple of hours of faint sunlight on the horizon during the afternoon of our visit.

As we sat shivering in the aircraft—we were desperately cold in spite of our heavy winter flying suits, gloves, and boots—we were very anxious to get the engines started, which would get some heat in the cabin. But shortly after the engines started, they were shut down again, and we were informed that the aircraft wings would again have to be deiced with isopropyl. Although they had been sprayed with isopropyl just before we arrived at the aircraft, the rotating propellers had created enough airflow to cause more ice to form on the wings. The de-icing took what seemed an interminable time, but after 30 minutes or so, the pilot again started the engines. The same thing then happened again. And again the engines were shut down and the wings de-iced. Meanwhile, all of us sat immobile in the numbing cold, with limbs shaking and teeth chattering. But for another hour the de-icing cycle was repeated twice, without effect, until finally, and

untold gallons of isopropyl later, it was deemed safe to takeoff. Even after we were airborne we could feel no heat in the passenger compartment for a long time, and it must have been two hours before we began to feel halfway normal.

On 21 March 1956 we deployed sixteen photoreconnaissance RB-47Es to Thule for Project Home Run. I flew there in a training RB-47, which we would use for instrument and annual proficiency checks for several aircraft commanders, including myself. At least, I mused, after I had landed and taxied to a parking space far from base operations, we shouldn't have to wait around in that blasted cold very long. Captain Dodson, a copilot, had been sent ahead with a



Photo courtesy of Nicholas Yanuzzi

**SAC air crews after Home Run mission transported to living quarters at Thule AB, April 1956.**

small advance party. One of his duties was to insure that transportation met each aircraft within ten minutes after landing. But after we shut down engines, completed our flight forms, and unloaded our equipment and baggage, we waited. After we had waited for over 20 minutes in 35 degree below zero temperature, I flagged down a passing truck and directed the

driver to take us and our baggage, plus another crew that had been waiting for over half an hour, to base operations. As we finished unloading our baggage, an irate colonel confronted me and demanded to know what I thought I was doing commandeering "his" truck. I was in no mood for diplomacy and reminded him that we had just completed a seven and a half hour deployment flight, that it was 35 degrees below zero, and that we had been assured that transportation would be at each aircraft immediately after we had parked. Although he let me know that he was a colonel and the SAC liaison officer on station, I did not back off one inch. After some more hard-eyed discussion, he left, but I knew I had not made a friend at Thule.

We were quartered in long metal structures that closely resembled walk-in meat freezers, including the hardware on the doors and heavy Plexiglas windows. These buildings were heavily



U.S. Air Force Photo

**Living quarters at Thule, ca Spring 1956.**

Photo courtesy of Nicholas Yanuzzi

**Living quarters, another view, April 1956.**

insulated, self-contained, individual units. They were satisfactory, if small, living quarters for two men per room, each having bath facilities and warmth. Each unit also contained a room full of cases of emergency rations, emergency water containers, and other supplies. It was a punishable offense to open any case of emergency rations, emergency water, or other items in normal circumstances. We soon found out why. For about three months in winter, from early December through February, it was completely dark at Thule. At the time of our visit, the sun had just begun to appear for a short time daily. When our project aircraft and personnel arrived on 21 March, at the vernal equinox, a larger sliver of sun could be seen and the "daylight" already was three to four hours long,

and quickly became longer each day thereafter. All of the aircrews, maintenance crews, and support personnel of the temporary duty RB-47 and KC-97 units were quartered in the "meat freezer" refrigerator cars, which even featured levered door handles. The toilets operated on a hand pump flush system. All aircrew members, after receiving suitable arctic clothing, spent the first week after arrival receiving winter survival training, which was made as realistic as possible and included remaining out of doors overnight with standard arctic survival gear for protection, day and night. This requirement was received with mixed reactions.

But the greatest danger lay in "whiteouts" that occurred two or three times per winter on



Photo courtesy of Betty Meng

**Col. William Meng beside an igloo, Arctic training at Thule, late March 1956.**

average. Driven by 60 to 70 knot winds, surface snow blew horizontally and visibility dropped to zero. These were killers that might last two to three days or more. For this reason, small, heavily-insulated huts stocked with food, clothing, a heating supplement and survival equipment, were placed about the airfield to provide a survival shelter and sustenance to anyone caught in the sudden

onslaught of such a storm. The story was told of a heavy equipment operator who had been out on the airfield when a whiteout struck during the previous winter. In his powerful vehicle, with its heated cab, he tried to make it back to the main base area. But his engine stalled, could not be restarted, and he froze to death less than a mile from the main building area and only a hundred yards from a survival hut. We were impressed. When a near "whiteout" actually struck Thule during April 1956, everyone stayed put wherever they were—throughout interminable bridge and poker games, with only air police and emergency vehicles allowed to operate during the roughly three days of the storm. There was little snow in that part of Greenland, or at least nothing like the ten or twelve-foot depths commonly experienced in Labrador. But the frequent storms just blew back and forth whatever snow there was, quite fiercely. We ate a lot of emergency rations.

The chain of command for our temporary duty detachment was as follows: overall operational supervision was provided by U.S. Air Force headquarters, represented by Brig. Gen. Hewitt T. "Shorty" Wheless who commanded the 801<sup>st</sup> Air Division. Col. William J. Meng, commanded the 26<sup>th</sup> Strategic Reconnaissance Wing, and Maj. Lloyd F. Fields commanded the 10<sup>th</sup> Strategic Reconnaissance Squadron. The planners for all photoreconnaissance missions were Maj. George A. Brown, Headquarters (Operations), 26<sup>th</sup> Strategic Reconnaissance Wing, and Lt. Col. Glenn E. "Buck" Rogers, Headquarters (Navigation), 26<sup>th</sup> Strategic Reconnaissance Wing,



with Capt. Hyko Gayikian, from SAC headquarters, and Otto Jenista (serving on temporary duty in the United Kingdom), in charge of meteorological forecasting. Gayikian and I briefed all of the aircrews at Thule on the weather conditions from Greenland over the pole to tanker rendezvous, and Jenista, via another channel, furnished weather data from the North Pole over each of the penetration routes into the Soviet Union. I provided Jenista's information, separately and independently, to each penetrating RB-47E/H aircrew along with its planned route, list of known sites to be surveyed, and expected air defenses, if any. Thus compartmented, each aircrew knew only its own mission in the Soviet Union, and nothing of any other overflight activity that might be taking place elsewhere, simultaneously.

Buck Rogers and I had little chance to explore the base upon arrival. We were almost immediately installed in a secure vault where Buck, as the navigation planner, and I, as the operations planner, could, and often did, work up to 18 hours a day at mission planning. We had a great deal of work to do and spent the next two and a half weeks in virtual isolation, coordinating not only with U.S. Air Force headquarters, our wing commander, Col. Meng, SAC intelligence experts, and the squadron commanders of the RB-47E and RB-47H units, as well as the tanker squadron commander, plus key members of the Thule Air Base staff. We also spent a good deal of time



Thule Air Base imaged during a practice overflight,  
31 March 1956.



Enlargement showing some of the RB-47Es, F-89s,  
and a C-54, on the snow-covered tarmac at Thule.

discussing upper air conditions, especially contrail conditions, with our resident weather specialist, Hyko Gayikian,\* and examining other factors that might affect mission success.

Buck and I must have averaged about four hours of sleep nightly and maybe a meal and a half a day. It wore me down. Just after we had completed the planning phase, in early April, I came down with the flu, or something like it. The next morning I was so sick I couldn't get out of the sack, and the flight surgeon made a "house call" to administer to me. The doctor had only been gone a few minutes when I had a visit from Col. Meng, who told me that the execution order had just arrived from Air Force headquarters, and that we were cleared to begin flying operational missions immediately. When he discovered how sick I was, he sent Maj. Fields, a long-time friend, over to see me and be briefed sufficiently to take over at least the combined aircrew briefings as necessary. After trying for about half an hour to acquaint Lloyd with the needed background while recumbent in a sickbed, I gave up. "To hell with it," I said, as I threw back the covers. "This isn't going very well. I might as well get up and give it a go myself." I went to work. About eight hours later Buck and I were satisfied that we were ready to brief and launch our first mission. It was then that I realized I was no longer ill. I had gotten so involved with what I was doing that the effort had cured whatever was wrong with me.

Our first mission on 5 April was a complete flop. The four RB-47E reconnaissance aircraft and two RB-47H electronic intercept aircraft got off on schedule and were at the air refueling rendezvous point on time. But only two KC-97 tanker aircraft were there. Five or six others were very late for takeoff or had aborted for one reason or another. It was pointless to continue, as two tankers could not provide even half the fuel that had to be off-loaded, so all came back to Thule. General Wheless and Col.

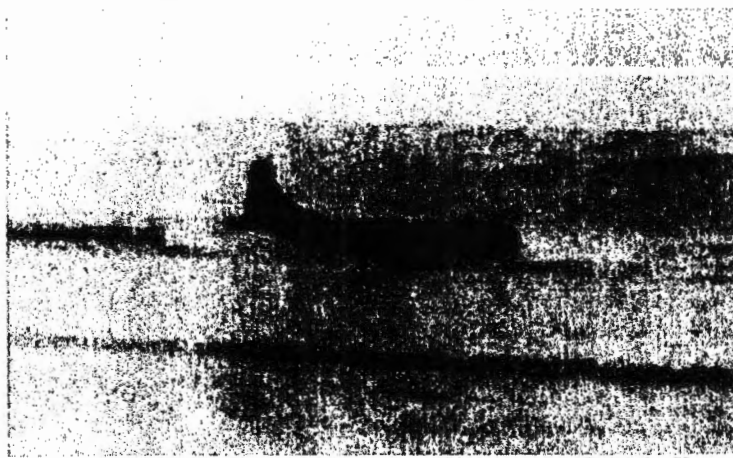


Photo courtesy of Nicholas Yanuzzi

**A Home Run KC-97 preparing for take-off from  
Thule Air Base, April 1956.**

\* See Hyko Gayikian's memoir "Meteorology for Project Home Run and Other Special Operations" in this volume. Ed.

Meng were decidedly upset with the air refueling squadron's performance. After they had cooled a bit, following a rather terse session with the air refueling squadron commander, I told them what I thought was wrong in the first place. A couple of air refueling crews had not attended the general briefing at all, and other individual crew members had been absent, and I felt these absences had a lot to do with the sub par performance. I requested, and received, authority to refuse to conduct future briefings unless I had 100 percent attendance by all aircrew members, commanders, and operations officers.

The mission was rescheduled and another was laid on a day or two later. At the specified briefing time there were again two or three air refueling crews absent. When I asked after them, I was told that they had too much work to do to get ready for the mission and couldn't take the time to attend the briefing. I directed their operations officer to get them to the briefing on the double, as I would not proceed without them. At this juncture Col. Meng walked in, and I informed him of what I had directed. Meng immediately supported my action. Although he said little, his eyes and tightly compressed lips indicated that some fireworks could soon be expected. He didn't disappoint. When the erstwhile tanker crews arrived, he lit into them fiercely. He made it quite clear that no one involved in the mission would be exempt, for any reason, from attendance on time at any future mission briefing.

After the briefing, I went to the control tower to observe the tanker takeoffs. The tanker squadron commander, already present, looked as though a colonel or general had just taken a big bite out of his derriere. When one tanker aborted its takeoff, he almost wilted. But after coming to a shuddering stop near the takeoff end of the runway, the tanker commander taxied back and, deciding that his aircraft was operational, took off within the time span allotted. When the last of the eight tankers had taken off, the air reconnaissance squadron commander mopped his brow,



U.S. Air Force Photo

Control Tower at Thule Air Base, mid-1950s.

said "Whew" and looked at me. "Feel better now?" I asked. Then said, "Now all you have to do is hope none of them abort." "Yeah," he said, "I've never sweated anything out so much in my life."

The overflight mission went well. All tankers were at the rendezvous point over the North Pole on time, radio silence was maintained, all air refuelings were 100 percent successful, and the RB-47 mission results for both E and H aircraft were outstanding. We had one emergency landing field available to aircrews, consisting mostly of scraped ice and oil drums, set



The city of Noril'sk, behind the Ural Mountains near the Yenisey River, imaged during a Home Run mission on 14 April 1956.



Enlargement showing open pit mining operation at Noril'sk.

up at "Nord," a Danish weather station on the northeast coast of Greenland close to the North Pole, but we never had to use it. That was just as well, as the only other alternate landing base was Goose Bay, Labrador, approximately three hours and forty-five minutes flying time away. But in spite of an occasional ice fog scare and some low fuel situations that required the rapid launch of a tanker, the whole of Project Home Run could not have gone better.

Our missions encompassed the entire northern coast of the Soviet Union, from the area south of Novaya Zemly'a, or Banana Island as the crews jocularly referred to it and its

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atomic test site, to the Chukotskiya Peninsula, and Anadyr and Providenya near the Bering Strait. Towns and military areas photographed included Dikson, Makarova, Chelyuskin, Ust-Olensk, Khorgo, Tiksi, Nordvik, Ambarchik, Tal Tumus, Anadyr, Mys Shmidta, and Wrangel Island.

It was my duty to schedule and brief all missions and RB-47E and KC-97 crews, assigning the toughest and longest missions to the highest ranking and most reliable aircraft commanders in the 26<sup>th</sup> SRS—men like Lt. Col. Pete Moore, Maj. Larry Brown, Maj. Floyd Robinson, Capt. Ben Harris, Capt. John Lappo, and Capt. Dan Guzowski, whom I had known well in the 301<sup>st</sup> Bombardment Group back in 1948 and 1949. All the crews did well, although Lappo was almost too aggressive and made us tear our hair out on more than one occasion. I'm not sure now how many RB-47E sorties we flew, but, operating from a single 10,000 foot runway, we flew more than 100 missions involving numerous penetrating aircraft during the project period without any near intercepts and only a few hostile sightings. Nor did we have any



Photo courtesy of Earl O'Loughlin

**Maj. Floyd Robinson, October 1954.**

Photo courtesy of Earl O'Loughlin

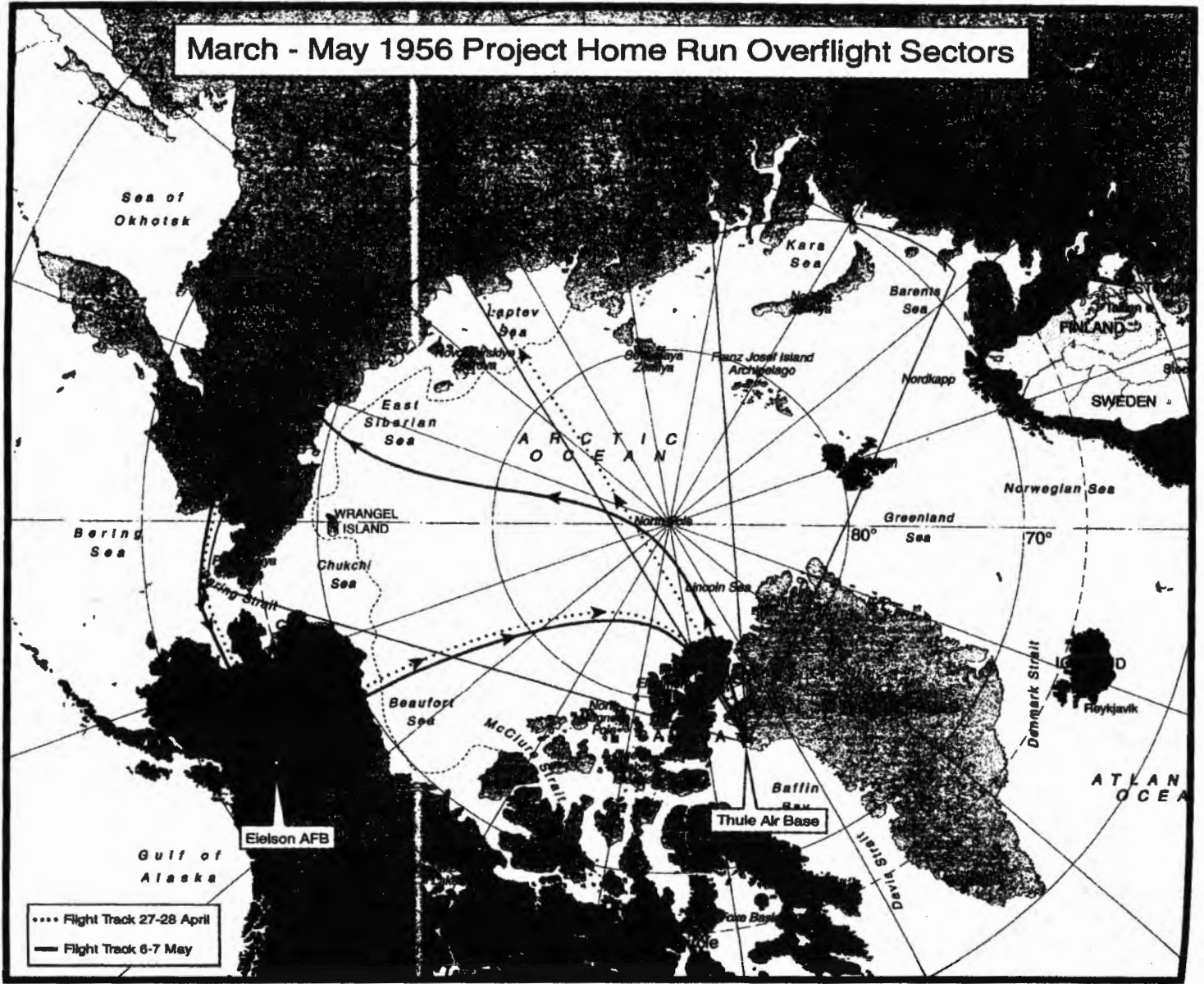
**26<sup>th</sup> SRS Maintenance Line Chief at Thule, MSgt. R. G. Griffith.**

aborts for mechanical problems, which bespoke the extremely high quality of maintenance provided for us by our ground crews, particularly in view of the fact that they had to perform all of their maintenance outdoors in zero to sub-zero weather because there were no hangers at Thule large enough to handle B-47 aircraft. It was a remarkable example of professionalism and pride on the part of the aircraft mechanics and crew chiefs.

Normally we flew RB-47E reconnaissance missions whenever weather in the photo areas permitted, two to four aircraft per day. After the whiteout we flew almost daily, as the weather was

Unclassified

### March - May 1956 Project Home Run Overflight Sectors



..... Flight Track 27-28 April  
 — Flight Track 6-7 May

invariably good at Thule, except for the one day when an ice fog crept in and enveloped some of the base, and particularly the first two or three thousand feet of the only runway. The one reconnaissance aircraft of this mission, with Lt. Col. Pete Moore in command, had the option of going to the Goose Bay alternate. But his low-fuel situation and the three hours and 45 minutes required to reach the



U.S. Air Force photo

**Maintenance crews refuel an F-94 in sub-zero temperatures at Thule Air Base, December 1953.**

alternate field would have involved launching a tanker for a refueling in spite of the ice fog, or attempting to land in spite of the short available landing distance available, which required a bit of iron nerve. Pete elected to land at Thule. We in the tower had a few rather anxious moments when the aircraft entered the ice fog until we saw him come back out of it with the aircraft under complete control. I was especially relieved because Pete was a West Point classmate.

The final mission of Project Home Run has been referred to as the "massed overflight."\* It was conducted in early May by six RB-47Es flying roughly parallel courses over the Chukotskiya Poluostrov Peninsula, focusing on the many military and naval facilities ringing the shores of the peninsula on either side of and supporting Provideniya, and other installations in the area. This was the one mission that had the entire staff and commanders excited, as well as a bit apprehensive because of its audacity, especially when it was executed without a hitch and without a reaction from the Soviets. All of the RB-47s landed at Eielson Air Force Base, Alaska, and returned to Thule Air Base the following day without incident, to the cheers of the Thule Air Base community. It was an exciting climax to a highly successful project.

\*For the reaction to this mission in Washington, D.C., see Roger Rhodarmer's memoir "Recollections of an Overflight 'Legman'" in this volume. Ed.

None of the top commanders or operations officers, I should add, were permitted to fly any of the reconnaissance missions for security reasons. General Wheless understood why, but one or two of the lower-ranking commanders felt that, as during World War II, they should have been allowed to share the hazards likely to be encountered by their crew members. U.S. Air Force headquarters had issued that directive and there was no taking issue with the security aspects of such an action. One of the senior commanders was frankly told to "forget it" by General Wheless. Having heard the exchange, I didn't even bother asking; I knew such a request would be denied.

Project Home Run concluded quickly following the final "massed flight" mission. All remaining aircraft departed Thule for the United States on 10 May 1956.

### Editorial Afterword

Based on limited information, the first account of Project Home Run appeared publicly in 1997.\* It described Home Run, directed by Brig. Gen Hewitt T. Wheless and Col. William J. Meng, conducted in sub-zero temperatures with maintenance crews working on exposed aircraft and with aircrews operating from a single ice- and fog-covered runway—without a single person or airplane lost through mechanical failure, in an accident, or to Soviet action. It concluded: "*To this day, the SAC Thule [overflight] missions remain one of the most incredible demonstrations of professional aviation skill ever seen in any military organization at any time.*" The participants' recollections that appear in this volume we believe underscore that initial assessment.

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\*R. Cargill Hall, "The Truth About Overflights," *MHQ: The Quarterly Journal of Military History*, Vol. 9, No. 3, Spring 1997.



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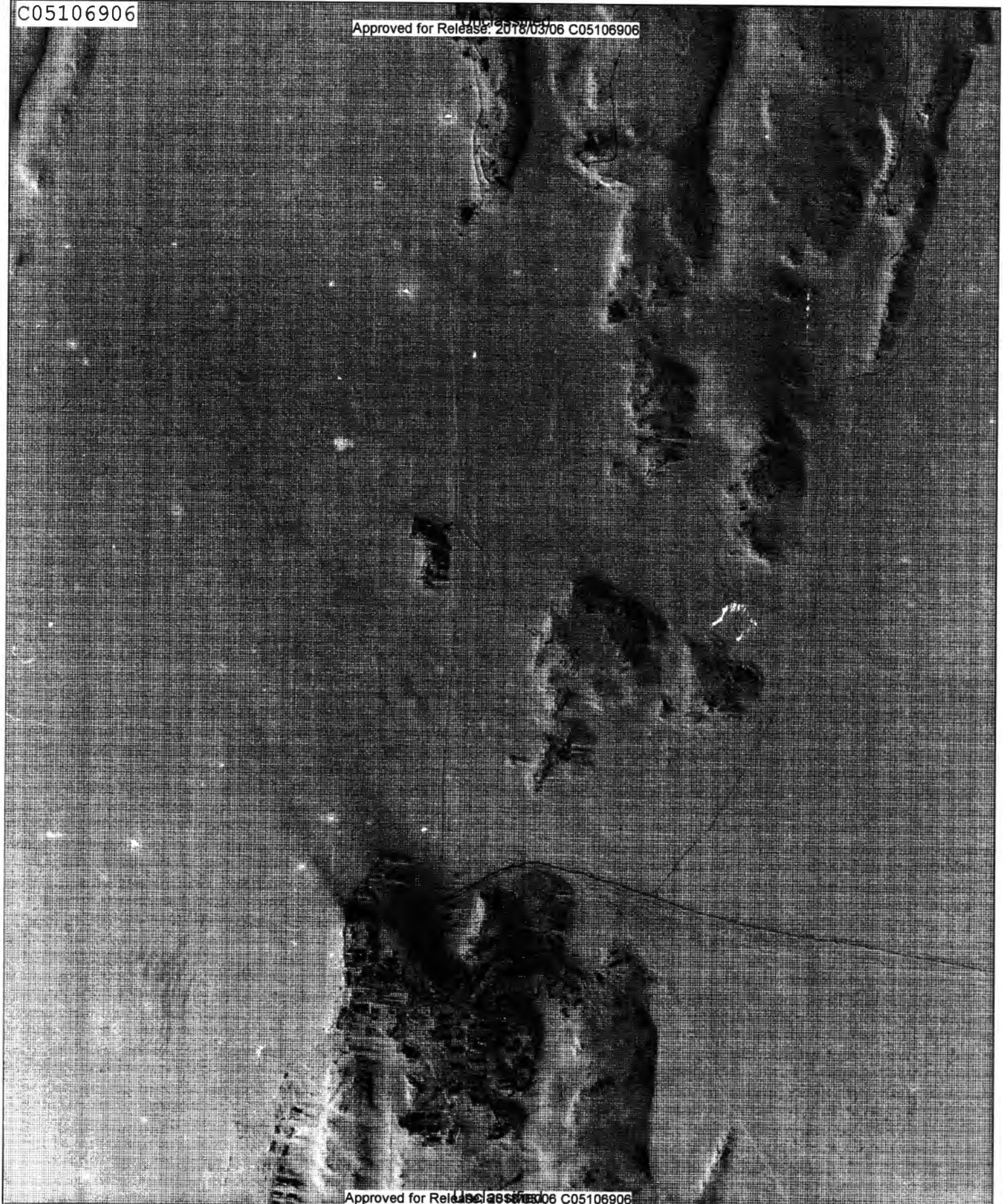
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17 Apr 56

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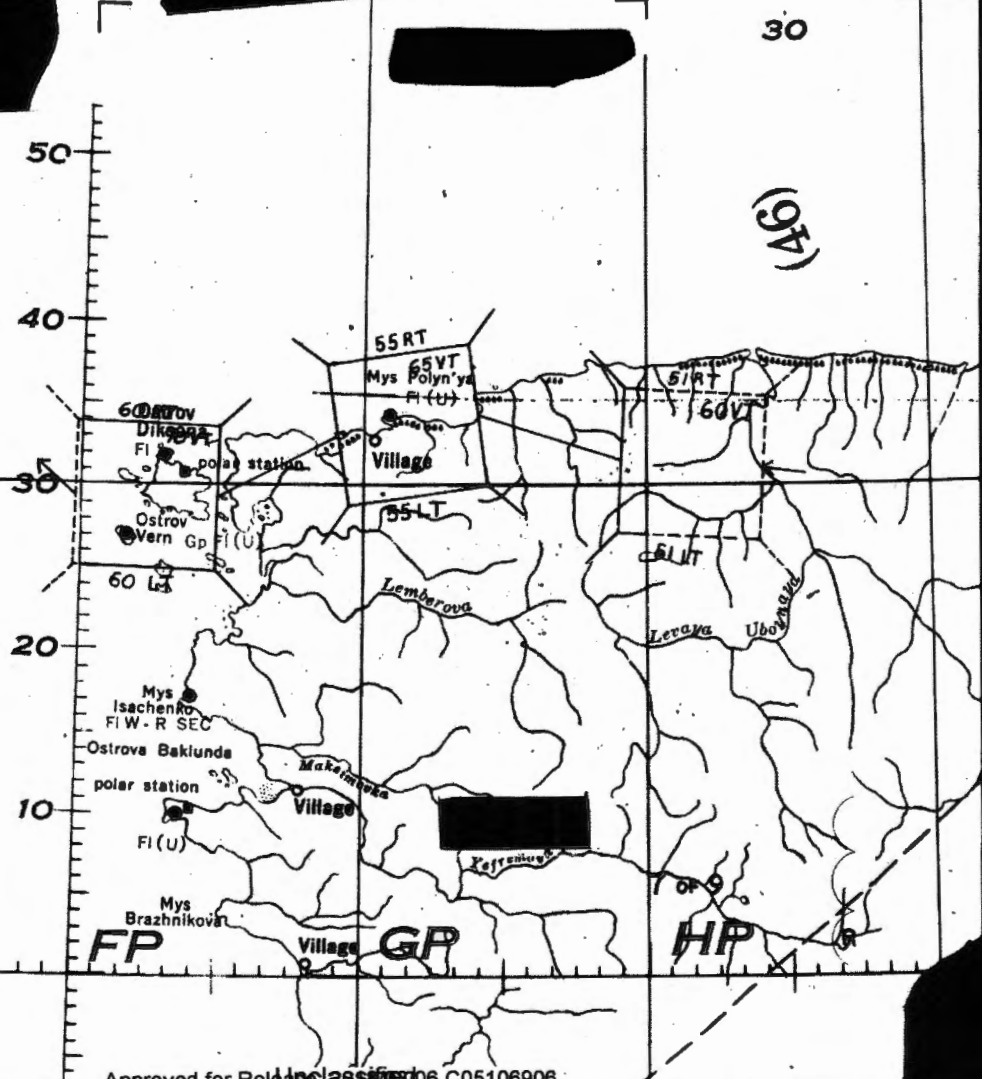
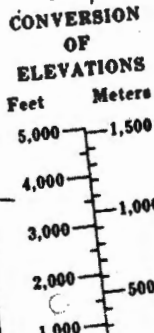
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REMARKS \_\_\_\_\_

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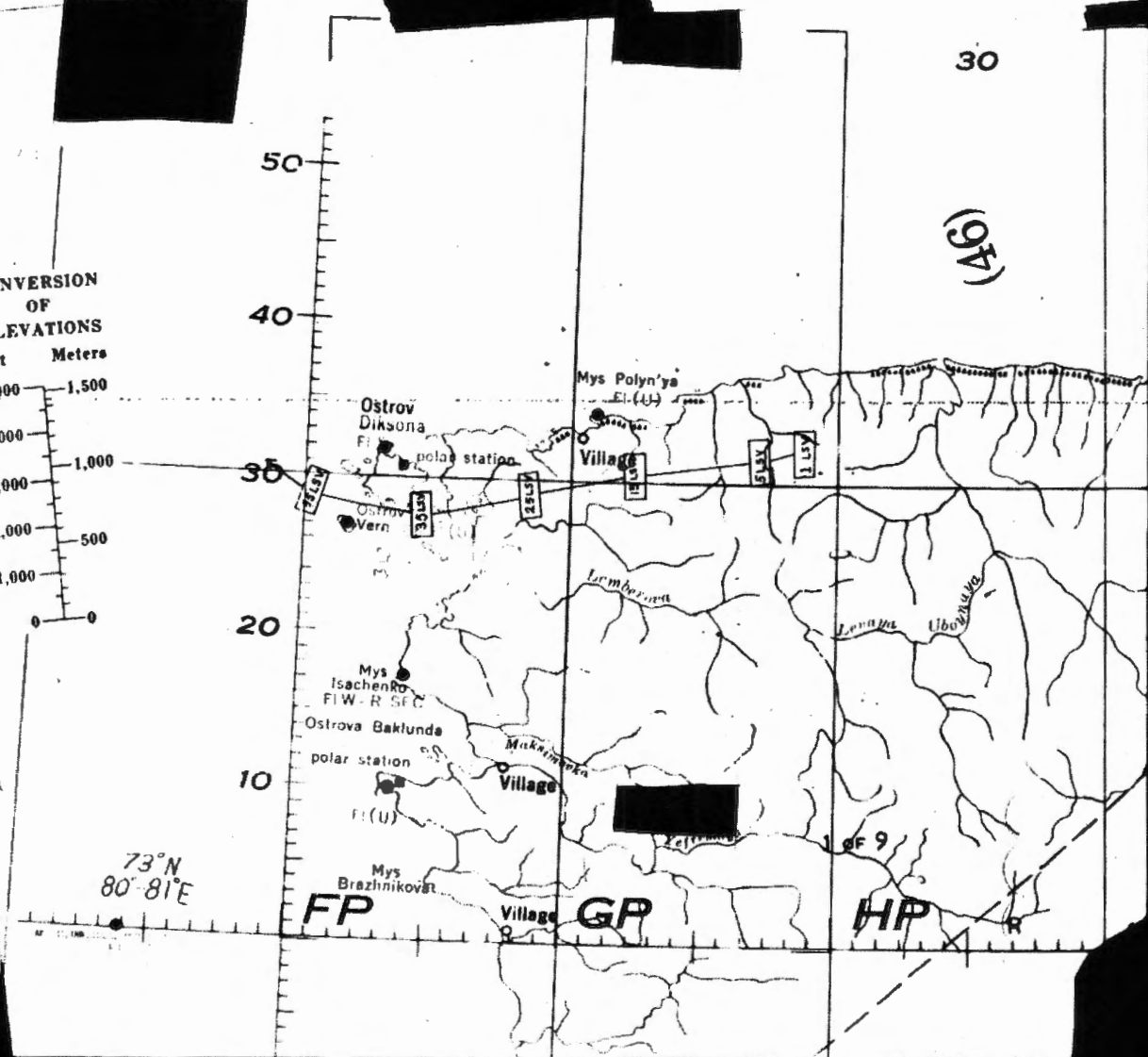
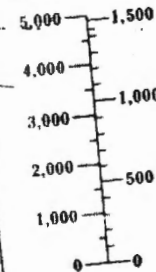
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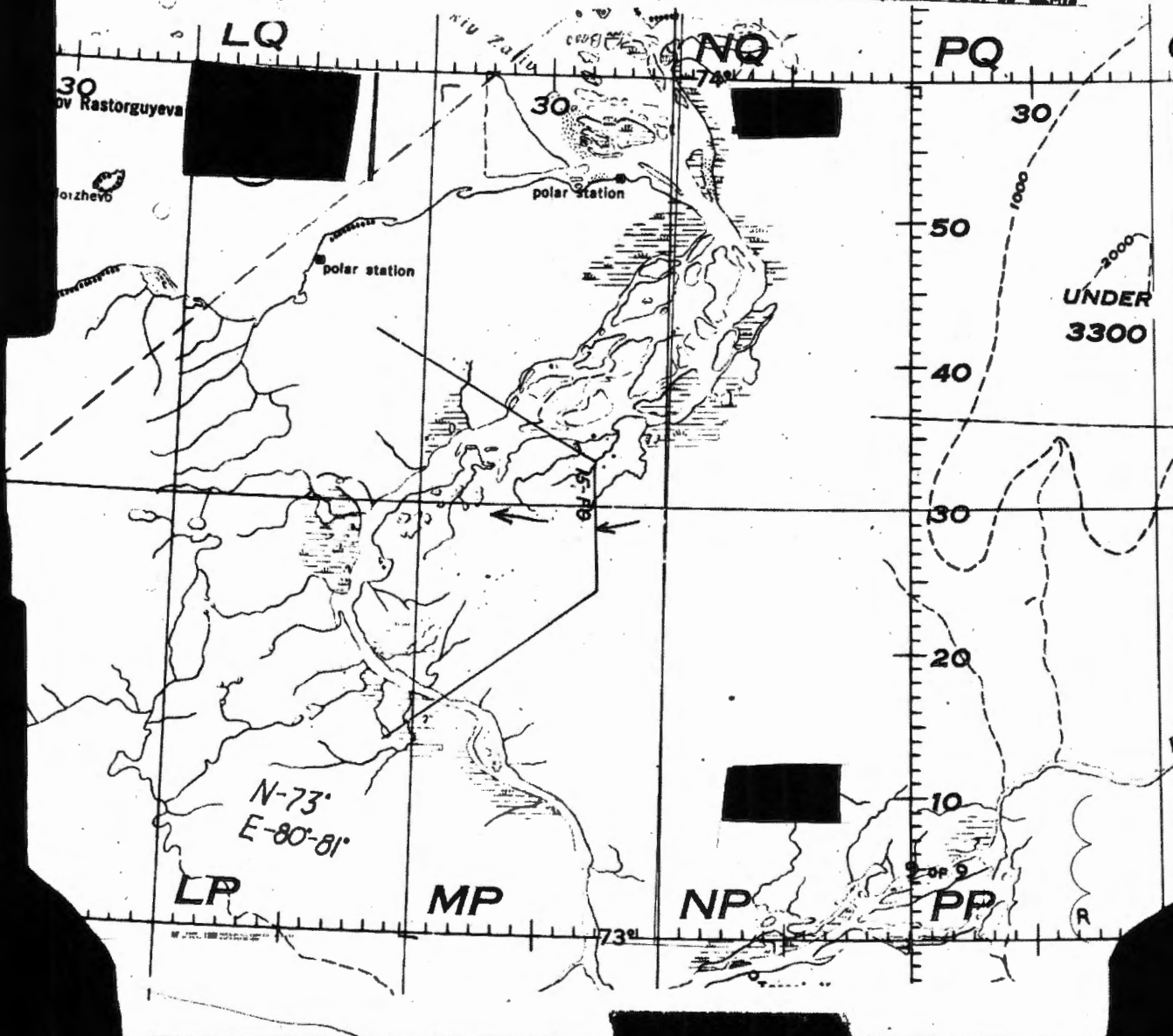
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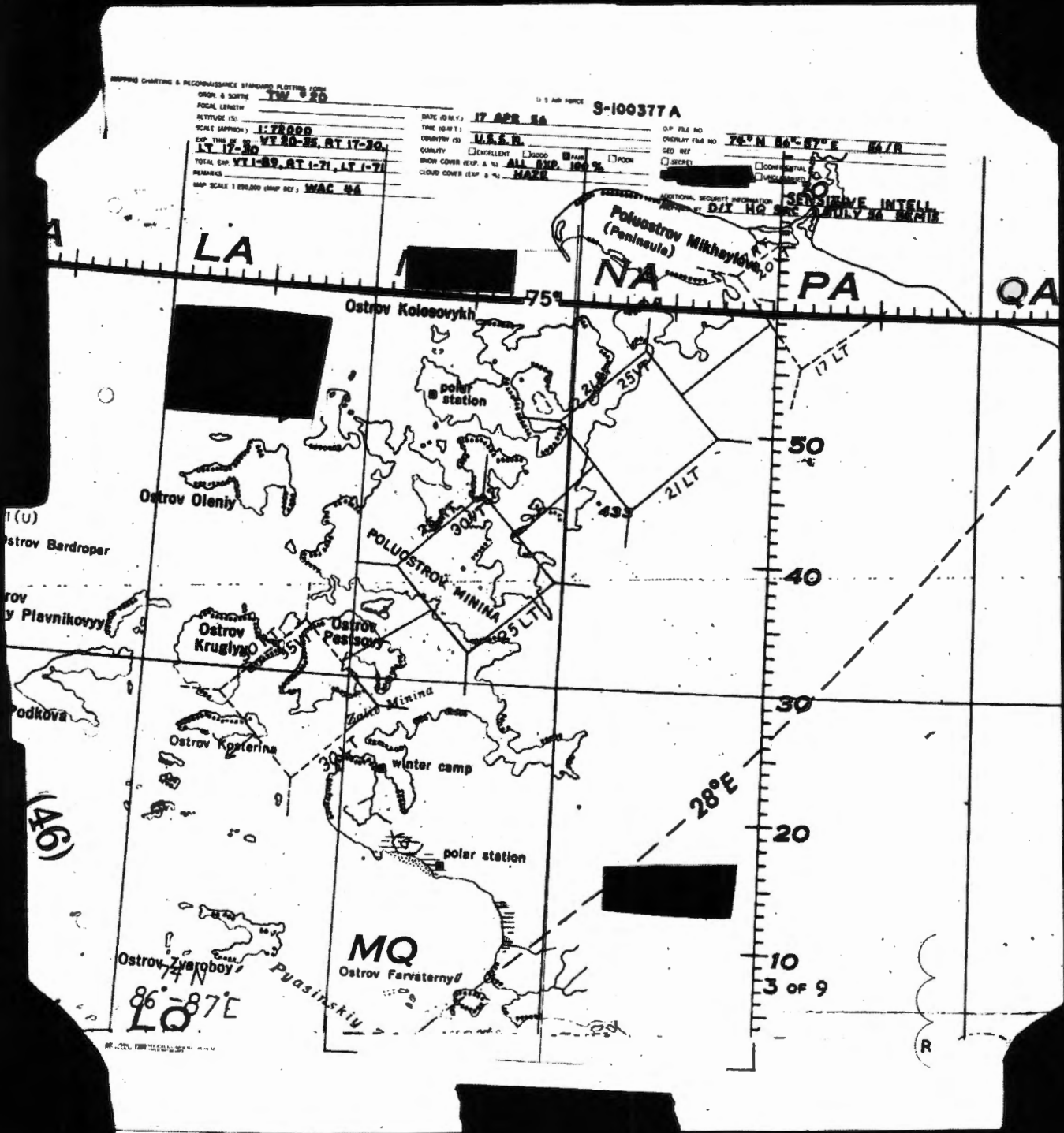
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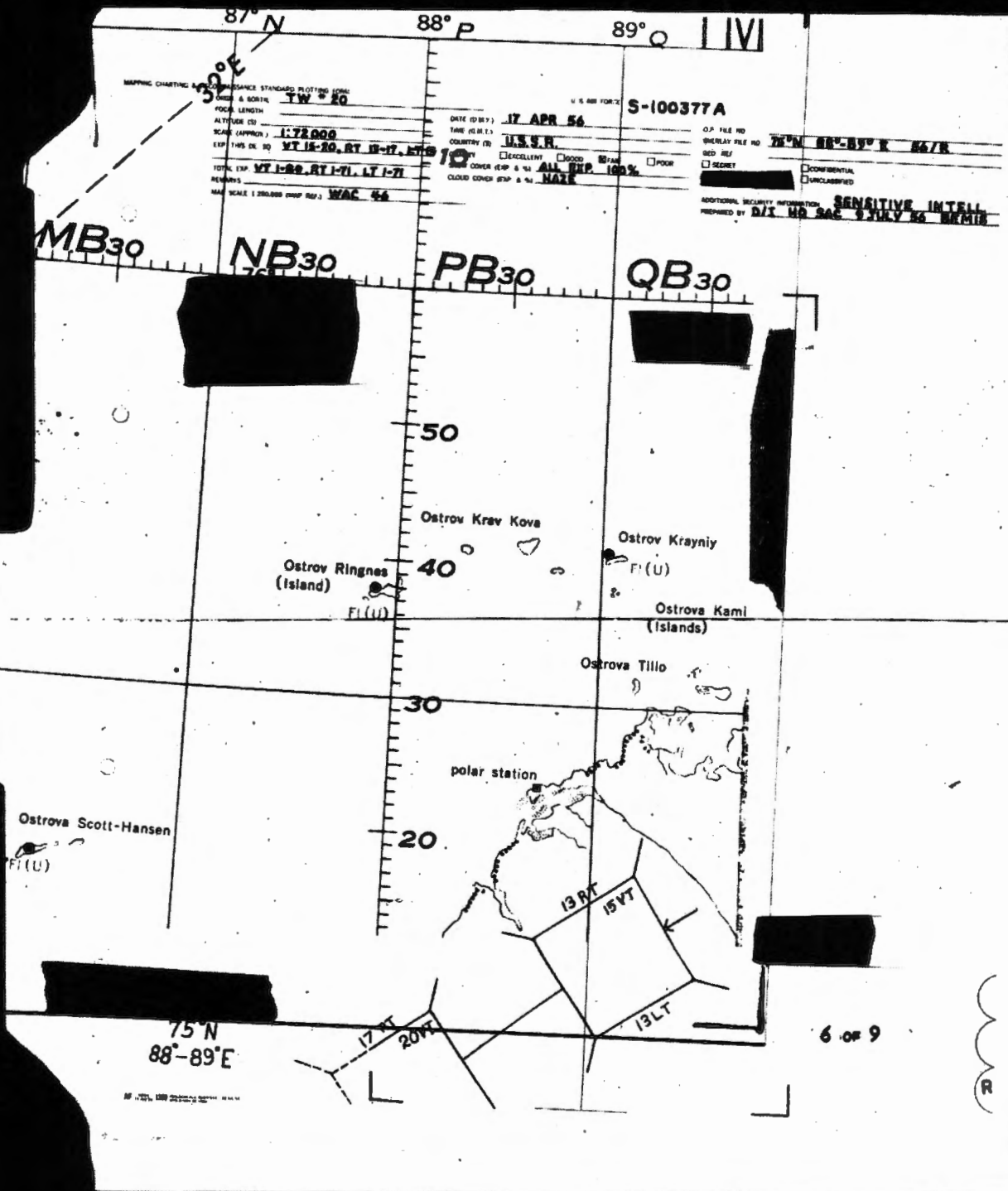
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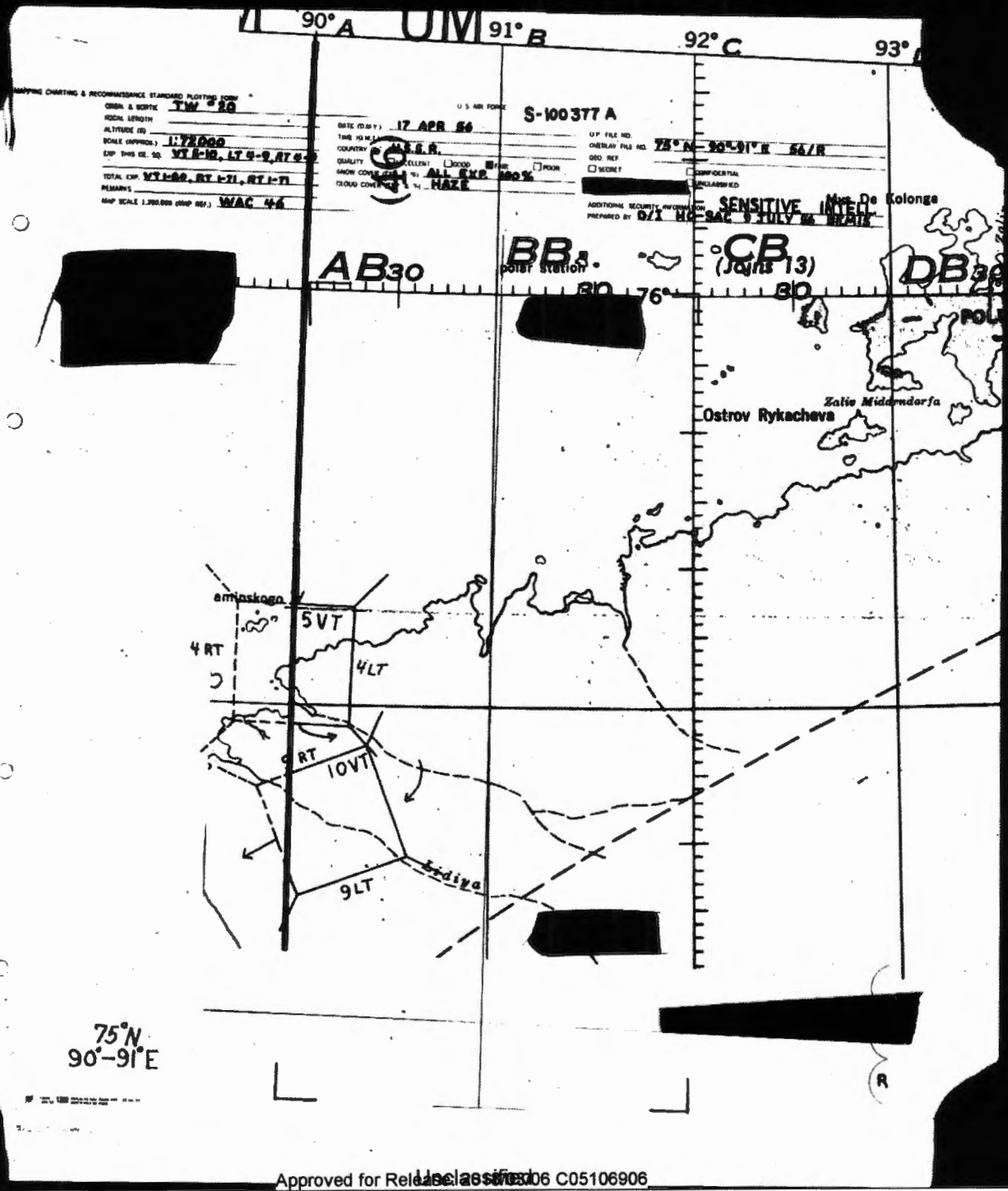


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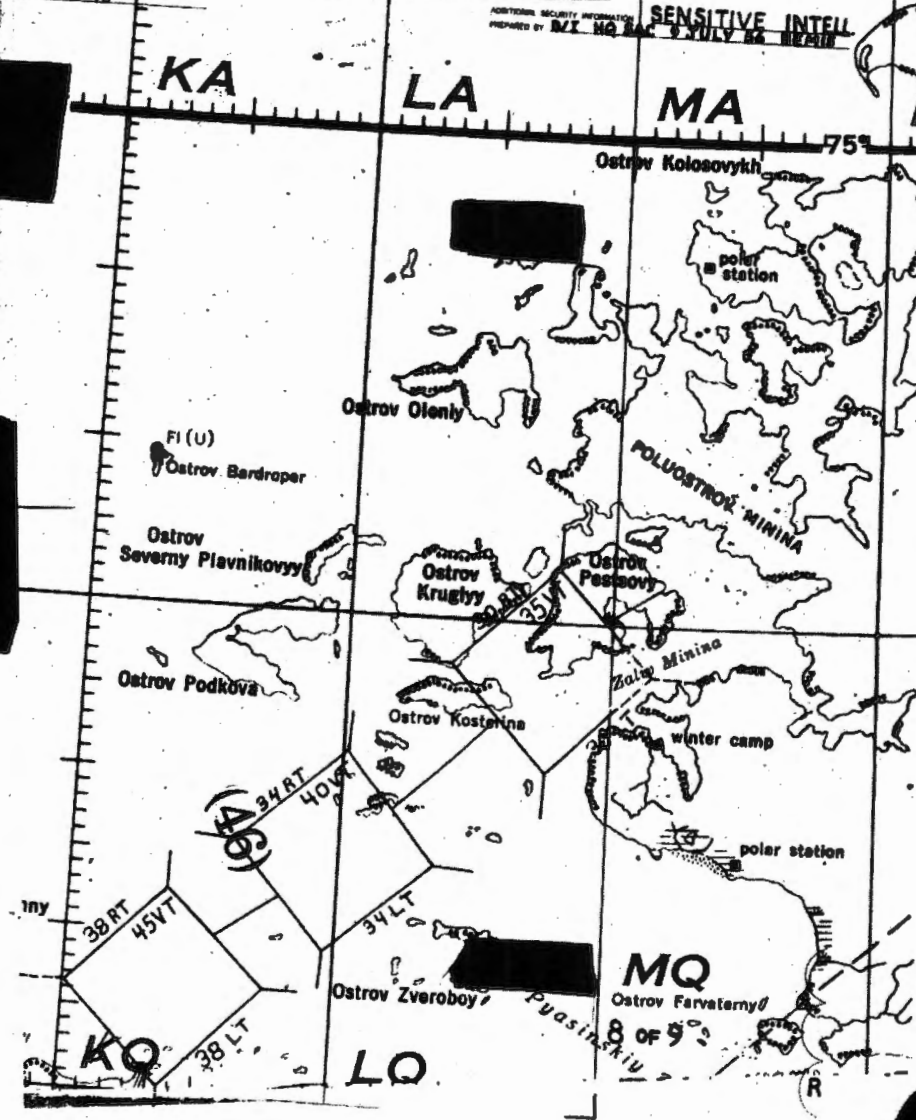
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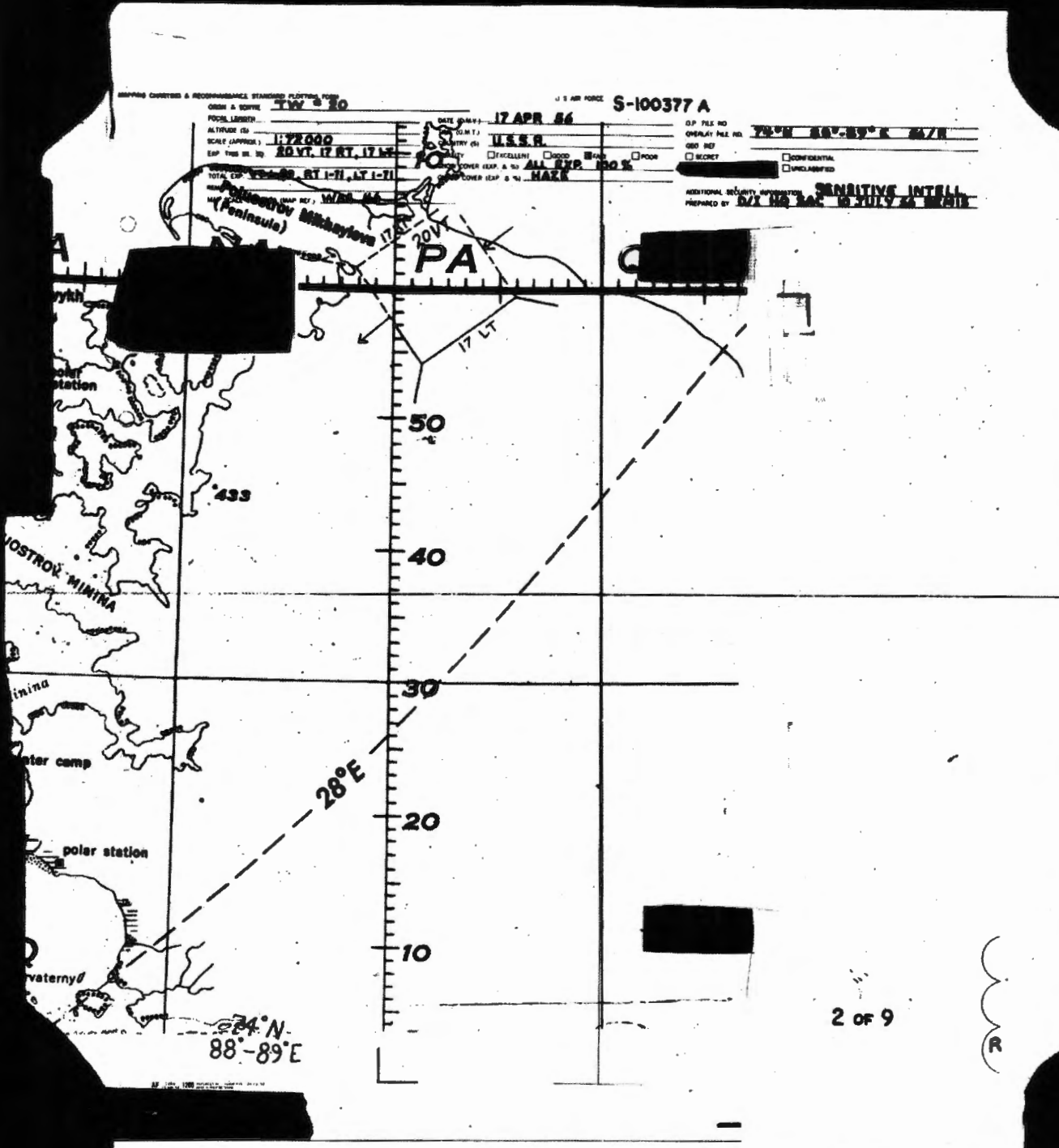
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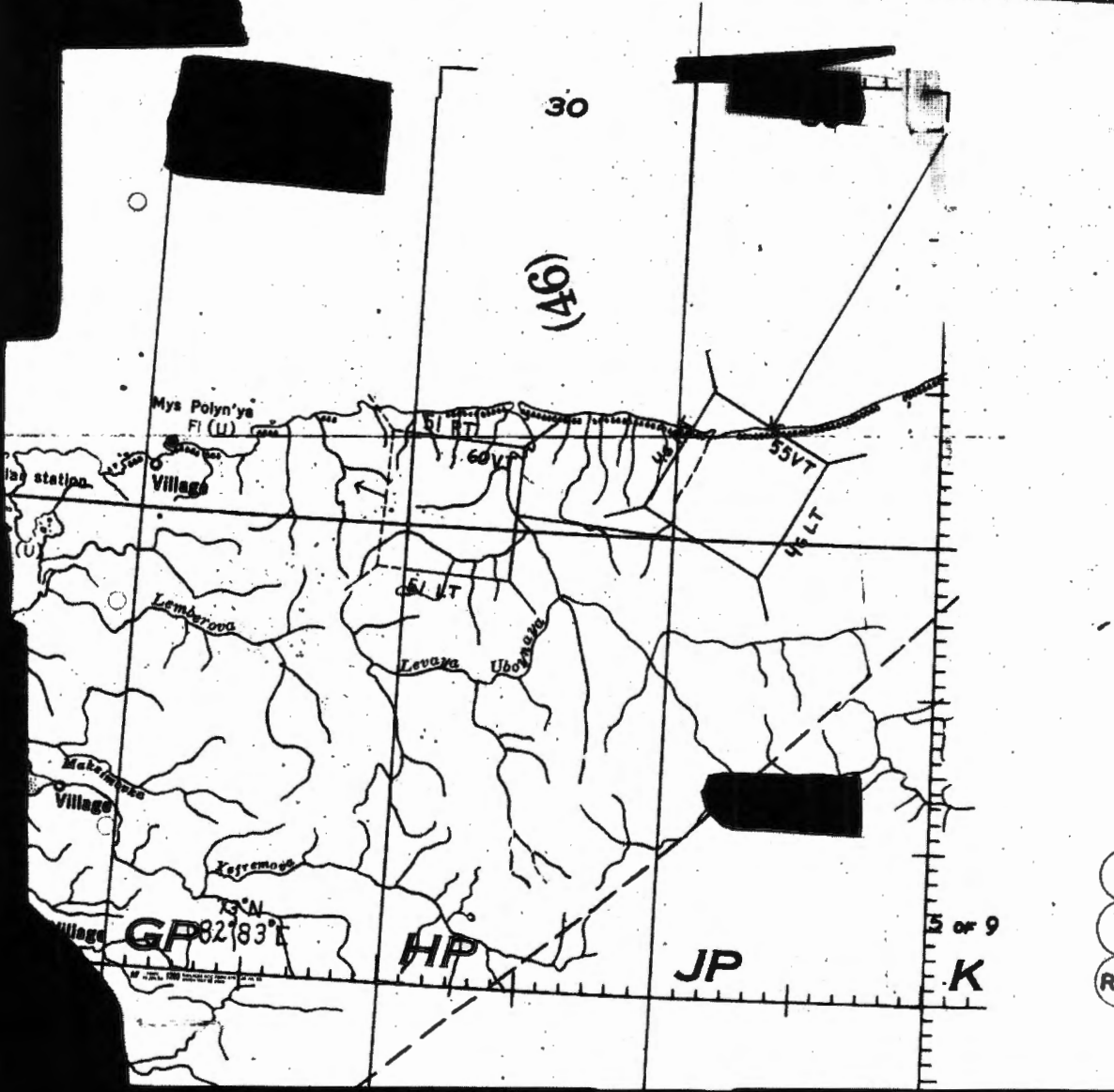
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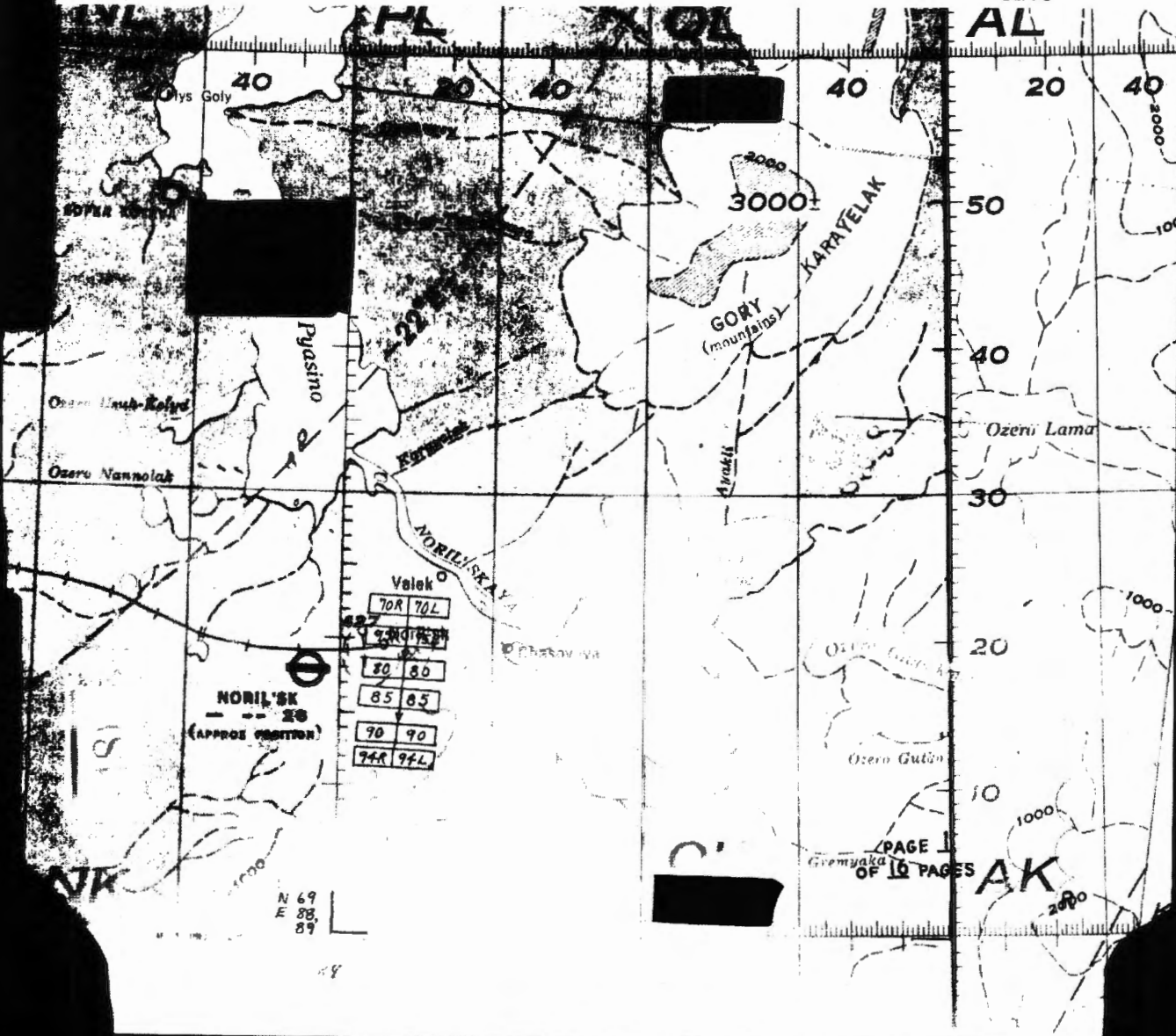
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Project Homerun Mission on 14 April 1956  
RB-47 Mission 18 out of Thule, Greenland  
Pilots Unknown  
City of Norilsk, USSR (Siberia)

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Project Homerun Mission on 14 April 1956  
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City of Norilsk, USSR (Siberia)

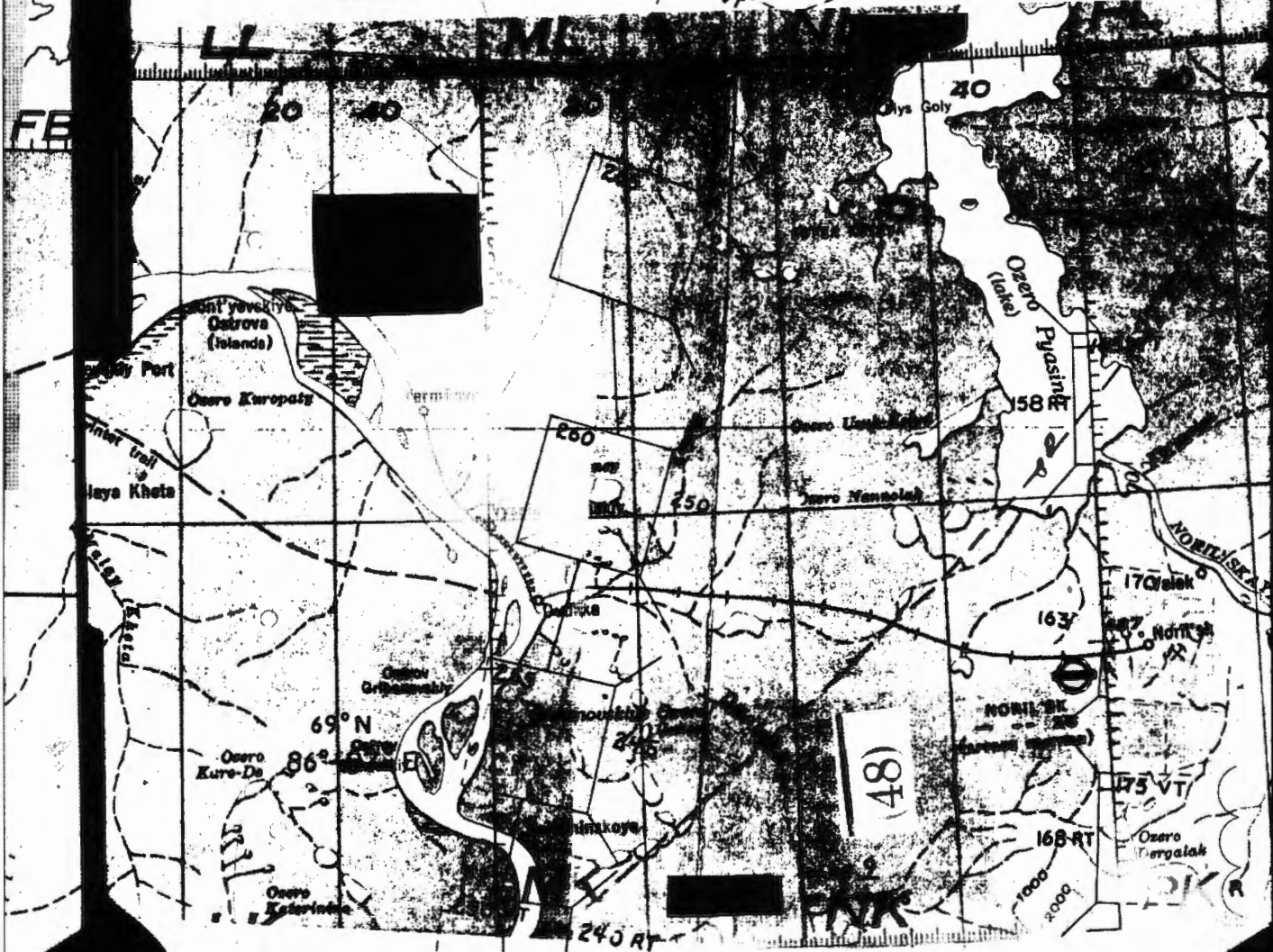
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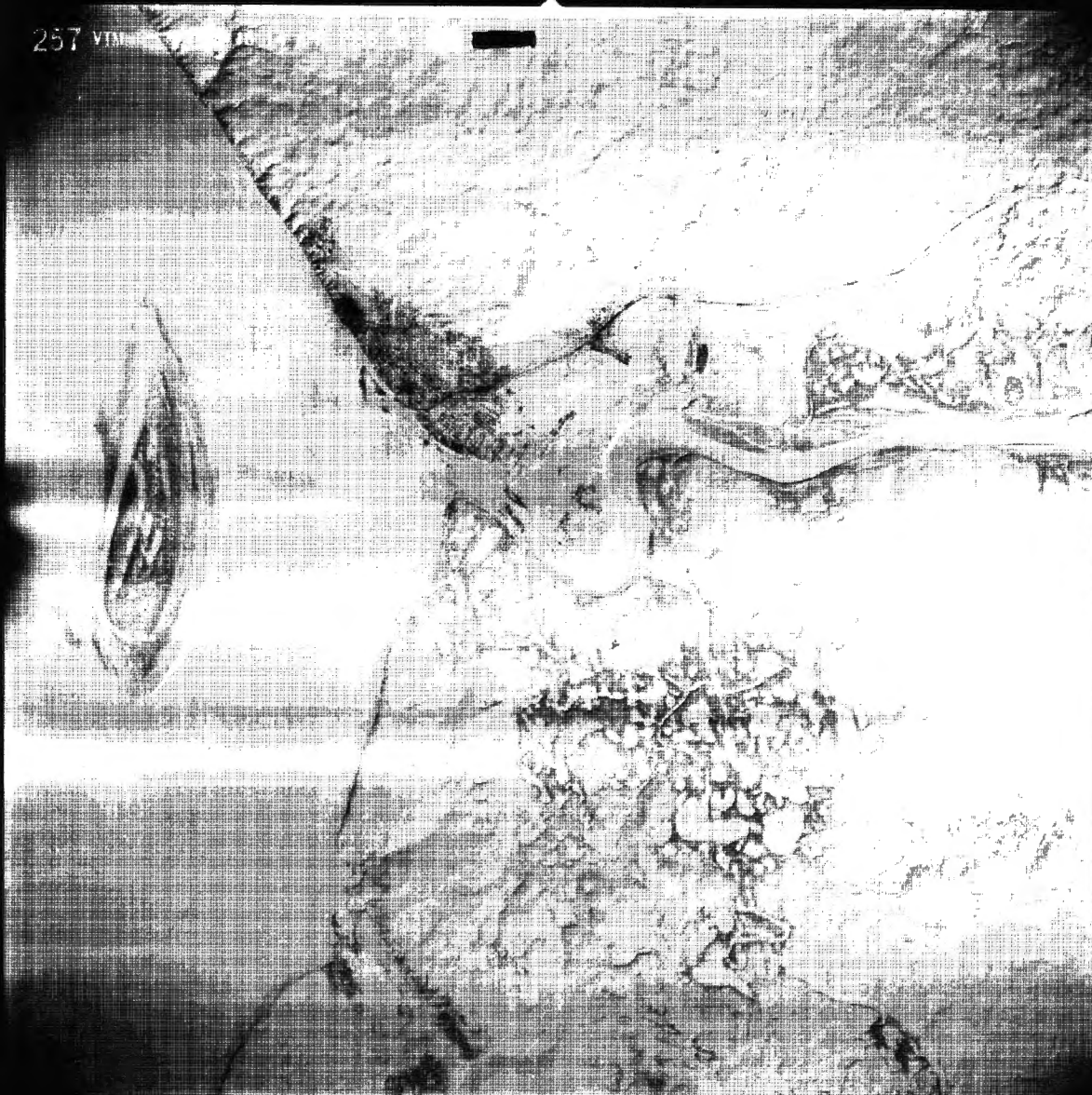
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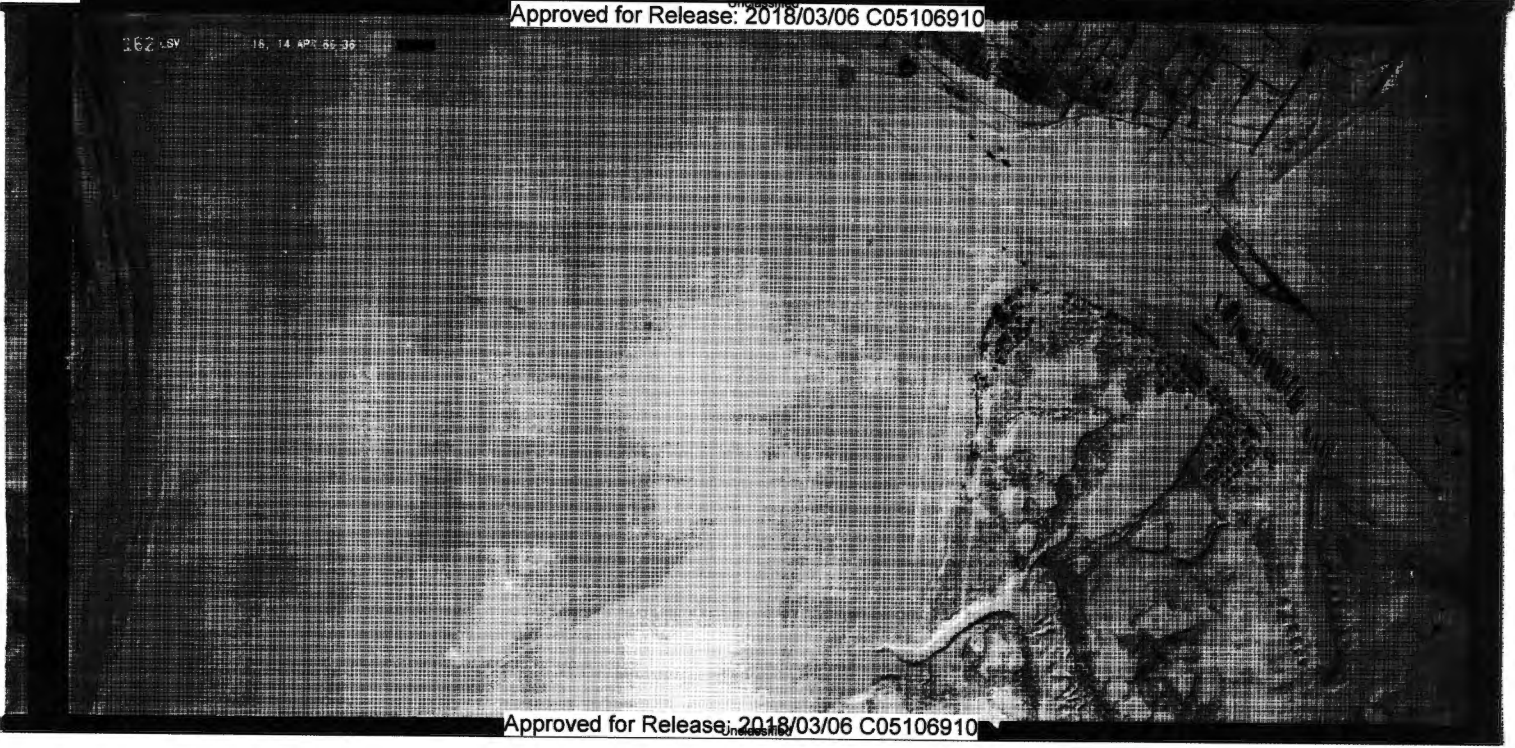
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Project Homerun Mission on 14 April 1956  
RB-47 Mission 18 out of Thule, Greenland  
Pilots Unknown  
City of Dudinka, USSR (Siberia)

162 .SV

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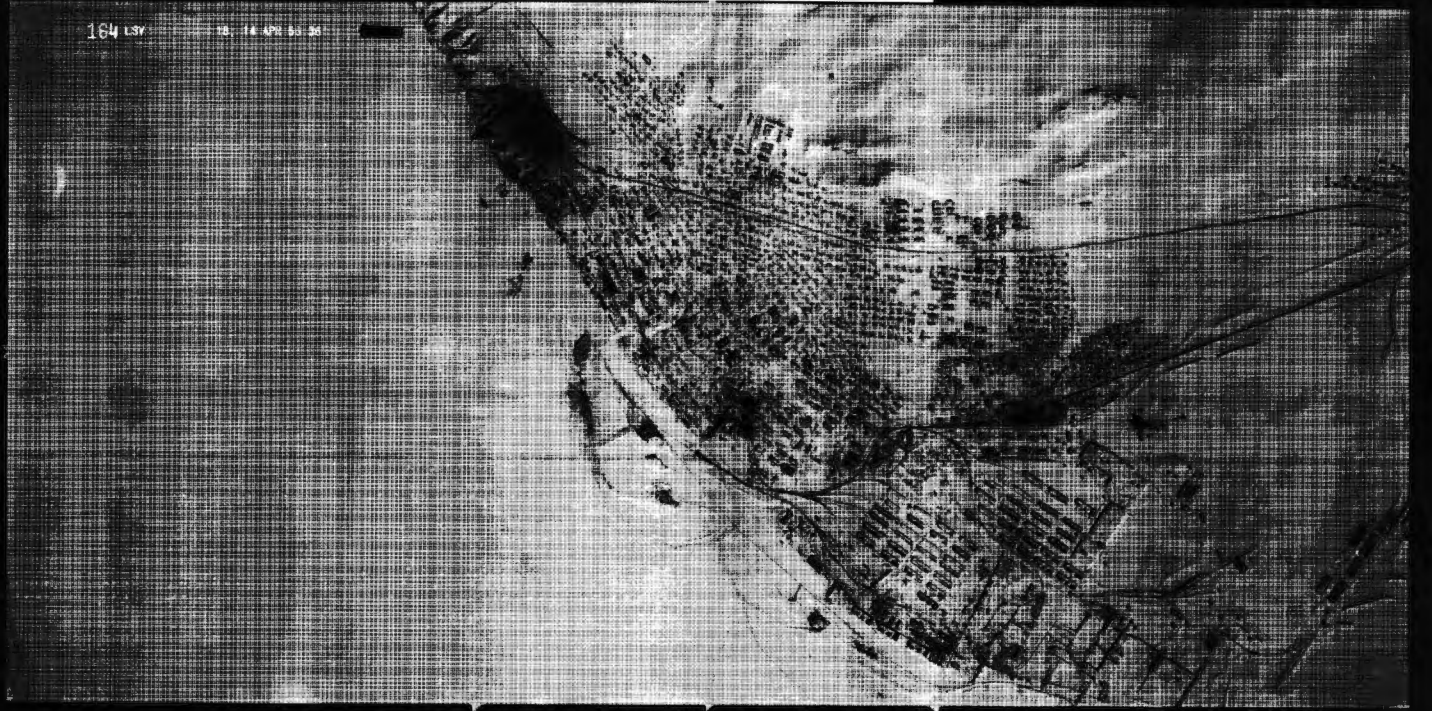




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*January 19*  
**UNCLASSIFIED**  
*City of Dadeville, WFR*  
*14 April 1956*

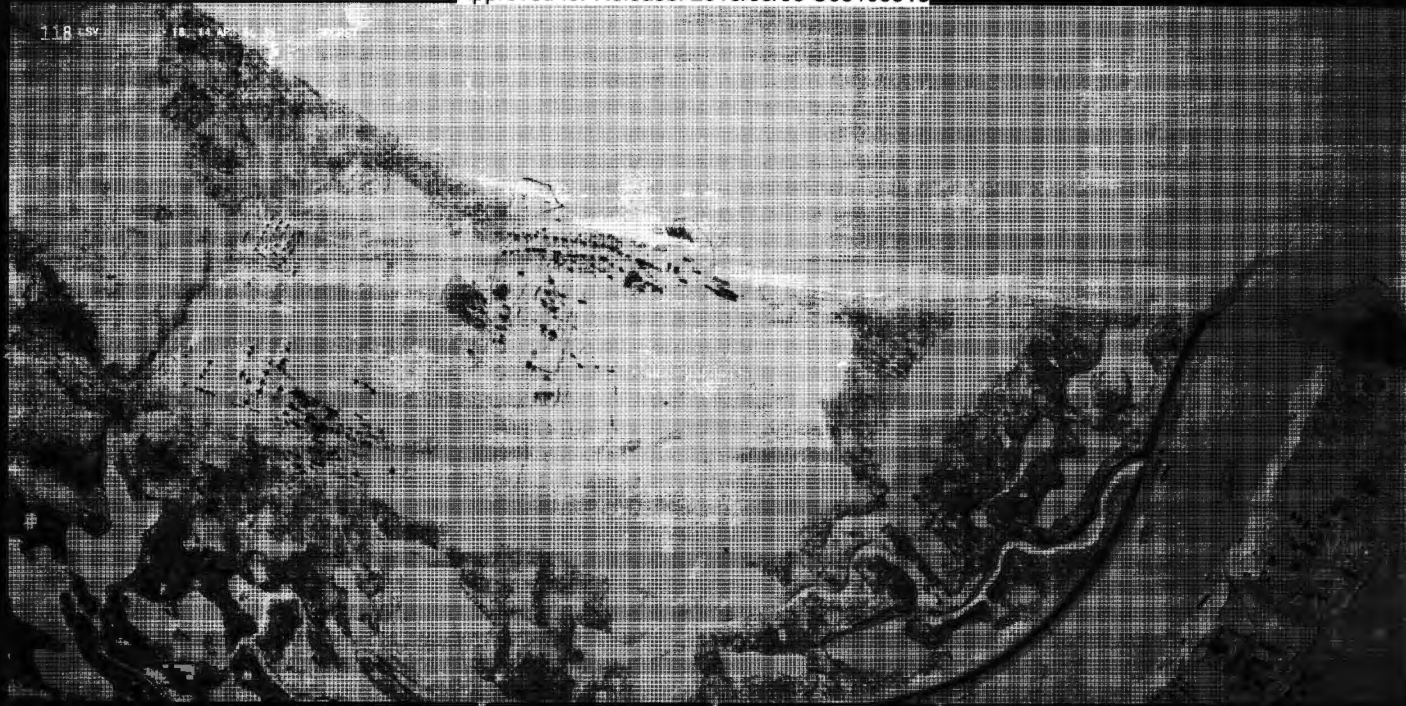
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*Project House Run*  
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*14 April 1956*  
*City of Dudinka, USSR*





*Home Run*  
*mission*  
**UNCLASSIFIED**  
*14 April 1956*  
*City of Agansk, USSR*  
*airfield on other island.*  
*Yanov River*







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Project Homerun Mission on 14 April 1956  
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Pilots Unknown  
City of Igarka, USSR (Siberia)

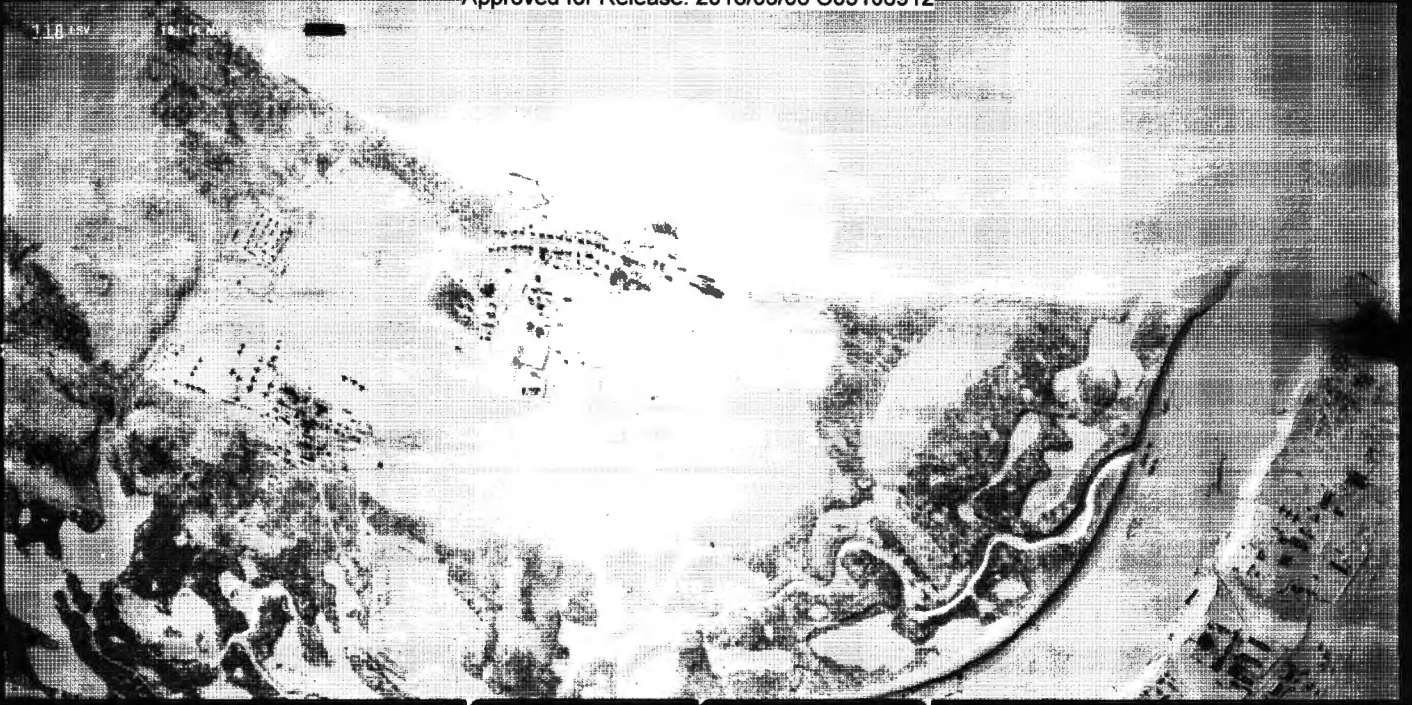
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RB-47 Mission 18 out of Thule, Greenland  
Pilots Unknown  
City of Igarka, USSR (Siberia)

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*House*  
*mission 18*  
**UNCLASSIFIED**  
*14 April 1956*  
*City of Leningrad, USSR.*  
*airfield on Okhota island*  
*Yaroslavl River*

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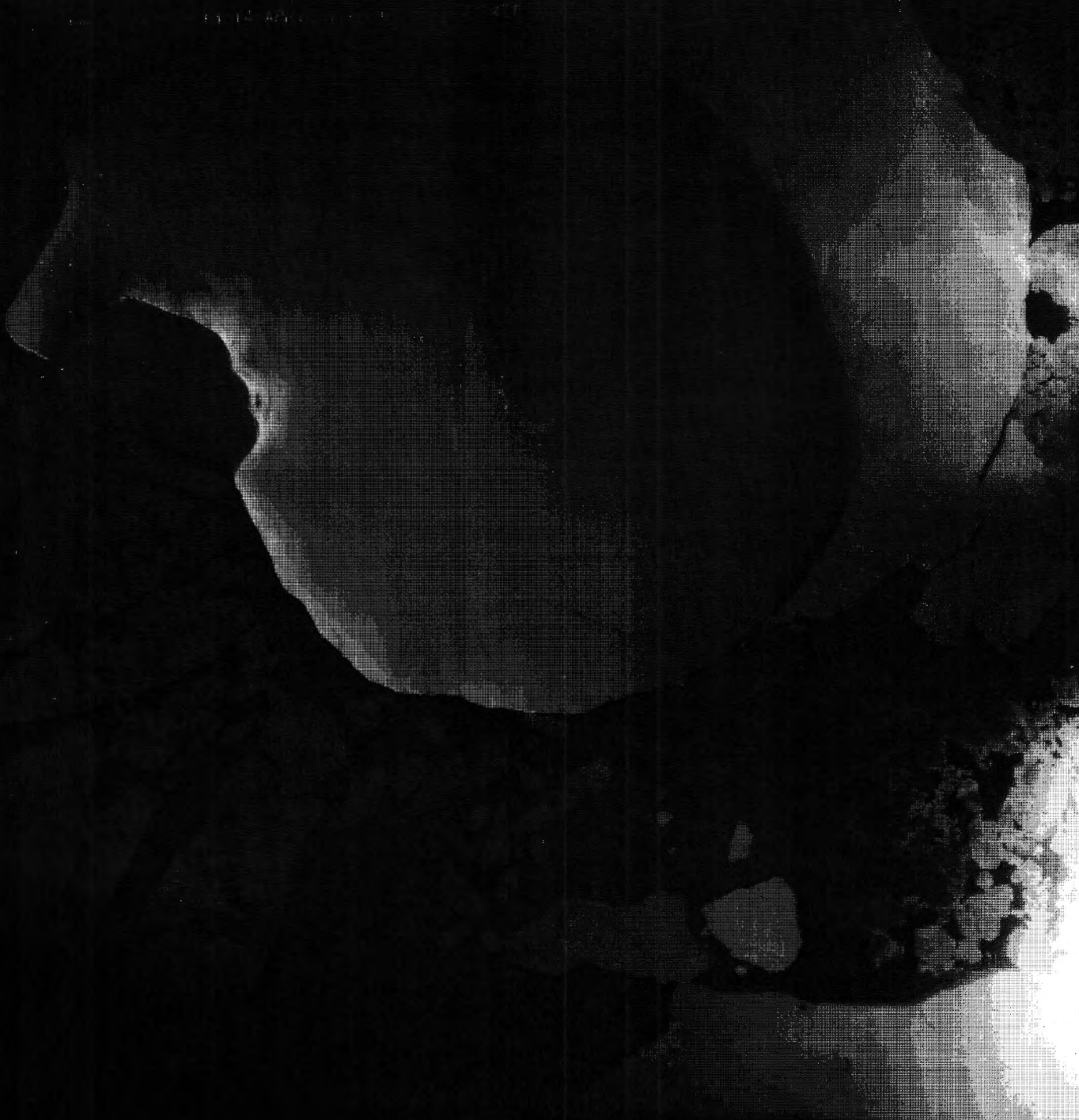
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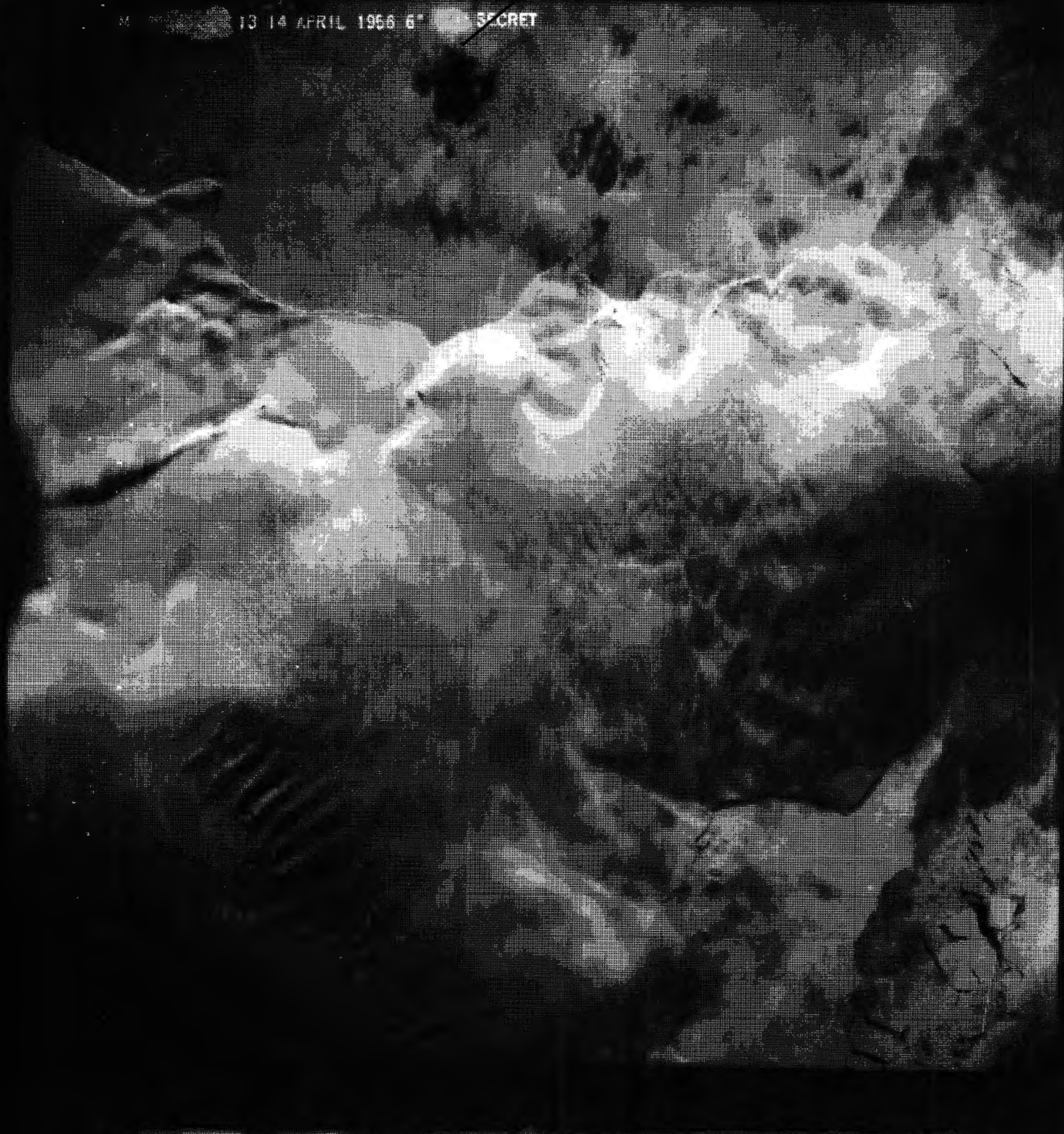
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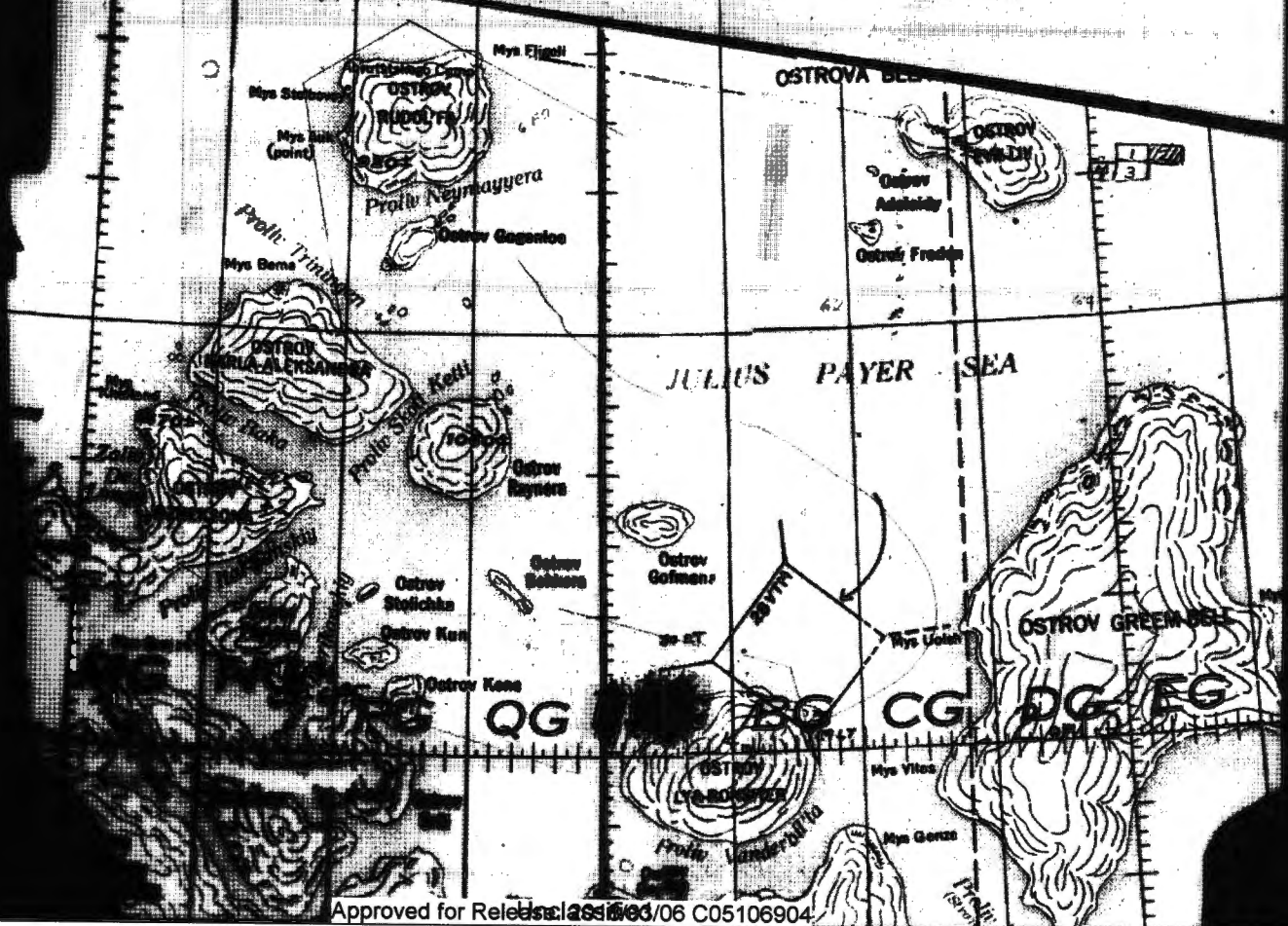


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 latitude and longitude. The map  
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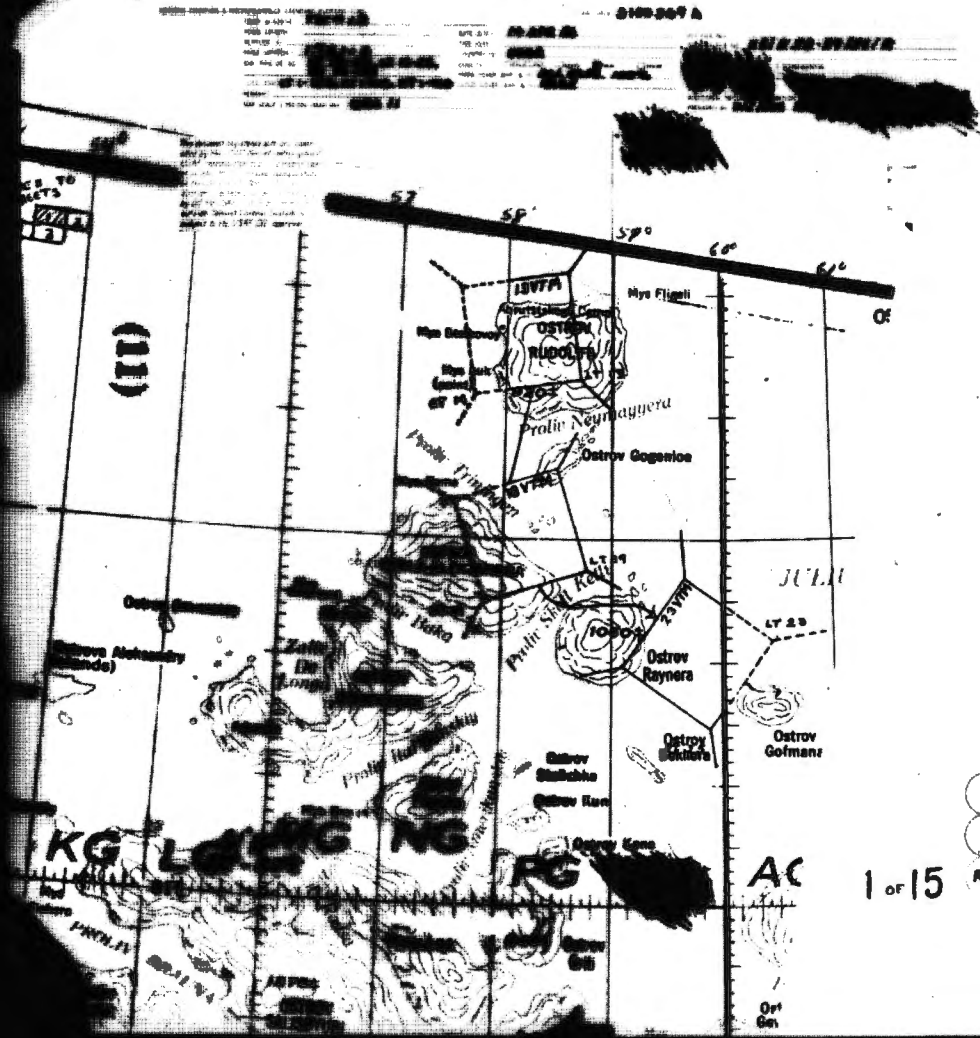


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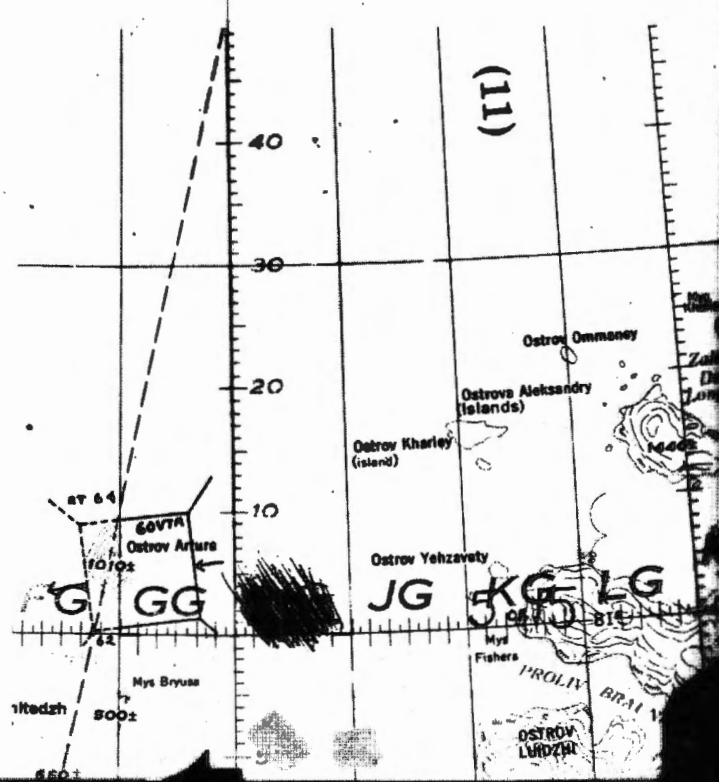
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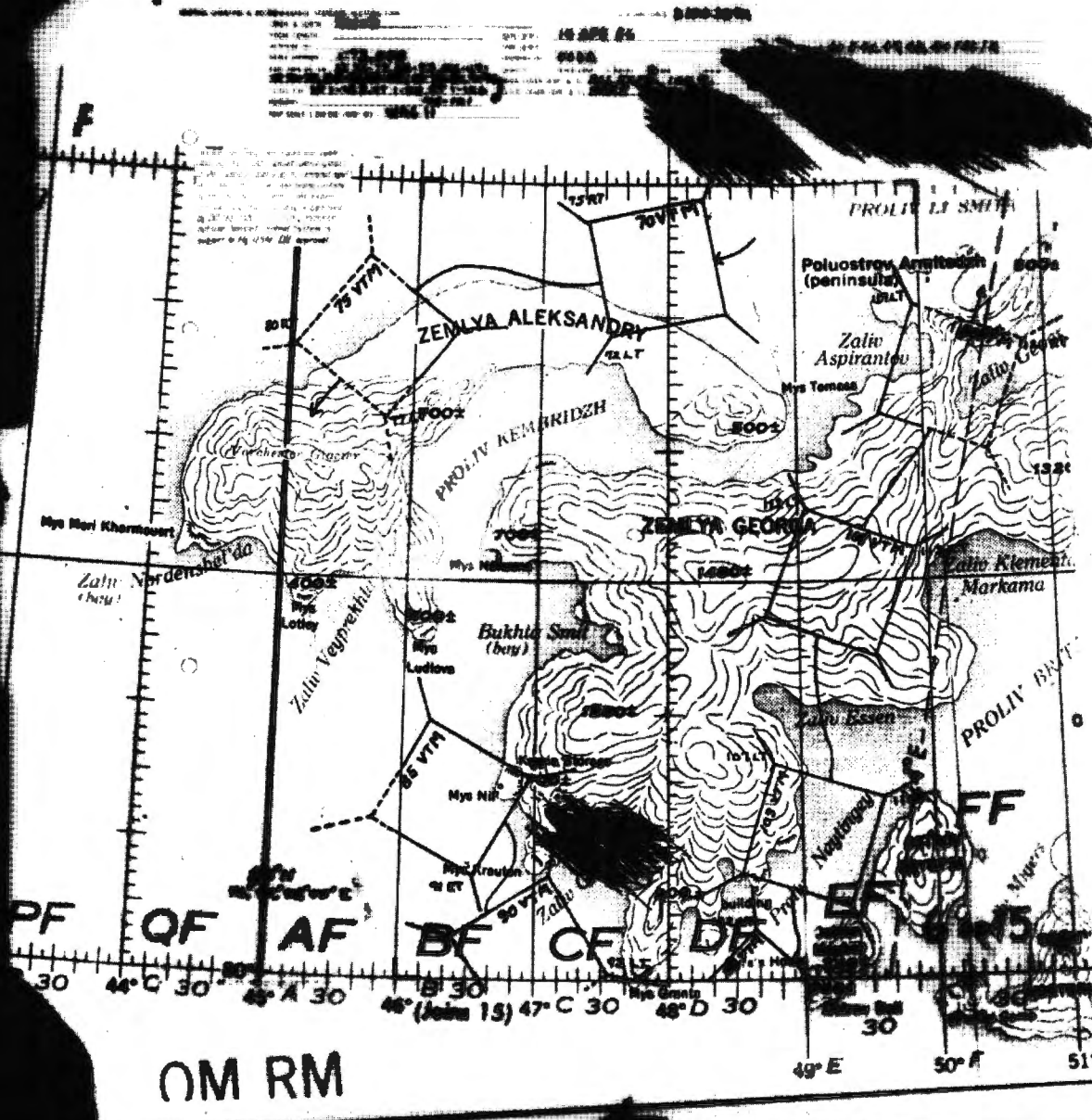
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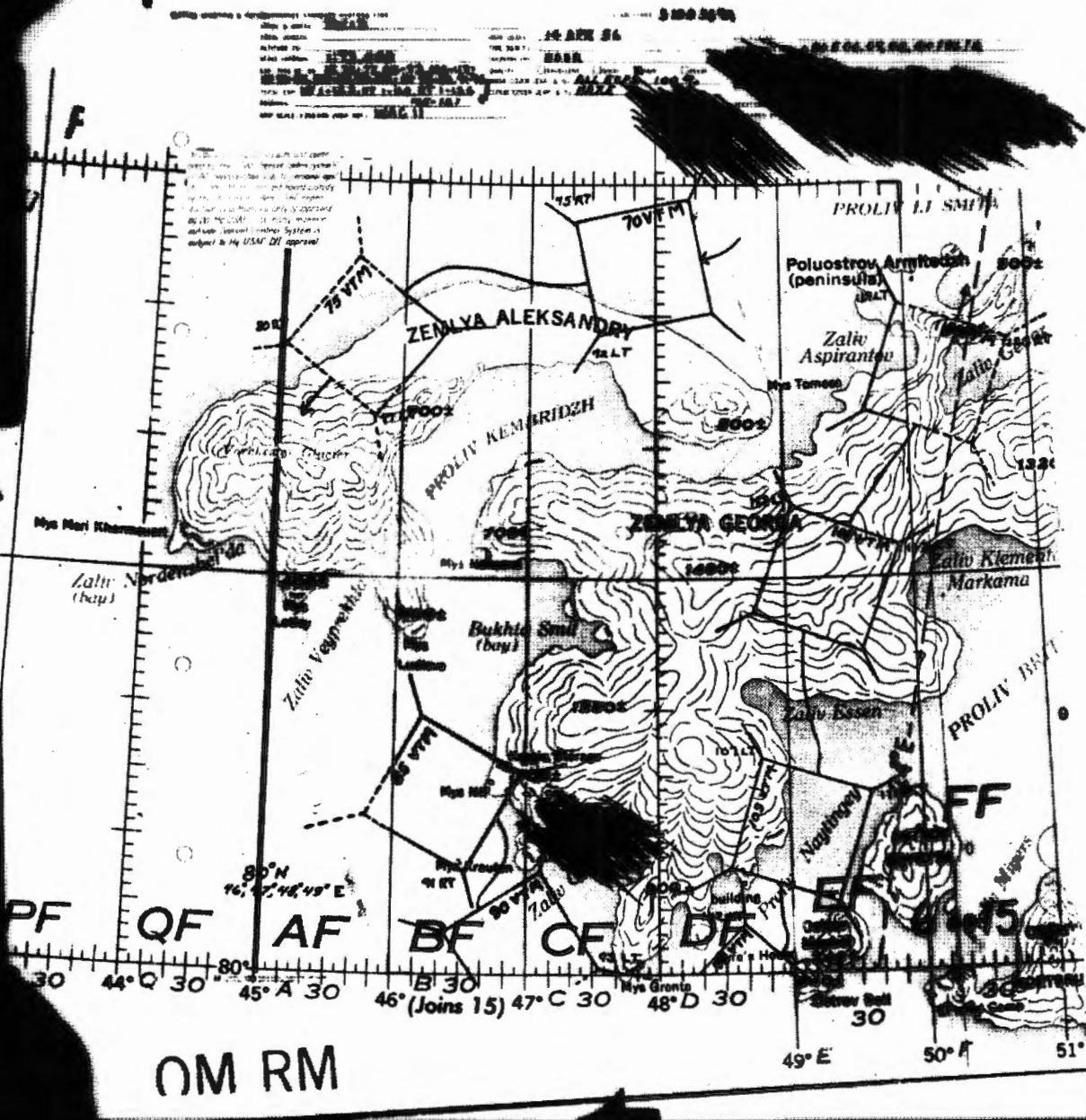
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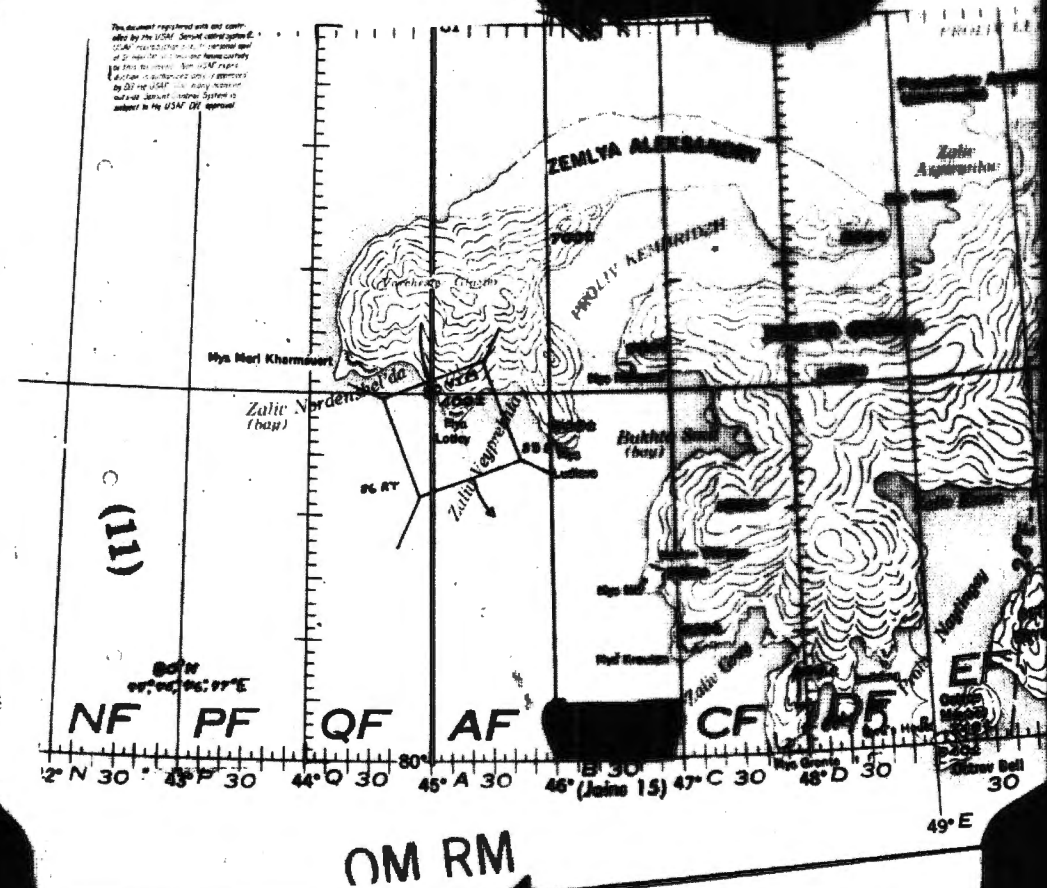
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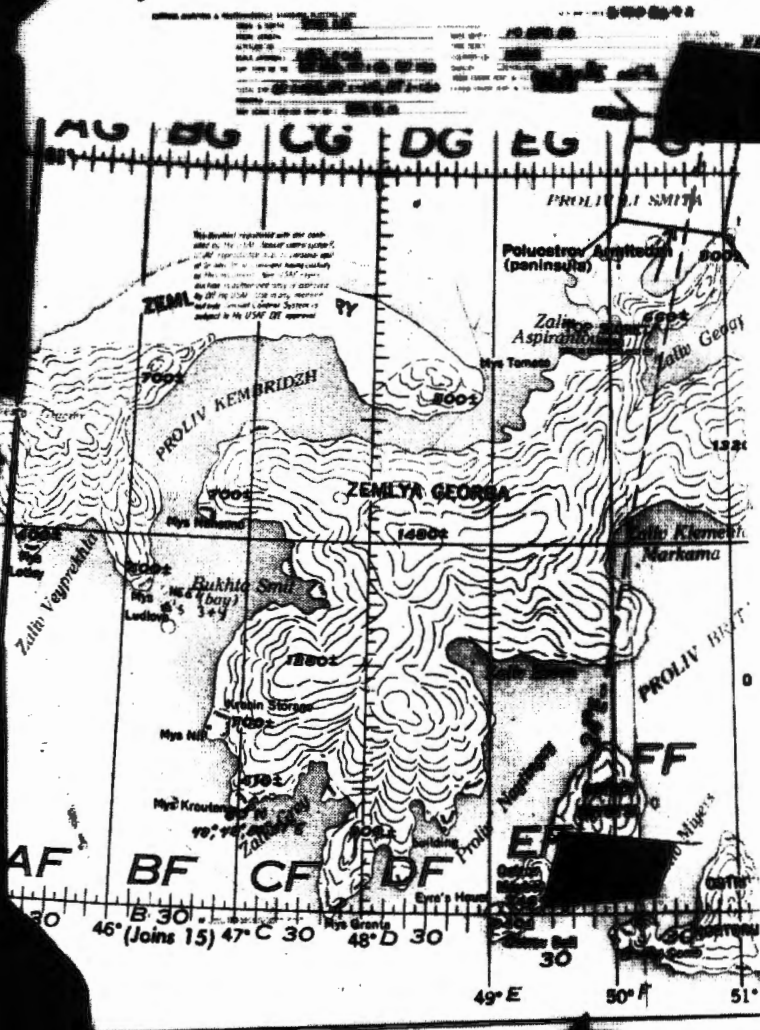


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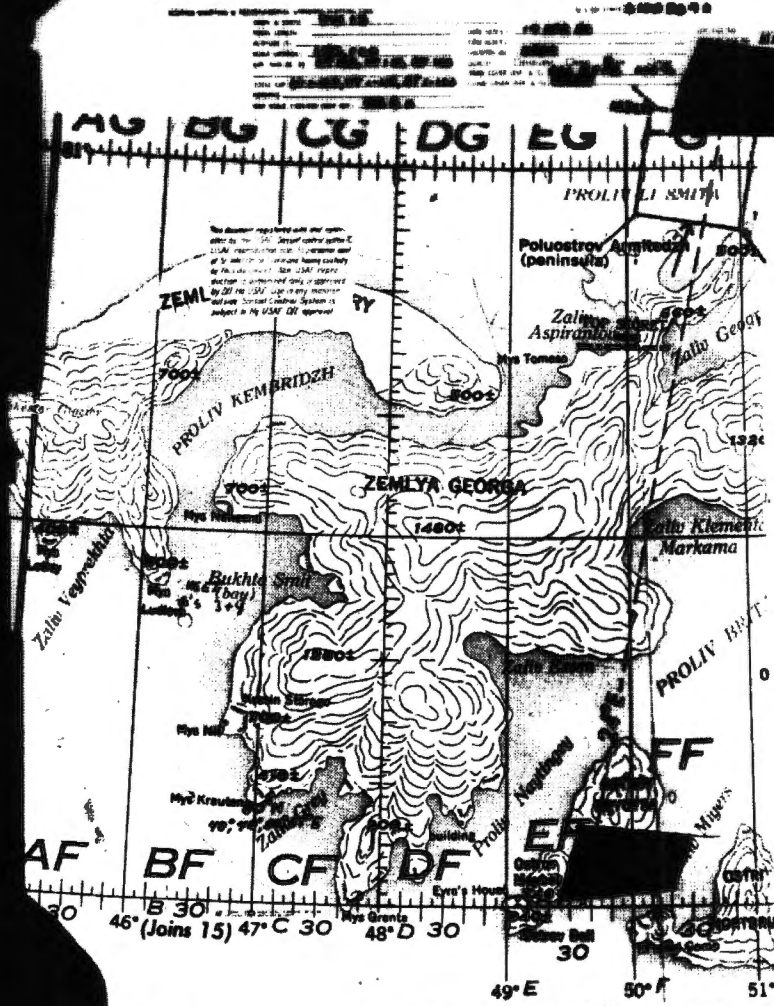
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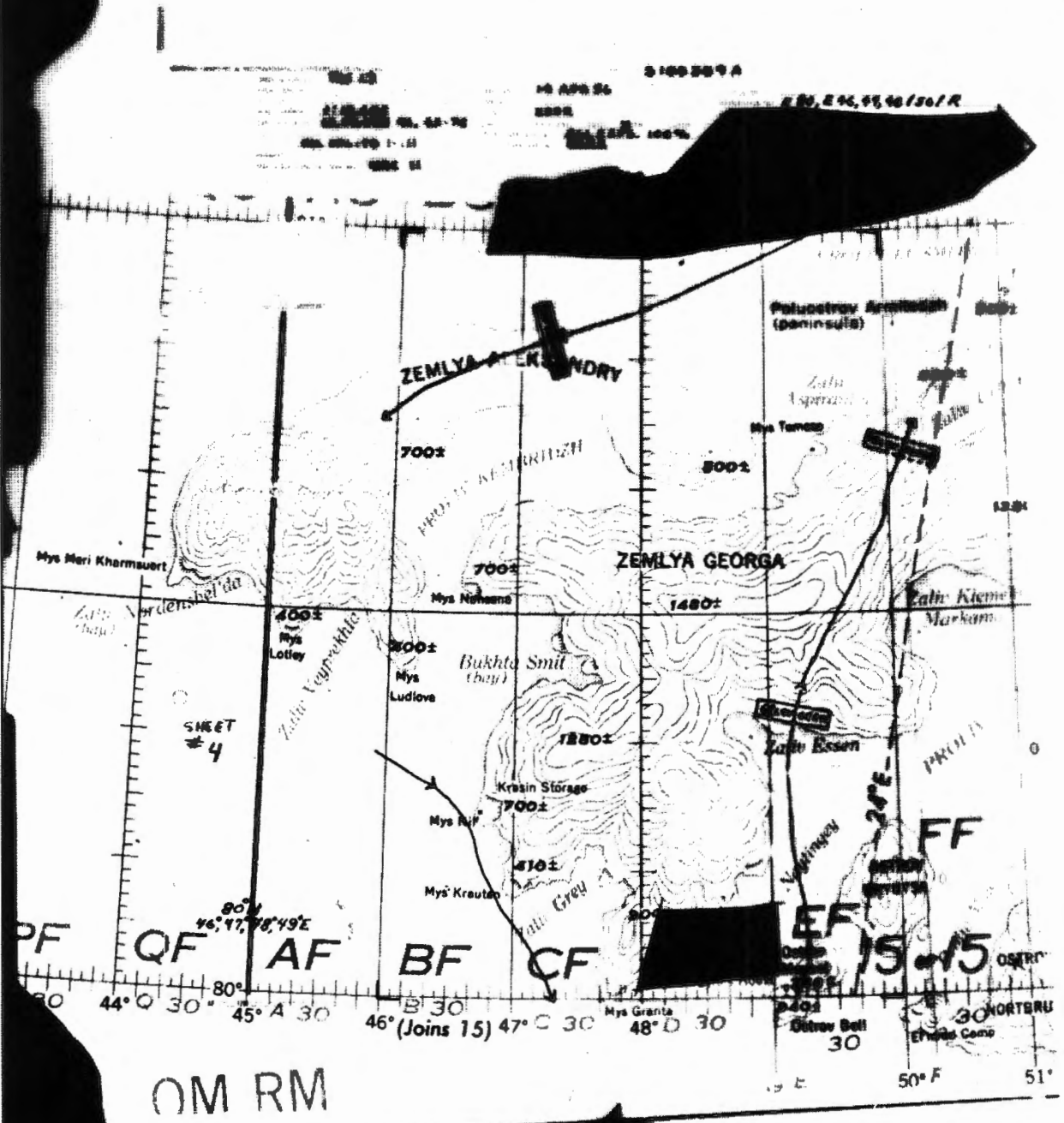
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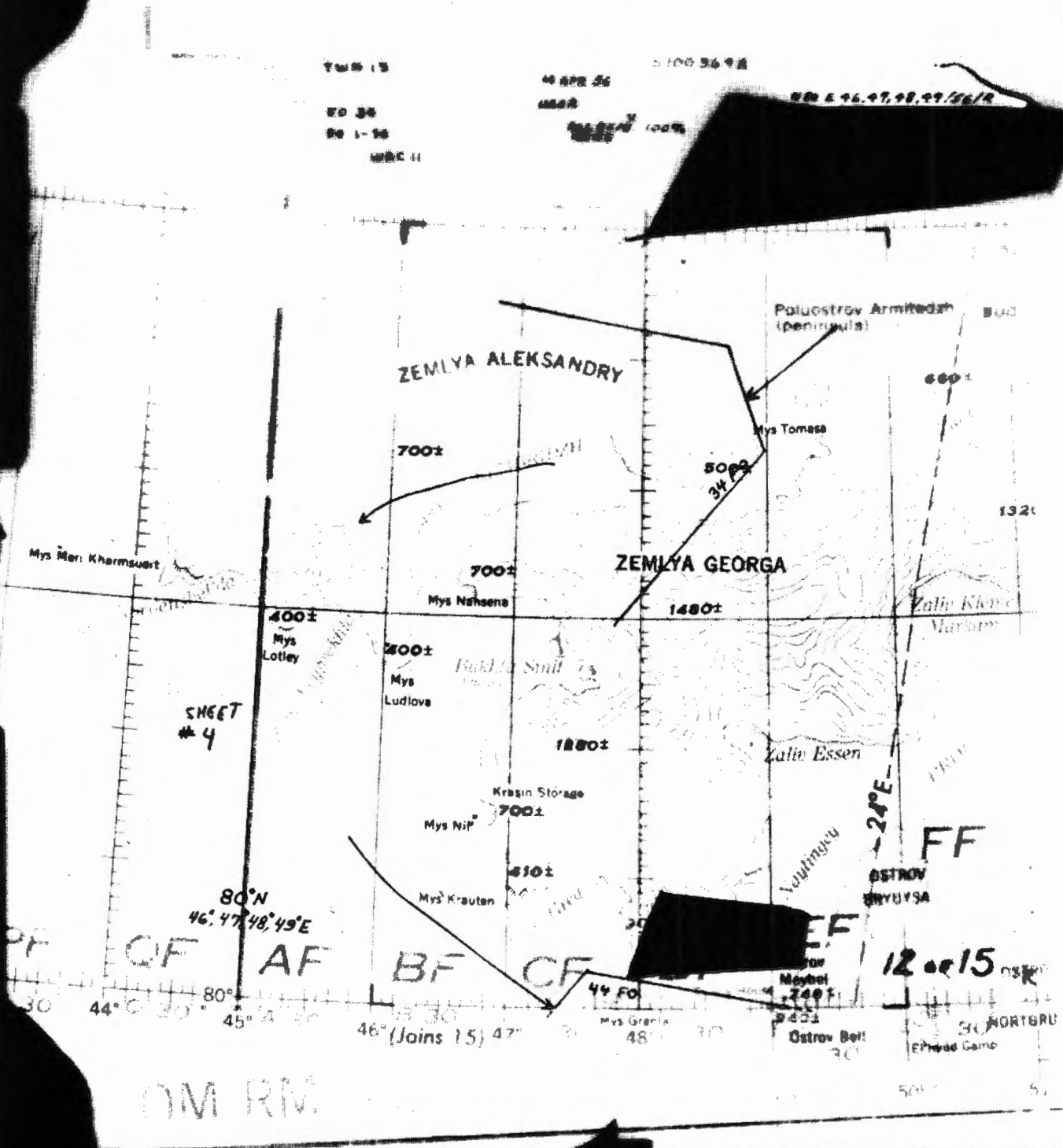
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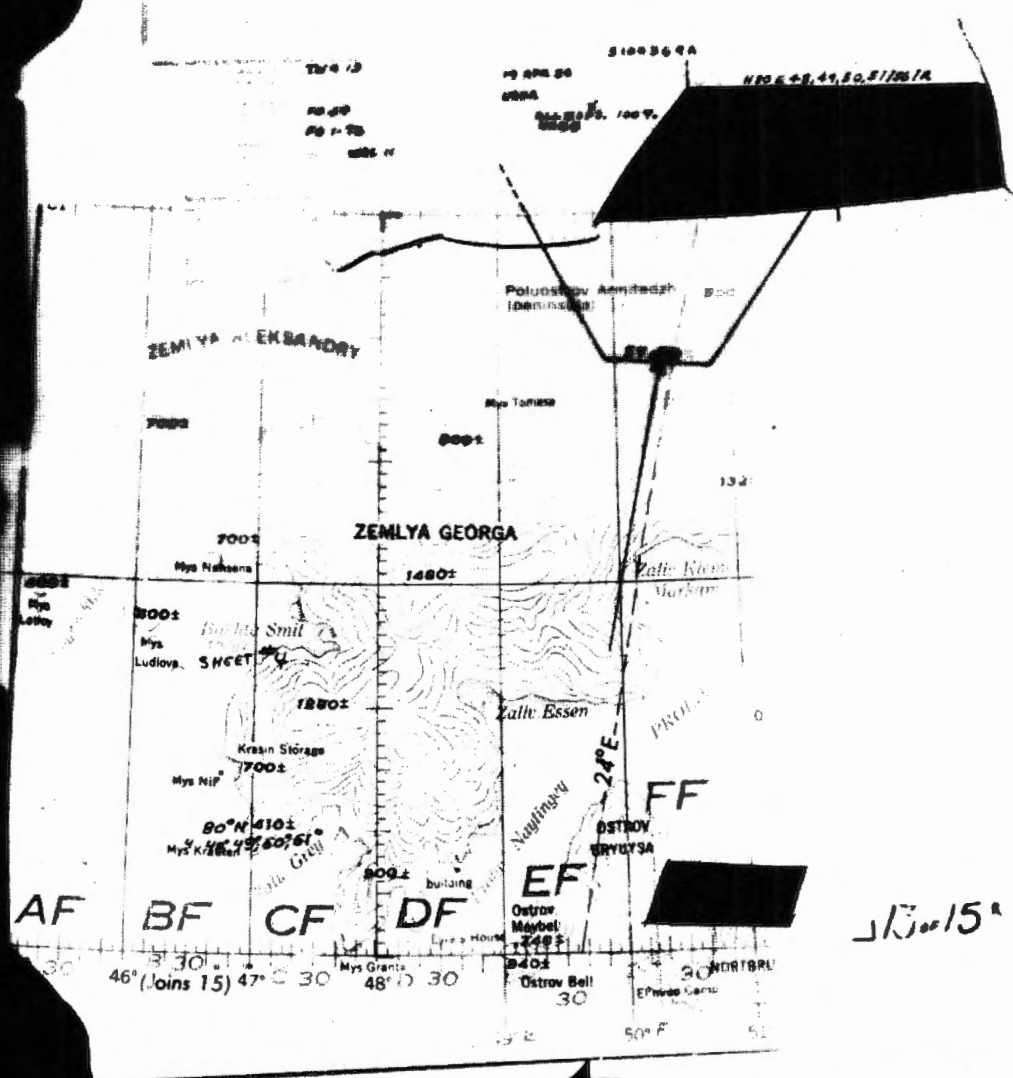
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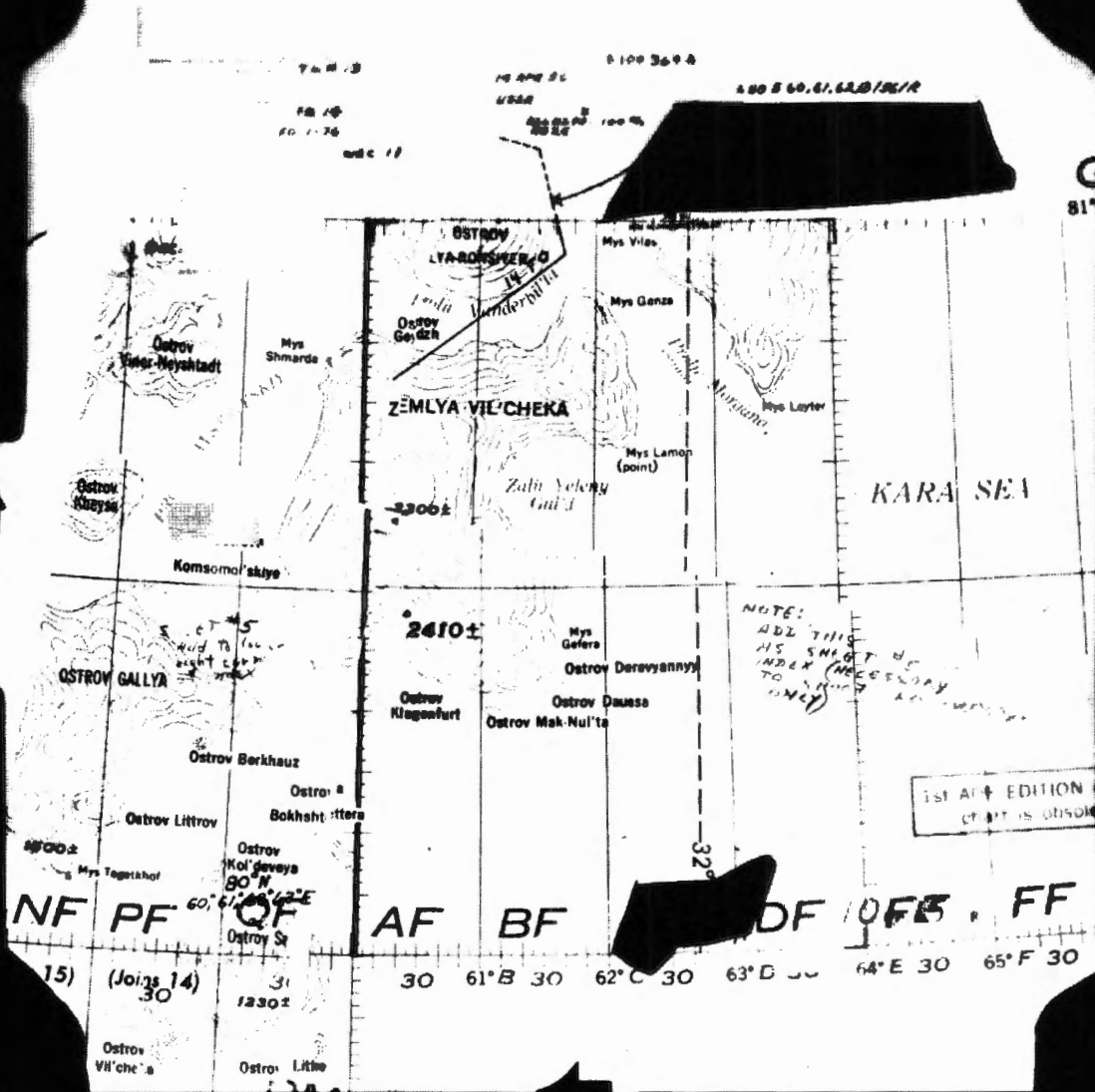


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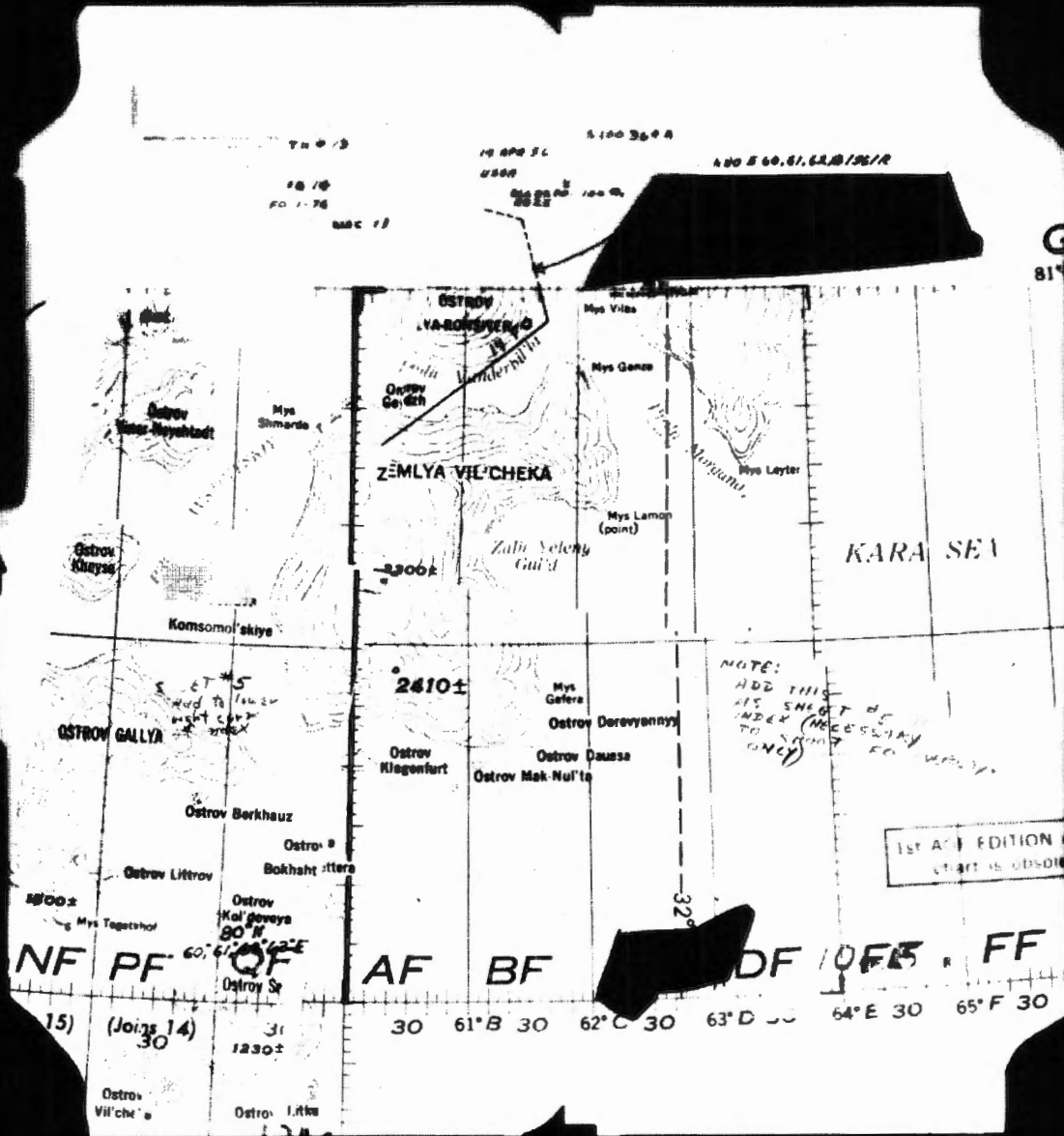
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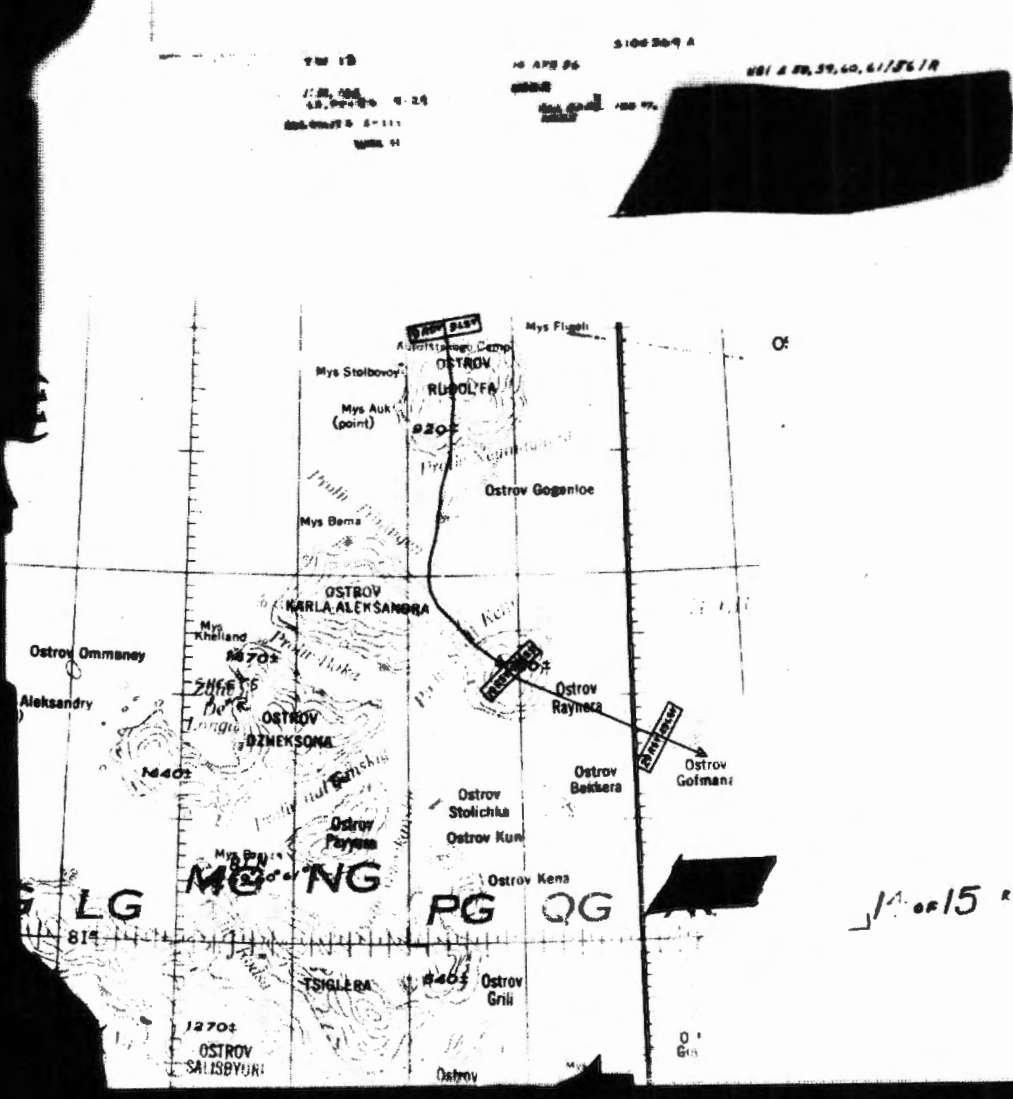
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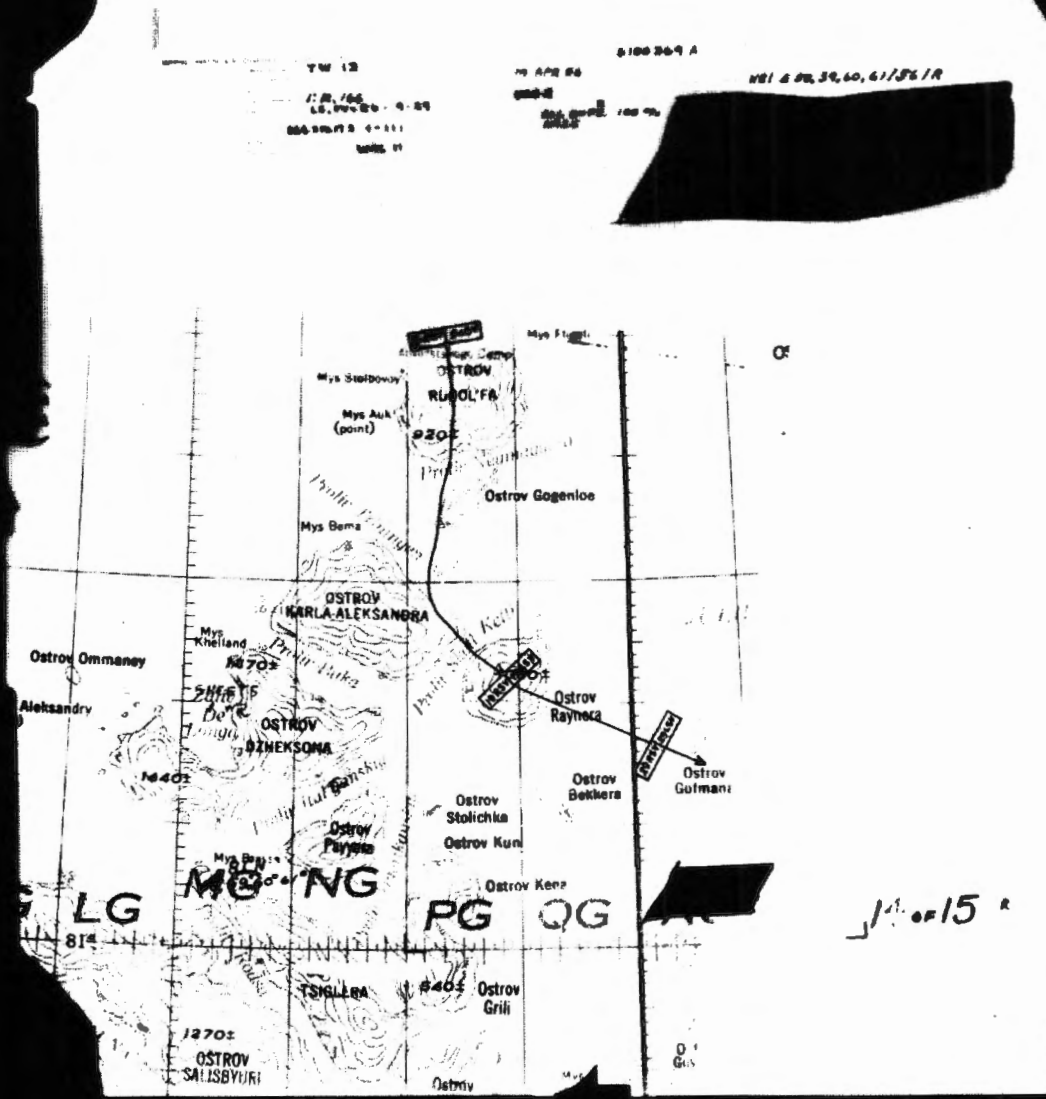


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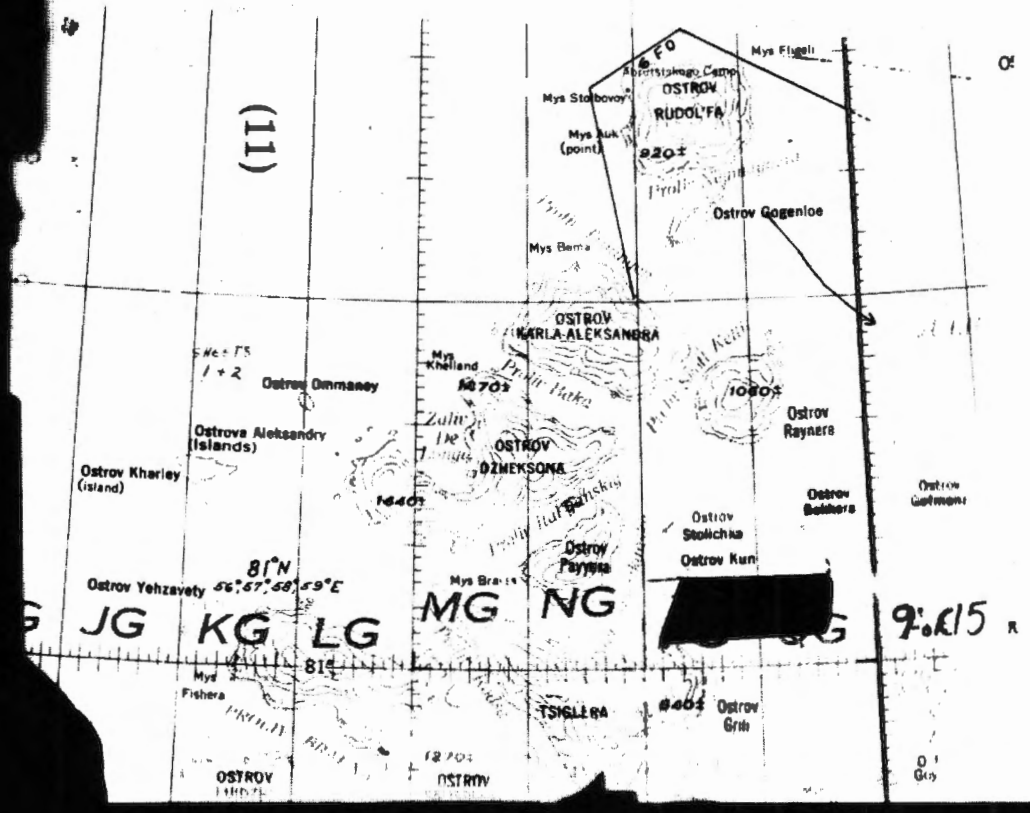
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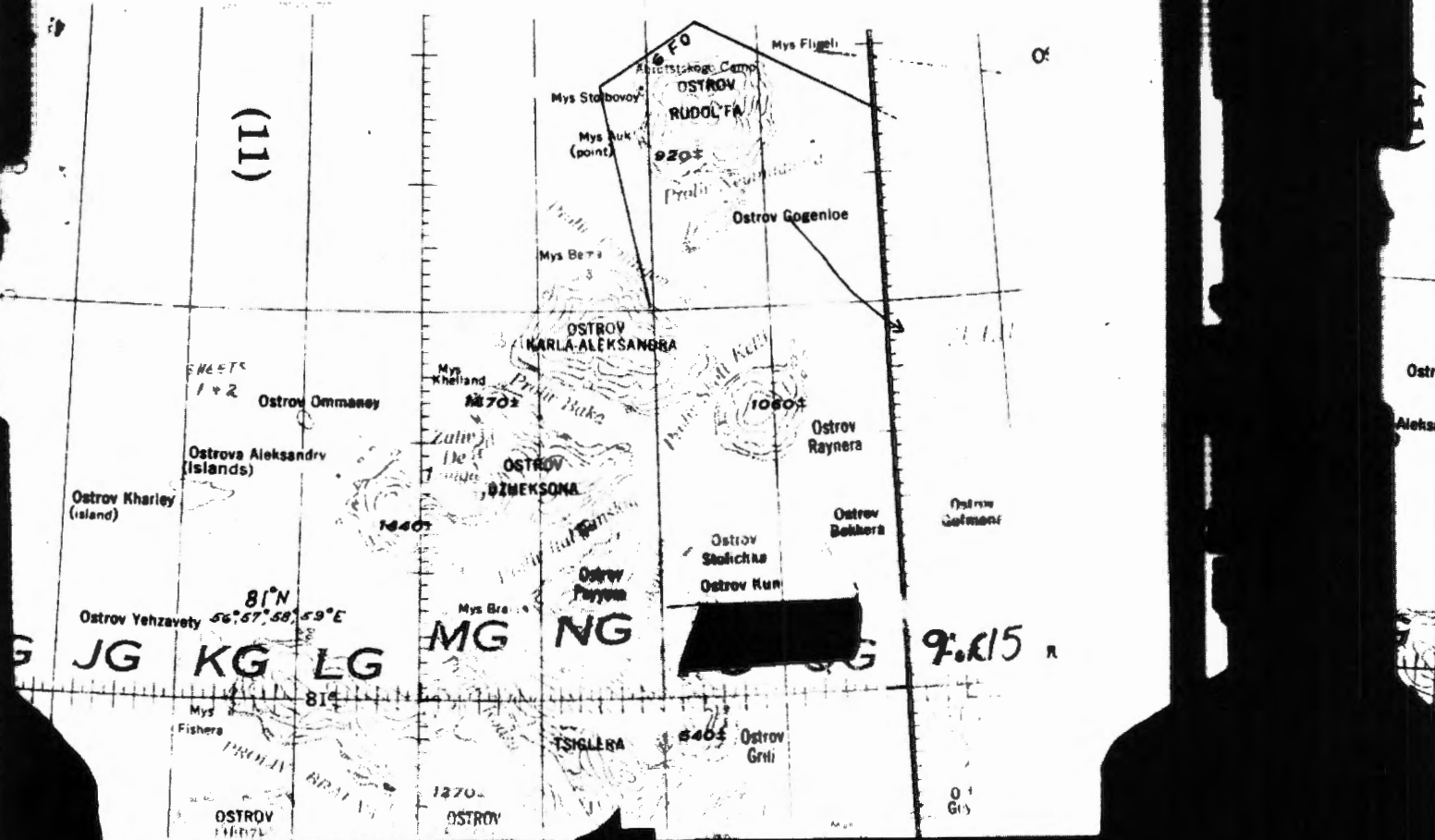
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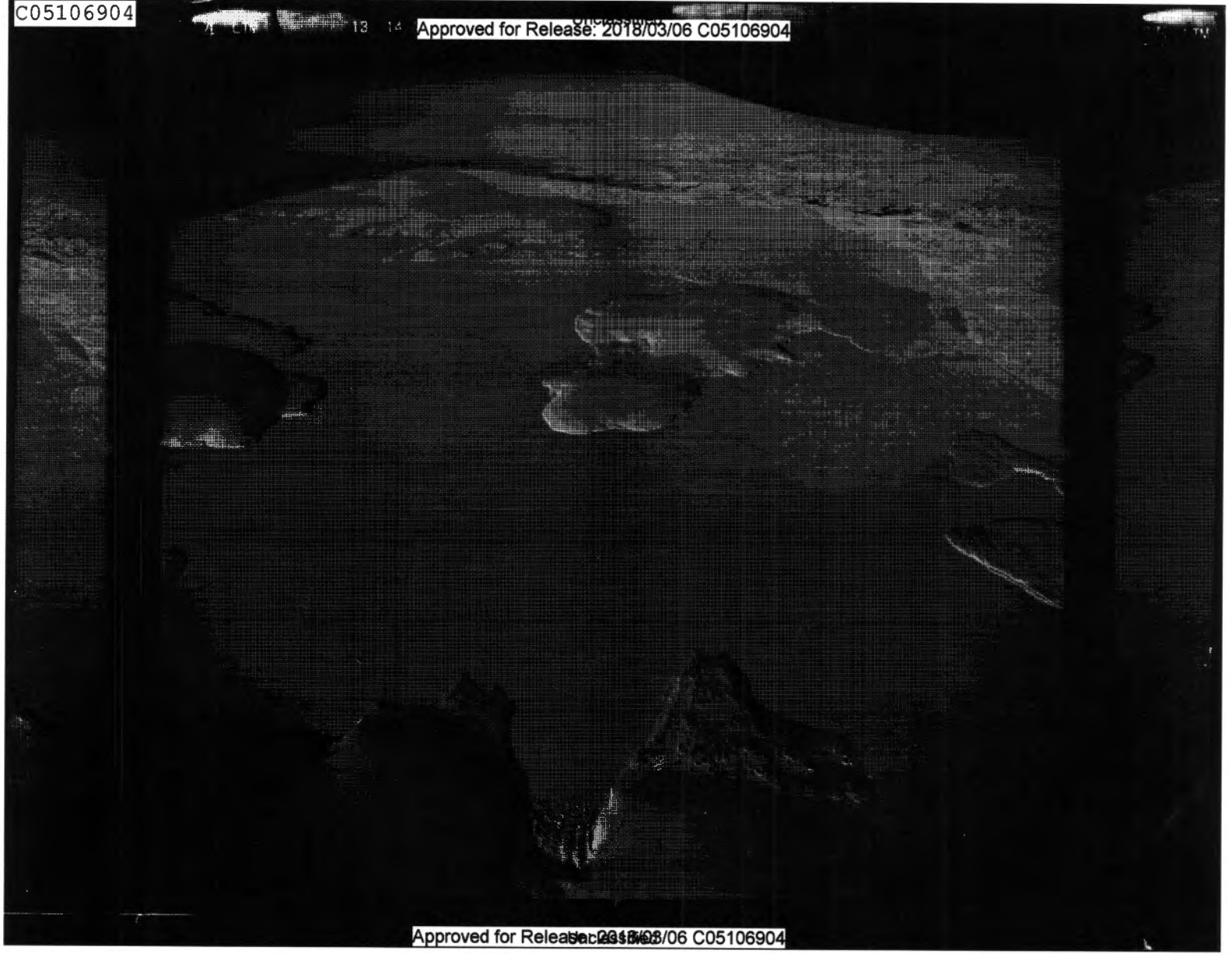
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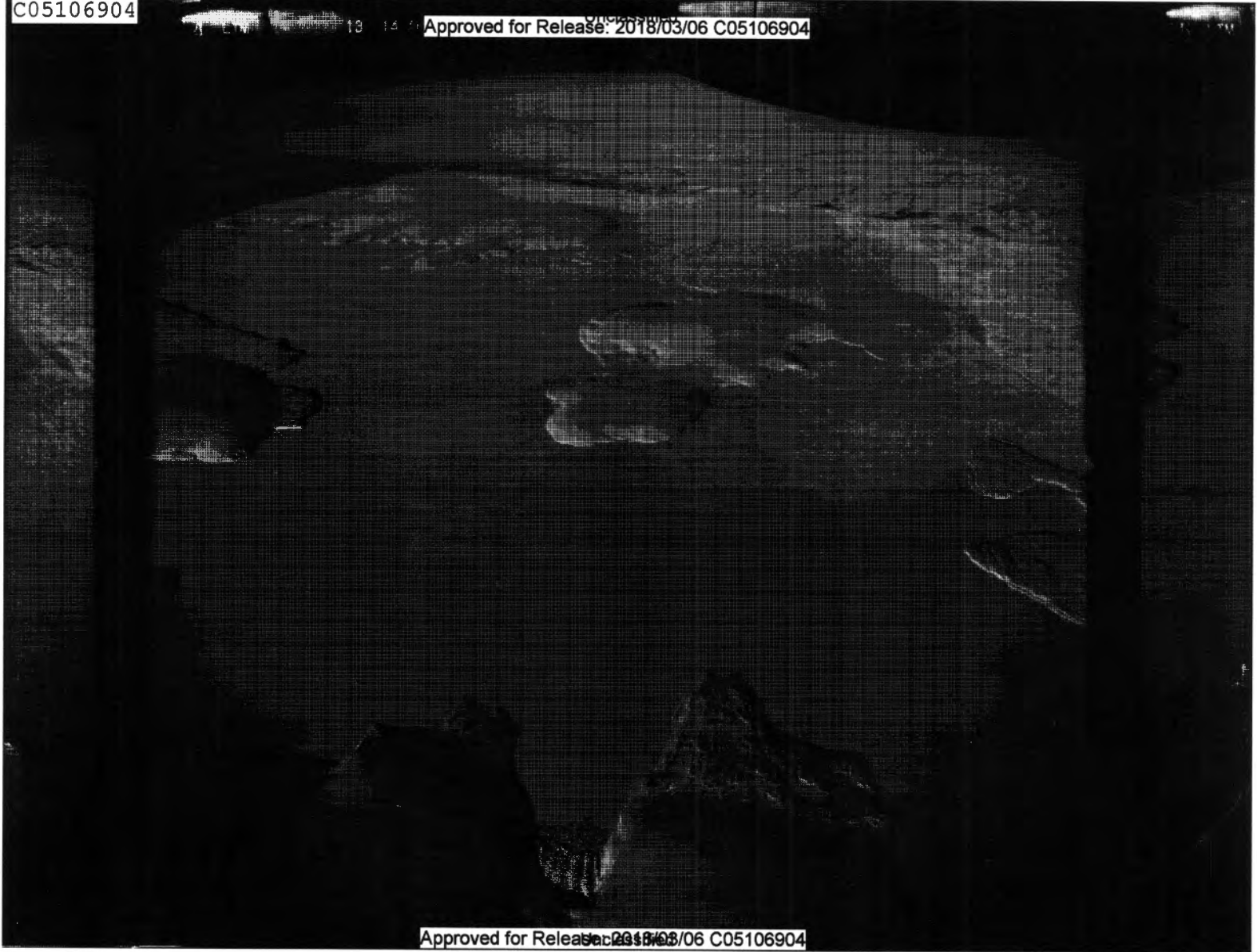
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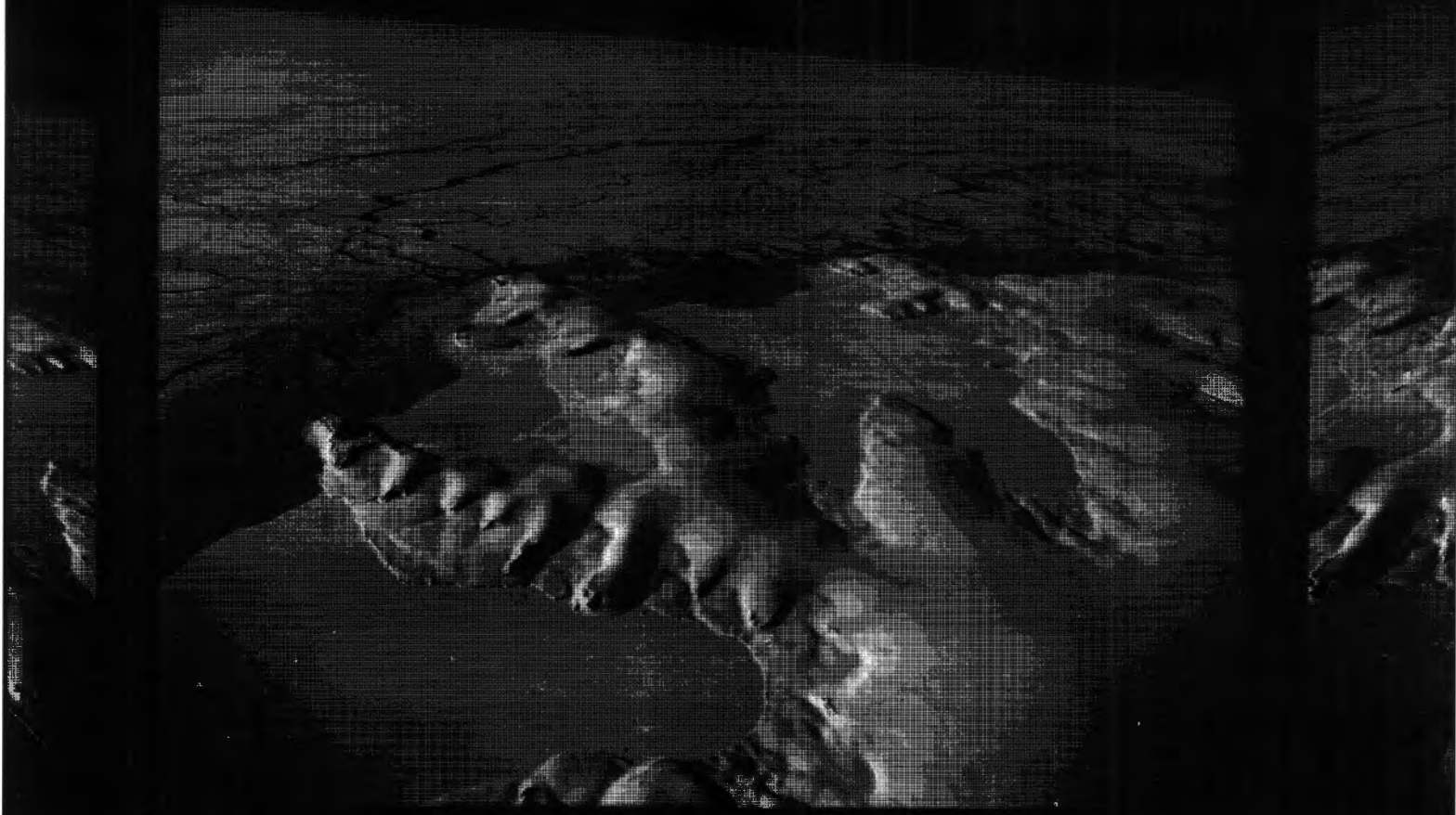


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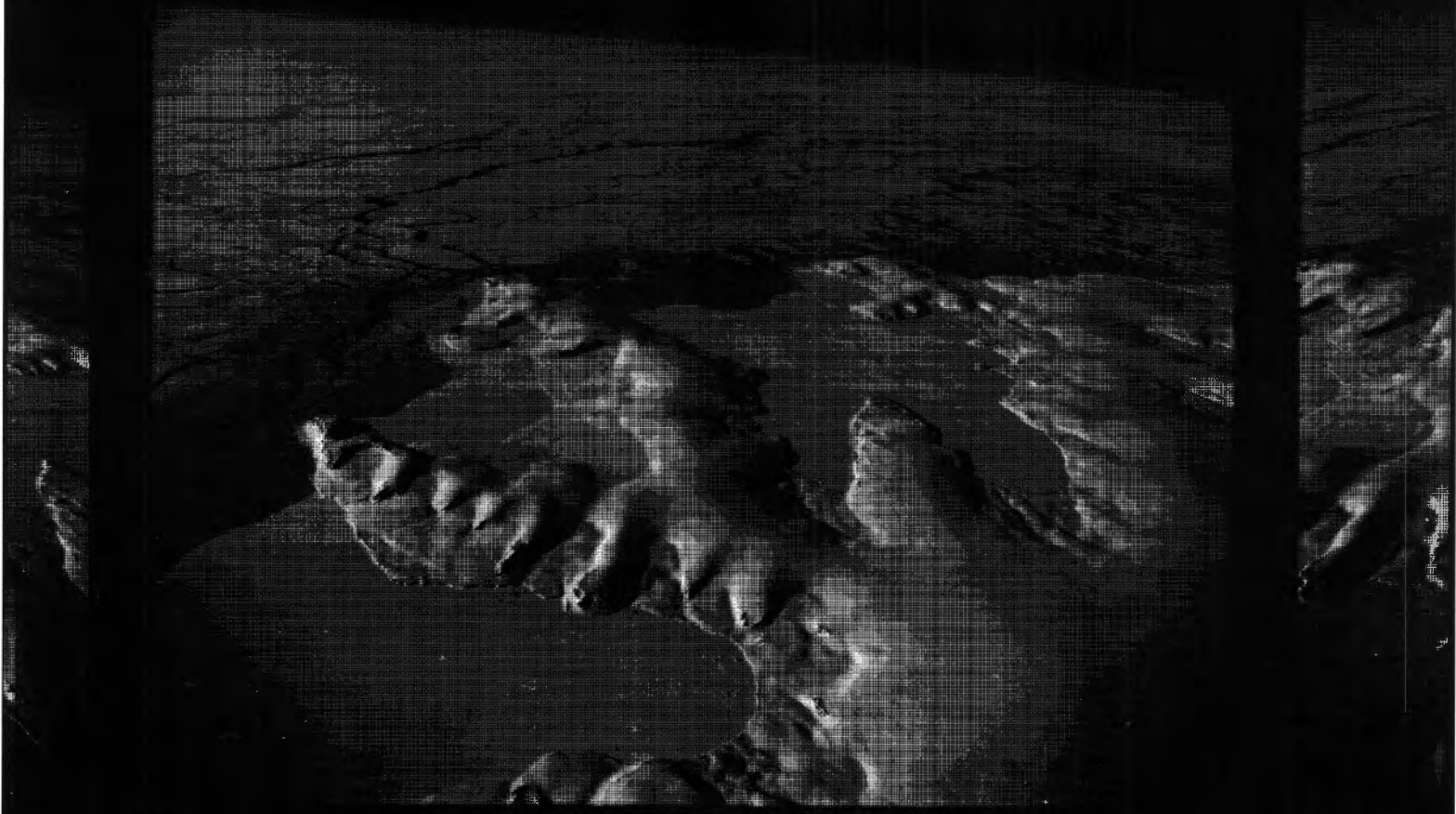


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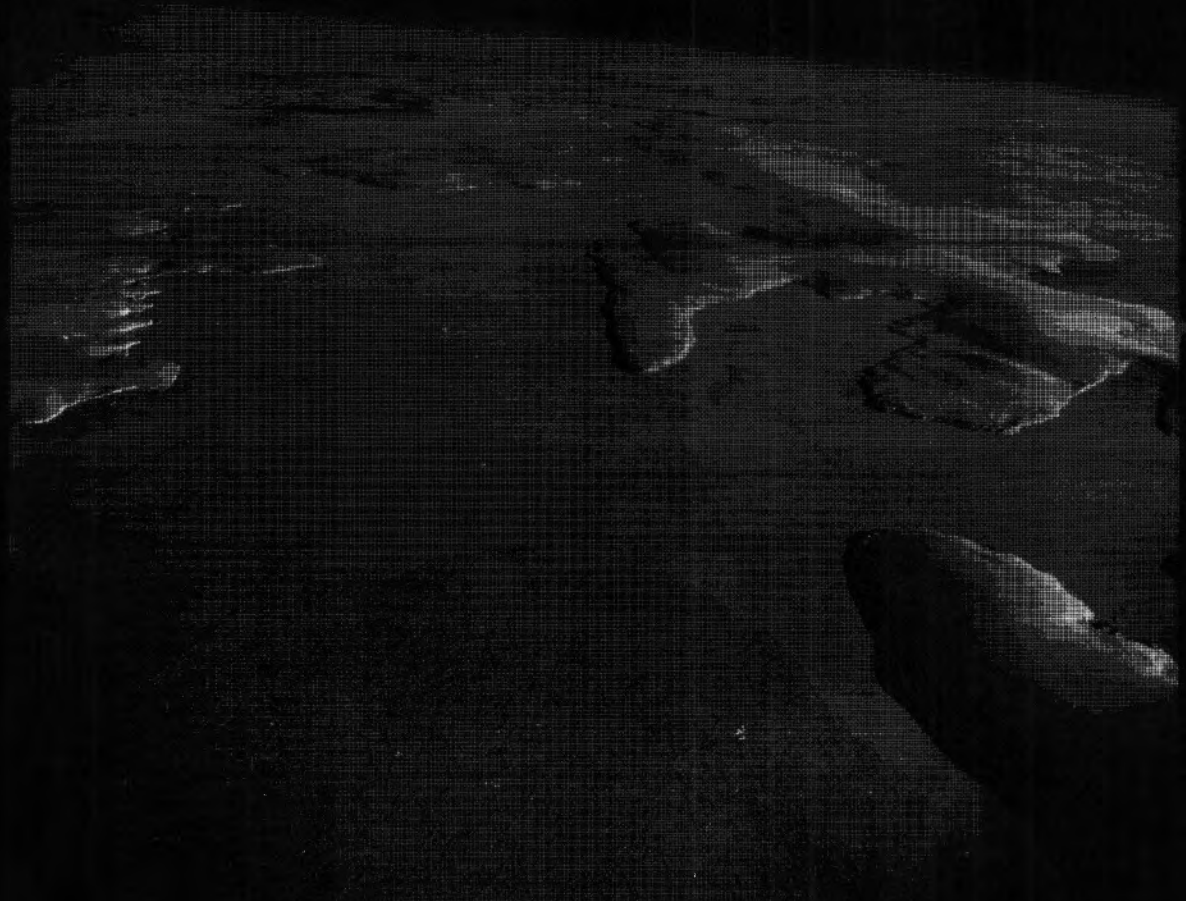
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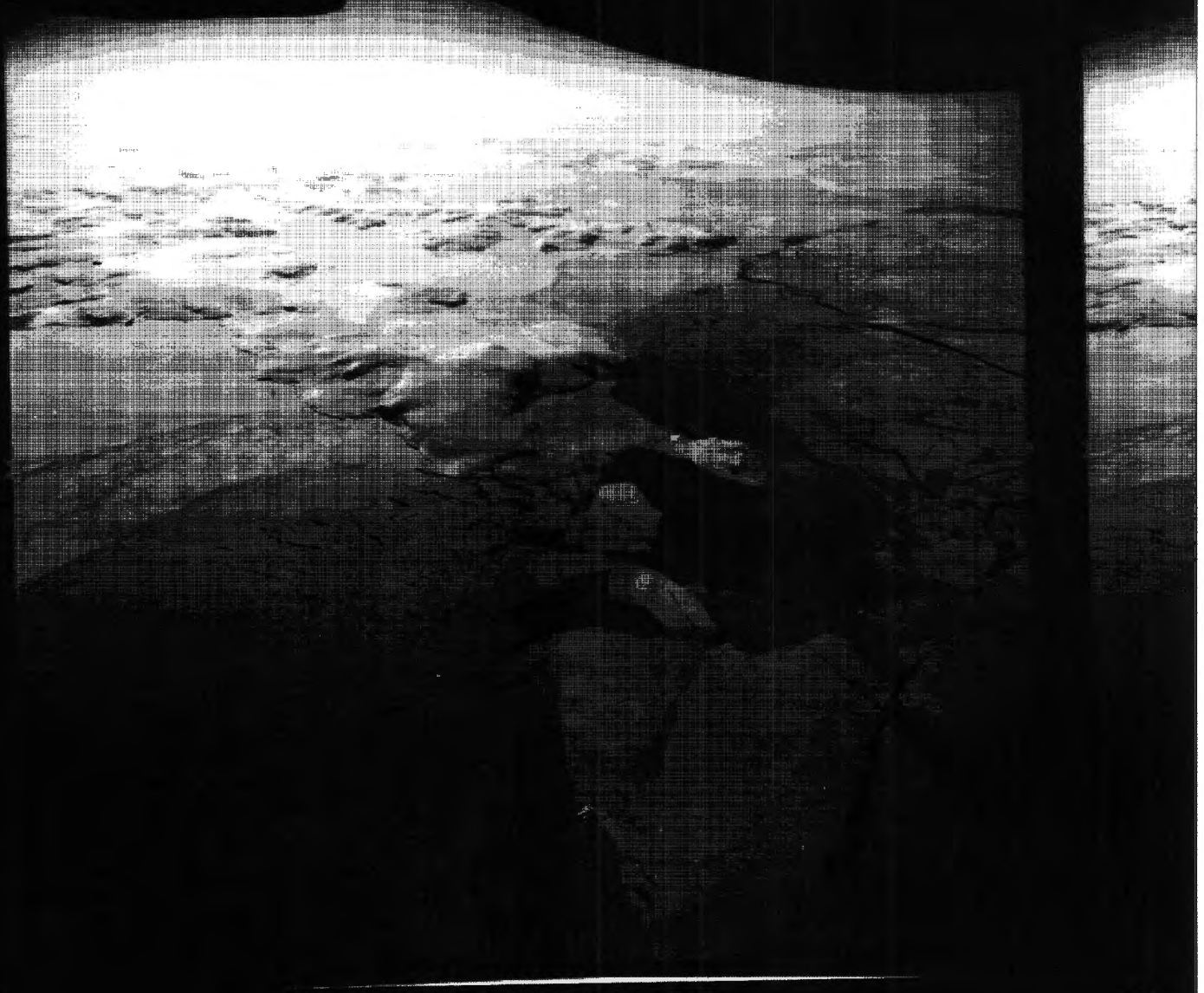


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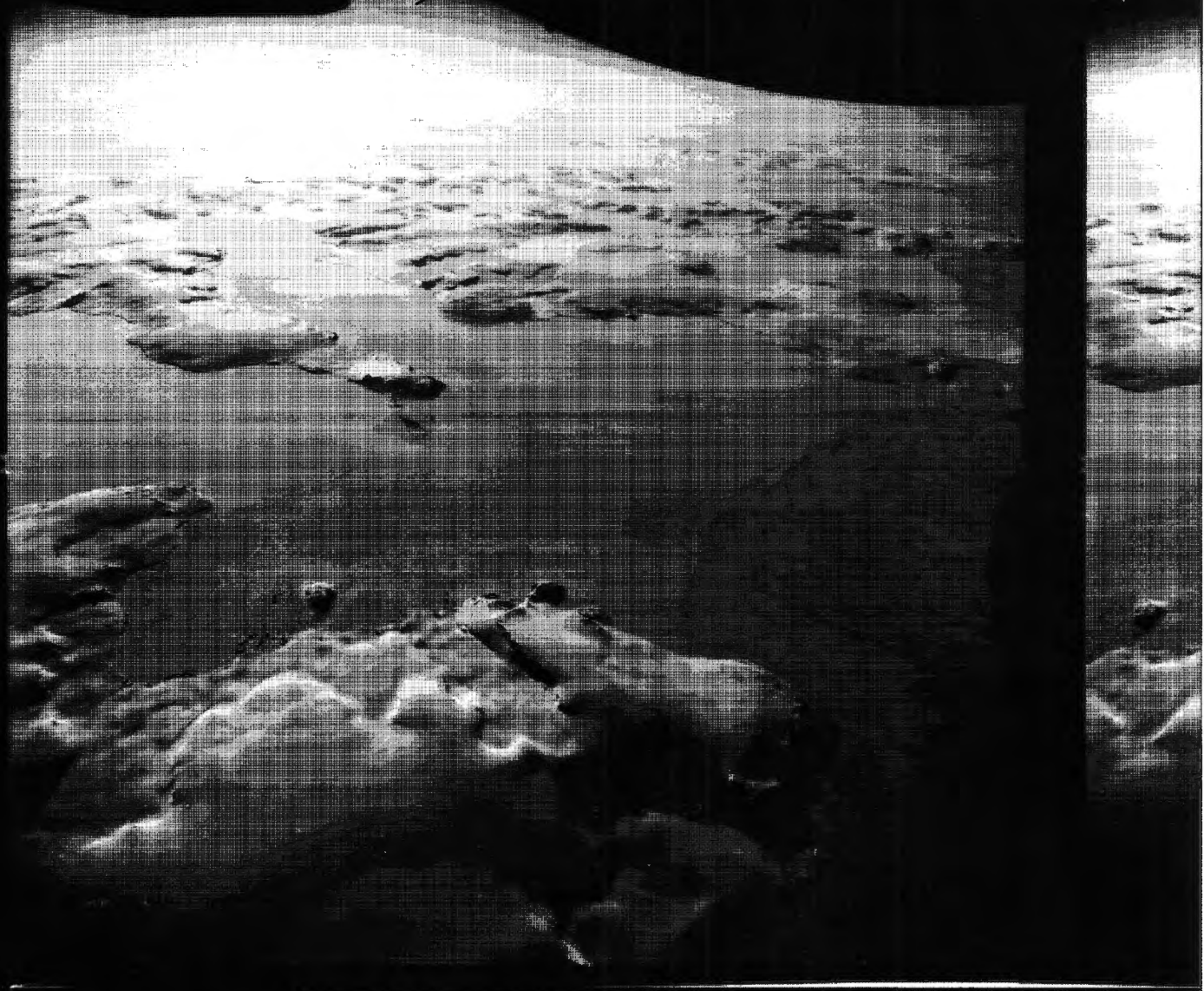
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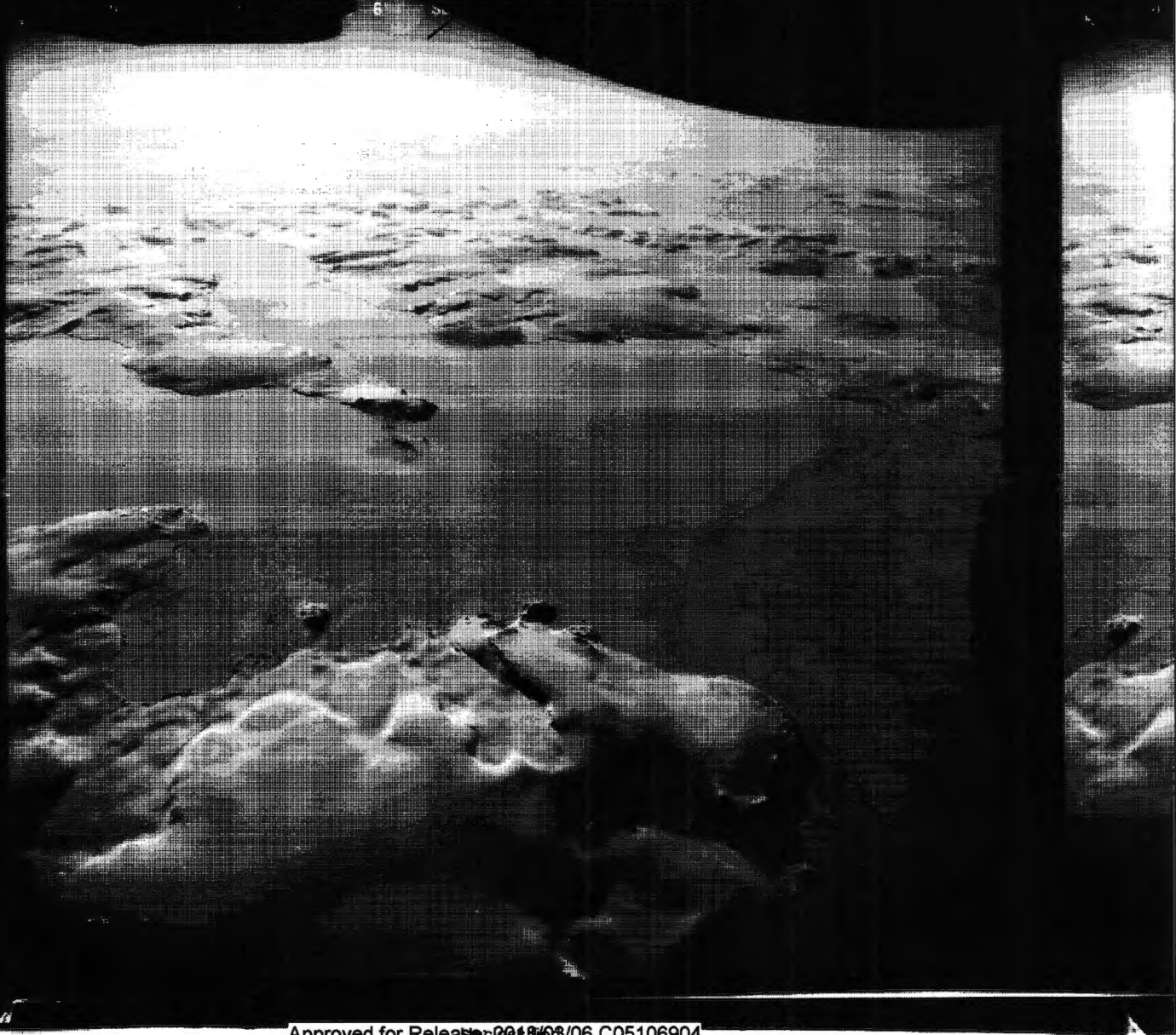
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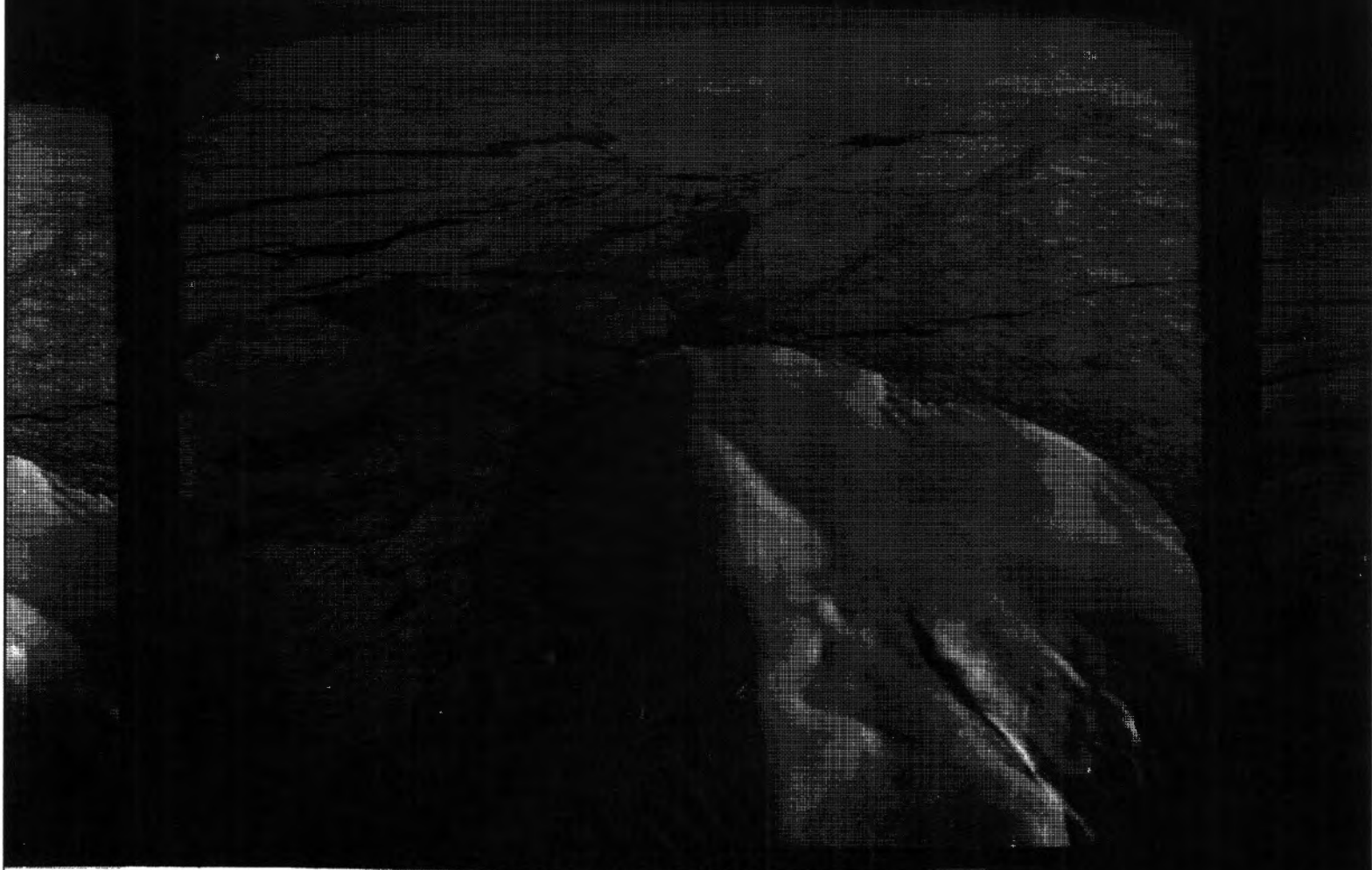


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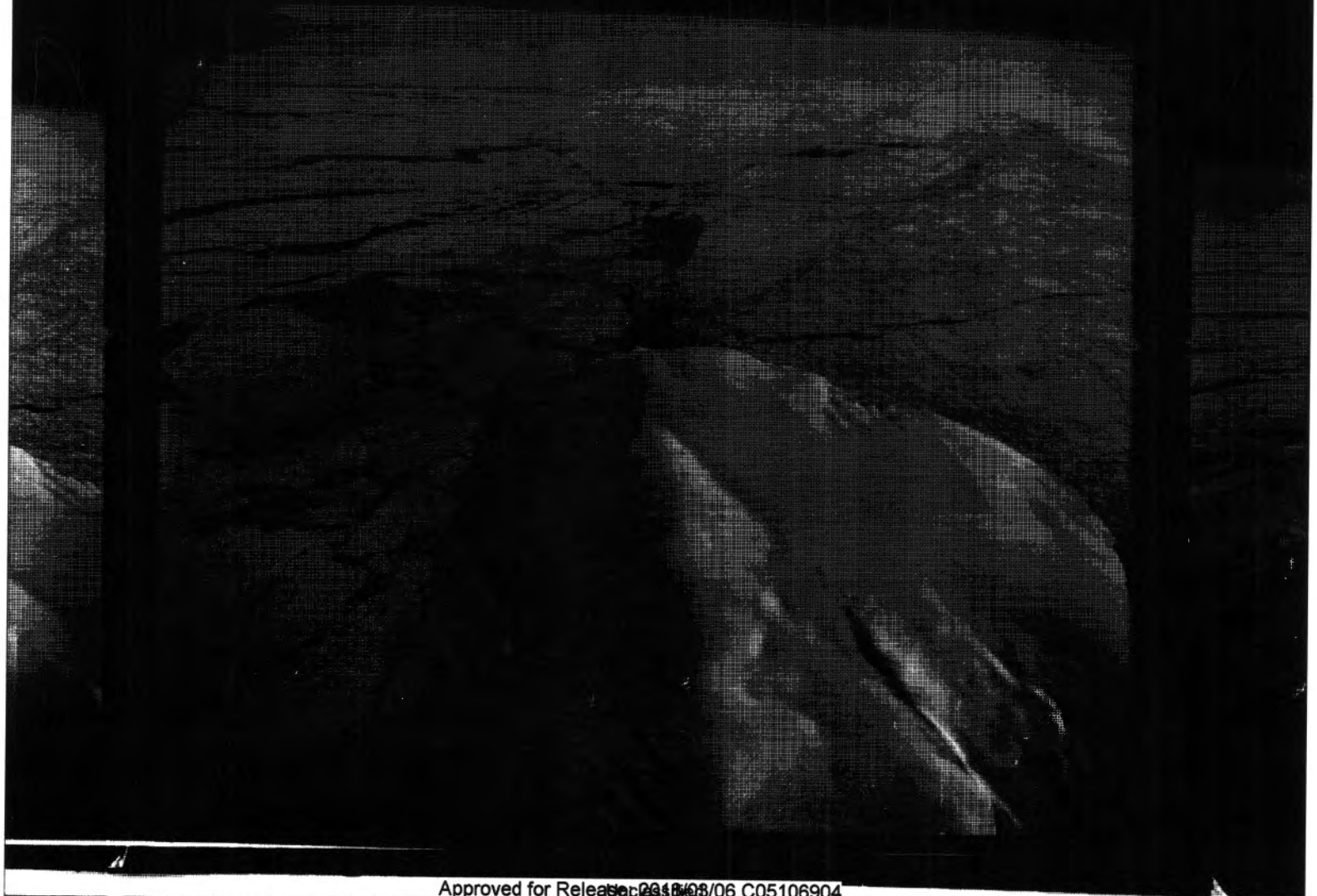
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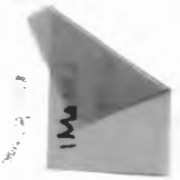
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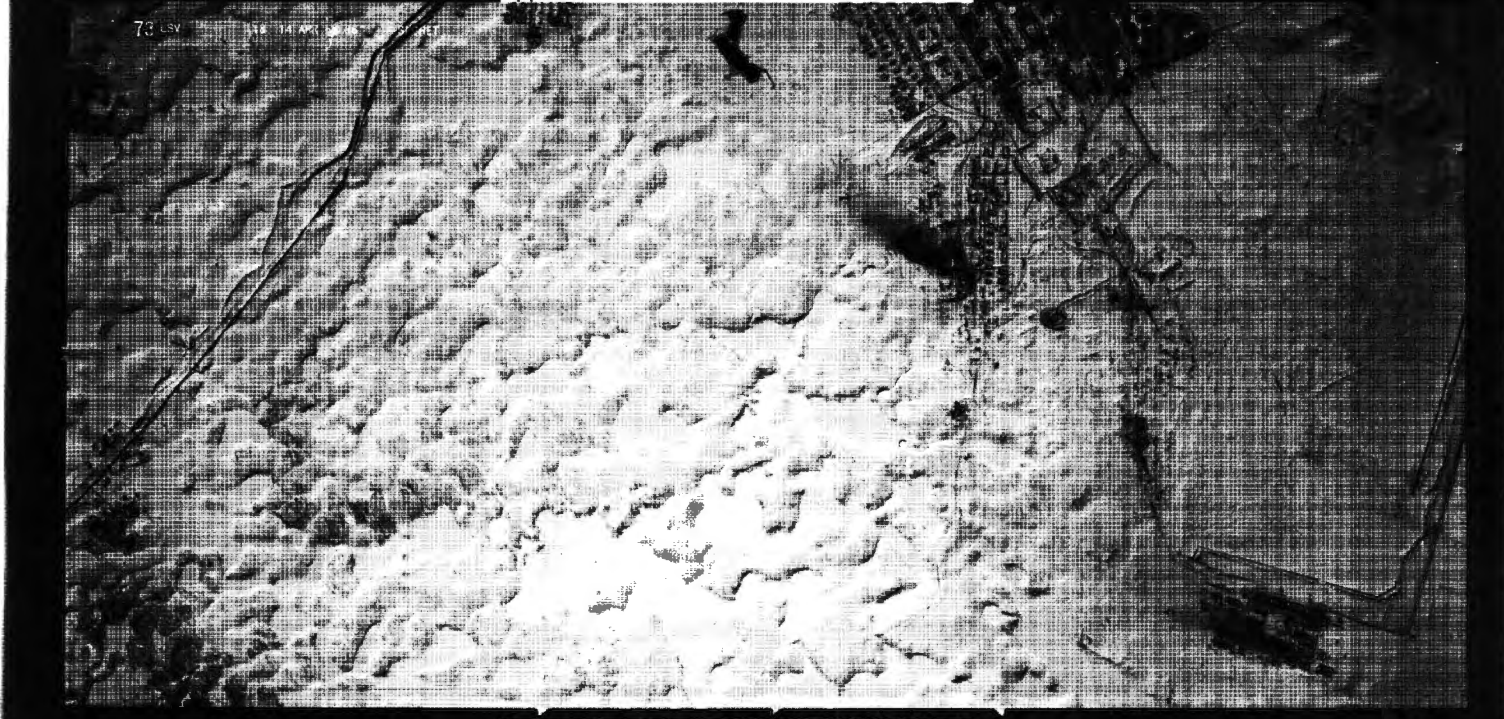
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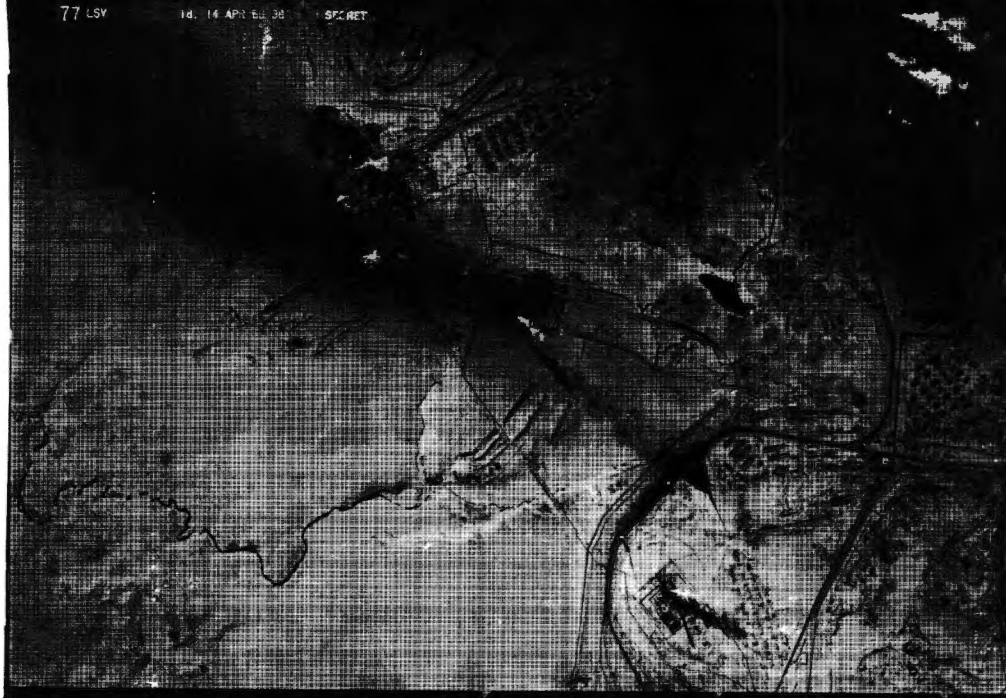
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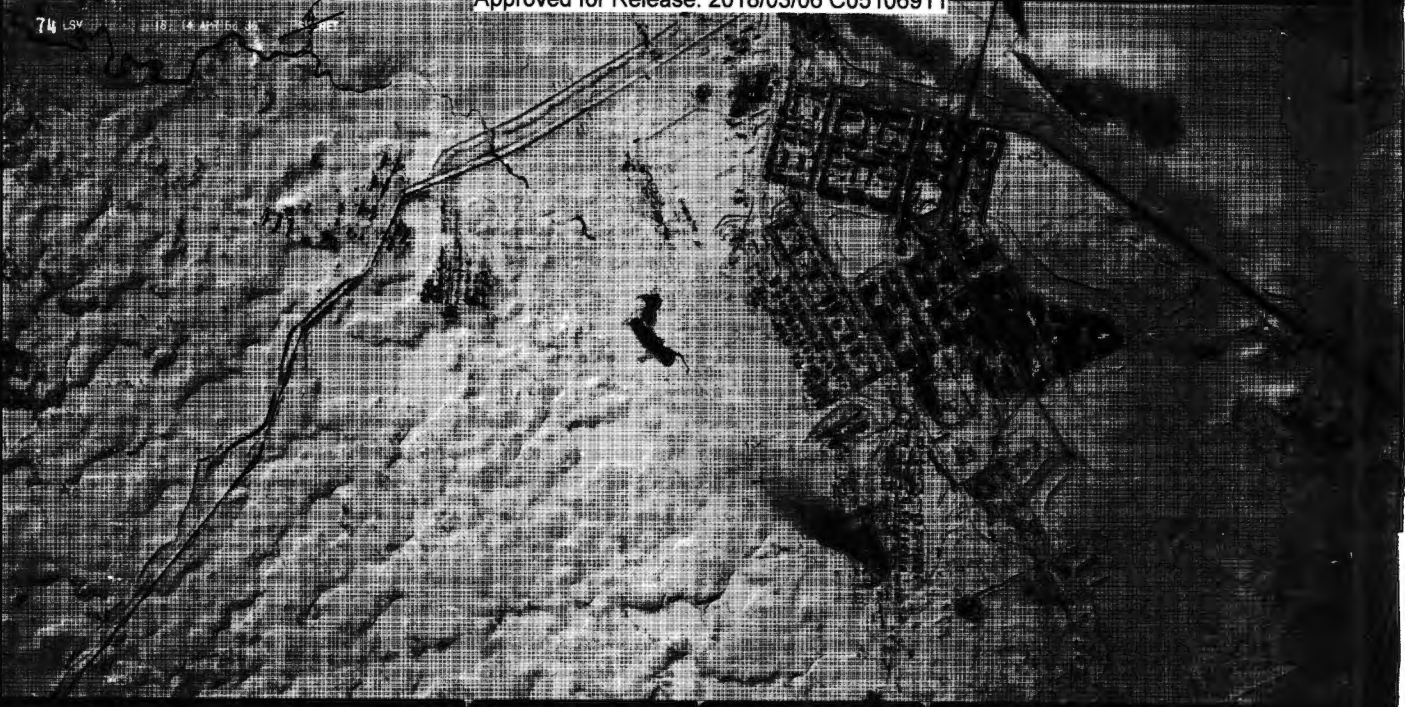
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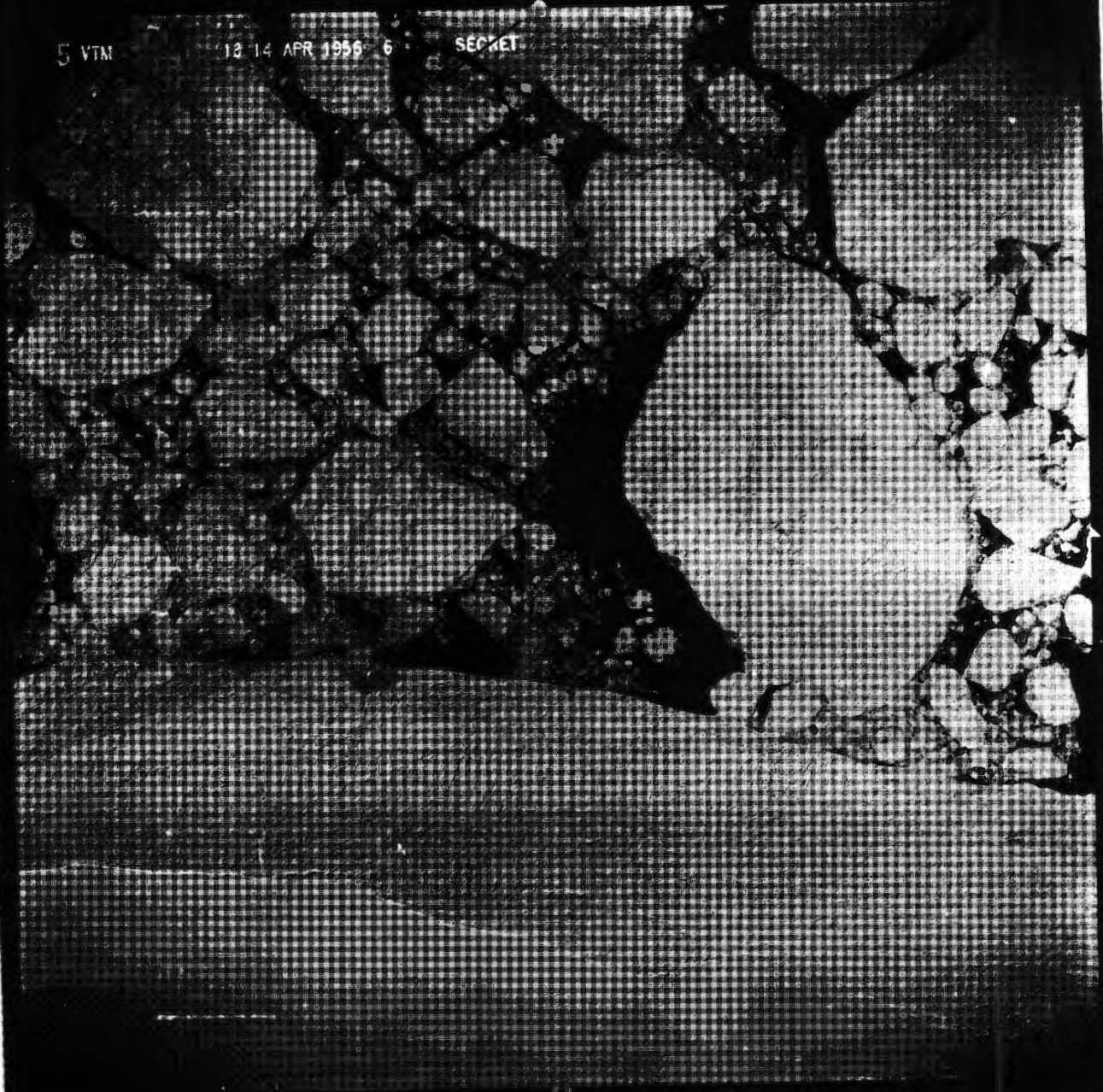
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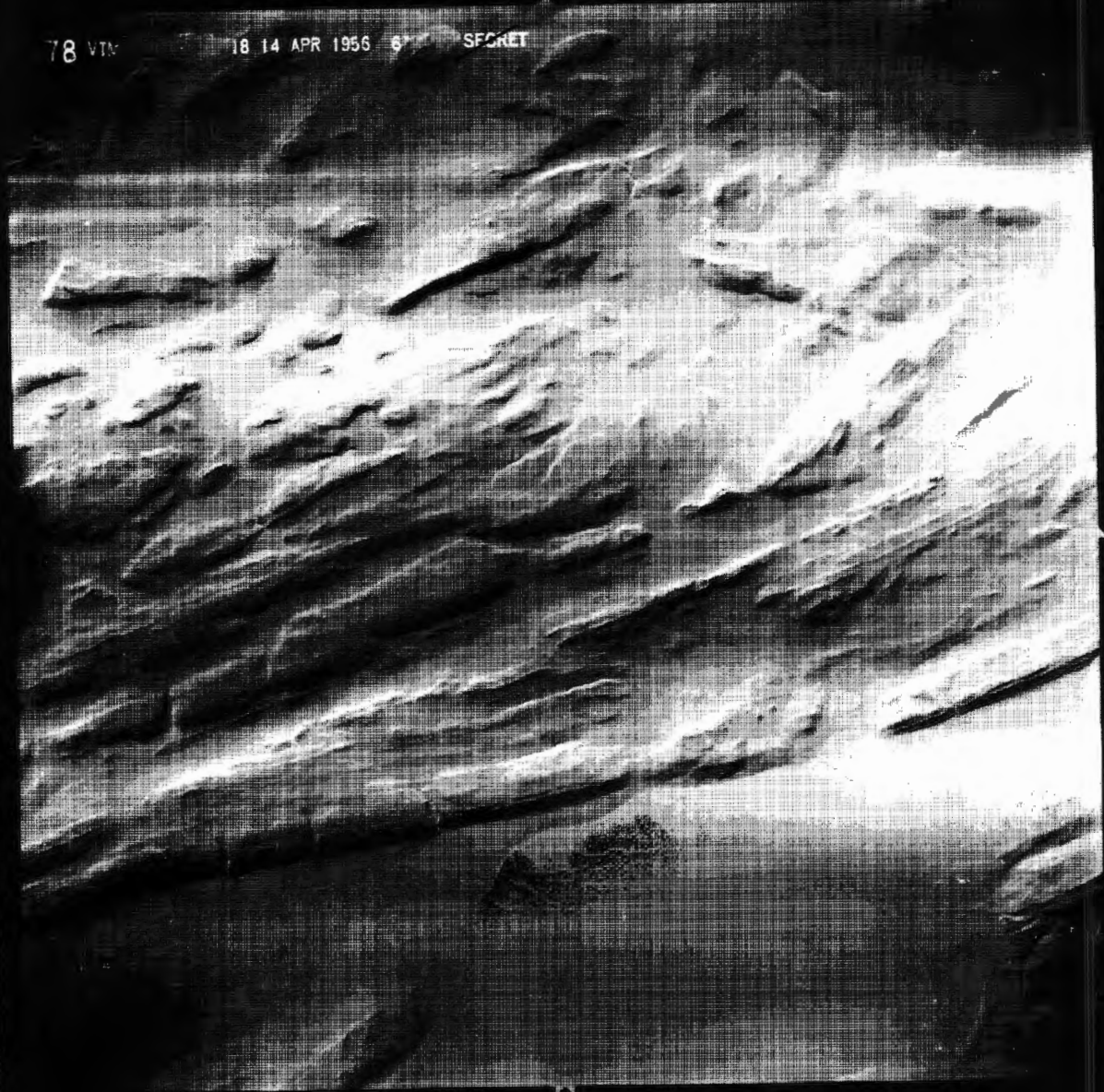
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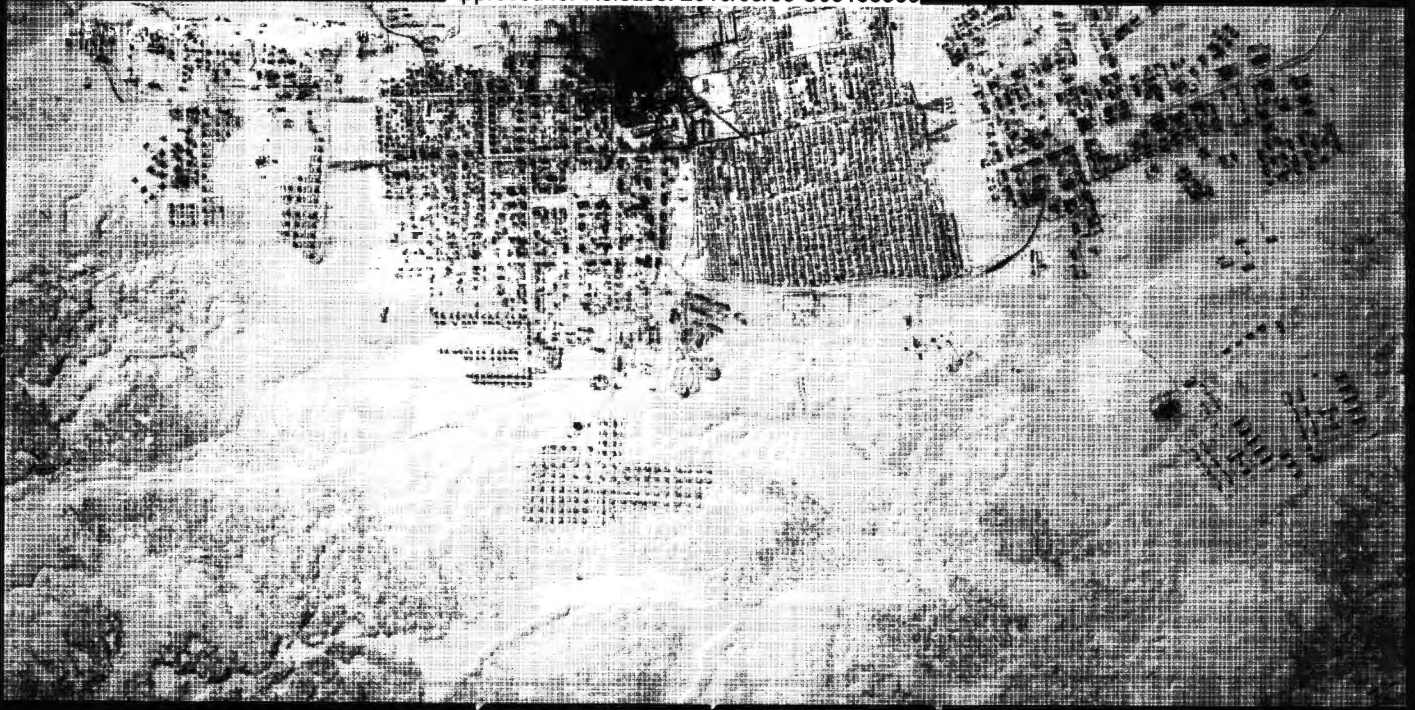
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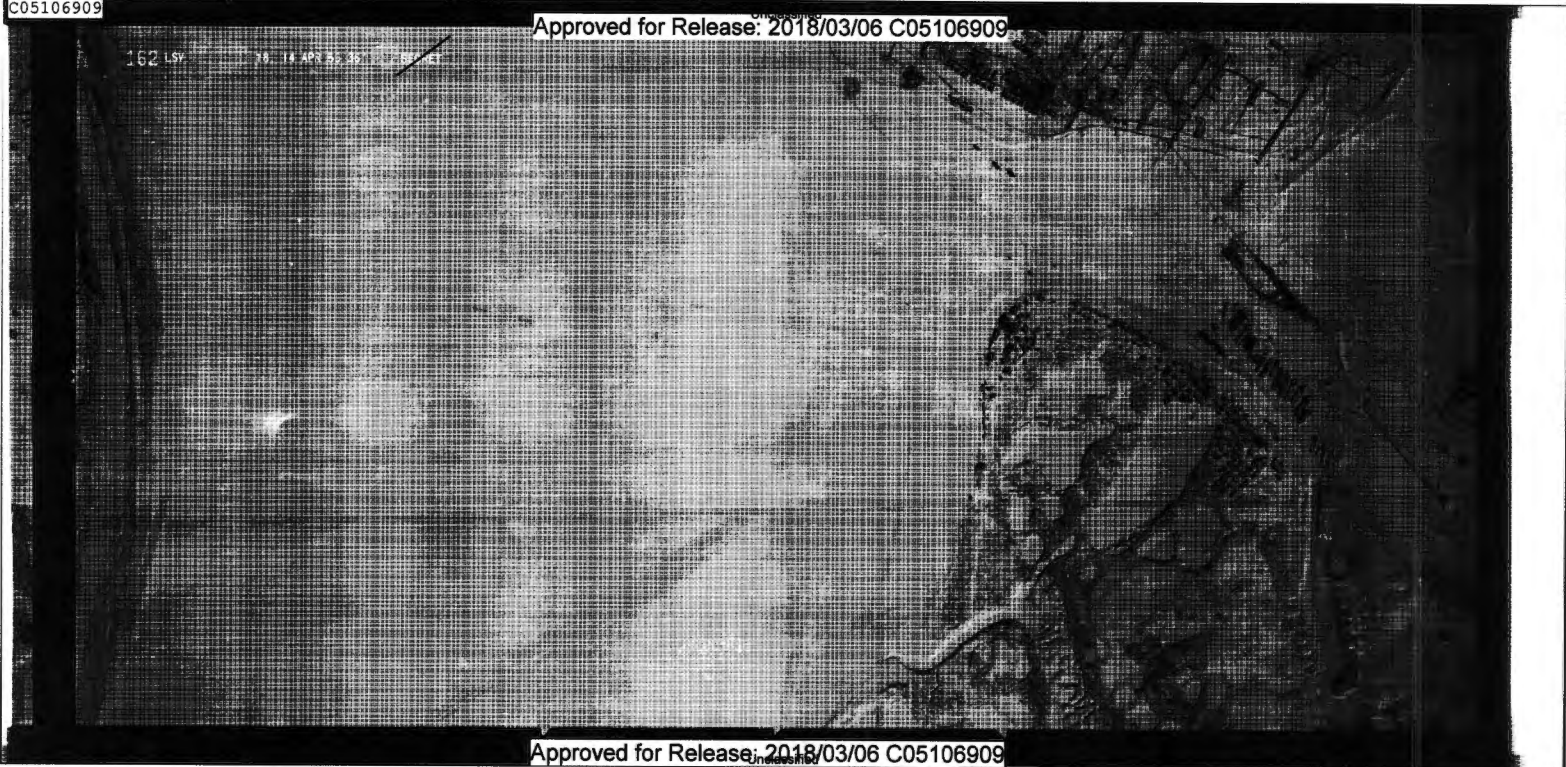




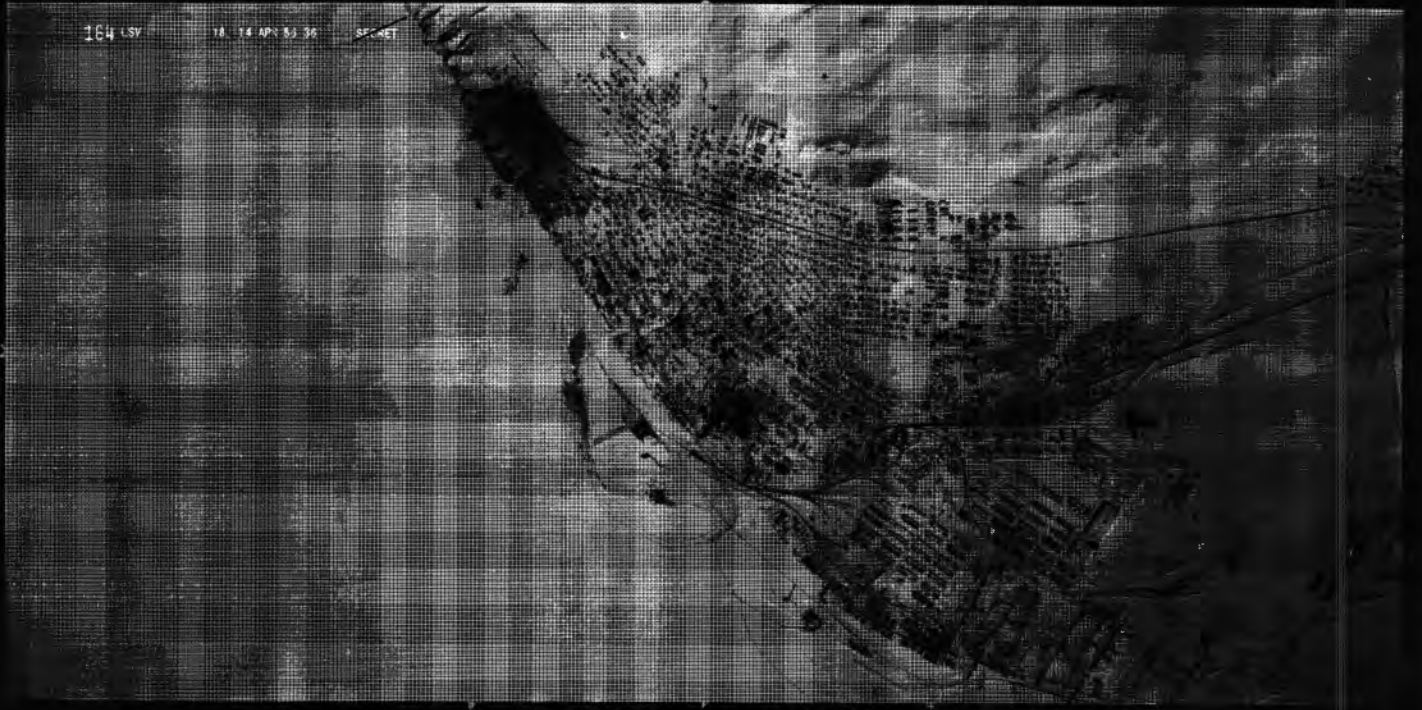


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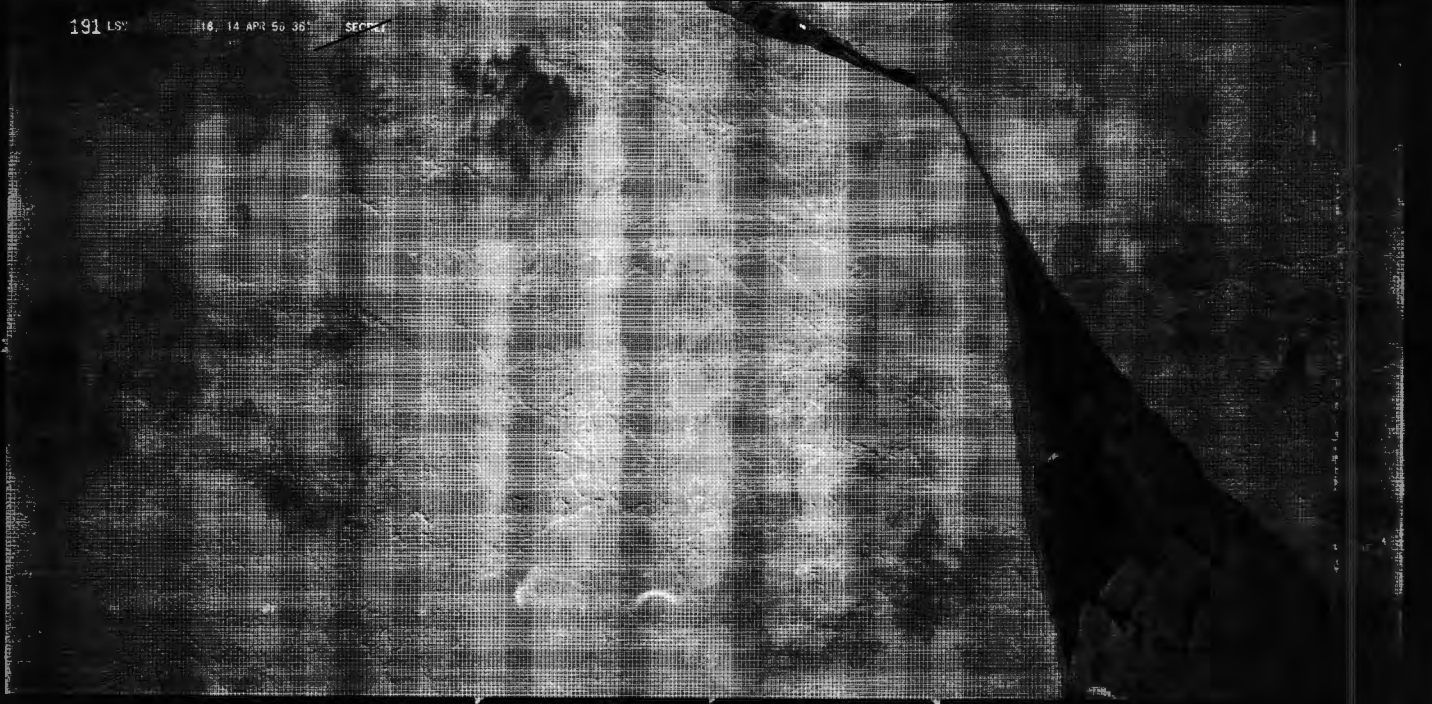
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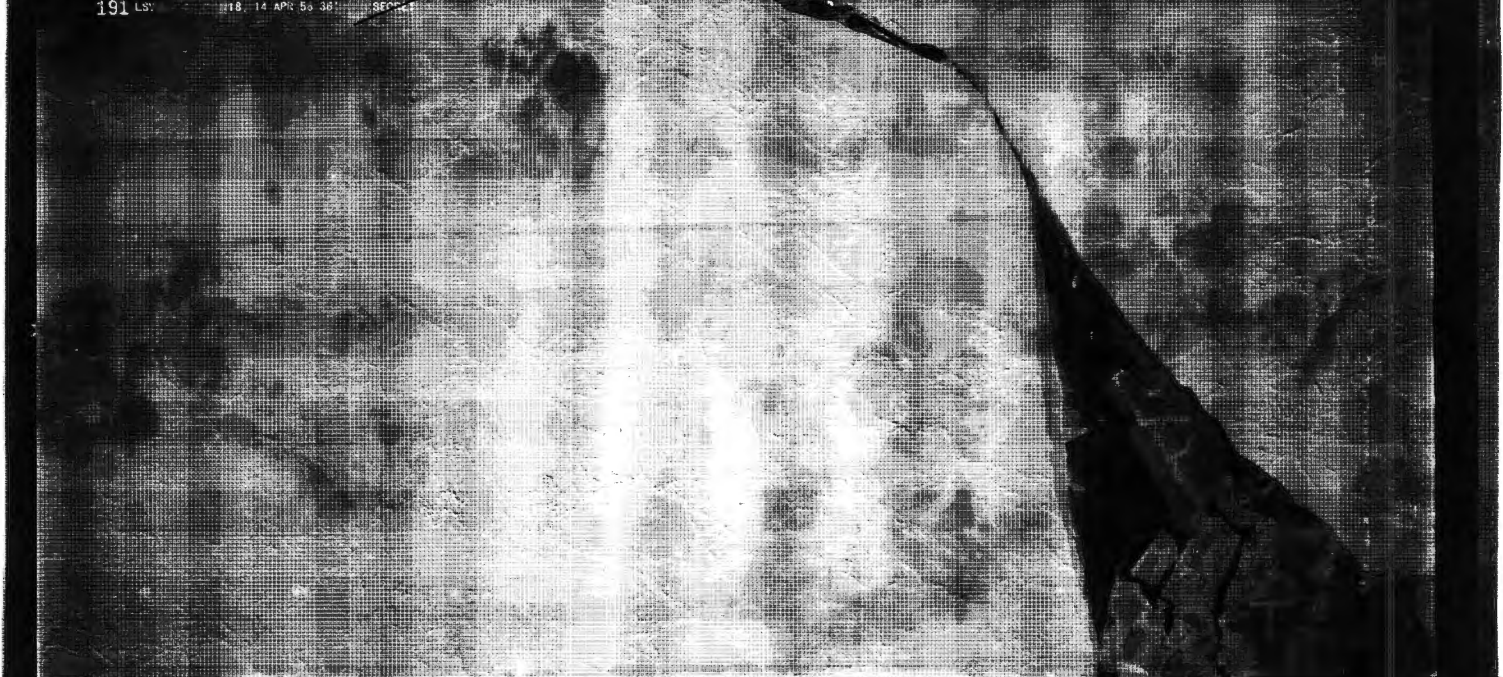
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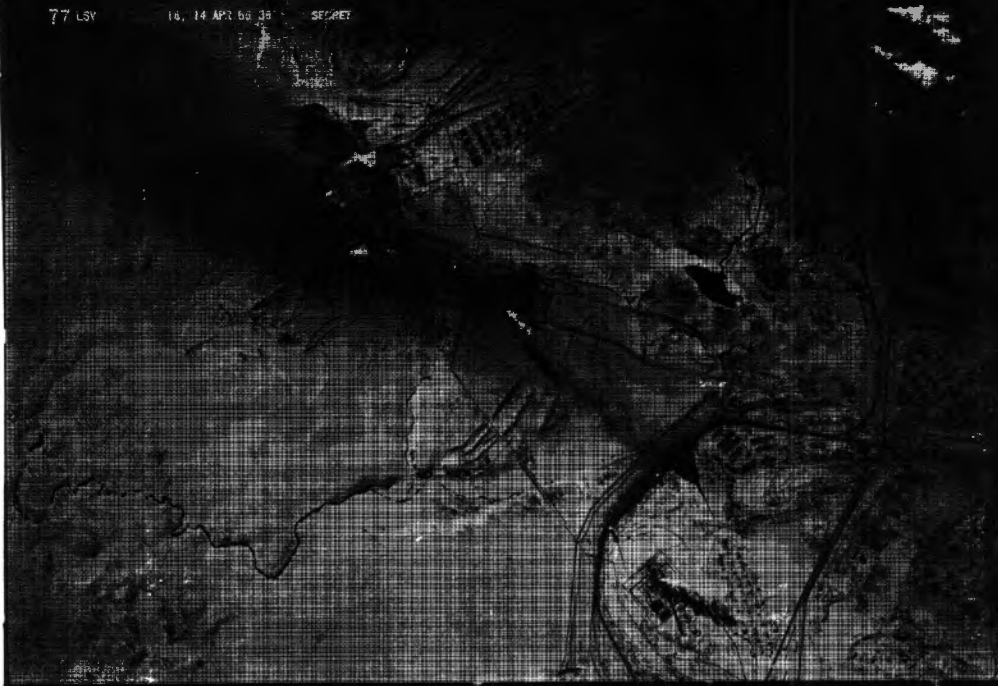
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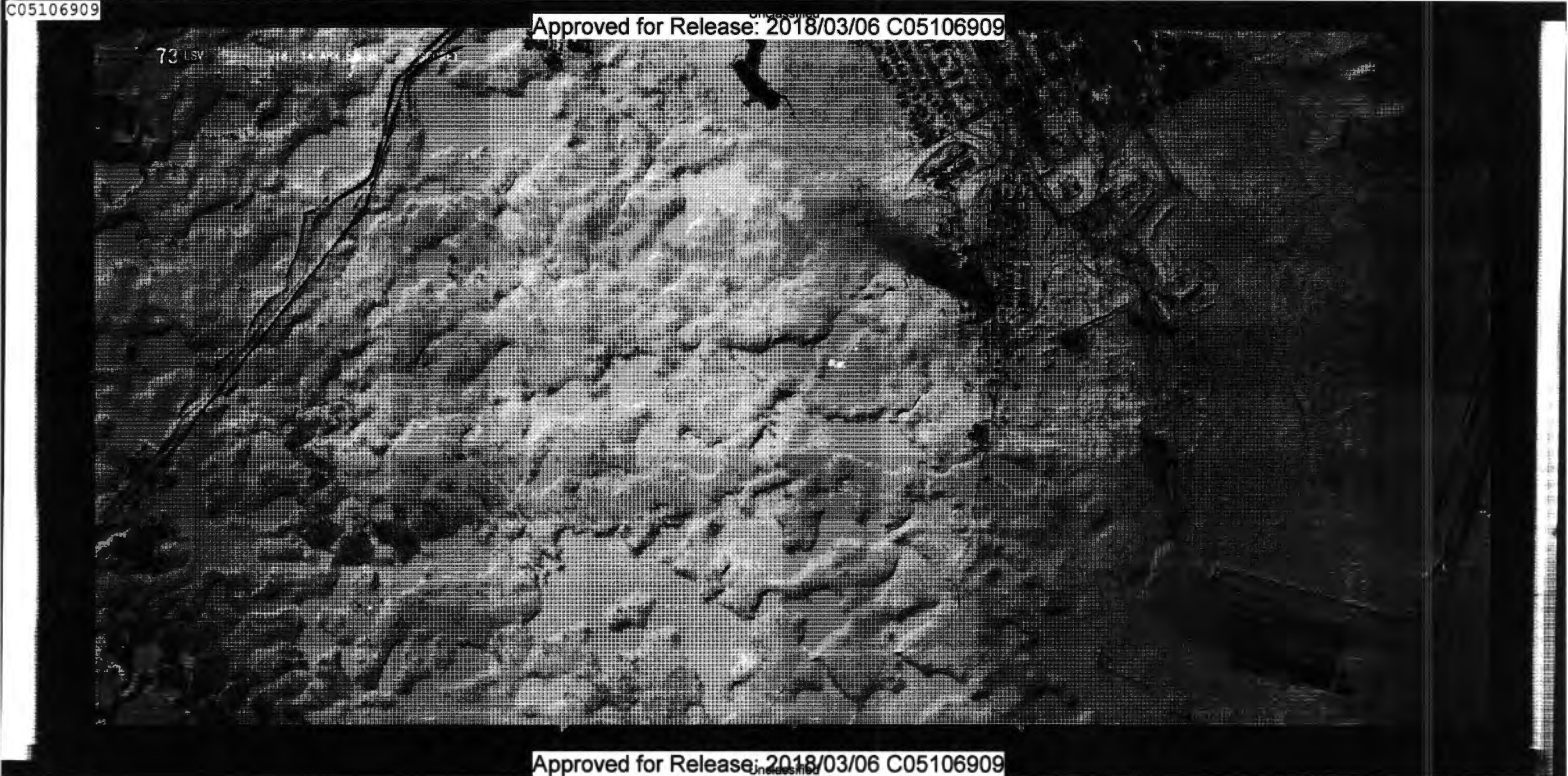


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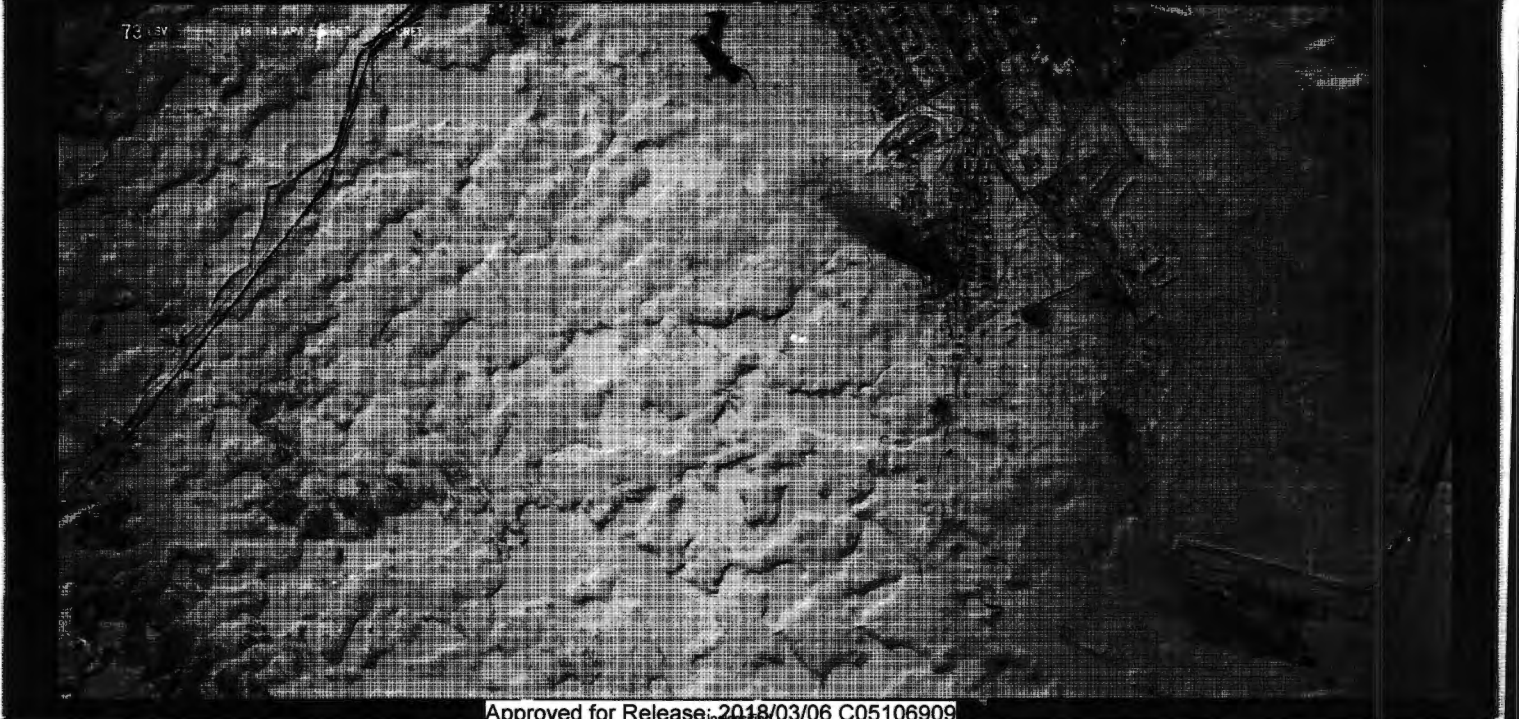
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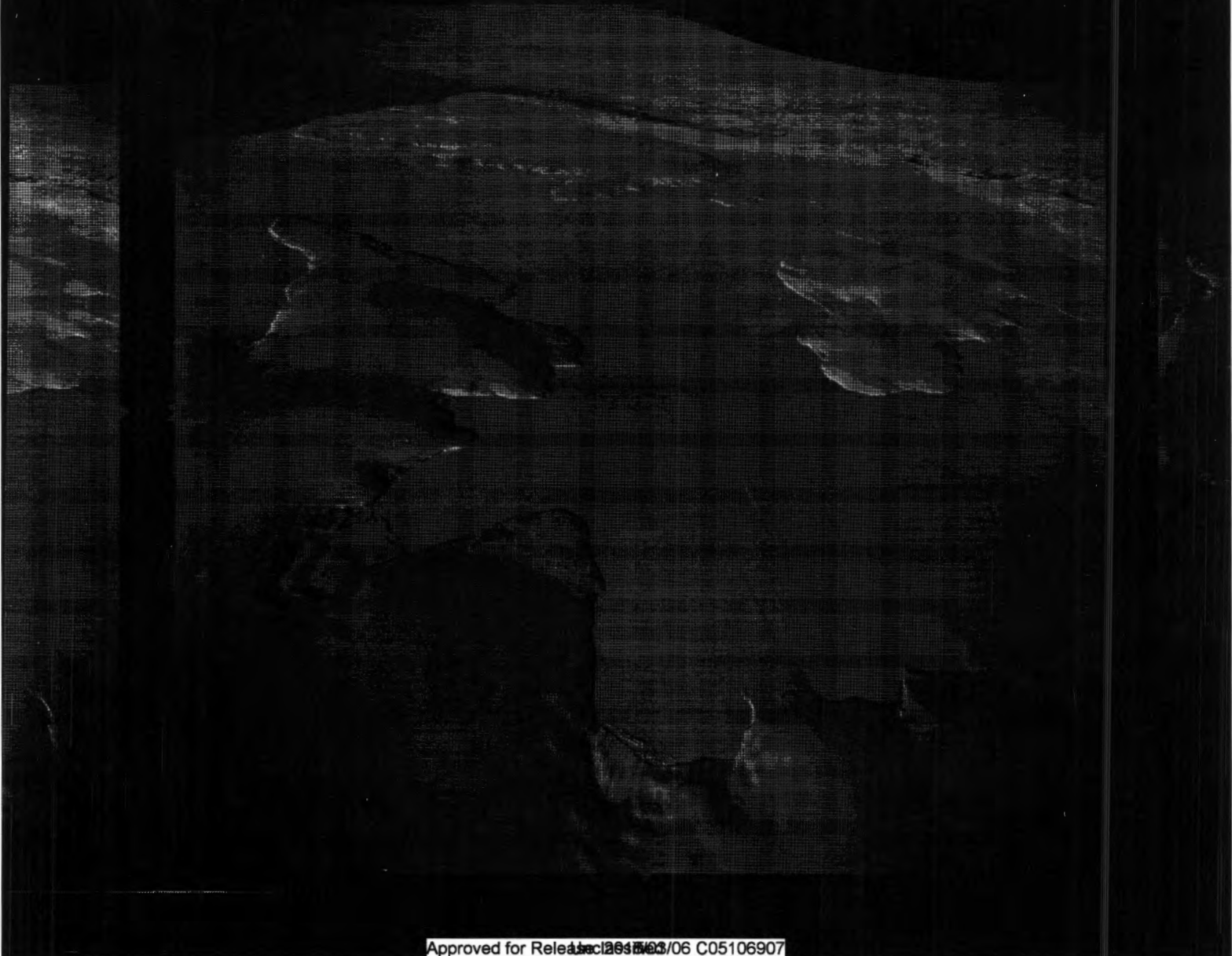








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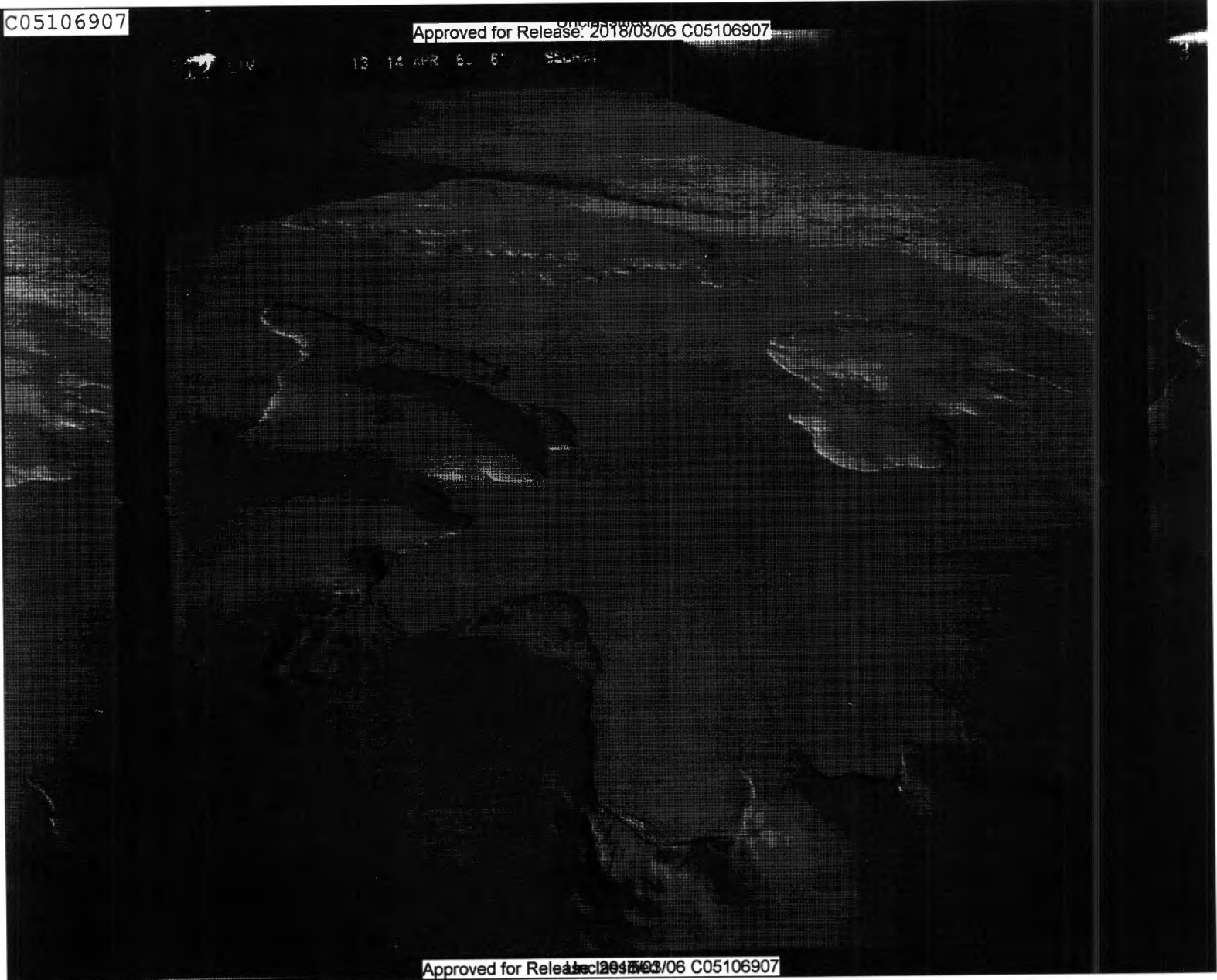
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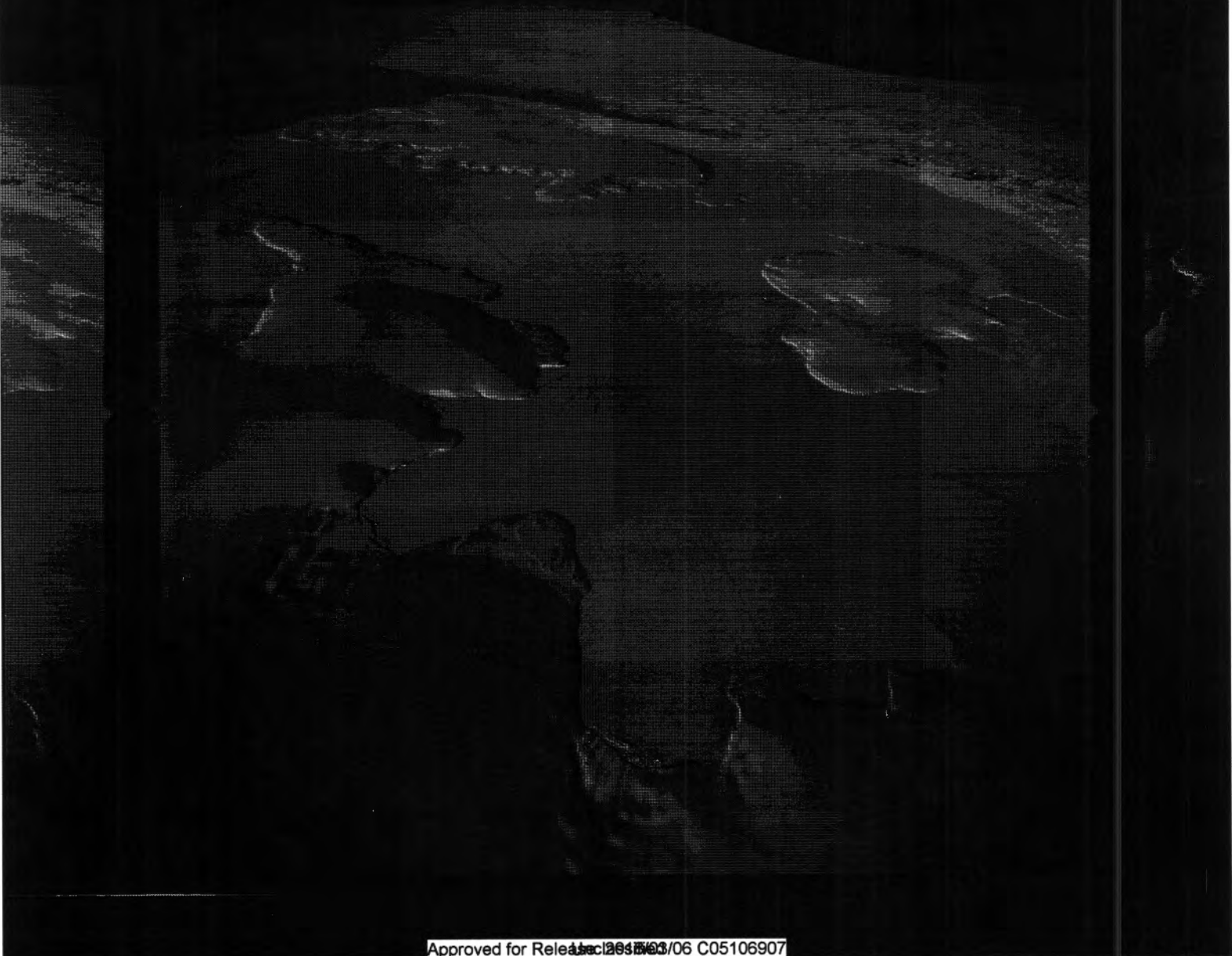


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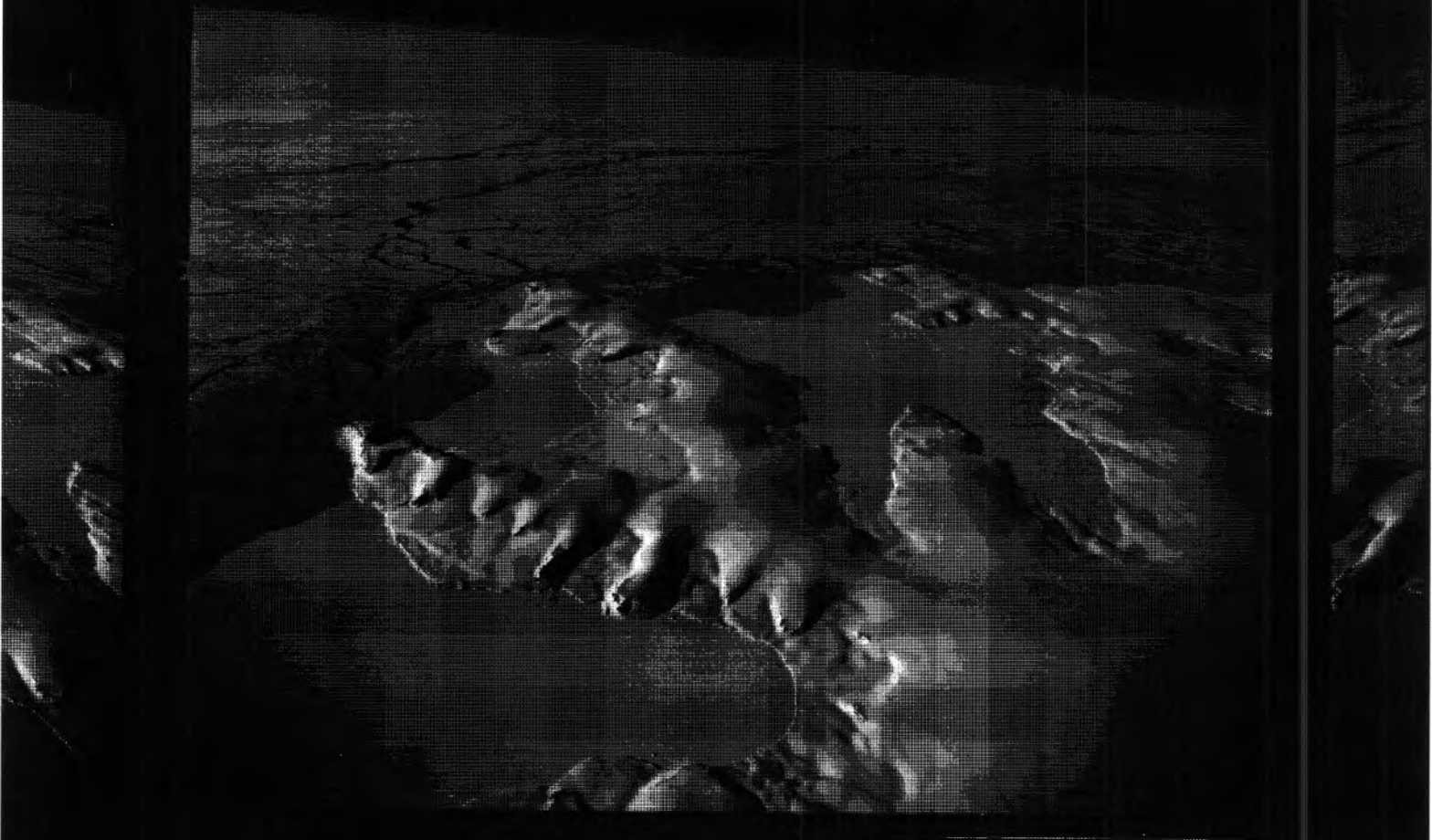
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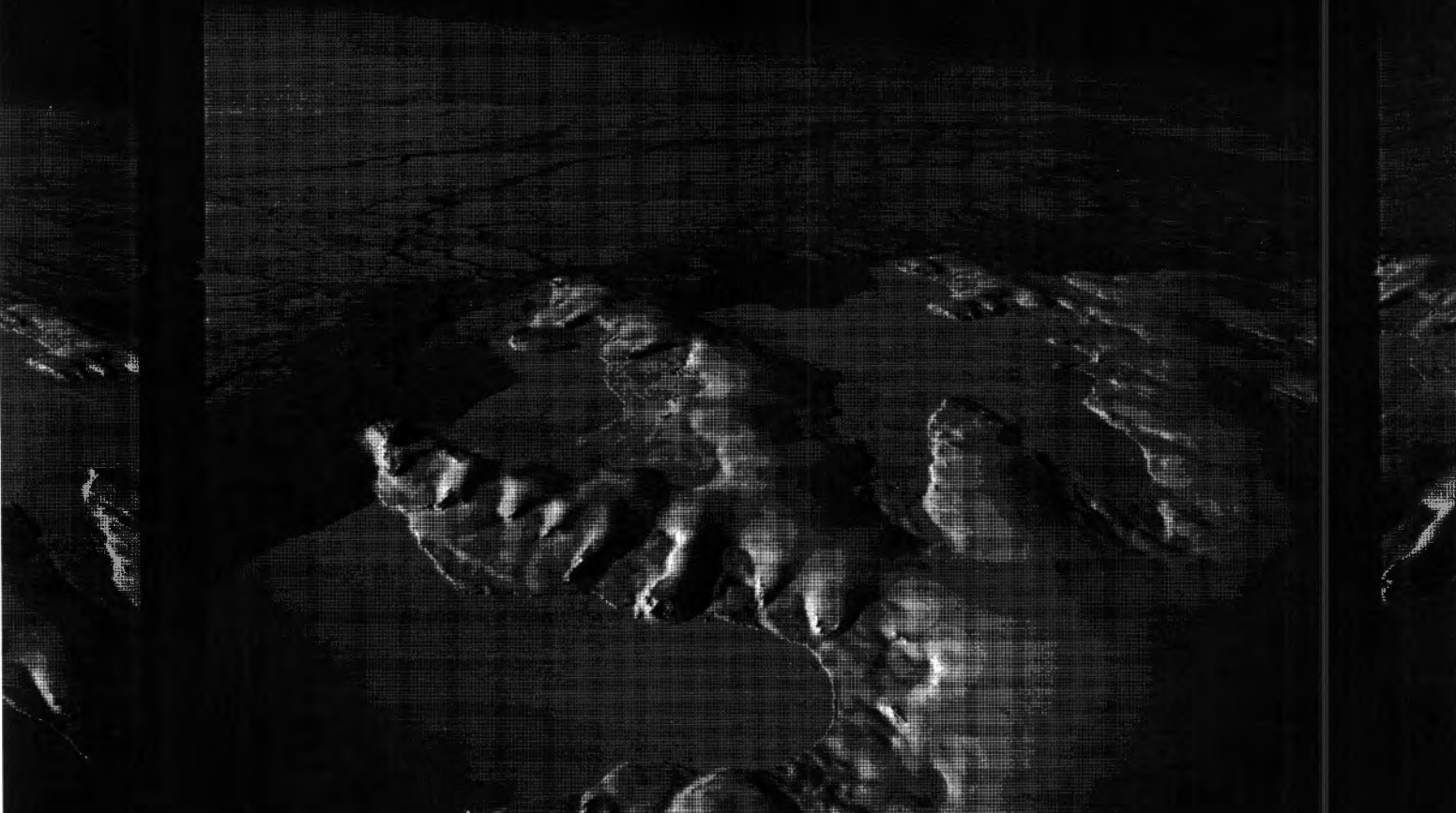
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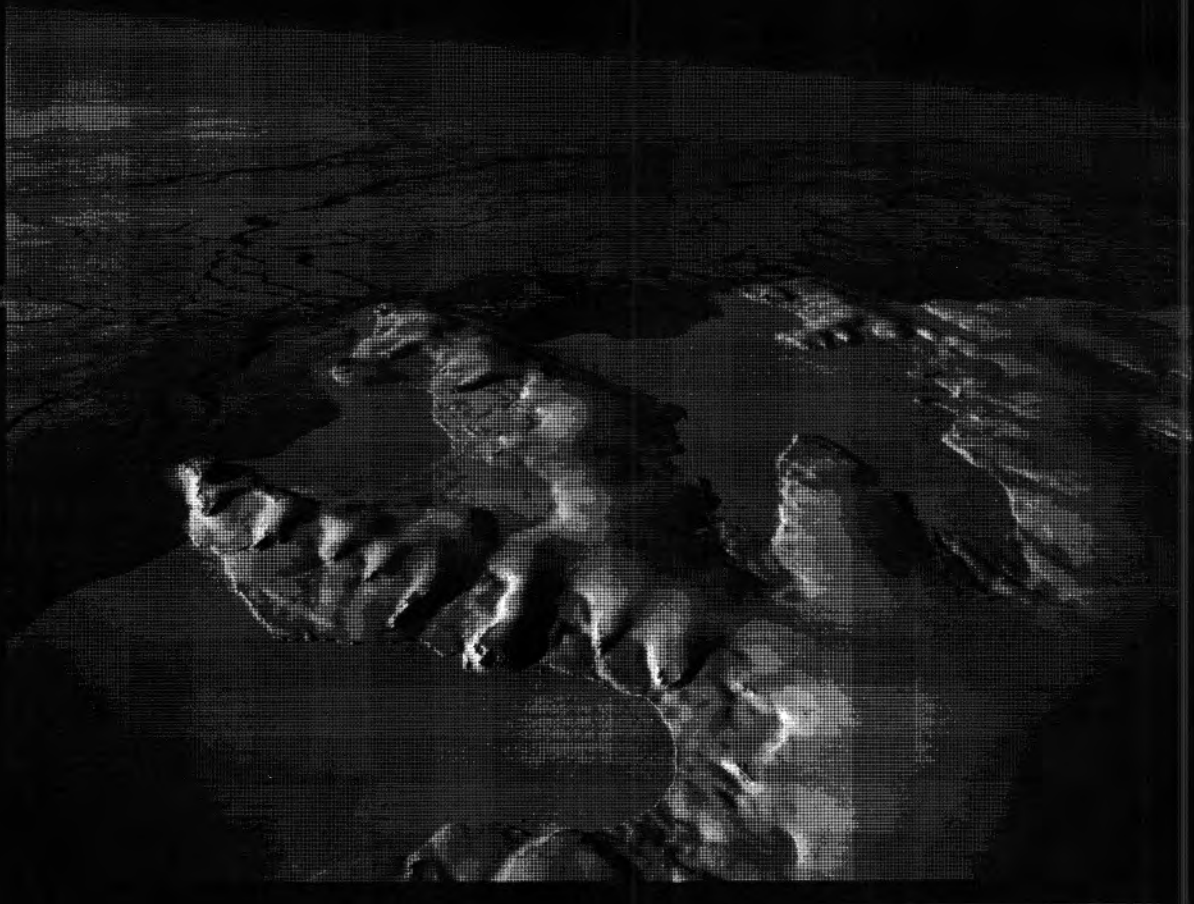
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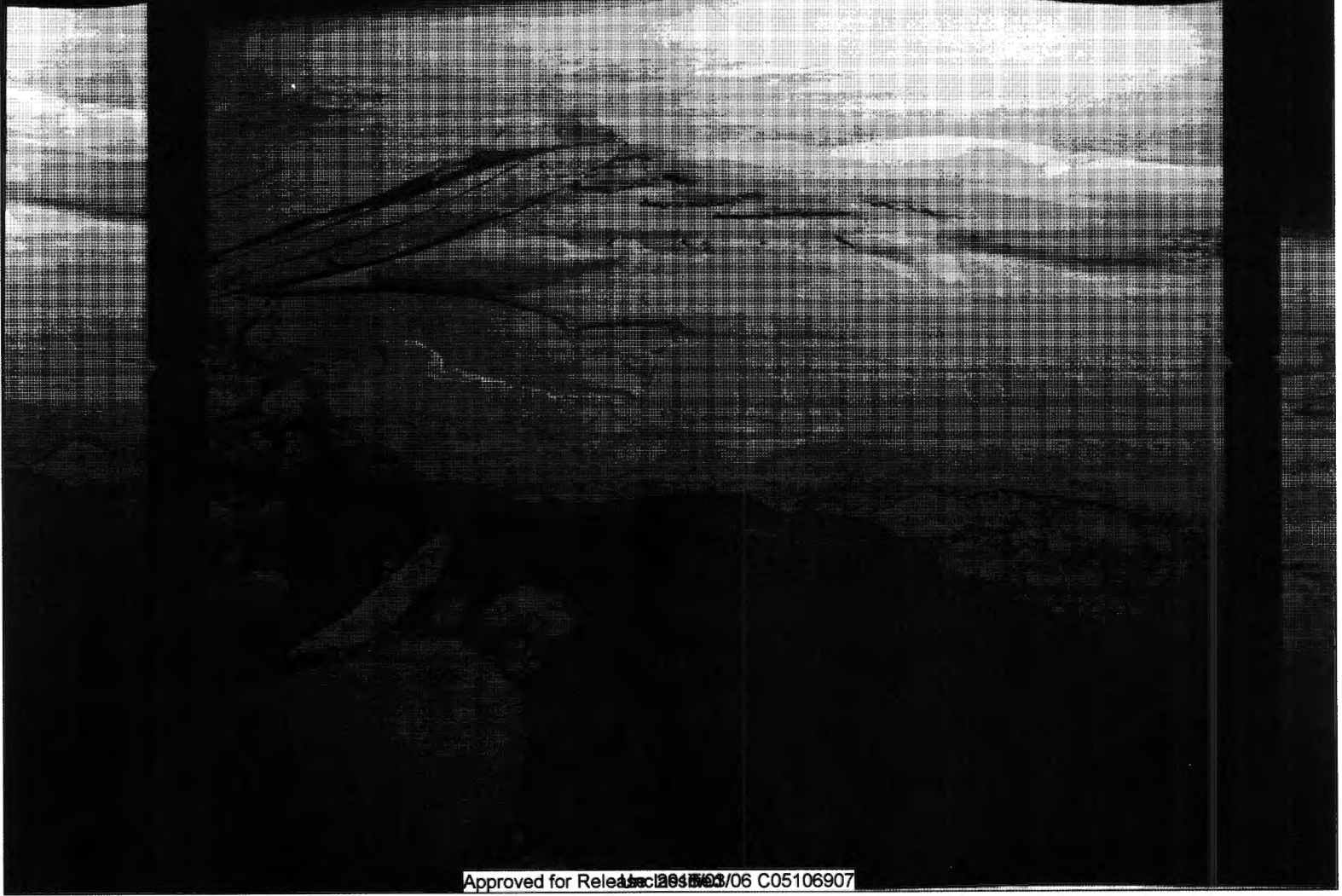
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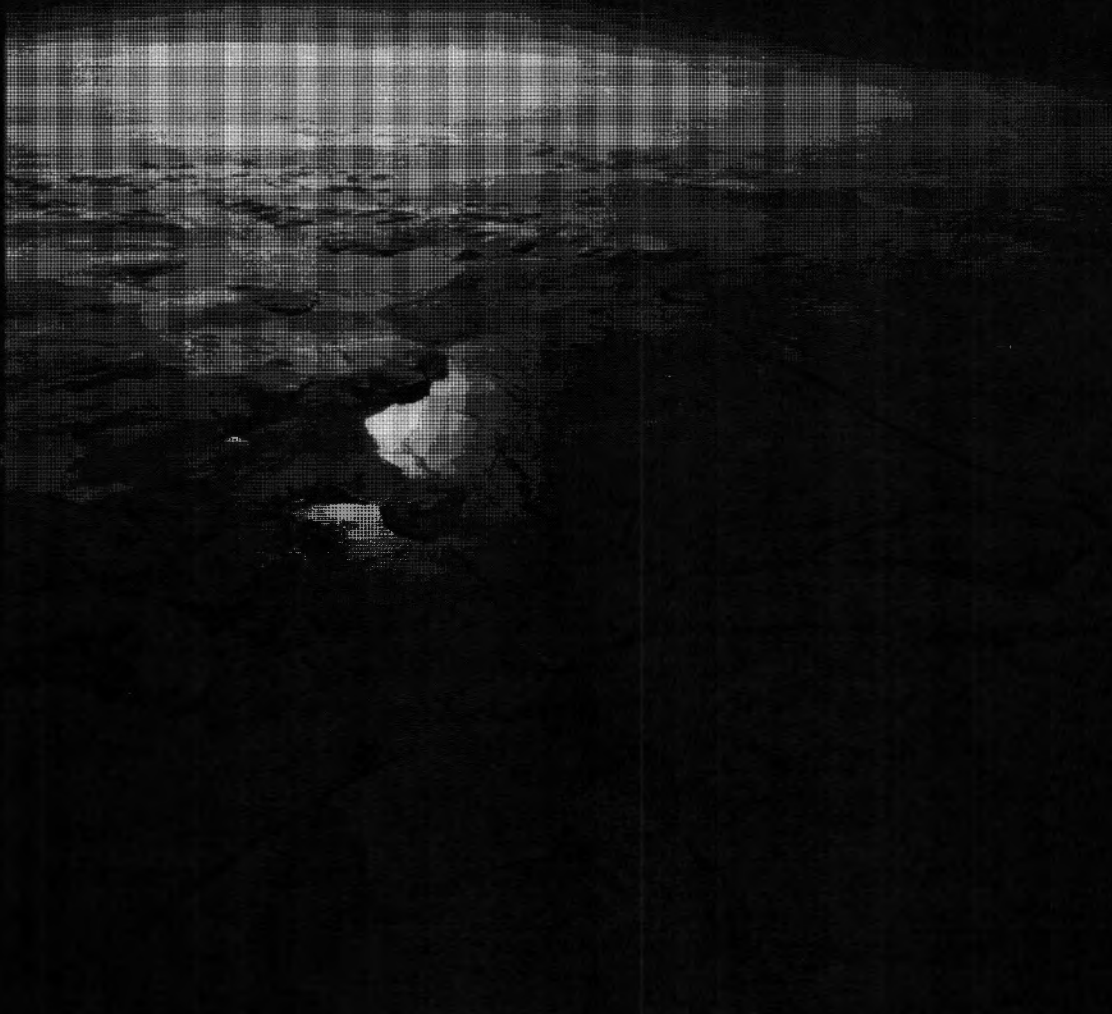
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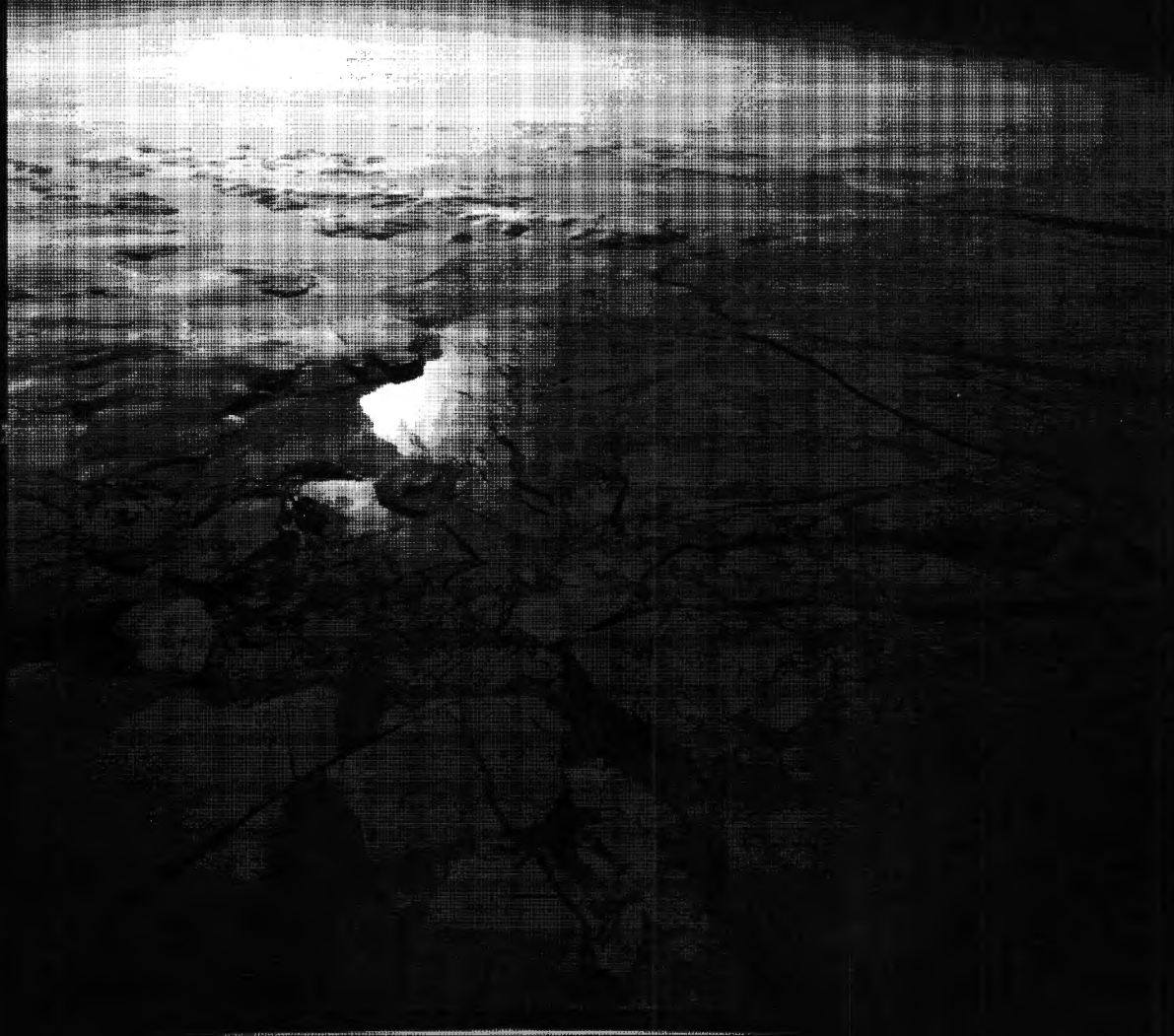
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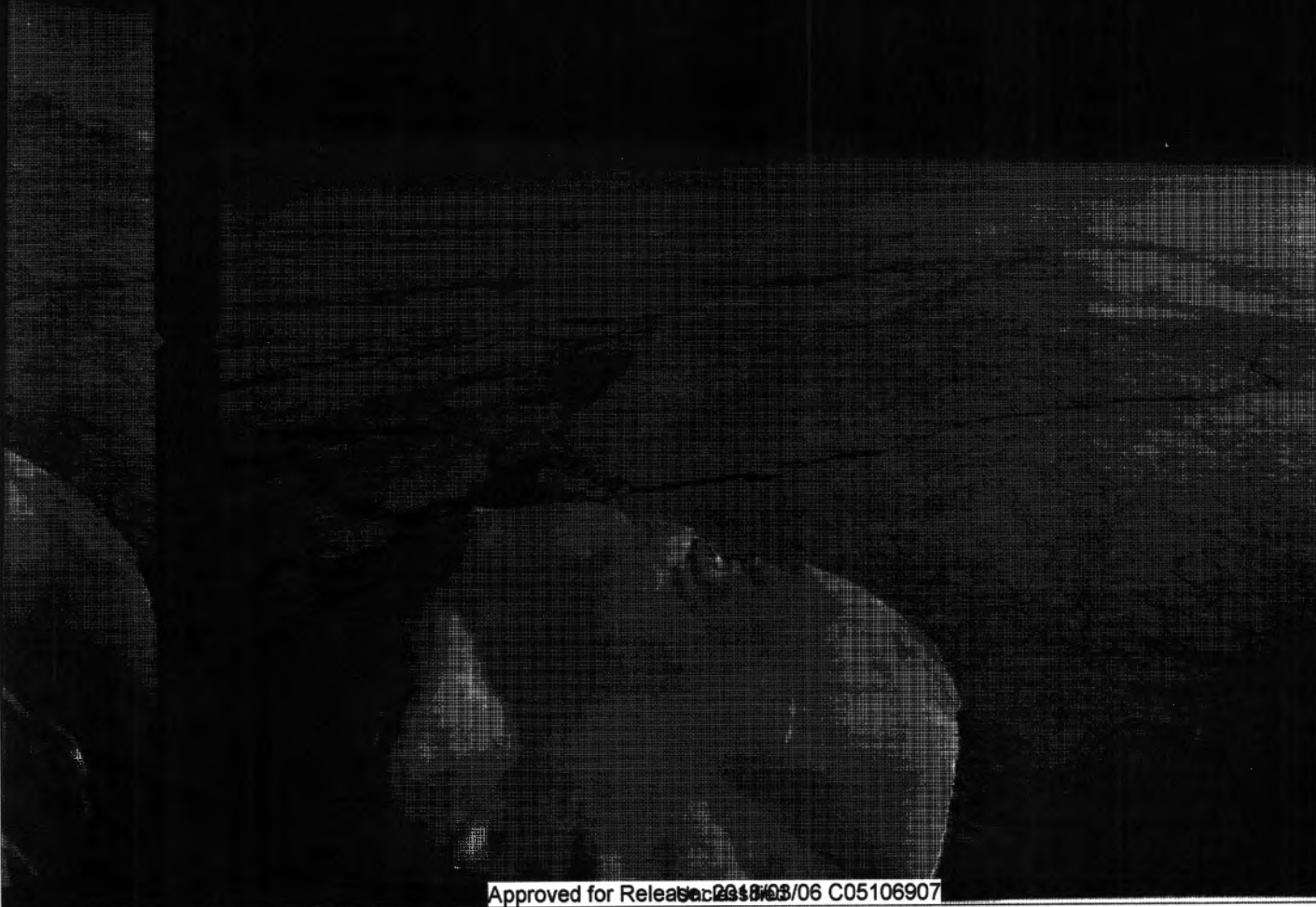
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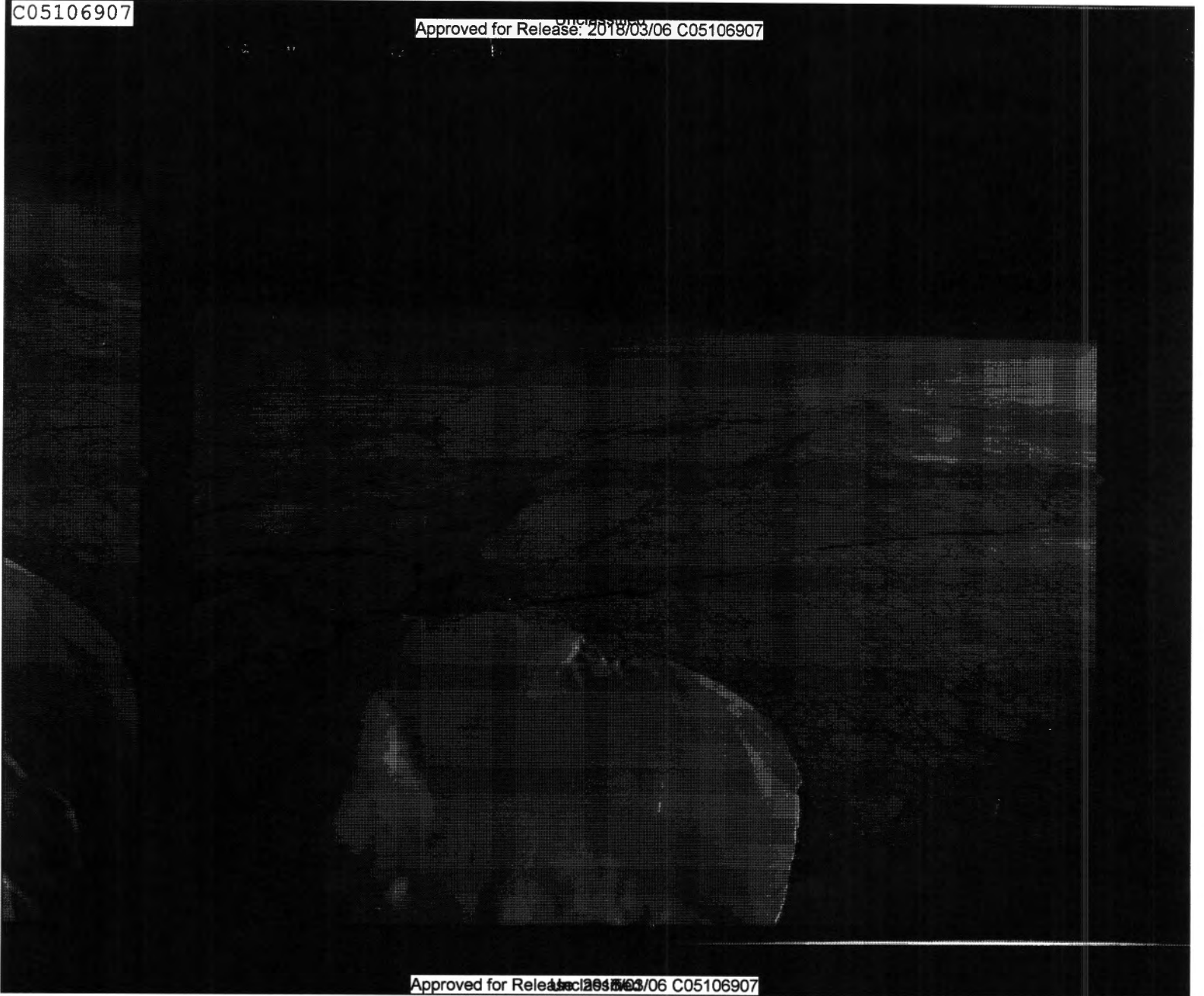
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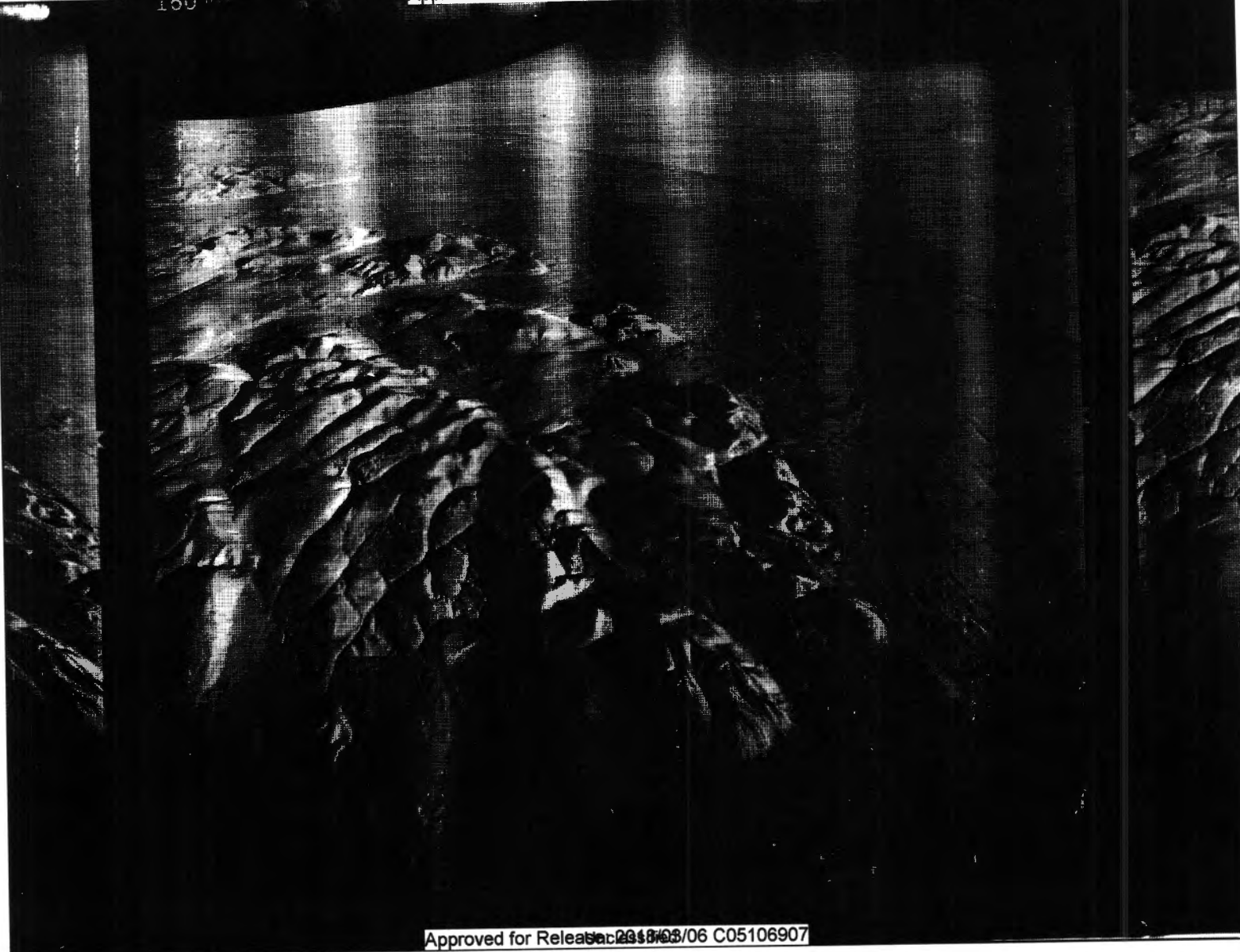
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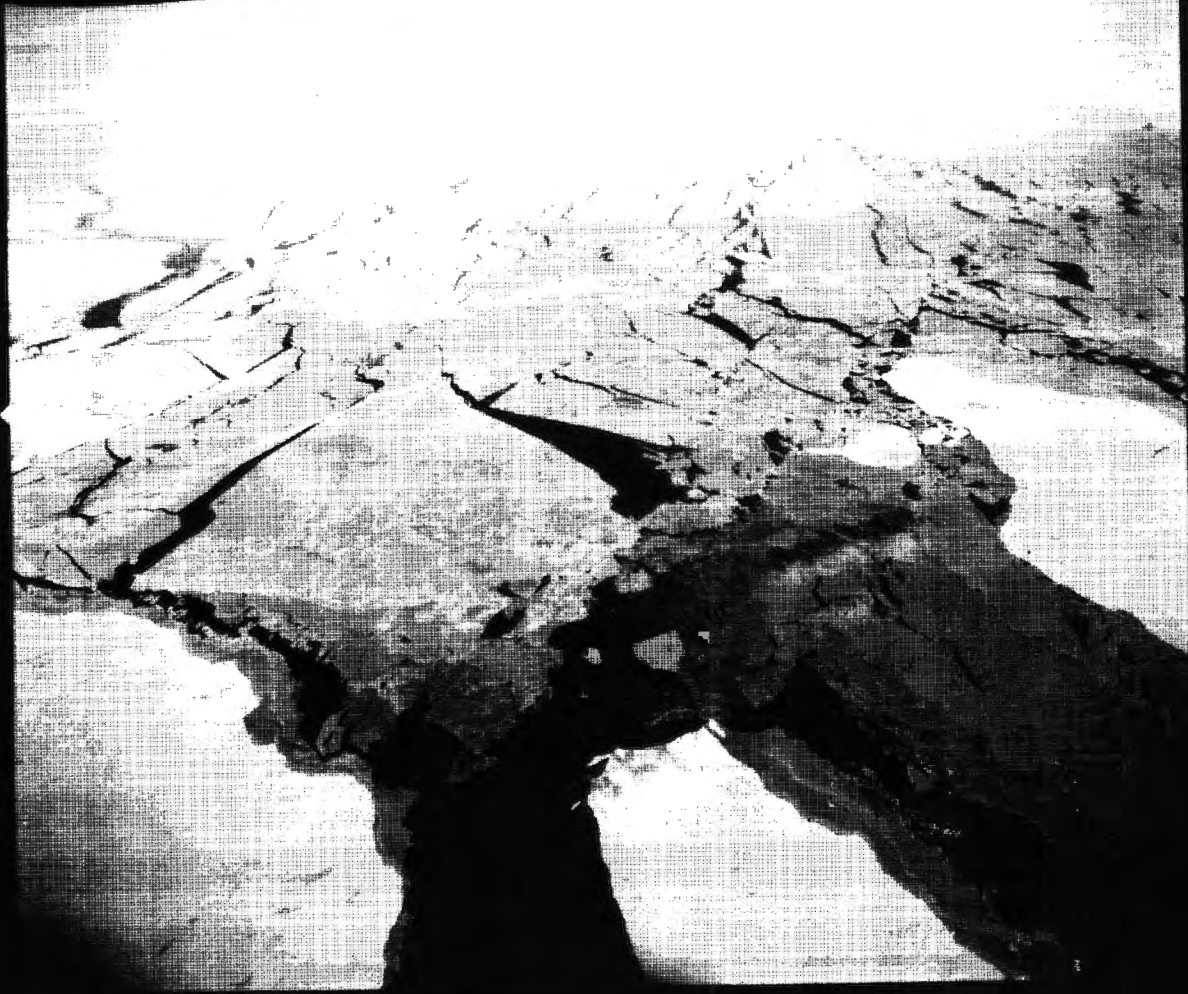
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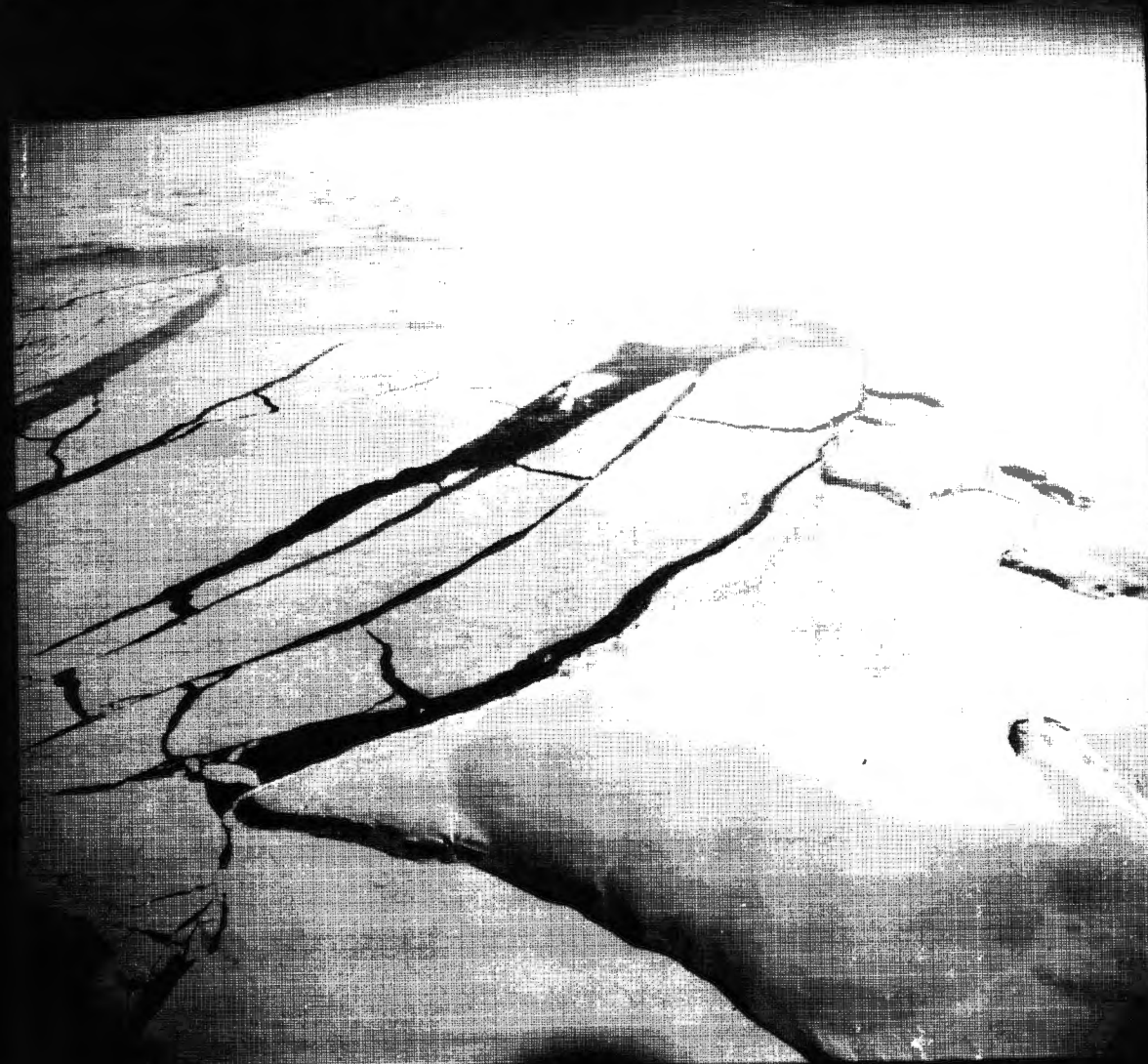
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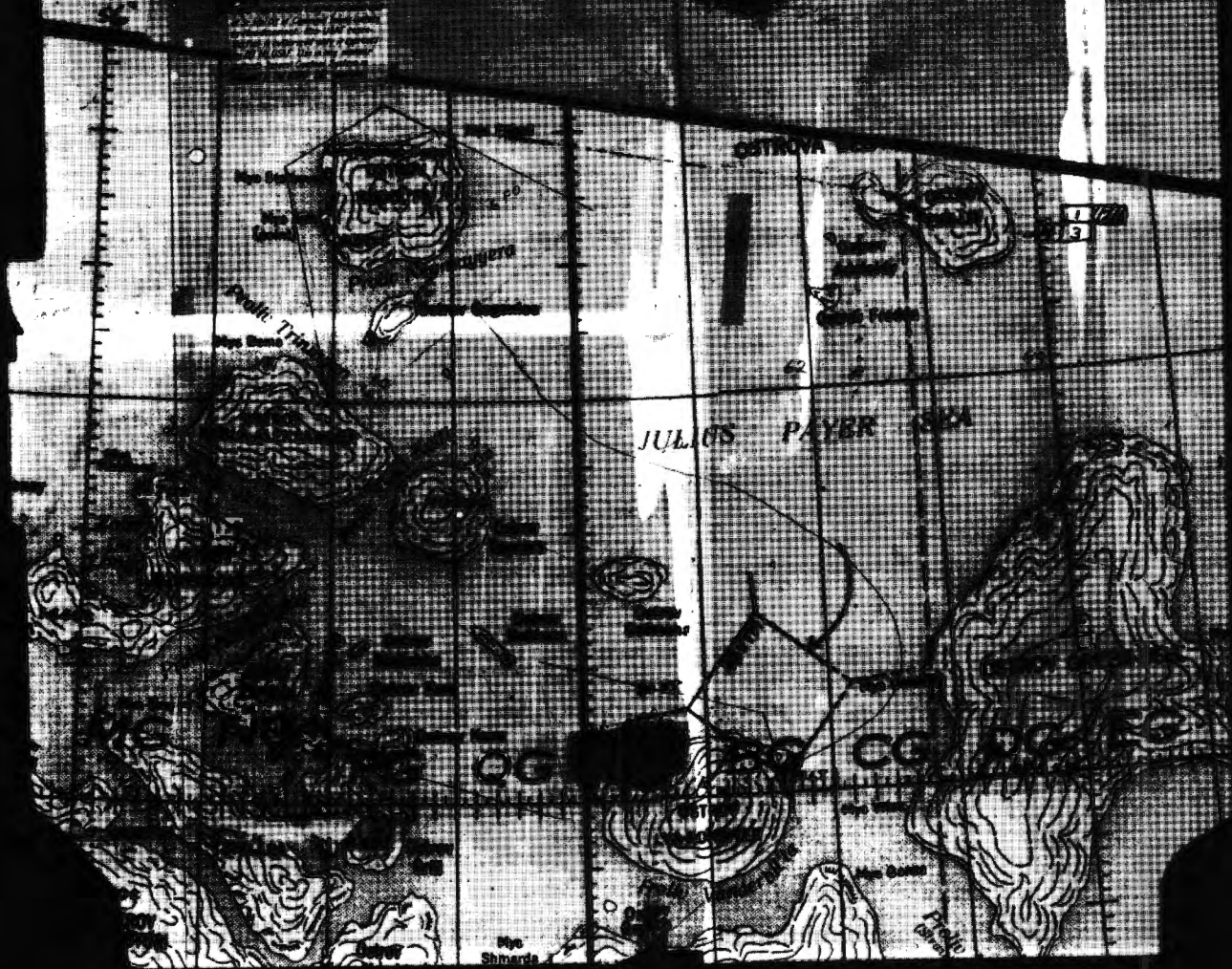


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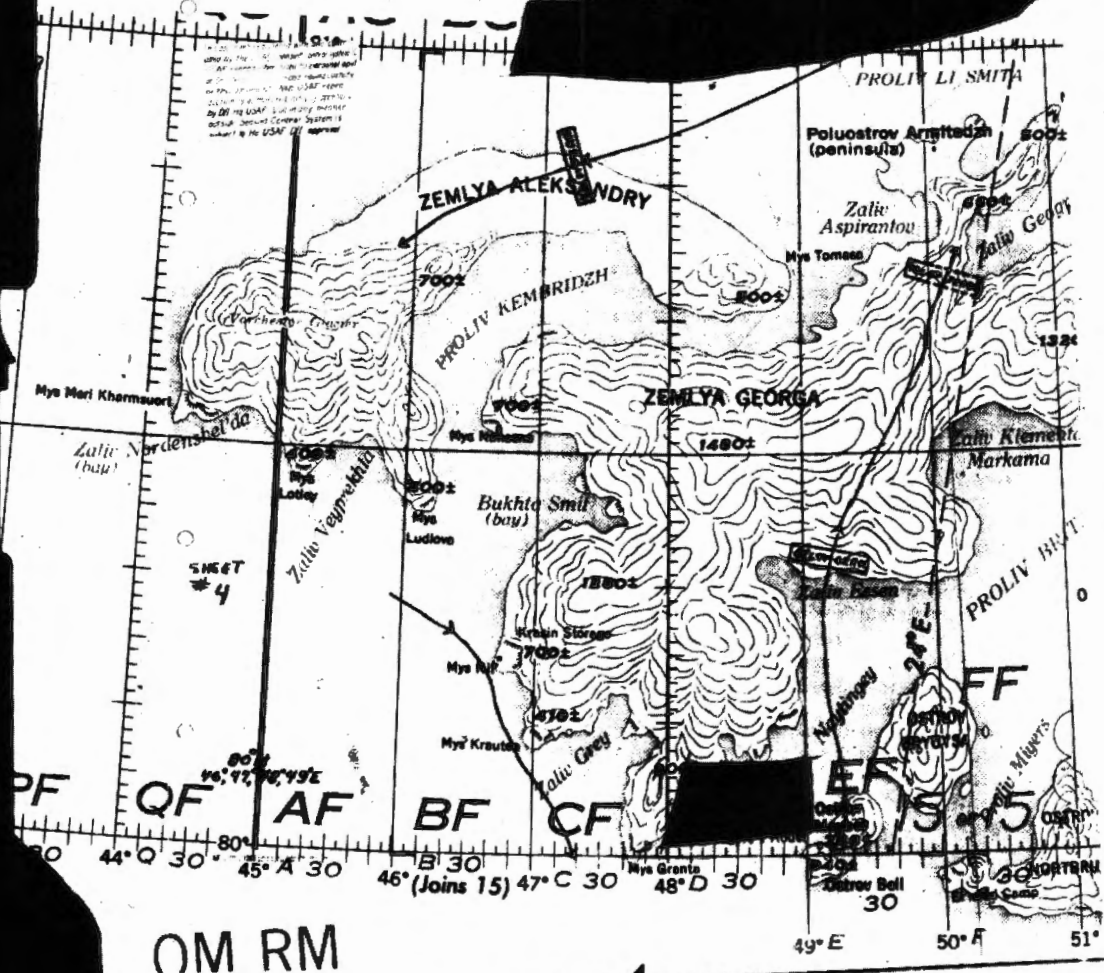
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 PLOT LENGTH: **14 APR 56**  
 ALTIMETER: **14 APR 56**  
 SCALE APPROX: **1:100,000**  
 MAP THIS IS NO: **MAP 46, 43-92**  
 TOTAL SHEETS: **1-11**  
 SHEET NO: **11**  
 DATE: **14 APR 56**  
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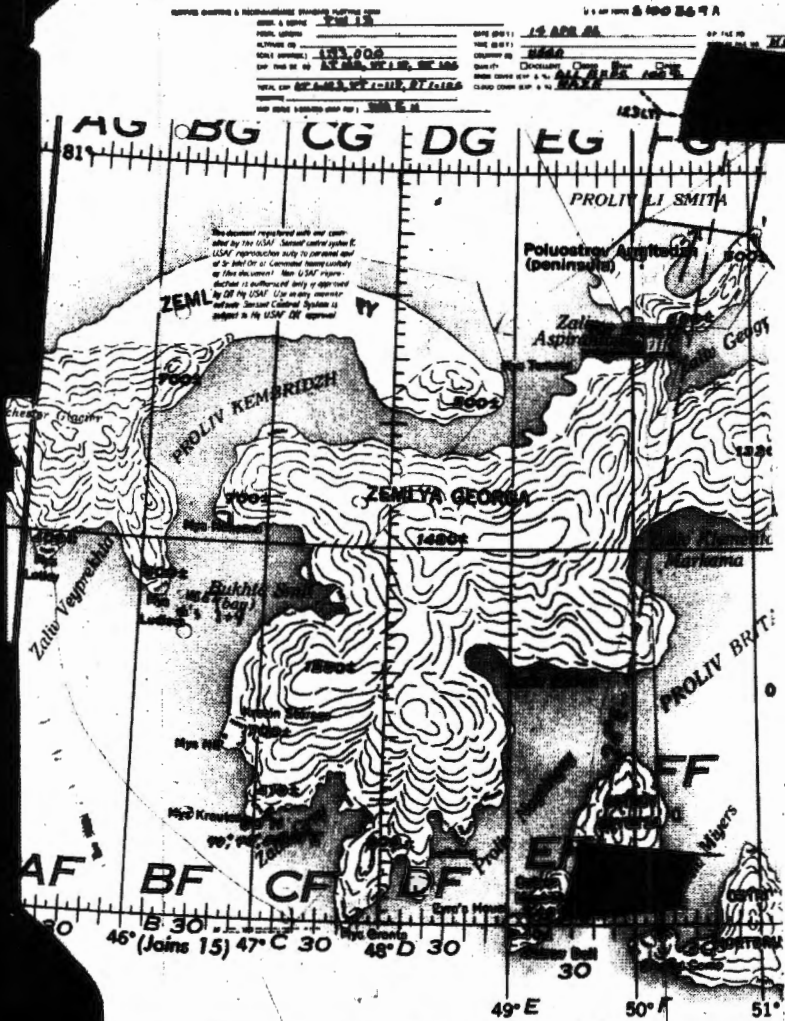


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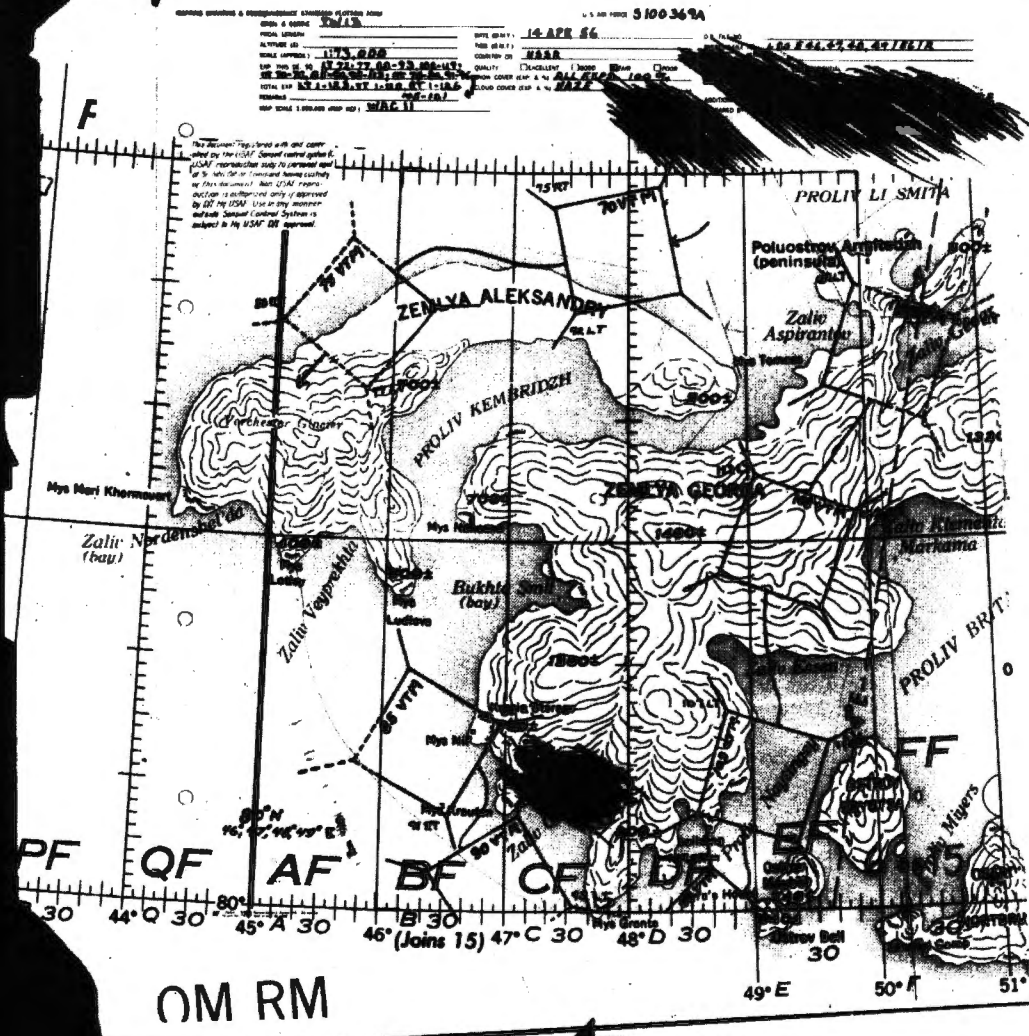
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U.S. AIR FORCE 5100-34-9A  
 DATE: 14 APR 66  
 TITLE: 14 APR 66  
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 SCALE: 1:500,000



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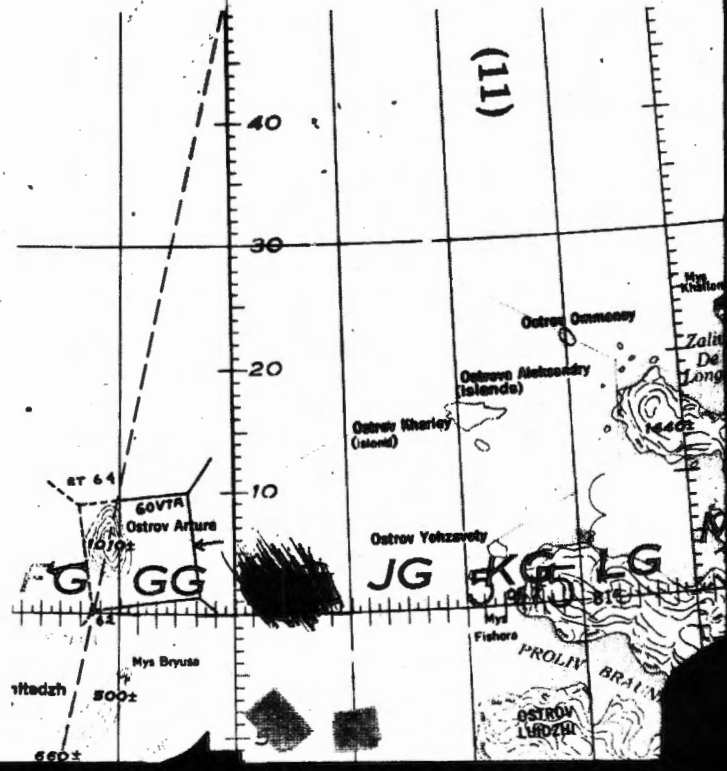
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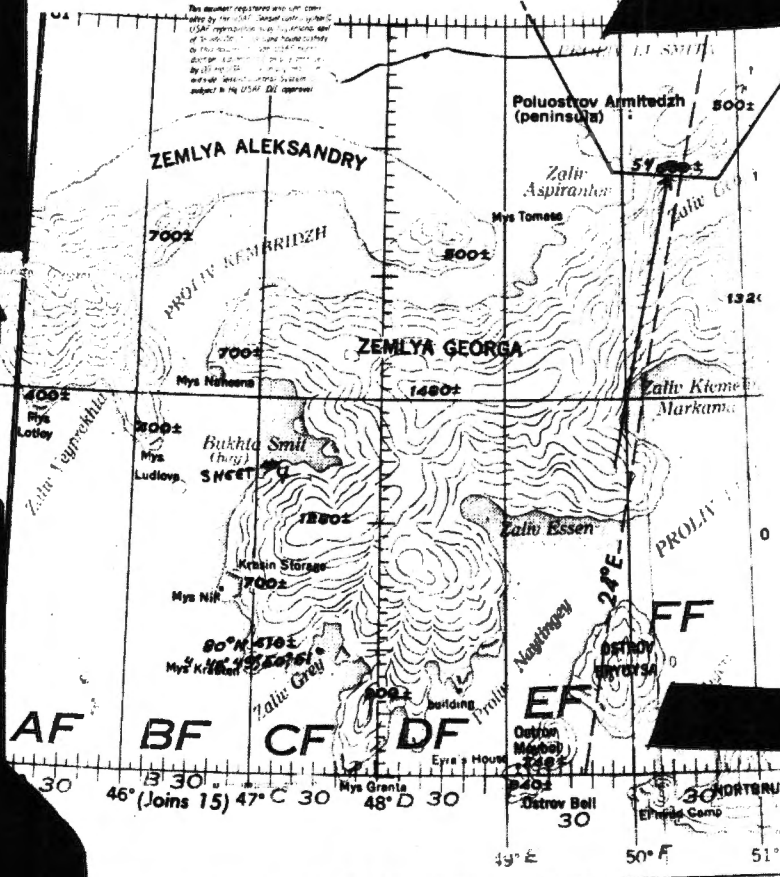
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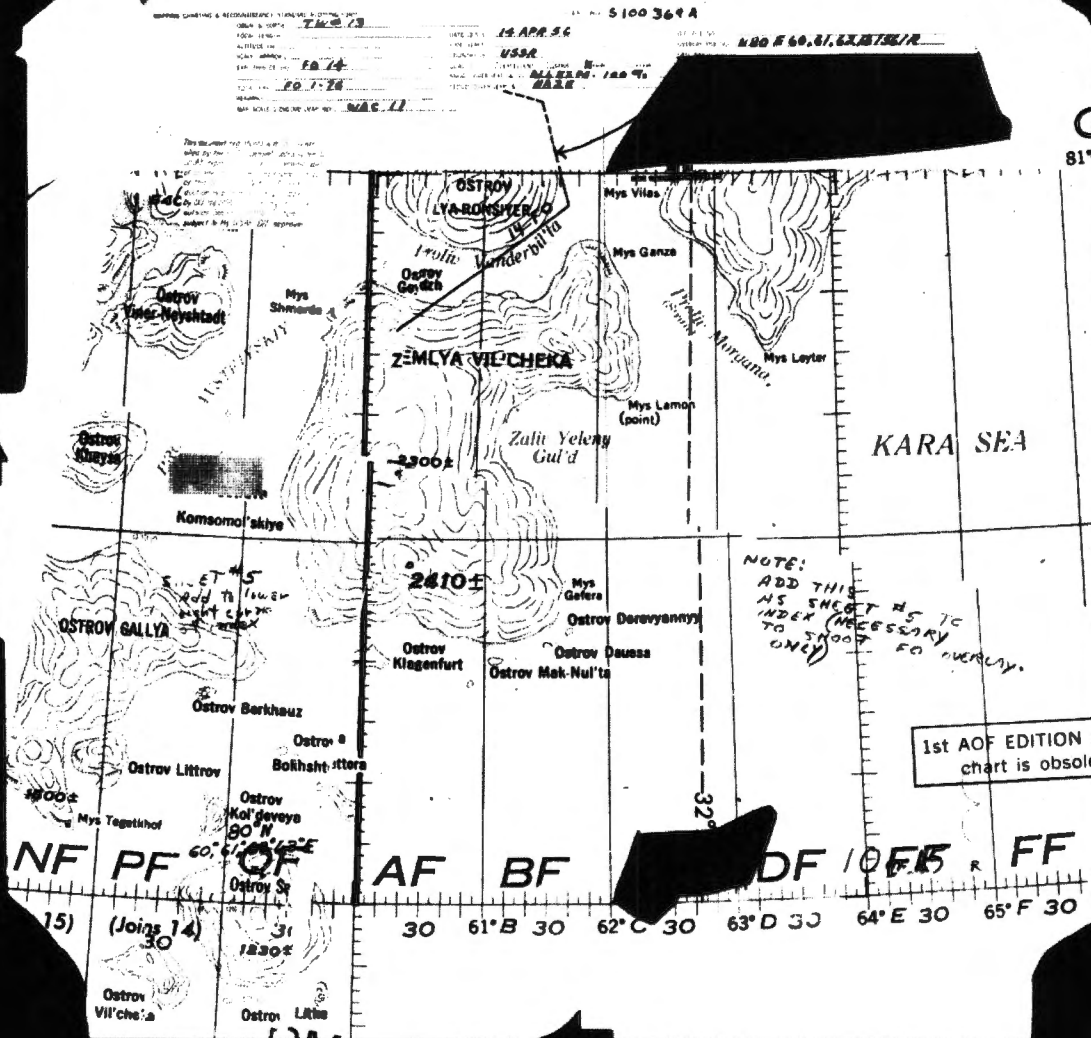
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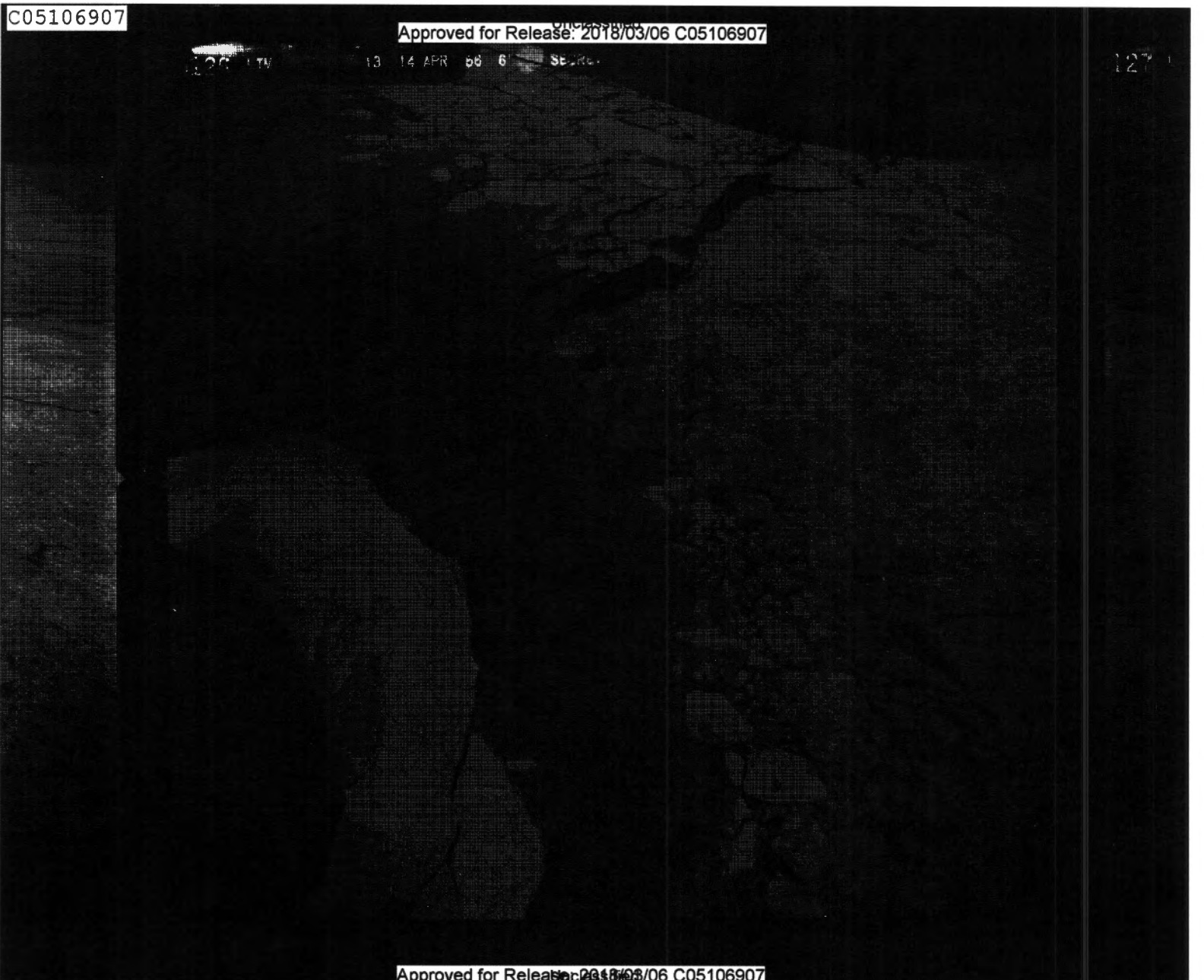
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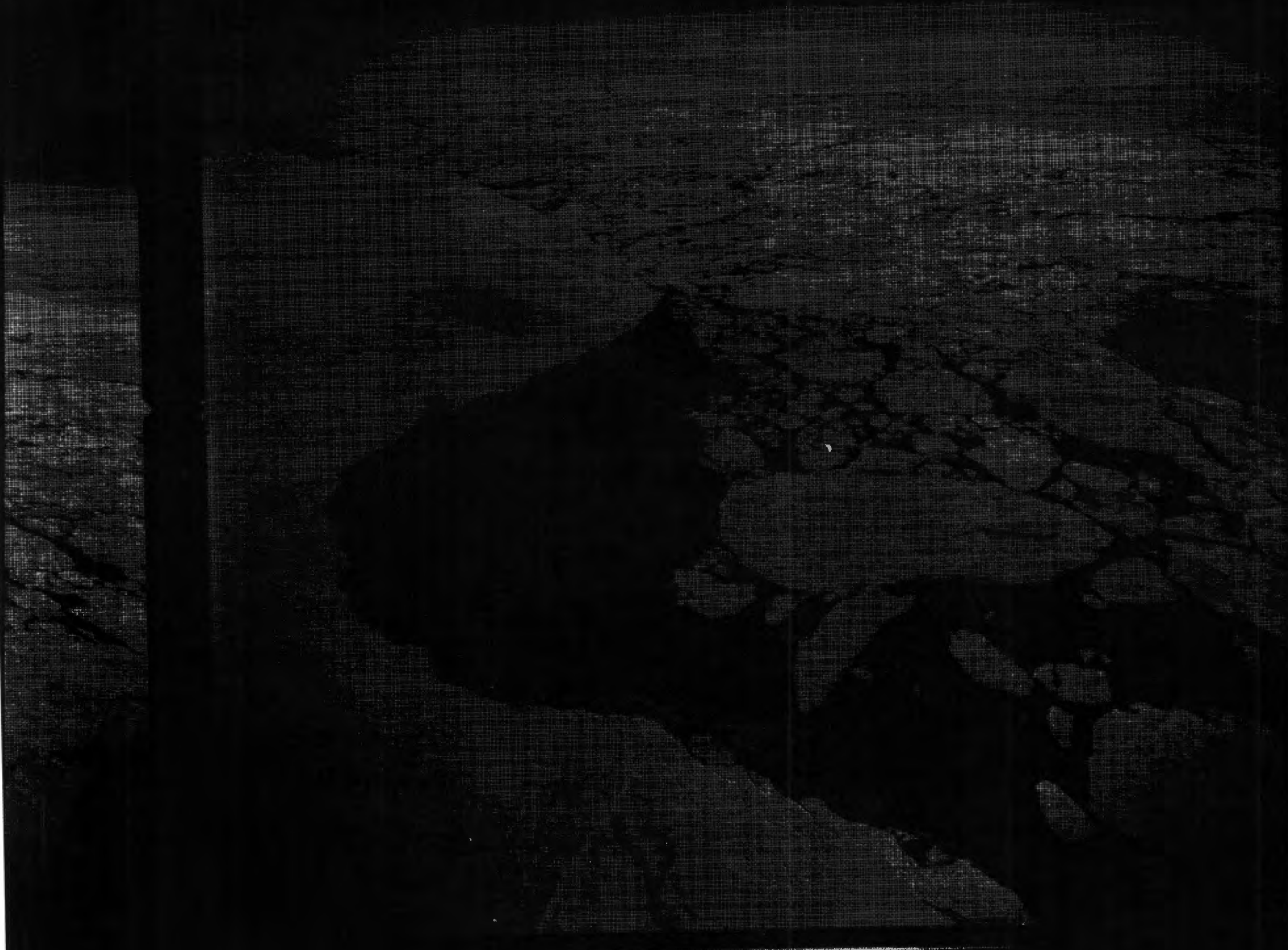
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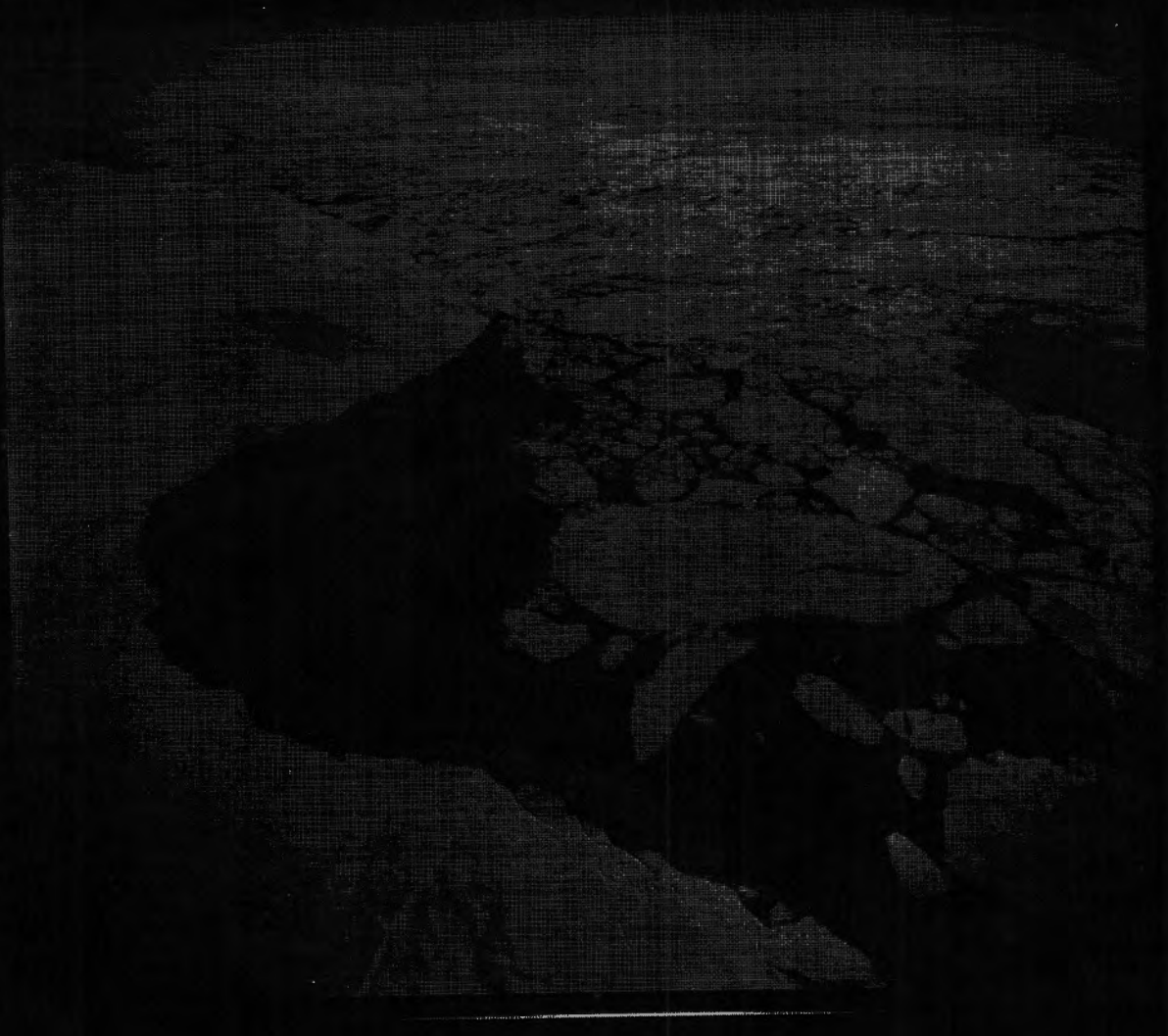
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