THE SOUTH POLE YEARBOOK
1957

First Book Written
and "Published"

SOUTH GEOGRAPHIC POLE

ANTARCTICA

With Best Wishes To
Cliff Dickey
Paul A. Siple

We are indebted to the
National Geographic Society
for the reproduction of our book.

We dedicate this first book
to be written at the South Pole

to the memory of

REAR ADM. RICHARD E. BYRD USN (RET)

It was he who first pioneered an air route to this spot on earth, and who was the senior leader of the national effort which brought us here to live as the first inhabitants of this station.

The following is his last message to this station written two weeks before he died and received here the day after the sad news of his death reached us on the 12th of March, 1957.

"To: Dr. Paul Siple
Delighted to hear all men safely at Pole and nearly all supplies in. Please convey my whole hearted congratulations to all hands at the station on their part in this splendid achievement. Am sending separate messages to CB's and USAF. Confident that under your leadership scientific achievements will be significant contribution to overall IGY program. Regret I cannot be with your history making sojourn. But at least U.S. Antarctic Programs will be represented in person of my deputy. My best regards to you and all men. Please continue to keep me informed. Warmest regards.

Richard E. Byrd"

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HISTORIC FORWARD

Dr. Paul Siple

The earliest explorers who turned their interest to the far south coveted the attainment of the South Pole. Ernest H. Shackleton pioneered a route to within 97 miles of the Pole before he and his companions Frank Wild, Lt. J. B. Adams RNR, and Dr. Eric Marshall had to turn back on 9 January 1909.

The first visit to the Pole by Roald Amundsen, Oscar Wisting, Helmer Hanssen, Sverre Hassel and Olav Bjaaland and dogs on 14 to 18 December 1911, achieved by admirable technical skill, was nearly eclipsed historically by Capt. Robert Falcon Scott RN, Dr. Edmund A. Wilson, Henry R. (Birdie) Bowers, Lawrence E. G. (Titus) Oats and Edgar Evans who reached the Pole the hardest of all ways - pn foot. These plodding determined men arrived only a month later than Amundsen, 18 January 1912, but perished before they could retreat to their base at McMurdo Sound.

Richard E. Byrd, first to utilize mechanical aid, flew to the South Pole on 29 December 1929 with his companions Harold I. June, Bernt Balchen and Ashley C. McKinley. Although they did not land at the Pole they did land at the foot of the Queen Maud Mts. to refuel on their return. In 1934 Byrd wanted to establish a small station at the Pole, but he had to reduce his plans because cargo planes were not well enough developed to freight in the necessary supplies. He had to content his ambition by pioneering the first inland wintering station - the Bolling Advance Base at 80°S, 165°W, where he wintered in 1935. Five years later Dr. Thomas Poulter, who came south with Byrd, built a gigantic wheeled snow cruiser expressly to carry and serve Dr. F. Alton Wade as a base at the Pole. It was underpowered and didn't get to test its ingenious crevasse crossing techniques which is the great problem for any over-snow approach to the Pole.

Shortly after the planning of the IGY began about 1952, the U. S. National Committee of the Academy of Sceince proposed extra effort in the Antarctic. As the plans developed the desirability of a station at the Pole became great. At first the impractical overland freighting of supplies appeared to be an impossible handicap. Then it was that the U. S. government accepted the technical challenge to establish the Pole Station by air. The responsibility was given by President Eisenhower to the Defense Department with the U.S. Navy as the executive agency.

It was ont thing to accept responsibility to buils a Pole Station and another to do it. Backing out was not easy for the USNC-IGY was permitted to assure the CSAGI (The International Committee for the IGY) that the U.S. would build a South Pole Station, and that organization turned down a similar U.S.S.R. proposal unknowingly made shortly after the U.S.A. made its offer. Many involved in the U.S. plan to build an IGY station at the South Pole were unaware of or underestimated the difficulty of the feat.

The Defense Department sought Adm. Byrd's Advice and appointed him OIC of the U.S. Antarctic Program, and Byrd recommended to the Navy Department the selection of Capt. George Dufek as a Task Force Commander for the big Antarctic Project.

From the early days of tge planning of the South Pole Station, the USNC-IGY, Adm. Byrd and the Navy virtually drafted me into the post of leader of the first wintering party at the Pole. My services were loaned by the Department of the Army for the purpose at the request of the Department of the Navy and the Department of Defense. Later because of the divided responsibilities for scientific program and technical support, I was named as Station Scientifiv Leader and detailed to the Pole Station as part of my responsibility as Deputy to Admiral Byrd, OIC, USAP.

To establish the South Pole Station the Navy had to build an elaborqte base at McMurdo Sound a year ahead of achedule in order to prepare fpr USAF cargo planes assigned the task of fyling in the station. This meant that design, selection and procurement of houses, equipment and scientific instrumentation had to be largely completed a year and a half to two years before the South Pole Station was completed. An elaborate system for IGY and intergovernmental planning which involved literally thousands of people got the South Pole Station planned.

It was much more than a year later before either the IGY or the Navy seriously got around to considering who should man the station.

Strange as it may seem, in contrast to the manner Antarctic expeditions had classically been organized by those who were to live with the expedition the current ANtarctic actiuities and the South Pole Station as an example was largely planned by men who had no intention of visiting let alone living at the Pole. When I left the states on October 5, 1956, to come to the Pole with the Advance Party I had met only four of the IGY members to come to the station and did not even know by name most of the rest. Although the Navy personnel had been mostly selected, Dr. Taylor and I were the only ones to meet briefly before leaving the states.

So it came to be. Out of the concepts and plans involving a multitude of people and many millions of dollars and thousands of man-hours of effort we who were thrown together by fate have lived through an enjoyable first year at the Geographic South Pole.

Six of our members (Floyd, Moose, Bob, Herb, Arlo and Oz) were present at a dedication of the South Pole Station held at McMurdo on 23 January 1957. Letters from Admiral Byrd, President Eisenhower, King Haakon of Norway and dignitaries of New Zealand and the United Kingdom were read and the station was named Amundsen-Scott IGY Station. It was difficult to understand that no official word concerning the naming or dedication was sent to either of the Station Leaders by IGY, OIC USAP or the Navy until 26 October 1957 when the original letters were forwarded to the Pole for permanent deposition. It was good to know so many people wished us well for the winter night which passed so pleasantly.

Of the four winter nights I've spent in Antarctica this was undoubtedly the most pleasant and smoothest. I've enjoyed this sojourn and look forward to continued friendly contacts the rest of our lives.

SOUTH POLE STATION CHRONOLOGY

October, 1956

17th First fly-in to McMurdo - one R5D with RADM Dufek

18th Fly-in remaining VX-6 aircraft, one P2V (which crashed, killing 4), one R5D, and four R4D

21st First Globemasters arrived McMurdo; Dr. Siple aboard the second one

25th First Beardmore recco flight, LTJG Tuck aboard

26th C-124 (General Mccarty) dropped platform of fuel (?) "at the South Pole", (press flight), Dr. Siple aboard

28th "Beardmore" base set up (first 4 men and minimum supplies - remaining men and equipment went in later); U.S.S. Glacier arrived at the ice edge three miles west of Cape Royds

31st R4D with RADM Dufek aboard made first South Pole landing, set up flag - on deck for 49 minutes; plane used 8 Jatos to break loose, staggered into the air on the remaining 7 bottles; temperature was -58°F.

November, 1956

1st to 3rd Pole stations plans postponed due cold weather at Pole limiting planes; AF Globemasters and RADM Dufek returned to New Zealand

4th Glacier departed McMurdo for Little America

13th to 14th AF Globemasters returned to McMurdo from New Zealand

19th to 20th Pole Station Advance Party (8 men, 11 dogs) landed on polar plateau, about 8 miles from the geographic Pole; LTJG Tuck in charge of survival and dog team

22nd Four of Advance Party (including LTJG Bowers and LTJG Tuck travelled to Pole by dog team as weasel down

25th Weasel batteries finally dropped successfully; T/Sgt Patton parachuted in

26th Weasel party arrived at Pole; two R4D's arrived with additional 10 men of construction party; first Jamesway erected

27th Second Jamesway erected

December, 1956

1st Last of construction party and Dr. Siple arrived at Pole; LTJG Tuck returned to McMurdo

3rd Garage-head foundation begun

4th First P2V-7 arrived at McMurdo

6th First P2V-7 landing at Pole, departure delayed due engine trouble; head shell complete; most of P2V crew slept in head (not yet inaugurared as such).

7th Garage shell completed; messhall foundation finished

8th P2V-7 departed Pole; messhall shell completed

9th Science building foundation begun

11th Delivery og IGY gear begun

12th Generators installed in garage

15th Science building and inflation shelter shells completed; last Pole drop, C-124's diverted to Byrd Station to drop badly needed fuel; Christmas tree delivered

15-17 Garage and main st fuel caches built

18th AF planes returned to New Zealand due deterioration of ice runway and lack of avgas

20th DF2 ships arrived McMurdo Sound - including Nespelen; aurora tower begun; formal flag raising on Pole on top of garage

23rd aurora tower and shell completed; rawin tower begun

24th First 8 of construction party flown back; spectacular halo, sun dogs, etc.; DF2 Pole personnel from Nespelen arrived NAF McMurdo

27th Burlap on main tunnel

28th rawin tower completed

29th Eight wintering personnel (LTJG Tuck, Dr. Taylor, Brown, Dickey, Segers, McPherson, Waldron, Johnson - and Bravo) arrived via two-hours overdue P2V; Eight construction personnel departed

31st First winds greater than 20 knots

January, 1957

2nd Parmanent galley inaugurated

3rd Seven of the eight rawin dome sections erected

4th Last seven of construction party departed; Pole population now nine men, one dog

7th Flowers and Guerrero arrive Pole

8th Hough arrives Pole

11th Standard met thermoscreen set up - previous use of home-made shelter gave erroneous temperatures

12th Small Jamesway moved from in front of messhall to present location

16-18 Tunnel along grid east side of science building completed

18th First 30K-J transmitter on the air

25th Bulldozing of snow ramp along north tunnel wall begun

28th Garage front tunnel completed

February, 1957

1st Seismic tunnel digging begun; last whole cigarette smoked; all hands on alert for usable butts - Segers gives up trials tea and coffee grounds in his pipe after about two puffs

4th D-2 final drive bearing froze, cat dragged in from runway to garage

10th Resumption of airdrops, mail bag burst in mid-air

12th R4D brings Havener, Osborne, Benson, Hansen, F. Johnson, Landolt and Remington; Brown evacuated; news of dedication ceremony and station name brought by newcomers, but no official word.

13th D-2 back in operation

20th Roof trusses for barracks drag 25 miles back toward McMurdo

21st Last airdrop

22nd Roof trusses hauled in with weasel

25th Large Jamesway taken down, foundation and deck for barracks completed

26th Barracks shell completed (temparature about -62)

28th Ionosphere mast raised

March, 1957

2nd Emergency Jamesway erected

5th Jamesway annex completed

7th Tunnel lights completed and turned on

11th C-3 in operation

12th Flag half-masted in honor of RADM Richard E. Byrd after receipt of news of his passing

15th aurora domes installed

19th Seismic tunnel completed; observatory shell completed

21st Jet Heater moved up into aurora tower

22nd Sundown

26th First rawinsonde balloon sent up; tunnel and cache system completed

April, 1957

1st Snow mine begun

2nd the D-2 died

7th Photo lab begun

17th Cold lab begun

May, 1957

2nd Snow mine winch in operation

8th Star sights begun to pinpoint station's position

12th -100.4°F.

14th total lunar eclipse

26th Aurora tower guyed (45 knot gusts)

29th Preways substituted for Jet Heater in aurora tower

June, 1957

22nd Midwinter

29th Station location determined to be 2,400 feet on a bearing 324° grid from the true Pole

August, 1957

14th Bravo one year old, 106 pounds

September, 1957

16th First glimpse of sun; center still about 3 degrees below horizon

18th -102.1°F.

23rd Sunrise

October, 1957

1st First fly-in to McMurdo

6-8th U.S.S.R. satellite No. 1 monitored

17th First drop - mail

23rd Partial eclipse of sun

26th P2V-7 (Crd Coley) arrives with 5 of DF3 personnel - Dr. Houk, Berg, White, DeWitt, and DuBois - plus phot Conger and three passengers; engine troubles

27th First it was the port engine, now it is the starboard (P2V-7)

November, 1957

7th First R4D-8 half way up Beardmore, then to Liv on one engine

8th Second P2V-7 on way Pole from McMurdo carrying replacements IGY when starboard engine caught fire, plane returned McMurdo

AUTOBIOGRAPHIES

ROBERT FREDERICK BENSON

Robert Frederick Benson, Bob, birthday on 3-16-35, permanent address is 5232 Lochloy Drive, Minneapolis 24, Minnesoat. Before going south for the winter I was living with my parents, Mr. and Mrs. James M. Diment at the same address. I have two brothers; Carl Sidney Benson Jr., who received a master's degree at the University of Minnesota and is presently studying for his doctor's degree at Cal Tech after spending four seasons in Greenland as a glaciologist. Burton Allan Benson, a graduate mechanical engineer from the University of Minnesota now doing research work at Minnesota Mining and Manufacturing Co.; and one step brother, James M. Diment Jr., who received his degree in law and is now practicing in Minneapolis.

I have been in scouting since the age of 12 and became an Eagle Scout on June 22, 1950. Graduated from West High School in Minneapolis in June, 1952. Earned two letters at high school in swimming. Worked for the Minneapolis Star and Tribune from the age of 12 until my senior year in high school as a paper boy. Enrolled at the University of Minnesota in the fall of 1952. Major subjects were geophysics, physics, mathematics, astronomy, and geology; major sports was swimming (backstroke) in which I earned two letters.

Four of my summers were spent working at various beaches in Minneapolis as a lifeguard, and one summer dropping small pieces of paper from the ceiling of the university basketball arena as part of "Operation Paper Drop" being conducted by the research department of General Mills, Inc. During my senior year at the "U" I worked for the astronomy department under professor Willem J. Luyten. The job included measuring star motions and operating the telescope during the evening classes.

I was working toward my Master's degree in physics when I was informed of the opening at the South Pole Station. On October 29, 1956, I left for Boulder, Colorado, where I received my training for my ionosphere work at the South Pole IGY Station. I arrived at McMurdo Sound on January 21, and at the South Pole on February 12.

My job at the Pole Station is to work with Willi Hough on the ionosphere and seismology programs during this first phase of the International Geophysical Year. I have also been assisting with the aurora observations.

Upon returning to the states I plan to resume my graduate studies at the University of Minnesota.

CLIFFORD ROSS DICKEY, JR.

To start with most people are born; this happened to me one January 24th, 1929, at San Diego, California. Shortly thereafter, we moved to Sierre Madre, California; later on we moved again to my parents' present address: 7442 Owensmouth Ave., Canoga Park, California. It was here I attended both elementary and high school, graduating from the Canoga Park High School in January of 1947.

January, 1947, saw me join the Navy, and after going through Boot Training at San Diego, California, I went to ~~the~~ Treasure Island, California, for a year of training at the Electronics Material School there. Completing this brainwashing course in April, 1948, I got my first job aboard the "Galloping Ghost of Saki Coast", the U.S.S. Agawam AOG-6, whose home port was Agana, Guam. From this Beautiful South Seas home port we managed somehow, in the course of hauling Av-Gas to other beautiful south seas islands, to visit Saipan, Truk, Iwo Jima, Okinawa, Peleu, and Yap. Then miraculously got some good liberty ports Yokusuka, Japan, and Shanghai, China. This was too good to last --- and didn't --- after returning to Guam, we sailed for the ship yeard in Long Beach, Califonia, arriving there in July of 1949.

Re-enlisted at San Diego, California, in December, 1949, after which the Navy gave me a free all expense paid trip to Kwajalein Island, another beautiful South Seas Island, this one shaped like a boomerang 1/4 mile long, 1/2 mile wide, and seven feet high, with excellent fishing, swimming, and rainy weather -- also hotter than ----- er --- Guam.

Leaving this paradise (with great joy) in May, 1951, I went to Pearl Harbor, Hawaii. Here at the Naval Communications Center I worked about a year at the Terminal Vault, an overgrown telephone exchange, which had, along with much equipment and miles of wire, no windows. After a year of not knowing much about daylight, I was transferred across the street to be in charge of a small Transmitter Station (across from the Sub Base, Pearl). This once-in-a-lifetime excellent duty lasted a little over a year, and from here it was back once again to Ike's Atoll.

Arriving for what was calle' shore duty, I wound up in the middle of the desert at Sandia Base, Alburquerque, New Mexico. This was the best ARMY base I ever had duty at. Here I attended various schools and spent three weeks TAD in Boulder, Colorado, where I met Jean. We were married in Alburquerque, March 6, 1954.

September, 1954 found Jean and I at Lake Mead Base, Las Vegas (pronounced "Lost Wages") Nevada. Here on July 25th, 1955, John joined the family after a night flight by "The Stork".

Leaving this "Desert Oasis" in April, 1956, we arrived at Davisville, Rhode Island, where MCB Special Detachment Bravo was undergoing "rigorous training" for their future duty in the Antarctic.

Leaving Davisville with a sigh of relief I reported aboard the U.S.S. Nespelen AOG-55, another all expense paid trip, this time through Panama, Tahiti (isn't that so Doc), and New Zealand, and on to McMurdo and further to the South Pole Station; this is a place that's a long way from any place.

Plans for the future include GOING HOME, 9 more years in the Navy and Siesta on a nice warm sunny beach.

The following addresses are for personal use to find out where I may be in the years to come, not for use by the F.B.I., Navy Department, Senate Crimes Investigation Committee, or the like.

Mr. and Mrs. C.R. Dickey
7442 Owensmouth Ave.,
Canoga Park, California
(My Parents)

Mr. and Mrs. G. L. Palmer
1185 Elbur Ave.,
Cleveland 7, Ohio
(Jean's Parents)

EDWIN CALVIN FLOWERS

I, Edwin C. (for Calvin) Flowers, made my prophetically inauspicious entrance into this world January 13, 1927; the 3rd of six children born to John W. and Margaret Bentz Flowers. I attended elementary and high school at Hershey, Pennsylvania, graduating in January, 1944, and immediately entering Hershey Jr. College. In the fall of 1944 occurred one of the significant phases of my life. I decided to enroll at Manchester College, a small church school in northern Indiana. While making acquaintance with Calculus and Physics and Introduction to Literature I also made the acquaintance of a pretty freshman, Louise Frantz by name (more of her later). During Christmas vacation time of this year being in the proper frame of mind (slightly insane), I and a school buddy enlisted in the Navy. Less than two weeks later, January 7, 1945, to be exact, we were duly inducted and sworn in and soon found ourselves on a crowded and dirty train (this is written with due malice to the Lehigh Valley RR) headed for Sampson, New York where I spent 16 miserable weeks of boot training. After Sampson came Aerographer's school at Lakehurst, New Jersey, followed by duty at Alameda, California, Orote airfield on Guam, and on the USS Antietam (CV36). I complained not when on July 21, 1946, I was mustered out. After working around Hershey for a few monthes, being a crazy mixed up veteran (I even collected a little 52-20), I decided to attend a baseball tryout school in Greenbrier, Arkansas. This was the culmination of a childhood ambition, but I soon discovered my talents were greatly self-overrated. Nevertheless, this particular season was a happy one and I stayed on at Greenbrier picking cotton and chopping wood for a livlihood, and playing ball with the local team. But baseball is seasonal and I returned to Hershey to eork with an electrical construction company until the fall of 1948. Re-entering school was now of prime importance and so I returned to Manchester for the winter semester. By some momentous stroke of luck the young lady whom I had met there four years previous was still about, still single and still amiably inclined as far as I was concerned and could determine. Rather than let romance interfere with higher education we were married August 12, 1949, and my schooling progressed so rapidly and well thereafter (whether in spite of or because of I've never determined) that they allowed me to graduate with the class of 1951 with a degree in secondary education, majors in social studies and physics, the diploma says. That spring, however, I decided to join the Weather Bureau rather than teach, a decision I've never regretted. So on July of that year our small family - daughter Janice Lee was born April 20, 1951 - headed for Washington, D.C., where I went to work at the Weather Bureau Analysis Center as a map plotter. After a year of this I transferred to Scientific Services Division, presently known as the Office of Meteorological Research also at the Weather Bureau Central Office, and there I remained until my departure for Antarctica. During this time I was studying Meteorology at the

Graduate School, Dept. pf Agriculture and after what seemed like an unbearably long time received my professional appointment as meteorologist. Things at home were progressing slowly but surely as evidenced by the birth of our second daughter, PAtricia Louise, on September 23, 1953. In this time we also found it necessary for greater peace of mind to move from our apartment in Hyattsville, Maryland, to our own home in nearby Kensington. In the spring of 1956 after a long period of discussions with the family, all of them friendly, I volunteered for a part in the IGY Antarctic program, and very soon I was working with Paul Humphrey helping to prepare our operation down here. Wjile I'm adventuring, my family, Louise, Janice, and Patty, are living in Sebring, Florida, where from all ham reports they are thoroughly enjoying it. Plans for the future include enjoying the family for an interrupted period in Florida, then return to full-time enrollment in graduate school.

My job here is meteorology and with the help of Floyd, Herb and John we are primarily concerned with the collection of as much data as we can physically obtain. For this purpose we are loaded with electronic equipment to probe the first 20 miles of our atmosphere to learn its temperature and winds; radiation instruments to measure the amount of lon- and short-wave solar and atmospheric energy that comes to us and also the amount that is lost by the surface; wind and temperature sensing systems to measure these elements in the lowest ten meters of the atmosphere. We are also collecting samples of snowfall for melting and future chemical analysis; air samples for the determination of its carbon dioxide contne; and snow replicas. The main significance of all this data collecting will probably be forthcoming in the years ahead when it can be looked at rationally and compared with data collected at the other Antarctic stations. An important find, and one that is currently being discovered, is that of the nature of the circulation about and above the continent and its adjoining oceans, knowledge hitherto only speculated upon. This is a very brief resume of our reason for being here, but one which I believe is sufficiently important to justify any expense incurred.

My home addres is:

4408 Colfax St.,
Kensington, MD.

JOHN FRANCIS GUERRERO

My father, John D. Guerrero, met my mother, Bozena Tomankova, in Pennsylvania. A year later and three thousand miles away, in San Jose, California, they named their new son John Francis on October the fourth, 1934. My entrance into this, the best of all possible worlds, was not celebrated on a National scale. Other members of my family are Mary Ann, presently in college, and Dan, who has just jfinished high school. Our home can be found at 1506 Fremont, Sunnyvale, California.

My early life was spent on the familt farm helping my father. Most of the work concerned the main crops, which were prunes and apricots, and taking the sides of hundreds of smoking smudge pots in their battle against Jack Frost. Cherry and peach trees gave our farm a colorful and fragrant setting which many artists set to canvas.

After high school, I went to San Jose State College majoring in Electrical Engineering. While there I worked on the final development of the linear accelerator at the Hansen Laboratories of Stanford University. My part time employment I continued from high school days, working as a mechanic and tow car operator and occasionally as an attendant ambulance driver.

Twi years later, in 1954, I went to Fairbanks to attend the University of Alaska. While there I drove the local volunteer fire truck. In addition to my studies, I operated my own business - that of aircraft radio service. Other electronic's work at this period consisted of the maintenance of the communications system of the Alaska Territorial Police and as acting chief engineer of a local TV station on an emergency basis. Studies were interrupted for several summers and one entire semester to work as a radio engineer for General Electric and as an electronics supervisot on America's outermost line of radar defense, the "Dewline". The semester that I was absent from my studies was to fulfill a request of private contractors to GE for an engineer to act as technical legal representative in liasion with the Air Force. Communications problems on these various assignments included the installation of almost all types of voice, teletype, and navigational radio equipment. The big attraction which took me from Alaska was an offer by the IGY to go to the South Pole.

My hobbies consist of amateur radio, automobile racing, and flying. The call letters of the amateur radio license issued to me are KL7BNJ. In addition to my amateur license, I hold a First Class Commercial Radiotelephone License, with special endorsements, which include radar. As for the interest in racing, most of my time is devoted to building engines. After spending several hundred hours flying various types of aircraft ranging from Cubs to DC-3's, for some peculiar reason unbeknown to me, I have never soloed. To solo, and to get back to a very favorite racing engine, is becoming an obsession with me now that the rising sun shows that it will be a short time before the planes lands to take us home.

HERBERT LAUGE HANSEN

Herbert Lauge Hansen; age 29; born 17 August 1927; mother Mrs. Minnie Hansen; my and her address, 719 So. 9½ St., Nebraska City, Nebraska.

Attended grammar country school for 8 years: 1933-41.

Attended Nebraska City High School for 4 years: 1941-45.

Served USAF from 17 Sept. 1945 to 3 Sept. 1948 as weather observer and weather forecaster, in U. S. and Japan.

Attended U. of Omaha and U. of Nebraska: 1949-53. Major geography.

Had position with USAF Aeronautical Chart and Information Center (USAF's mapping agency) from April, 1954, to March, 1956.

Transferred to U. S. Weather Bureau, March, 1956, for trip to Antarctica with IGY.

Arrived Anatrctica 24 January 1957.

Arrived South Pole 12 February 1957.

Duties at South Pole: take upper air soundings; surface obs.; and other general duties.

Future plans: will probably leave South Pole in November or December, 1957. Hope to stop in New Zealand for a few weeks; go home to Nebraska for a vacation; and from then on I have no idea what I will do, since I will have completed my three lifetime ambitions which have been to learn about weather, learn about mapping, and to go to the South Pole.

MELVIN CHARLES HAVENER

Melvin Charles Havener - age 21, born March 7, 1936 in Council Bluffs, Iowa
Address - RFD Route #2, Glenwood, Iowa
Folks - Mr. and Mrs. Gilbert I. Havener, same address

When I was 5 years old the family moved to the country near Bouncil Bluffs and two years later moved to Portland, Oregon. We returned to our present address after three years in Portland, and it is here that I attended country school 'til 8th grade and later graduated from Glenwood H.S. in 1954.

I worked on the farm while going to high school and until the time I came in the Navy (August 30, 1954). The Navy training started with boot training at Great Lakes near Chicago, Illinois and from there to Class A mech school in December 1954. In May, 1955, I went to Davisville, R.I., where I joined MCB #4 and a month later was shipped to Port Lyautey, Fr. Morocco. After stateside leave in December, I returned to Fr. Morocco to join the Public Works there.

In May, 1956, I received orders for DE II and returned to the states for leave and joining the outfit. I was one of the rear-echelon group which remained in Davisville taking care of last minute supplies and their displacement. In October, 1956, I headed for San Diego for transportation to Little America V. The U.S.S. Curtiss (AV4) departed on 27 December 1956 and stopped in Wellington, N.Z., for 3 days before arriving at L.A.

I stayed at Little America until notification arrived that I was to replace the mech at the Pole Station. From Jan 9 until Feb. 12, I was at McMurdo waiting for a flight to the Pole.

My job here is mechanic and driver with a work space consisting of most of the garage building. My room isin the first cubicle on the east side of the Clements hut.

Future plans are undecided. My three choices consist of: staying in the Navy, taking up farming, or attending college.

WILLI HOUGH

On the 19th of September 1924 in Greenfield, Massachusetts, United States of America, Planet Earth, Solar System, a male child was born to Mr. and Mrs. William F. Hough of 35 Cypress Street of that town. He was named William Sigourney Hough.

C onsidering the means of the family I enjoyed a most pleasant growing up period. It included many opportunities for learning the practical skills required by life. I learned to swin, ski, skate, handle as well as build small boats, hike with back-pack, climb, camp, and make and read maps. Also I became familiar with music, religion, and mechanics while working my way through the public school system, the Sunday school of the First Congregational Church, and Troop Five Boy Scouts of America.

After graduation from High School and a year with the Millers Falls Tool Company as an apprentice toolmaker and machine repair specialist, I left home. Being sworn into the U.S. Naval Reserve on 23 April 1943 I served six monthes in General Service, after which a series of events, mostly beyond any control of mine, catapulted me into the V-12 College Officer's Training Program. In spite of myself and the Navy I managed to make the inactive list in July 1946 after about a year at sea in the Pacific as an Ensign. My first ship was a destroyer, for my money the best type of ship in existence. My joy was short lived as the "can" was moth-balled and I was then assigned to an APA. The best things about duty on the transport were the visits to China, Japan, and some of the islands in the Pacific.

Two important things that happened during the period of active duty were: meeting Suzanne Ormonda Ninomiya in New York City, and obtaining Solo Pilot's privileges while at Kalamazoo, Michigan.

In August, 1946, Suzanne and I became legal partners and we went to Kalamazoo where I finished a second two years of college, obtaining a Bachelor of Arts degree with physics as the major subject. Western Michigan University, as it id now known, also prepared me for teaching sciemce and mathematics in the secondary schools of Michigan, and provided me with a teaching certificate good for five years. I decided to first try laboratory work instead of teaching.

First in Washington, D.C. for three years, then in Corona, California for four years, I was employed by the National Bureau of Standards and did research and development work on guided missles and mechanical-electronic systems.

Randall Dewey Hough, my son, was born in March of 1952 in Ontario, California where we lived while in Southern California. 1954 brought me news of IGY and the possibility of investigating the ionosphere over the South Geographic Pole. We moved to Boulder, Colorado, in the spring of 1955 and for thr first time since college I felt that I was on the right road for life, professionally, that is.

Between the time I arrived in Boulder and reported to the Radio Propagation Physics Division of the National Bureau of Standards and the time that the Greenville Victory left Davisville in November, 1956, I was kept very busy. The iono equipment for Pole and Byrd stations was given to me for testing, there were frequent trips to Washington, D.C. to the USNC/IGY, a two month visit to the Alaskan Iono stations, and two trips to Davisville. In between times I studied the upper atmosphere, geomagnetism, solar activity, and ionograms, from nearly all the high latitude stations, available at NBS Boulder.

My present hobbies and the ones I intend to concentrate on are: mountaineering (winter and summer which of course includes camping, hiking, and skiing), photography (as limited funds permit*, hunting of deer, elk, sheep, goats, and antelope, music, and later (especially if I become unable to do physically active things) oil painting and amateur radio.

As soon as possible upon my return to 60 South 31st Street, Boulder, I intend to enroll in the graduate school of Colorado University for advanced work, and resume employment with NBS.

EARL FRANK JOHNSON

This little story begins on January 12, 1934, in Bismark, North Dakota. We lived there for about one year then we moved east to Cleveland, Ohio. I remained in Cleveland until June of 1953 when I joined the Navy.

I first attended one of the Cleveland Public Schools and later transferred to a Catholic School where I remained until I went to Junior High School. During the time I was a St. Augustines I made my First Communion and Confirmation.

I received my diploma from Lincoln High School in June of 1952. While there I engaged in several extracurricular activities such as the Junior and Senior Orchestra and the Marching Band. Another activity was the Junior Red Cross, of which I had the good fortune to be elected Vice-President of the Greater Cleveland Chapter. I also attended the national Red Cross Convention in New York in 1951. Some of the topics we discussed at that time were, how to get the public interested in the Blood Donor and Civil Defense Programs.

Of all the activities while at Lincoln the one I enjoyed most was the Boy Scouts. While in the Scouts I attained the rank of Star Scout. I also had the privilege of leading a Troop of Scouts from Cleveland as Senior Patrol Leader to the Second National Boy Scout Jamboree in Valley Forge, Pennsylvania.

Working during my free time I held the typical American Boy's jobs, Paper Routes, clerk in a drug store, and stock boy in a grocery store. My high school courses were College Prepartory in nature. Upon graduation I was undecided as to what course my future career would take. While making my decision as to what my future vocation would be I worked on a construction crew that was adding a wing to the Cleveland City Hospital. I worked at this for a few monthes until I found an opening as a plumber's apprentice. I held this job up until the time that I joined the Navy.

The first three monthes of my Naval Career were spent at Great Lakes Naval Training Center. Upon completion of Boot Camp I was sent to Class A Utilitiesman School in Port Hueneme, California. My next duty station was Port Lyautey, French Morocco. During my year and a half tour of duty there I traveled around quite a bit and saw much of the countryside and a few of the old cities such as Fes and Marrekech, to mention a few. I also did quite a bit of hunting while I was there. We hunted boar, rabbit, partridge, and many others. Some of the other countries I've visited have been Germany, Azores and Bermuda, before returning to Davisville, Rhode Island.

While at Davisville, the Home of the Atlantic Seabees, I became a member of Ships Company and worked at an Experimental Water Purification Plant. The work in simulated field conditions and the testing of new and various types kept me busy until I volunteered for Operation Deepfreeze 2. This assignment led me to the Pole.

My future plans are to attend college taking a course in Wildlife management and to eventually get a job with the Fish and Wildlife Service.

WILLIAM FLOYD JOHNSON

It was on a cold winter's night, December 8, 1922, down in Ada, Oklahoma, that I wailed my first protest. My father was a traveling salesman and my mother had to hold up the proceedings for eleven hpurs and eighteen minutes, until his train arrived, to present him with his third son, weighing in at eight pounds, twelve ounces.

I grew up normally thru the stages of infancy, childhood, and juvenile delinquency. I finished Hi School in 1940 and enrolled in East Central State College, located in Ada. I attended classes there for a y ear while being employed on a part time basis as a photographer's assistant.

Late in 1941 I went to San Diego and worked in a defense plant. Early in 1943 I was driven out of San Diego by an overwhelming number of seventeen-year-old naval heroes just out of boot camp and went back to Ada, Oklahoma. After repeated offers from the local draft board I finally accepted a position as a photographer with the U.S.A.A.F.

Upon putting on the uniform and taking up the torch I developed a taste for gin and spent the next three years in an alcoholic stupor at such locations as Oran, Calcutta, Chengtu, Perth, Guam, Okinawa, and worst of all Hayes, Kansas. After I had finally subdued the Japs with my camera the government realized it might get al ng without my services and returned me to civilian status on December 5, 1945.

With the quest for greater knowledge being the foremost in my mind, I again enrolled in East Central State College for the Spring '46 term and developed a taste for bourbon, whiskey, and bridge. In the summer I decided that eating regularly was at least as important as a higher education and took employment as a truck driver on a dude ranch in Wyoming. Here I learned some of the ways that the higher income bracket pleasure themselves. Returning to Oklahoma in the fall I was employed as an assistant manager in a night club otherwise known as a "honky tonk". That winter, after taking a severe beating from a drunk, I reluctantly decided to leave the night club and again take up the quest for greater knowledge.

I enrolled in a weather forecasters course at Spartan School of Aeronautics at Tulsa, Oklahoma. For one year I studied the devious ways of Mother Nature and upon completion of the course put in an application for employment with the U.S. Weather Bureau. Not understanding why I was not called posthaste to Washington, I spent the summer of '47 in Gardner, Mass., fishing and building stoves for the Florence Stove Co. Still bewildered by the fact that the Weather Bureau could get along without me, that fall I journeyed to Las Vegas, N.Mex., and enrolled in Highlands U. Here I made a profound study of bridge and girls of Spanish descent. Under this rigorous schedule time passed rapidly until Feb., 1948. It was my day of glory. The Weather Bureau had realized that it could no longer survive without my services and I was called to Washington.

After plotting charts for the Extended Forecast Section for two years I realized that I was becoming round shouldered, near sighted, and not having the proper portion of fun, so I went out to Wake Island. Out on the island I became round shouldered and near sighted and didn't have the proper portion of fun while taking two rawinsondes per day. Upon returning to the states I learned that Weather Bureau had a desperate situation at Memphis so I rushed there after a sixs weeks vacation and spent three years improving the weather station there.

Durint this three years in Memphis I enrolled in Memphis State College and became married. With a full time job and a full college study load and a new bride I soon realized that I was overloaded and something had to go. After much deliberation I gave up the full college load and started taking courses at U. Tenn. Medical School. On the night of the final examination in calculus my wife presented me with a beautiful daughter and I will have to take calculus again. At this point I have eighty eight college hours and if I continue at the present rate I should have a B.A. by 1963.

Now I found myself with a wife, daughter, old car, no clothes and in debt so I decided to take a more lucrative position. In Feb., 1955, I had the R.C.A.F. fly me up to Resolute Bay, NWT, Canada, where I spent six weeks as a rawinsonde observer and ping pong player. About the middle of April, 1955, my journey continued and I went to Isachsen, NWT, Canada. This is a thriving community of eight men and two dogs located 680 miles from the north pole. Upon reaching Isachsen I was given the exalted title of Excutive Officer and a two grade r se which is what I came after anyway. My duties were driving tractors, building runways, erecting quonsets, washing fuel drums, inventorying stock, painting buildings, cutting and hauking ice for drinking water, shoveling snow for wash water, playing ping pong, operating the ham radio, and, if the weather was good and time permitted, taking rawinsondes.

While I was at Isachsen a rumor went thru the Arctic via a rumble in the permafrost that the Psychiatrists at Walter Reed were sending guinea pigs to the south pole. I sat at the ham radio continuously for seventy-two hours until I got thru to the boss in Washington and explainted to him that I had no tail and was sufficiently psychotic for thr trip. Due to the fact that the boss was thrilled speachless by my application and some local interference on the radio I did not get his answer until nine monthes later. However it all worked out all right in the end. I arrived at the south pole on Feb. 12, 1957.

As for the future. I still have thirty years to put in at the Weather Bureau until I reach retirement age. In that length of time there will be manned space satalites that will need weather men in them to watch the world situation.

I'll be there.

ARLO UDELL LANDOLT

I was born in Highland, Illinois, on September 29, 1935. This makes me 21 years of age throughout most of our Antarctic sojourn. I have lived the greater portion of my life on a farm approximately forty miles from St. Louis. My parents reside there together with a sister 12 and a sister 4 years of age. Their permanent address, through which, incidently, I may always be reached, is R.R. #2, Pocahontas, Illinois. A brother, 20, resides at 1522 Pine Street, Highland, Illinois.

My first school was a small country school where the attendance was never more than twelve pupils distributed throughout the eight grades. There were, including myself, two pupils in the graduating class. I was in attendance at this school, the IXL, for seven years. A great uncle now lives in this little old country school.

I attended high school at Highland, Illinois. Each day I rode a school bus the 24 mile round trip there and back. I never took part in sports other than intramural sports for two good reasons: 1) my interests lay elsewhere, and 2) I had chores to do on the farm when the teams were practicing. While at Highland High School I was a member of the Future Teachers of America and of the Future Farmers of America, holding offices at various times in both organizations. Members of the future teachers assisted the high school teachers in the classroom. I spent one year under the agriculture teacher and one year under the mathematics teacher. I had three majors in high school: mathematics, science, and of course English. I liked math and science the best and English and Physical education least. I won the Bausch and Lomb high school science award and graduated salutatorian of the class.

During the high school career, I was a member of the local 4-H club, the church choir, and the church youth fellowship.

In the autumn of 1952 I matriculated at Miami University, Oxford, Ohio, at the age of sixteen. Miami is one of Ohio's state universities with an enrollment of over 5,000 students. I roomed with a student from New Jersey throughout most of this period. I worked my way through Miami serving as waiter and busboy in the University dormitories, enjoying work in girl's dorms the best. I also did odd jobs around town, was dorm postman, and took the incoming dorm telephone calls.

At Miami I had a major in both mathematics and physics, with minors in German and English. I was elected a member of Pi Mu Epsilon, national mathematics honorary society. I graduated at age 19 in August, 1955, with a Bachelor of Arts degree.

In September 1955 I went to the department of astronomy at Indiana University as research assistant on the asteroid program. Work was begun on an advanced degree in astronomy. My second assistantship there had me assisting a professor in the reduction of his data on cepheid variable stars. The asteroid program consisted of spending

long cold nights at the telescope taking photographs of little bits of rock in interplanetary space not to be seen by the naked human eye. One more semester is needed to complete work toward the Master's degree. The German language examination has already been passed on the road to the Doctor's degree.

I plan to continue my studies upon my return from the Antarctic. Present plans for my Doctor's thesis call for research in a branch of stellar astronomy at Indiana University under my favorite professor.

Here at the South Pole I am engaged in no specific hobby. Aside from general reading, I am studying vector analysis, portions of astrophysics, German, and hope to review basic claculus and physics. If I have the time, I hope to learn a little French. All in all a busy winter ahead.

WILLIAM McPHERSON

Born November 1,1929. Parents: William Clifton McPherson and Virginia May (Ward) McPherson. Address: 117 Hope Ave., Longmeadow, R.I.

For the first five years of my life, we lived in Norfolk and then moved to New Jersey and finally to Staten Island where I spent the next ten years of my life. I started to school late at the age of eight because if illness and left school at fifteen to join the Merchant Marine. I worked for the Standard Oil Co. of New Jersey on the ships: Esso John D. Archebauld, Esso Bayonne, and Esso Baton Rouge.

The next in line for me was a short hitch in the U.S. Army Air Force where my job of "flight marcher" was to 'push boots'. After my discharge in April, 1947, I returned to the Standard Oil Co. and sailed first on the John D. Archebauld again and then on the Esso Candom. I sprt of got the idea that it was time to stop sailing tankers after the fateful night of November 2, 1947, when the William H. Holmsteqd collided with the Candom. It was a night of memories to last a lifetime.

After my nerves seemed once again normal, I decided to join the U.S. Navy. I enlisted on January 28, 1948, and spent the next three months at the Great Lakes, Illinois, training center. The next stop was the Naval Radio School at Norfolk, Va. I was then transferred to the U.S. Naval Air Station, Coco Solo, Panama, for a very wonderful tour of duty with Fleet Air Wing Three, but in 1950 the whole outfit was transferred to Quonset Point, Rhode Island. It was here that I met and married the former Miss Marie A. Brooks, the daughter of Mr. and Mrs. John Stanley Brooks of 117 Hope Ave., Longmeadow.

In April 1951 I applied for submarine duty and received orders for the Submarine School in New London, Conn. three months later. After completion of sub school, I was transferred to the U.S.S. Sea Poacher (SS 406) which was then in shipyard at Charleston, Va. After a short while the Sea Poacher returned to its home port of Ker West, Florida. During this time Marie returned to her home in Rhode Island to have our first born, Gail Marie, born on January 31, 1952. Gail and Mqrie arrived in Key West in March 1952 as I was trturning from maneuvers on the U.S.S. Odax during which we rode out two hurricanes on the surface in the North Atlantic. While the Odax was on a two week cruise to Gtmo, Cuba, we lost our second child.

Shortly thereafter I was transferred tothe U.S.S. Chopper for two weeks TAD orders. I did not know that I was in for experiences such as ramming the sea wall at the entrance of Harbor Key West, taking down angle of 32 degrees (normal 5-10 degrees), not pulling out until past the "Safe depth" for the boat, and finally ramming the sea floor so I was glad to get back aboard the Odax. In the fall of 1953, however, the Odax was scheduled to go to the Mediterranean, a trip which I did not care to make, but I soon found three very willing volunteers to change places with me.

In January 1954 we were again blessed with the birth of a child, William Clifton III, born on January 20. I then decided to put in for shore duty and worked first at the U.S. Naval Communication Station, Norfolk, Va. Later I put in for the Receiver Station at Northwest, Va., which was part of the same outfit. During the construction of the base (later called the U.S. Naval Radio Station (r)), Marie and I celebrated the birth of our third child, Daniel Stephen, born on May 30, 1955. After the commissioning of the base, I took over the job of training all radio personnel the technicalities of the new equipment (which I scarcely knew myself). By January 1956 everything was running smoothly, but in February, a notice came requesting volunteers for the Antarctic. After talking it over with Marie, I volunteered and orders arrived in April. We spent the next six months with Marie's parents in Rhode Island, and two months after our arrival, our fourth child was born, Cathy Lynn, on June 19, 1956. The next four months were spent in training and preparing for the trip south, and in October I departed for Norfolk, Va., to catch the U.S.S. Nespelen which was to take us to the Antarctic Continent.

We arrived at McMurdo Sound on December 24th and at the South Pole on December 29th, 1956. The rest you know. As for the future, I am looking forward to getting home and spending the rest of my time with my family.

THOMAS M. OSBORNE
First Class Builder - U.S. Naval Seabees

My full name if Thomas Monroe Osborne, 23 years old, born July 22, 1933, near Russell, Pennsylvania. I have a daughter Geraldine, by an early marriage, four years old, born on November 30, 1952. At the present time, she lives with my parents, Mr. and Mrs. Gerald M. Osborne, R.D. #1, Russell, Pennsylvania.

I've spent the majority of my life near Russell. Went to country school near there for four years, finishing up my Junior year in high school in Russell before quitting school in 1949. Finished high school in the Navy in 1953.

In July of 1950, I quit my job with Jamestown Sheel Partitions Co. of Jamestown, New York, to join the Navy on a minority cruise. Went to boot camp at Bainbridge, Maryland, and left there to attend Class "A" builder's school in Port Hueneme, California, in November. In February of 1951 I joined the barracks ship CBD-1521, in Davisville, Rhode Island, where I remained until becoming a part of MCB #7 in March, 1952. From Davisville with MCB #7, I left for Guantanamo Bay, Cuba, in May. October found me back in the states at Davisville,. January of 1953 found me on my way back overseas with the same outfit and bound for Port Lyautey, French Morocco. July I was back in Davisville, and in November back in Guantanamo Bay, later going on detachment to Saint Thomas in Virgin Islands in February, 1954. Returned to the states in July, and shortly thereafter was shipped to Port Lyautey until December when I returned to the states before going to Argentia, Newfoundland. October of 1955 I returned to the states for shore duty in Bainbridge, Maryland. From there on May 1, 1956, I became part of Operation Deepfreeze II. Left the states on October 25 bound for the Antarctic aboard the U.S.S. Nespelen, a tanker, coming by way of Panama, Tahiti, and New Zealand. Arrived at the McMurdo base on December 24 and handled dogs there until flying here on the twelfth of February, 1957.

My primary job here is as carpenter and builder. I sleep in the Clements hut, first cubicle on the east side. My work space, mainly, is the back of the garage where I've my bench and power tools. I've spent my spare time building small things for the other guys, working on my correspondence course, and building smoe model ships.

Future plans are not clear at the present time, being undecided as whether to stay in the Navy or return to civilian life.

EDWARD WADE REMINGTON

WHILE the first snow flakes scattered over Georgia in seven years, I was born in the Army hospital of Fort McPherson, on December 28, 1920. My father was a regular officer in the United States Army. In the course of his duties we traveled over most of the country, and in two overseas posts. The first of these was the Hawaiian Islands, where the only other member of our family was born, my sister Barbara. The Philippine Islands were our other overseas assignment. To digress here a moment, while in the town of Zamboanga, on the southern island of Mindinao, I became friends with the famous Moros. With them I sailed their colorful "vintas", fished with their circular throw nets, learned "bolo" fighting, and the thrills of cock fighting. The Moros were bever defeated by the United States when we fought Spain, and their "datus" (chiefs) never surrendered their right to polygamy. This is the only place under the American flag that it was allowed, and I managed to help it along. Sgt. Demou (Moro) of "C" of the 45th infantry wanted his sixth wife, so I helped him pay the price by giving him a hundred pound sack of rice. In this way I obtained an invitation to witness a Moro wedding, as a special guest; a sight seldom seen by white men. Company "C" of the 45th Infantry, I might add, is the only company of Moros in the world. Also while stationed in the Philippines I visited Borneo, China, and Japan during the years 1939-1940.

During my early years my desire was to become a submarine officer and this lead me to becoma a midshipman in the United States Naval Academy at Annapolis. I resigned at the outbreak of World War II, to join the Army Air Corps as a cadet. A year and half later and several crashes, five to be exact, I was commissioned a pilot. Flying the P-47's, known as the Thunderbolt, I fought against the Japanese in New Guinea in the South Pacific. Most of my missions were strafing, dive bombing, and a few escorting the "Jolly Rogers" in their B-24's. As luck would have it I never had the opportunity to score on any enemy fighters, except while they were on the ground, this being considered cricket, and sinking a few troop barges.

Retired from the Army for physical disability, I attended the University of Rochester in New York, for civil engineering. My first work upon leaving the University was with the U.S. Corps of Engineers, in conjunction with the Atomic Energy Commissions' secret underground works in Tennessee.

It was while serving in Tennessee that my five years of married life came to a close. My family at that time was composed of two daughters, Elaine and Lorreta. They are at present living with their mother in Atlanta.

Leaving the Tennessee I took over the management of my fahter's beef cattle farm that he had bought upon nearing retirement. The farm is located near the little town of Paris, Virginia, that George Washington and Lafayatte suryeyed in the hopes of its becoming one of the largest cities in the United States. In the course of a year I became acquainted with almost all twenty of the town's inhabitants. The old house had walls three feet thick, with pre-revolutionary locks on its massive doors. The farm's eastern boundary was a road and old stone fence that

Washington surveyed, or so the local historians told us.

Upon my father's sudden death the farm was sold and I took a position in Washington, D.C., with the Airborne section, Geophysics Branch, of the Dept. of the Interior. In the years that followed, I flew with this organization over most of the United States prospecting from the air with the magnetometer, the device that measures the earth's magnetic field. We also covered most of Alaska with the magnetometer and a specially constructed device for measuring the amount of radioactive material. Thus armed we could quickly find out the structure of the earth's underground rocks and minerals as well as any radioactive materials. After six years of this type of work I resigned my position as chief of the compliation unit of the airborne section, and joinrd the ground section. THis change was made so that I could do permafrost measurements at Point Barrow, Alaska. Not only did I do permafrost measurements, but spent as much time as possible with the Eskimos out on the sea ice, learning survival and the nature of the ice itself. While at Barrow I made the first duck count from that area for the Fish and Wildlife Service. A sand bar that juts out into the Arctic Ocean is one of the most famous duck shooting places in the world. Ducks by the millions fly over it each year, including some of the rarer types such as the Specticuled Eiders.

The last assignment was made upon the advisement of Capt. Richard Black, the commander of the East Base, under Admiral Richard E. Byrd, during the expedition of the U.S. Antarctic Service, 1939-40. Until my arrival at the South Pole Station I had never met Dr. Paul Siple. What his advice to me would have been I'll never know. Capt. Black also advised me to attend a naval radio school, in anticipation of an assignment in the Antarctic for the IGY. This I did by attending the radio school of the Atlantic Fleet Training Center, in Norfolk, Virginia. To my surprise I found that I was the first civilian ever to attend this school, and most likely the last. However the Navy treated me in grand fashion, even to the extent of arranging special plane flights so that I could check their MAD (Magnetic Airborne Detector) anti-submarine gear. This, of course, was the father of the magnetometer I had used so many years. Visiting every gaacier ~~ME~~ I could find in Alaska, flying over the North Pole, and other tasks, finally resulted in my assignment to the South Pole as glaciologist.

Some of the countries I have lived in or visited not heretofore mentioned are Canada, Mexico, Panama, Australia, Cuba, Fiji Islands, and many other Pacific and Sotuh Pacific places. A few of these were war time visits and the remainder because I l ve to travel and explore out-of-the-way places. This has happened by various means of transportation; from going first class to working my way. It has had its compensations in adventure, excitement and education; such as the time the Japanese blew up the Canton railroad station just prior to my arrival when they were fighting the Chinese before World War II. On the other hand it has had ebough loneliness and hardships, that I believe I might enjoy a married, settled life, in Uncle Sam's yard.

My main sport is hunting, from big game to birds. This sport I pursue wherever and whenever I am legally able. Deep sea fishing, flying, target shooting, judo, fencing, sailing, riding, and the training of fine hunting dogs round out the list of active sports I enjoy. The not-so-active list would include good reading, stamp collecting, gun collecting, and the companionship of men who enjoy action, and that have seen some of this old world.

My main non-professional interest is the conservation of our countries natural resources. NO, it is more than that for it is almost a religion with me. I am very active in the Izaak Walton League of America, and hope to continue my association when I return to the states. In this connection I have been working with over three thousands Boy Scouts of America, and I can certainly say the experience of working with the scouts has been rich and rewarding. In conversation I have had the privilege of meeting and working with what I consider some of the finest people on earth. Such men as Charles Lawrence of the Fish and Wildlife Service are a real inspiration. Todate I have written a few magazine articles on Wildlife problems that habe been presented in national magazines, and conservationist publications.

What are my future plans? Besides going to Africa to hunt for a couple of months if I find I won't starve to death in doing so; would be to work in the field of conservation. I have at present several offers from various conservation orgainzations that I might accept. Howvere the pull of the Antarctic is strong, and I would like to return. Pe haps a way might be found to do both, and if not in the Antarctic it might be in the Arctic. The urge to see new lands is still strong, although a little weaker than a few years ago, also, the length of tije I desire to be gone has shortened along with that.

After my father died, my mother purchased a home in Bethesda, Maryland. The address in fact is 9304 Cedar Lane, this is home to me, no matter what kind of ground, water or snow is underfoot. She has worked hard to make it beautiful, and I want to extend a standing invitation to everyone of my campmates here and now, to visit me whenever they are near. When and if you do arrive at the glass fronted house on Cedar Lane, don't ask what kind of a dog I have! He is a Weimaraner, right from Germany, and his name is Eric Von Du Bruck. Needless to say he is the apple of my eye. Of course I have grown fond of Bravo during our year here at the Pole, but Eric is "my boy"; so you're very welcome but leave your dog at home. Jack old man, please note.

CHESTER W. SEGERS

Chester W. Segers, age 30; born February 23, 1927 at Oneonta, Ala; present address 63 Clarner St., Pawtucket, R.I. Wife's name Phyllis Mae, age 25, born February 8, 1932. Children: Kathy, age 3, born June 28, 1954; Mike, age 2, born November 8, 1955. Parents: Mr. and Mrs. C. L. Segers of Miami, Florida. Phyllis and I were married February 14, 1954.

Before I joined the Navy, I went to school, worked for the Interstate Roofing Co., and farmed.

I joined the Navy Feb. 6, 1945, and took boot training at the Great Lakes Naval Training Center. After boot camp I went to Davisville, R.I., for six weeks of Seabee training from April 1 to May 19, 1945. I boarded the U.S.S. Hampton (APA 115), troop transport, after Seabee training, for transfer to duty at Pearl Harbor with the CB MU 523 Maintenance Unit for three months,. With the same unit I went to Okinawa on the U.S.S. Stokes (AK 67), attack cargo transport, with a week stopover at each of the Maarshall Islands and the Caroline Is. for recreation. I was stationed on Okinawa from August 1945 to March 1946. One of the most harrowing experiences was surviving the Okinawa Sept. 1945 typhoon which had winds of 120 knots. Also while at Okinawa a gas drum, which I was standing near, exploded and caused face and arm burns which put me in Field Hospital No. 7 & 8 for one and one half months. I rejoined my same CB unit after release from the hospital.

Around I March 1946 I transferred aboard the U.S.S. Alcor (AD 34), destroyer tender, as part of the ship's company. We then went to Japan, stayed there for about a month, and then returned to Norfolk, Va., via Pearl Harbor and Panama. The ship was de-commissioned, and I transferred to the Norfolk Receiving Station in June 1946. At the same time I shipped over for two years and took 60 days re-enlistment leave. After leave I boarded the U.S.S. Missouri (BB 63) in October 1946 for two years. While aboard I visited Cuba, France, Algiers, Portugal, Trinidad, and Rio de Janerio besides stateside ports. On one trip, the Missouri went north of the Arctic circle west of Greenland in Nov., 1946. I crossed the equator the first time on 11 September 1947 [illegible] on the way to and returning[illegible] trip from Rido de Janerio with President Truman, Mrs. Truman, and Margaret aboard. Just prior to leaving the Missouri in June, 1948, I shipped over for two more years which were spent at Gitmo, Cuba.

At the end of two years at Gitmo in June, 1950, I shipped over for six more years. During the first four years of this six year enlistment, I was on the following ships: U.S.S. Caloosahatchi (AO 98), a tanker, from Jan. 9 to Nov., 1951 -- traveled to Aruba, British West Indies, France, Portugal, Gibralta, and was in the Mediterranean for four months; U.S.S. Benework (APB 38), a self-propelled barracks ship, from Nov., 1951, to May, 1952 -- traveled to Norfolk, Davisville, R.I., and six months in New-foundland; U.S.S. Williamsburg (AGC 369), Presidental Tacht, from May, 1952, to Aug., 1954, at Wash., D. C. -- traveled up and down the Potomac River; and the U.S.S. Snadpiper (AMCU 38), a mine hunter, from Sept., 1954, to July, 1955, -- ship commissioned in Charleston, S.C. in Nov., 1954, and traveled to Key West, Havanna, back to Charleston, S.C., NYC, and to New London, Conn.

I transferred to Quonset Point, R.I., in July, 1955, for two years of shore duty. While at Quonset I played softball for the NAS galley. I voluntered for South Pole duty in February, 1956, and received my orders in May, 1956, to report to Davisville for training and instruction in the Antarctic.

I left the states 27 Oct., 1956, on board the U.S.S. Nespelen (AOG 55), a gasoline tanker. Ports od call were Panama, Tahiti, and N.Z. Arrived McMurdo Dec., 1956, and was there five days before the flight to the Pole. I flew to the South Pole on 29 Dec., 1956. I did not arrive at the South Pole immediately because it took two hours to find the camp after arrival at its approximate position. The flight was uneventful otherwise. The time spent at the South Pole has been the most interesting of my Navy career.

My future plans are to finish 20 years in the Navy and then retire. After retirement I plan to put the old lady to work while I sit under a shade tree and drink beer all day.

PAUL ALLMAN SIPLE
STATION SCIENTIFIC LEADER
(DEPUTY OFFICER IN CHARGE U.S. ANTARCTIC PROGRAM AS SPECIAL DUTY FROM REGULAR ASSIGNMENT AS SCIENTIFIC ADVISOR TO THE CHIEF OF RESEARCH AND DEVELOPMENT, OFFICE OF THE CHIEF OF STAFF, U.S. ARMY. MEMBER OF THE NATIONAL COMMITTEE AND THE ANTARCTIC COMMITTEE OG IGY.)

I was born December 18, 1908, at Montpelier, Ohio. My parents were the late Clyde L. and Fannie Allman Siple (my mother lives with my only sister Carrol Siple Kettering, 839 Columbus Ave N.W., Canton 8, Ohio). From 1919 until World War II, I called Erie, Pennsylvania, my home although I was on the move from 1927 onward.

I married Ruth Johannesmeyer on December 29, 1936, and we live at 131 North Jackson St., Arlington 1, Virginia (phone: Jackson 8-7128 --- This is on the Washington, D.C., exchange for we live about four miles from the center of Washington). We have three daughters, Ann Byrd, 16, born June 9, 1940 (while I was at Little America III); Jane Paulette, 14, born October 11, 1942, and Mary Catherin, 10, born October 26, 1946.

EDUCATION: I graduated from Central High School, Erie, Pa., 1926. I continued my interest in Boy Scouts throughout this period and was an eagle with 61 Merit Badges. Member of Troop 24 and Sea Scout ship Niagara (Oliver Hazard Perry's flag ship in the Battle of Lake Erie, 1812). After working a year as a class B draftsman for the Pennsylvania State Highway Dept., I began as a freshman at Allegheny College, Meadville, Pennsylvania, Sept., 1927. With two years out for the first Byrd Antarctic Exped., I returned in Sept., 1930, and in the spring of 1932 I received my B.S. Degree. ith a year out for travel in Europe, U.S.S.R., Near East, and Egypt; two years off with the Second Byrd Antarctic Exped., and a year more of barn storming lecturing to get some money (My salary for the first two Byrd Espeditions was nominal dollar a year), I began my graduate work at Clark Univ., Worcester, Mass., Oct., 1936, and received my Ph.D. in the field of Geography (speciality Climatology) June, 1939, while already preparing for the third Antarctic Expedition. In 1942 I received an honorary D.Sc. from Allegheny College.

MILITARY EXPERIENCE: After returning from the third Antarctic Expedition in the spring of 1941, I spent about 5 months on leave from the Antarctic Service at the request of the U.S. Army to act as a so called "Expert Cold Weather Clothing Designer". To follow up on this work, July, 1942, I accepted a Commission in the U.S. Army Quartermaster Corps and developed and served as Chief of the Climatology and Environmental protection section in the R and D Div. of the Office of the Quartermaster General. During the last winter of the war in Europe I was sent on one man mission to study the casue of Trenchfoot which had taken 50,000 U.S. Troops out of action for varying lengths of time. With carte blanche orders I was able to visit front line troops in action in every division on the front line including Free French, British, and Canadian troops as well as U.S. the full length of the Western Front from the French-Italian border to the Netherlands. (I was at the Reimagin Bridge at the day it was captured, and crossed the Rhine with Montgomery's forces) --- I was recalled with my mission accomplished and left Paris the day Roosevelt died. Within a few weeks I was sent to

Manila AFWESPAC Hdqtrs) to advise on cold weather clothing and equipment for the planned Japanese invasion. After the sudden termination of hostilities I found myself suddenly responsible for advising on the allotment of clothing for a million man occupational force for their first winter from a stock for 100,000 on hand. Spent the first month or so after the war in Japan where I found myself quartered a block or so from Adm. Byrd. Thanks to the Adm., I was able to get around the country in a Navy jeep somewhat before some the Army Generals had transportation.

I left active duty as Lt. Col., Aug., 1946, but while on terminal leave I had been working as a civilian scientist with the Research and Development of the Chief of Staff's Office of the War Department. (This was the period when Eisenhower was Chief of Staff). Although I came at the request of the Army to set up Environmental research for the Army as a whole as I had done for the QMC during the war I only expected to stay one year. The task was tougher than I expected for I had to do a lot of selling and there was no money available. As a result I had to stay on about seven years more to get the task accomplished the way I set out to do. In the mean time during the Korean "Police Action" I made two winter trips to the Korean front. During the 51-52 winter I was in charge of a winter warfare team and visited all frontline divisions, i.e., divisions on the Allied side, across the front exchanging information. Up until the time this Antarctic "war" broke out I was transferred from the area of Environmental Research to overall responsibilty to advise on the Army's Basic Research. Even on this Antarctic assignment I am still on the payroll of the Dept. of Army.

POLAR EXPERIENCE: 1928-30: Selected as the official Boy Scout representative to accompany the First Byrd Exped. I served as deckhand on the Barque CITY OF NEW YORK. Acted as dog driver at Little America and did nature study work as well as making a taxidermy collection of seals, penguins, and flying birds for the Am. Museum of Natural History of N. Y.

1933-35: Acted as Chief Biologist of a four man Dept. on the Second Byrd Antarctic Exped. I had charge of equiping Adm. Byrd's Advanced Base where he remained alone for 5 months. I was in charge of the Marie Byrd Land Sledging Party, accompanied by Wade, Corey and Stancliff and three teams of 9 dogs. We explored the previously unvisited Edsel Ford Mts. for three months and made a round trip of about 1200 miles. I acted as surveyor, magnetician, weather observer, biologist, and broke trail ahead of the dogs for the whole trip. We brought back 87 new species of lichens and 5 mosses.

1939-41: Acted as supervisor of supplies for the U.S. Antarctic Service. Was leader at West Base (Little America III). Served as Geographer for the U.S.A.S. and was Navigator and principle geographic observer on all flights of Exploration of West Base. The U.S.A.S. was to have continued indefinitely according to plans laid down by Pres. Roosevelt, however, the war interferred and we were forced to abandon both East and West Bases. During the evacuation of East Base I helped make surveys and botany collections from the Melchoir Arch. on west side Palmer Peninsula.

After return from the Antarctic and a brief period of work for the U.S. Army I was in charge of a Dept. of Int. field Office located at Miami University (Arlo's Alma mater) for purposes of completing reports, mapping and research results of the U.S.A.S. --- Until the war broke out up in 1942. After the return of the expedition and CDR Cruzen returned to regular active Navy duty, Adm. Byrd named me Second in Command of the U.S.A.S., however there was not much left but to put it to bed.

1946: Accompanied first U.S.A.F. flight over the North Pole. This was also the first polar night flight over a pole. As I recall the flight was on or about Oct. 6. (Everything was secret then). The flight took some 20 hours in a B-29. As observer I sat 18 hours without leaving my seat in the nose blister. We began and ended our flight from Fairbanks, Alaska. All members of this crew were awarded the Air Medal. --- The following summer I made a second flight over the North Pole in daylight (26 hours) with the same 72 photo Reconnaisance Sqd. These flights were a year or so before the Ptarmigan flights became a twice weekly occurance.

1946-47: I was appointed Senior War Dept. observer (of some 16 Army and Air Force observers) on Navy Operation High Jump. I also served as Adm. Byrd's special adviser and assistant. I traveled aboard the U.S.S. Mt. Olympus. We spent about 2 months ashore at Little America IV. I spent some of my time continuing glacial movement studies I had begun in 1940-41.

1948. Around Oct., I was member of a special crew of an Air Force C-47 (R-4-D) which made the first landing on skis on Devon Is. Ice Cap. We also flew the delapidated old crate over all of the then known positions of the North magnetic pole and over most the central Canadian Archipellago.

1953 (?): Visited Thule, Greenland. Made extrnsive trip by tractor, weasel, and Snocat over portions of the ice cap. Made numerous flights and made ski landings in the interior cap at about 7000 ft. elevation. This was not my first visit to Greenland. The first time was in 1947 during the summer when I came in from the Pole and saw Peary land and the Cap on the north end. (This is really coming in by the back door.)

1946-55: I had occasion to make quite a few quick flights into the far north. I made two or three trips to Alaska, and many trips to Ft. Churchill, Manitoba, as well as excursions to Newfoundland, Labrador, Resolute, etc.

1955-56: Served as Director of Scientific Projects for Task Force 43 on Deep Freeze I, as well as Deputy to Adm. Byrd. (Two bosses at once isn't conducive to relaxation. Arrived at McMurdo Sound on my birthday aboard the icebreaker GLACIER. Spent the first week of occupation of the pioneer camp at Hut Point (where Tuck and I first really met). I was reponsibile for the selection of the Little America V site and on Jan. 8, 1956, accompanied Adm. Byrd on a flight over the general region of the geomagnetic pole and region of greatest inaccessibility. We returned via the geographic South Pole which was my first preview of this place. Departmed McMurdo Sound 3 Feb. on U.S.S. Arneb to N.Z. Flew home and got to Washington, D.C. on 15 Feb.

1956: Served as Deputy Officer in Charge of the U.S. Antarctic programs. Our office is across from the White House at 700 Jackson Place N.W., Washington 25, D.C. Departed Washington D.C. 5 Oct. 1956.

Arrived N.Z. 9 Oct. Flew to Antarctica in U.S.A.F. C-124 arriving Oct. 21. Made first U.S.A.F. flight over the South Pol on Oct. 25 (?) After getting as far as the Beardmore on Nov. 22 and turned back by weather, there were a dozen more false starts until I finally got here at the pole (no trouble finding the place with Curtis) on Dec. 1, 1956. This was a few hours and one plane later before LTJG Tuck departed for his short stay at Mc Murdo. I was here in time to watch the first start on construction of the permanent buildings here at the pole. The 24 man CB construction party were self sufficient without my help, however I did encourage some important changes in camp design that have made this place a little more livable, and the rest of the time I spent making some preliminary observations, but particularly I spent my time as junk dealer picking up salvage dropped by the builders. Also I had quite a work-out opening IGY A-22 containers and sorting and caching IGY scientific boxes. (Oh my aching back - those Met drums of Caustic Soda and Aluminum chips were heavy by the time I got them up on the third tier.)

TRAVELS: All states; all Provinces of Canada; Alaska, Greenland, Northern Mexico, Panama, Chile (Cape Horn and Straits of Magellan), British Isles (4), France (6), Germany (3), Holland (2), Belgium (2), Luxemburg, Switzerland, Austria, Hungary, Czechslovákia, Poland, U.S.S.R. (Leningrad, Moscow, Dnepestroy, Kharkov, Kieve, Sevastapol, Crimea, and Odessa), Turkey, Bulgaria, Greece, Syria, Cyprus, Palestine, Transjordania (northern Arabia, Mann and Petra), Egypt, Italy, Bermuda, Azores (10) Hawaii (10), Japan (5), Korea (2), Manila, New Zealand (8), Australia, Tahiti (2), Easter Island (2) Pitcairn, Rapa Nue, Canton, Fiji, Saipan, Okinawa, Iwo Jima, Guam, Kawgelan, Johnston, Midway, Galapagos, and a few more that escape me at the moment. --- Not to mention a million or so square miles of Antarctica.

HONORS: Three Congressional Antarctic medals; Military medals include: Legion of Merit, Commendation, Combat awards, three theaters, honorary Military Order of the British Empire, Hatfield Gold Medal (Philadelphia 1932); elected first President of American Polar Society, 1936; elected one of 12 outstanding men of America (under 40), 1936; National Council B.S.A., 1938 and since; "Man of the Month" Advertising Club of N. Y., 1941; "Silver Buffalo" award and became member National Court of Honor, B.S.A., 1947; elected fellow and member of the Board of Govs., Arctic Institute of North Am., 1948; honorary Phi Beta Kappa, Allegheny Col., 1942, plus a few more here and there.

THIS AND THAT: 8 patents including basic insulated boot, fire insulation, fasteners, etc. BOOKS: "A Boy Scout With Byrd", "Exploring at Home", "Scout to Explorer". Scientific articles include: Distribution of plants in the Edsel Ford Mts., Wind-Chill, Cold Weather Clothing, world climatic maps, climate control for house designing in 16 U.S. cities (House Beautiful and AM. Inst. of Architects), and a bunch more of odds and ends. ---- My Doctor's Dissertation which was not printed was: "Adaptations of the Explorer to the Climate of Antarctica". (Griffith Taylor of the last Scott Exped. was one of the critics and examiners.)

APOLOGIES: Egged on by our country doctor I made this too long. In fact after reviewing this over-long filler for the book, I am beginning to think maybe I've lived too much already. No, don't get me wrong; I don't plan to quit yet. Nevertheless this stay here with you fellows has been my most pleasent Antarctic experience of all.

It may well turn out to be my last active field work and events of the future will center closer to home. I hope for awhile at least.

DOCTOR HOWARD C. TAYLOR III

Howard Canning Taylor III, 28, 2 August 1929;

Parents: Dr. & Mrs. Howard C. Taylor, Jr; 30 East 71, New York City 21

I was born and brought up in New York City where the family lived in an arartment in the middle of Manhatten. I have two elder sisters both of whom are married. Mt Mother's family was from New Jersey and my Father's from Connecticut where we have had a summer home for as long as I can remember.

In 1943 I left New York for a school in Massachusetts, and after four years started at Yale University. During the summer of 1947 I worked for a museum fishing boat for the Bermuda Biological Station working nights out of St George Harbor in Bermuda. (This is probably where my fondness for islands originated.) At Yale I took mainly pre-medical courses and did little in the extracurricular line except in the Dramatic Association in which I was variously production manager, stage manager, and Secretary.

After being graudated in 1951 from Yale, I went to the Columbia College of Physicians and Surgeons in New York for the first four years of my medical training. During the summer of the first year, myslef and a friend toured Europe in a rented Renault stopping at France, Germany, Switzerland, Austria, Italy, and later England. The remainder of medical school was very steady work with limited vacations, but I look back on those days with fond memories. The work was difficult but very rewarding, and there were many good friendships made.

In 1955, about a week after being graduated from Medical School, I started a straight internshop in surgery at the Grace-New Haven Commnity Hospital in New Haven, Conn. This year represents the most difficult one physically in the training of the surgeon. One was permitted every other night and everyother weekend off duty, but otherwise, except for a two-week vacation, one was not permitted to leave the hospital.

During the middle of this troublesome year, the bugle blew, and the Draft Board declared that I was ripe for the picking. After filling out twenty pounds of forms (several times0, I found myself a Ltjg in the Navy with orders to report to Chelsea, Mass. for Medical Corps Indoctrination. A week or two before internship ended, a letter arrived asking for volunteers for Antarctic duty; and a week later, my application was accepted, my orders changed, and four days after leaving the hospital I was bound for Davisville.

After several months at Davisville, the trip south on the Nespelen was a welcomed relief - especially one island.

Here at the South Pole my main jobs are Recreation Officer, Ships Store Manager, and Yoman in charge of Year Books. There is little medical work to fill in the odd hours.

When we return, I will start again at the New Haven Hospital with a year of Pathology to be followed by several more years of straight surgical training.

My address for the coming years will probably be: 789 Howard Ave., New Haven 4, Conn.

Best wishes
Cliff - Jack Tuck

LTJG JOHN TUCK, JR., USNR

Worcester, Mass. was the place; August 15, 1932, the date - some four years after my brother had entered on the scene. There were no more. I spent the next few years on the family farm - the home address is still the same, 6 Bancroft St., Auburn, Mass. (Mr. and Mrs. John Tuck, phone number Terrace 2-4741 - in case any of you should stray through that part of the country, give a call.)

Loafed on through one year of the local high school, then got shunted off to prep school for three years. From there I trundled on a few more miles north to spend the next four years at Dartmouth, majoring in geography, and was also in the NROTC. Summer midshipman cruises included (1) the U.S.S. Wisconsin to New York, Halifax, and Guantanamo Bay (very poor), (2) three weeks each at Little Creek and Corpus Christi, for amphibious and aviation indoctrination respectively (no comment), and (3) the U.S.S. Iowa to Edinburgh, Oslo, and the inevitable Guantanamo (Wunderbar, that Edinburg and Oslo). Did little with the physical culture set; plinked with the Navy and College rifle teams for three years, aided in losing several intra-fraternity athletic tilts.

After Graudation (June, 1954) I joined the icebreaker Staten Island in Narsarssuak, Greenland, and after some shaking down was relegated to the bilges as Assistant Engineering Officer, and to the bridge as an OOD. We spent the summer working the west Greenland coast, Baffin Island, Labrador, and Newfoundland. In July, 1955, just prior to the ship's departure for Alaska and the Dew Line, I received my orders to Task Force 43 for something called Operation Deep Freeze I.

From late July through the end of October there was an idyllic period in the hills of New Hampshire with four other men training the dogs for DFI. The peaceful spell was broken (as was one ankle) by a brief period of parachute jumping at Lakehurst, N.J. On October 30, '55, we sailed south on the U.S.S. Edisto, arriving at McMurdo on 20 December. No need to bore anyone with the details of that year - suffice it to say that working with the dogs was an exceptionally interesting and more-than-worthwhile experience. When the Pole Station planning began in earnest I worked with LTJG Bowers on the preparations for the Advance Party, and ended up by joining that group as chief-in-charge of the four-legged transportation. The dogs had not figured in the original planning, but their inclusion was approved by Adm. Dufek, and as you know they proved invaluable during the first days, when the weasel was down. (The Advance Party was landed some 8 miles from the Pole about 0100, 20 November.)

I had petitioned Adm. Dufek for a billet with DF2, suggesting perhaps that I take a dog team to Knox Coast, Carl Eklund being anxious to have one there. While up here the first time, I received a message from the Admiral asking if I would volunteer for DF2 at the South Pole Station. Negative, I do not, repeat not, plan to stay for DF3.

Future plans consist of possibly another year's active duty, if I can get the assignment I want. Ohterwise, (or after this other assignment if I do get it) a couple years of graduate work, after which your guess is as good as mine - other than that I plan to continue on in some phase of polar work, preferably Antarctic.

KENNETH L. WALDRON

My full name is Kenneth Lee Waldron, 21 years old, born on October 30, 1935, in Atchison County, Missouri. I live at 300 East Grant Avenue, Shenandoah, Iowa, with my parents, Mr. and Mrs. Wilbur L. Waldron.

I've lived on the farm at least eight years of my life. Spent most of those years going to country schools. In fourth grade, I moved to my present address and lived there until joining the Navy. Finished up high school in Shenandoah in 1953.

After school I worked for a combination farmer and prefabricated house contractor, then the Squire Ice Cream-Dairy Co., where I was working when I joined the Navy. Less than a year after graduating from high school, I was in the Navy.

Officially joined the Navy at Fort Omaha, Nebraska, on January 13, 1954. Had a small amount of trouble getting into the Navy due to a back injury I suffered in 1952 when a corn detasseling machine fell on me. Attended boot camp in San Diego, California. From there I went to class "A" electrician's school in Port Hueneme, California. In August of 1954, proceeded to my first duty station in Adak, Alaska. Left there in May, 1955, to join MCB (Special) on Operation Deep-freeze I. Left the states in November aboard the U.S.S. Arneb (AKA 56), bound for Little America via Norfolk, Virginia, Panama, and New Zealand. Arrived at Kainan Bay shortly after Christmas and stayed only for the construction period. Leaving there the latter part of FEbruary, 1956, aboard the U.S.S. Wynadot (AKA 92), our ports of call on the return trip were Auckland, New Zealand, Monteveido, Uraquay, and Rio de Janerio, Brazil, before pulling into Norfolk, Virginia, on April 20, 1956. Returned to Davisville, from leave, and unofficially joined DF II in May and officially in June, as a part of MCB Det. Bravo. Left the states in October aboard the U.S.S. Nespelen, a tanker. Arrived at McMurdo base in December, after visiting Panama Tahiti, and New Zealand on the way down. Left McMurdo approximately four days after arriving there. Arrived here at the Pole station on December 29, 1956. Eight of us flew in that day aboard a Navy P2V Neptune.

My job here has consited of some wiring, plus maintenance of wiring already in and of the electrical ends of the gnerators. My work bench is located directly in front of one generator on the east side of the garage. I sleep in the second cubicle on west side of the Clement's hut. I've spent the majority of my time sutdying on my correspondence courses, reading some of the Anatrctic books here, and working on model ships and planes.

My plans for the future consist of getting an electrical engineering degree and possibly to get an electronics engineering degree. Plane to attend school in my home state. Until I leave the Navy in January of 1958, intend to do much studying and attending night school in preparation for college.

Would like to take this opportunity to thank all the men of this station for their cooperation in all things.

BRAVO

You guys think you've been down here a long time - I've spent all my life in the Antarctic! I was born ijn Dogheim at McMurdo on 14 August 1956, my folks were Towak and Tanya. I had six brothers and sisters, but they all died within a few days because my mother wouldn't nurse us. I was the only one that lived through the Boss's eyedropper feeding; and because I did pull through, Dutch named me Bravo.

Life was pretty good in Dogheim, except for all the lens louses who wanted to take my picture because they heard that I was going to the Pole. My old man was here before I was - he was in the team the Boss brought up with the Advance Party. I came up on 29 December with the guy s in the P2V - what a lousy way to travel - took the plane a couple of hours of searching to find this place - don't tell me my old man and his teammates couldn't navigate better than that!

The Boss kept me tied up at first, but even then I had some fun, such as getting Doc Siple a bit shook by giving him a good ration whenever he came around. Took him quite a while to realize that I was just having fun and didn't really mean it. Since I've had the run of the camp I've really had a ball, even though the Boss makes me do things I really don't want to - such as lying down and being quiet during church services (who wants to be quiet then?) and staying out of the snow mine (that's a real gyp - such a beautiful outhouse!).

Also the boss is a real sourpuss when it comes to chow - won't share his toast or cookies or crackers or anything else with me, excpet an occasional peanut. Even makes me eat out of a bowl under the galley table. That's why I only weigh about a hundred pounds. Buy my favorite chow is stuff like wood scraps, old cigarette packages, rubber insulation, bamboo, rags, an odd poker chip or two - anything along that general line of canine delicacies. The boss doesn't like me eating this stuff (killjoy!) - but sometimes he has a helluva time getting it away from me. Beer is also great stuff, but the guys just don't cooperate anymore and leave their beer cans on the deck where I can push them over and lap up some good malt brew as it runs out.

I used to figure that anywhere indoors or out was fair game, fire extinguishers being the closest thing to fire hydrants, and a clear spot on the deck as good as a corner of the tunnel. But the Boss really whomped my butt when I used 'em, so now I wait 'till I'm outside (There are some really good targets along the tunnels) - excpet for a very infrequent shot at the galley broom (damned if that thing doesn't intrigue me).

My main hobbies are Doc Taylor's sweater, Benson's slippers, nay shoe or glove when it's being worn, a broom or swab in motion, Willi's and Remington's fur footwear, Guerrero's fur parka (smells just like my friends in Dogheim), the vacuum cleaner when it's going, the evening chow bell, breaking wind in close places (that makes 'em run), and, in general, any hell that I can get away with.

My future plans are a little uncertain - except for one thing. The Boss has a harness here, and I have a hunch that come warmer weather he's going to fit me into it and try to get me to pull him around on a sled. That's a real laugh - me work? - HAH! I got news for him.

I think the Boss wants to take me with him when he goes back, but I guess that depends on whether or Adm. Dufek will let him. Anyway, I have hopes. Should be a real picnic if I do go to the states - I hear you guys talking about things like women, and trees, and stuff like that. Women - wow - what an opportunity for a guy like me with an energetic [illegible] cold nose and a tugging mouthful of teeth. Wonder how the Boss's mother would react to my grabbing her skirt from behind and giving a good pull? Better yet, how about the duty girl friend? Brothers, I see Opportunity Unlimited!

Whatever the future brings, I want you guys to know that I've had a wonderful time with all of you, and will miss every man here when we part. If at times I've growled or snapped at you, I'm sorry - it's just that I've got a little temper too, and sometimes I forget myself.

I heard one of the guys say the other day that I was really going to be shook when I get to the states, meet other dogs, and find out that I'm not a human being.

Now just what in the hell did he mean by that?

THE SCIENTIFIC PROGRAM

Roster of Scientists

Dr. Paul A. Siple	.. Scientific Leader
Benson, Robert F.	.. Seismologist
Flowers, Edwin C.	.. Chief Meteorologist
Guerrero, John F.	.. Meteorologist Electronics Tech.
Hansen, Herbert L.	.. Rawinsonde Specialist
Hough, William S.	.. Ionospheric Physicist
Johnson, William F.	.. Rawinsonde Specialist
Landolt, Arlo U.	.. Aurora and Airglow
Remington, Edward W.	.. Glaciologist

SEISMOLOGY

The lithosphere, or so called crust of the earth, is continuously undergoing deformative movements which are expressed at the surface in folds, faults and volcanic activity. When there are sudden adjustments beneath the surface a vibration is expressed in the form of an earth tremor or earthquake, the result of a sudden fracture in the lithosphere. The study of earthwakes is called seismology.

When an abrupt displacement of great rock masses occurs the earth reacts as an elastic solid and seismic waves are propagated to all parts of the earth following paths through the body of the earth itself and around its surface. Earthquake waves travel similarly to thr waves which radiate from the point of immersion of a stone dropped into still water. At the center the waves are high and rough but as they spread out and diminish in amplitude they become smooth, regular, and elongated.

There was some speculation as to whether distant earthquakes would be recorded by a seismology station here at the Pole due to the possible cushioning e fect of the great depth of snow beneath the station. The ability of such a station to record earthquakes from distant parts of the world has now definitely been proven. The U.S. Coast and Geodetic Survey in Washington, D.C. has informed us of the location and origin time of 31 earthquakes which were recorded here at the Pole Station in one period of 41 days. The most distant of these occurred off the east coast of Kamchatsk (53.5N, 160.5E) on 5 September 072519z, about 9,900 miles along the earth's surface from the Pole. On 2 September 142013z and earthquake occurred in the Fox Islands (51.5N, 168W) and 19 minutes 24 seconds later the seismic vibrations arrived here at the Pole.

Less than half of the disturbances recorded at this station have been verified as earthquakes registered elsewhere in the world. Many of the disturbances not verified were possibly caused by snow tremors, snow slides or other continental phenomena. The true answer will not be known until a more thorough study of the records is made.

The first phase of setting up the seismology station was undertaken as a camp project - the digging of the 1000 foot tunnel and the 6 by 6 by 9 foot pit at the end of it. The tunnel was dug to a depth of 6 feet, additional head room being obtained by piling the extracted snow along the tunnel edges. The tunnel rook was formed by extending scrap wood across the four foot opening and placing burlap on top. The burlap was then covered with snow.

The first 400 feet was dug by Dr. Siple, Ed Flowers, Dr. Taylor, Willi Hough and John Guerrero before 10 February. The above men were joined by the incoming IGY crew, Herb Hansen, Floyd Johnson, Arlo U. Landolt, Ed Remington and myself, for the completion of the project. The tunnel was completed on 20 March with a relatively warm temperature of -51°F. The temperature during the previous five mornings of digging ranged from -48° to -79°F. with a refreshing 10 to 15 knot breeze.

The Benioff Vertical Seismometer was installed in the pit on 20 May (the base plate for the seismometer was placed directly on the snow surface), after experimenting to insure good operation at the then -50 to -60°F. temperature in the tunnel just outside of the science building. Difficulty arose when the seismometer

coil would separate from its plastic cylindrical support due to the difference in contraction between the plastic and the coil when exposed to the cold temperatures. This was remedied by Willi Hough who fastened a paper disk to the bottom of the plastic support using Duco Cement. The free period of the seismometer was adjusted to its maximum value of 1.2 seconds.

On 31 May the first records were obtained using a Benioff 3-component film 35mm recorder. This recorded was designed to operate with three seismometers, preferably one vertical and two horizontals at right angles to each other. Sensitivity and damping adjustments were made until August first as well as coping with seismometer trouble out in the seismic pit.

During this period the two Wilson-Lamison horizontal seismometers were placed next to the vertical seismometer, one oriented parallel to the 60 degree west meridian of longitude and the other to the 30 degree east meidian of longitude. The three small base plates for each of these instruments were cemented into the snow surface using water with the "aid" of a -65°F. temperature. A 7-conductor cable, borrowed (that's what they thought) from the weather section, connected the horizontal seismometers to the recorder in the ionosphere scaling room of the science building. This cable was positioned next to the previously insatlled 4-conductor shielded cable which connects the vertical seismometer to the same recorder.

Of the five original sensitive galvanometers for the Benioff Recorder, two were damaged in shipment and two wwre damaged during installation and adjustments. The last galvanometer was used to obtain vertical records.

Many, many, many galvanometer repair attempts (conservative estimate) were made by Willi and myself. When the soldering procedure along with assembly and adjustments were finally perfected the quantity of spare 0.0007 inch thick gold strip material had been exhausted.

Good film records were obtained during the entire month of August and the first five days of September. Then the last of the galvanometers failed (the galvanometer was not entirely to balme). After a week of futile repair attempts on my part, Tom Osborne built a light tight compartment in the ionosphere scaling room under a table large enough to house the Benioff Recorder along with the alternate recorder (Sprengnether 12 inch Paper Recorder). The installation of the alternate recorder was also assisted by Earl Johnson and Melvin Havener.

Since 23 September, very good vertical records have been obtained on 12 inch photographic paper from the laternate recorder and the Benioff Seismometer.

Upon arrival of the new galvanometers, vertical records will again be obtained using the Benioff Film Recorder, It should then be possible to obtain horizontal records also. The alternate recorder will then be ready for use with the alternate vertical seisomometer (Wilson-Lamison, one second period) when and if it is installed.

METEOROLOGY

The Weather Bureau phase of the met program at the South Pole date from the 7th of January when John Guerrero and myself arrived via P2V. Previous to this date met observations were taken by Dr. Siple, a Navy aerographer and several of the radio and other construction personnel. Our first bit of equipment to be installed was the thermoscreen located about 200 feet behind camp. This housed our thermometers and thermograph and since the beginning of March it has also included the resistance thermometer which registers electrically on the recorder in the office. A 10 foot wind mast was erected to mount the aerovane wind system and this was used with a few interruptions until the middle of February when the 30 foot mast arrived and was erected. On the 30 foot mast we have also two resistance thermometers, one at 5 meters above the surface and another atop the mast. Two additional resistance thermometers are located on the snow surface and 30 feet below the surface. In an attempt to get a more representative indication of the snwofall, Floyd constructeed a precipitation gage which he mounted atop the wind mast. The precipitation measured at the surface is complicated by the accumulation of drift snow in the bucket. Comparsion of the catches at both levels indicated that possibly as much as 90% of the amount caught in the bucket on the surface is drift snow.

Floyd and Herb arrived on the scene the beginning of February and the program began to go into high gear. During the following weeks before the sun departed we put the inflation shelter in order, digging a 10 foot deep residue pit adjacent and south of the building for the slush from the hydrogen generator, and rigging the overhead doors for the release of the balloons. We also installed the GMD automatic radiosonde tracking equipment in the dome above the met office, insulated the dome with fiberglass and built an access hatch from the roof of the met office to the dome. The insulation of the dome required several days and the use of the Herman Nelson heater to remove the frost from the dome walls. Our first radiosonde run was made on March 27, and on April 15 we commended the current two a day program. Initially the inflation shelter was heated by the Herman Nelson which was dragged from the garage to the window outside the shelter and then back to the garage after the balloon inflation. Once the astronomy building was finished, the Herman Nelson was permanently installed there and with a few exceptions served faithfully until the 9th of September when it finally succumbed to overuse and the lack of spare parts. A large fan was then installed between the two buildings and used to suck warm air from the astronomy building to the inflation shelter. This present system works very well, keeping the shelter at about +45°F. The most severe storm of the winter coming on the 25th of May with winds averaging 30-40 knots and with a peak gust of 47 knots, brought most vividly to our attention the need for an improved launching system for the radiosonde balloons. During this storm we missed several days of soundings and previous to this date we had had considerable trouble whehever the wind approached 20 knots. The answer was

in the form of eight foot square windbreaks erected on the north and east sides of the inflation-astronomy building, with an 11x9 foot canvas stretched between the two. Oz did the construction and we assisred with,their erection. They are hinged to allow them to be dropped for vision from the pibal dome. Since the windbreaks were installed, not a single scheduled release has been missed because of strong winds and the number od second releases because of wind has dropped practically to zero.

Early in the radiosonde program we began to be concerned with the short flights we were getting from the balloons. Experimenting with various procedures we hit upon the use of diesel fuel as a conditioning method. It immediately improved our flights and we have been using the system ever since. Boiling of the radiosonde balloon is a recognized method of conditioning and it was suggested that we test the two methods. The results indicated an average of 13.8 km for boiled balloons and and 19.5 km for diesel conditioned balloons. Other improvements in our radiosonde program have included a steam condenser which is used between the hydrogen generator and the inflating balloon and keeps the water out of the balloon; a weight box which allows the balloon to lift after the required number of grams of lift are achieved and yet keeps the baloon secured. Both of these were constructed by Floyd.

Our surface observation program has grown with the months. Initially it consisted of three-hourly outside observations but since the forst of September these observations have been hourly. In these observations we measure and record the weatherm clouds visibility, pressure, wind and temperature at four levels. These hourly observations are reproduced on punch-cards. The punch-card program also includes 6-hourly observations, summary of the day, winds aloft and the radiosonde observation. The number of cards punched per day averages about 43. Beginning the first of October our observation program also included pilot balloons soundings at 6 AM and PM.

Located halfway between the thermoscreen and wind tower to the north of camp is our array of radiation meausring instruments. These include two radiometers which meausre principally the long wave energy, one measuring the total amount incident from the sun and atmosphere and the other measuring the net exchange of energy between the snow and the atmosphere. Also located here is an upward facing horizontal incidence pyrheliometer. This meausres the amount of short wave energy received on a horizontal surface from the sun and atmosphere. In conjunction with this we have a similar instrument pointing down at the snow. Taking the energy measured by this one and comparing it to the upward facing instrument, the reflectivity of albedo of the surface can be determined. BEing prepared for installation is a horizontal incidence pyrheliometer which will measure the short wave energy from the snow only and will electrically follow the sun. The results of these radiation measurements will await analysis back home. We came prepared to do the analysis here save for one factor - time.

Smaller side programs being maintained by our group is the collecting of air samples primarily for the determination of the CO_2 content of our air, the collecting of snowfall by monthly amounts for its future chemical analysis; and the collecting of replicas of falling snow crystals.

CLIMATE DATA

TEMPERATURE DISTRIBUTION BY PERCENTAGES AT THE SOUTH POLE

°F.	* Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	* Nov.	* Dec.	* Year	# Est. Avg Yr
20												1.5	0.1	0.
10	5.0											31.3	3.1	0.1
0	32.0											58.6	7.7	4.2
-10	31.5	0.9									0.6	7.8	3.4	7.2
-20	31.5	31.2		2.4							29.0	0.8	8.5	7.3
-30		24.1	0.5	3.0	5.7						21.8		4.5	6.2
-40		11.5	6.3	2.1	7.1	1.0	3.6	1.2		1.6	31.7		5.5	6.1
-50		12.3	19.9	12.1	12.1	5.7	10.1	10.6	2.1	39.1	16.9		11.8	12.7
-60		10.0	41.9	18.9	27.4	51.0	13.7	32.8	16.9	34.4			20.6	20.2
-70			26.9	36.2	21.5	29.9	20.7	28.4	27.4	18.3			17.5	18.1
-80			4.5	25.2	15.7	8.7	25.3	16.3	33.8	6.6			11.3	11.7
-90					10.4	3.7	26.6	10.6	19.0				5.9	5.8
-100					0.1			0.1	0.8				0.1	0.4
-110														

* and # : includes non-standard and estimated statistics for avarage y ear

WIND SPEED DISTRIBUTION BY PERCENTAGES

Knots	* Jan.	* Feb.	* Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	* Nov.	* Dec.	* Year
Calm	1.2	1.3	1.1	0.1	1.7	0.0	0;5	0.0	1.1	0.1	6.9	9.7	2.0
5	16.1	12.4	6.6	0.6	3.2	0.0	2.1	0.5	2.6	1.2	27.8	29.8	8.6
10	45.2	35.5	29.7	10.3	16.3	2.3	17.7	9.2	16.1	18.5	41.7	52.0	24.5
15	26.2	33.9	41.4	40.6	34.3	33.5	29.7	30.95	4.2	39.6	22.2	7.7	32.8
20	8.9	16.2	15.6	29.4	20.4	37.8	24.2	41.0	19.5	29.8	1.4	0.0	2.03
25	2.4	0.7	5.6	16.5	15.6	24.6	14.9	16.4	3.9	9.4	0.0	0.3	9.3
30	0.0	0.0	0.0	2.5	4.7	1.8	10.3	2.0	2.5	1.4	0.0	0.0	2.1
over	0.0	0.0	0.0	0.0	3.8	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.4

* Includes non-standard and estimated statistics for average year.

Compiled by Dr. Siple.

IONOSPHERE

Daily or almost daily events include the following. Scaling of a day's records which includes looking at each of one hundred and ninety-three individual records, IONOGRAMS, determining numerical values for fifteen different characteristics of the overhead ionosphere. Sometimes all fifteen characteristics are not present which makes the job a little easier. The 193 ionograms are produced on 35mm film, lthirty-two feet of film being required per day as each ionogram is about two inches long. This film is processed in the scientific darkroom where the wash water is saved for later use by the meteorologist to make hydrogen gas. The film then goes into the scaling table where it is projected downward to a mirror which reflects the image of the ionogram upward to a viewing glass in the working surface of the table. The ionogram is enlarged about seven times so that the length is about fourteen inches of the glass biewplate. To help interpret the records a scaling grid of transparent plastic is used and with it numerical values are obtained. These are recorded with pencil, 3H, on f-plot and dailt tab sheets. (Sample of which are included.)

The "stativ machine", "monster", or Automatic Ionosphere Recorder is a fairly well behaved instrument for all the berbal abuse it received and the irritation it caused. One hundred and twenty vacumm tubes are required by the C-3 in order that it function properly, to say nothing of the relays, switches, lamps, and special "gimmicks". The tramsmitter gives out with littee bits of radio frequency energy each at a different frequency as it sweeps from one to twenty-five megacycles in fifteen seconds. As the transmitter sweeps upward through the frequencies the receiver of the C-3 follows along and after each pulse listens to see if an echo, some of the energy transmitted, is reflected. If the receiver hears anything it sends information to a cathode-ray oscilloscope where it is super-imposed upon a display of horizontal and vertical lines. The horizontal lines represent the height above the earth and are spaced one hundred kilometers apart, while the vertical lines are spaced alm st every megacycle apart to indicate the frequency of the echo if there is one present. In some ways the ionosphere recorder resembles a radar set only in the case of the C-3 the antenna beams the signal straight up and of course listens in that direction also. (see photo)

This brings us to the antenna story. Years ago in conus it was agreed that the Navy would supply the mast for the ionosphere antenna while the discipline wpuld supply the materials for the antenna proper. For most stations the usual seventy-five foot telephine pole was envisioned but after the Air Force explained that an onject even half that long would be very difficult to deliver to the pole station I began to worry a little as to just what would be delivered. Shortly after leaving conus I discovered that it would be a sectional plywood mast.

At McMurdo I talked with the returning construction personnel and one of them said that he had set the base and had much of the rig ready to go but that as yet only twenty-five of mast had arrived. By February after the last drop the missing sections still were not here. So fifty feet of radio communication mast was taken down to provide the necessary height and we had the mast for Charlie three's antenna. The erection of the mast ans installation of the antenna took place around the first of March with temperatures mear minus seventy and the sun on the horizon.

First records and visual observations of the ionosphere were made on the 10 of March, 1957, and since then at least hourly records have been made continuously with only five percent loss. During the months when the sun was gone I expected the ionosphere to disappear, however it did not, thus evidence of a secondary ionizing agent now exists.

SOUTH POLE'S AURORA AND AIRGLOW PROGRAM, 1957

The urora and airglow scientist's daily routine is relatively simple. Visual observations are made hourly. During special world intervals observations are made every fifteen minutes. These observations are made utilizing an alidade and special IBM cards which fit into the alidade. The alidade is aligned parallel to a predetermined meridian, in this case 70° west l ngitude. The altitude of the auroral forms along this meridian are measured with the alidade. The morphology of the aurora is noted along with its color and any possible motion. Changes in structure are also noted. In addition the aurora in other sectors of the sky is recorded as is that on the meridian with the exception that only data on the meridian is recorded on the alidade IBM cards. This data is in turn inscribed on mark sense cards which will eventually be used in the data reduction centers.

The all-sky camera is an instrument which, by means of its optical structure, can record auroral forms from nearly the entire visible portion of the celestial sphere. The aurora is recorded on 16mm Tri-X movie film in a K-100 Kodak movie camera. One frame is exposed each minute, twenty-four hours per day. Also on each frame is recorded the Universal Time of the exposure, the month, the day, and the station number. This latter feat is accomplished by a matrix light system, supplying the required information in binary code. A second lighting system also provides a grid arrangement whereby one can tell the aurora's position upon glancing at the developed individual movie film frame.

The second instrument is the auroral spectrograph. This instrument collects light from a slit accepting light from a 2°x165° section of the sky. This slit is also aligned parallel to a predetermined meridian. The light is accepted by a fish-eye lens. From there it proceeds through a Petzval lens collimating system and is dispersed by a 600 line-per-millimeter transmission grating (15,240 lines per inch). The spectrum is brought to focus by an optically high speed (f/0.625) semi-solid Schmidt camera. The spectrum is then reocrded on 16mm spectrographic film. The length of exposure is determined by a photometer which integrates the amount of radiation from a certian wavelength region falling on the sky lens.

In addition to the automatic feature just described, the spectrograph can be operated in semi-automatic or manual. This eliminates the photon counting and automatic exposing features. Under this mode of operation, the exposure times may be chosen by the operator.

A last important feature of the aurora and airglow program are the plastic domes in which the instruments are mounted in the aurora tower. They must be clear in order that one can record data. In the polar climate here at the South Pole, they readily become covered with frost. This has been effectively removed by using turbine fans equipped with ¼- and ½- horsepower motors. These fans keep the air within the domes in a turbulent condition, daring the frost to form. This arrangement works well so ling as the heating installation operates. Jet Heaters have proven themselves useless.

Apparently Preway (space heaters) will do the job, two of these being required to keep the 8'x20'x8' tower warm and the domes sufficiently clear. The interiors of the domes must be cleaned daily since soot from the heaters is continually collecting thereoon. Soft cheesecloth is used for this task; when this does not work, isopropal alcohol is utilized.

The daily routine, then, consists of keeping these instruments in operating condition and also in making the required visual observations. All film is developed under strict conditions in the scientific darkroom here.

The instruments operate fairly well. The all-sky camera has broken down but once up to now (22 June). The governor spring broke in the K-100 Kodak movie camera. One thousand feet of 16mm records have been obtained with the all-sky camera. THe spectrograph has rarely operated in automatic, the Applegate photomultiplier power supply unit causing no end of trouble. Most data has been collectee operating the instrument manually. Combining heating installation problems and instrument aches and pains, only about one-half of the available time during which the instrumenst could have been operating and recording data has been utilized.

Visual meteor observations are also made, both with and without binoculars. The chief goal of this portion of the program is toget a meteor count.

Among the pictures each receive are two marked aurora. The picture marked Figure 1 is a sample of the spectra recorded by the spectrograph. The print marked Figure 2 is a sample of the data recorded by the all-sky camera.

I wish to express my thanks to Bob Benson, Earl Johnson, and Ed Remington for helping me with the visual aurora observations.

22 June 57

GLACIOLOGY

For pver a hundred years, man has been speculating on the basis of very few known facts about the volume of ice that covers this huge Antarcitc continent. The solution to many of our world-wide problems, such as the shifting of our land continents over the face of the globe, the movements of Pleistocene sea levels, and the important inventory of the earth's water resources may hinge on our knowledge f this cie volume. Although this vast and complex question is of great interest to the glaciologist, the answer will only be forthcoming from the results obtained by seismic-reflection crews. Many such crews will be at work covering the Antarctic during the International Geophysical Year (IGY). Some of these seismic crews will crawl over the ice in tractor trains while others will be air transported from one location to another. Until this work is completed and the resul ts tabulated, we can only guess the thickness of the snow here under the Pole. We may well consider that the major objective of the ANtarctic glaciological research program (IGY) has been reached of nothing more is accomplished than obtaining accurate figures that lead to a reliable calculation of this ice volume.

From the time of the conception of the Pole station, it was known that the snow we must use for our water supply must be mined. At 60°F. below zero, machines are running on their ragged edge of their effieienny. At 90°F. below zero men can still work for short periods of time but the machines can not. Lubricants freeze solid, the metal parts crack, and a machine is out of comission. Until the first of April, we towed sleds behind our weasel and these were filled with snow. On April Foll's Day our snow mine was started. By mining the snow along a shaft sloping down at an 18 degree angle, allowed me to make galciological studies. Photographing inch thick slices from snow blocks cut in descending sequence, has, I hope, provided us with a picture sotry of the ages spent in building the polar plateau. As in many of our camp operations, cooperation has made it possible to combine several aims into one common effort. Thus the need for a source for uncontaminated snow and the need for a pit a hubdred feet deep for glaciology were combined in the snow mine. Early October should see us within thirty feet of that depth. IN the process of our mining we have removed approximately 13,000 cu. ft. of snow, equaling about 185 tons. Sixty-one degrees below zero, FAhrenheit, was the almost constant air temperature in the mine.

The sample picture is of the firn (a stage of transition of snow to glacier ice). Snow crystals begin to change form after falling to granular form. There follows a decreasing of the number of crystals and of their total mass. Firn by definition has a density of 0.5, while ice has a density of 0.9. Data such as the hardness, temperature, and density for each of the layers shown is, of course omitted. The identification of these layers as to their age or the annual accumulation is important to our knowledge of regional meteorology and environment. This identification has always proved very difficult in the Antarctic, especially here on the high polar plateau where there is no indication of warm melt periods.

Please note in the upper left hand corner of the firn photograph the area encompassed and labeled ($18/O16$) sample number 13. Snow was removed from this area in the snow block, then tightly sealed in a numbered plastic bottle for shipment back to the United States for analysis. Variations fo und in the oxygen isotope will give the ages of the various layers. Each block of snow photographed had such a sample taken from it, and its analysis should greatly aid in the identification.

Next year the glaciologist will be armed with a micro-filtration kit, which is another means of tackling the identification problem. With this kit, microscopic particles of volcanic ash, meteoric dust, and irganic debris blown here by the winds may be detected. An example of this dating could be the finding and identification of the lava dust from Krakatoa which blew up in 1883, sending the sounds and dust around the world. With just such a micro-filtration kit, volcanic dust was postively identified on the Greenland ice cap. from the eruption of KAtmai in 1912. This dust was carried by the winds from the Kenai Penisula in Alaska, across the barrens of northern Canada, and finally dropped high up on the Greenland ice cap.

Yet another source of information on the question of annual accumulation is from snow stakes. The yearly snow fall is of interest to the met people also. We cooperateed in this task. Using their official stakes, I set out a line along the zero meridian for about three miles. At this time these stakes have not been read, but the stakes close to camp show very little accumulation. Some of our weasel tracks made last summer are still snow free and clear. One year's data is, of course, insufficient to tell accurately what the accumulation really is and, at best, gives us only an indication.

A small clue as to the effect of the air temperatures on the snow or the reverse, may be seen in the chart below. THe thermal grqdient studies were made possible by the met department and glaciology combining their thermohm results. The chart below is a sample of the temperatures taken about mid-winter. An asterisk marks the material supplied by the met people.

*500 cm above the surface = 196.8 inches	;	-50.3°C.	= -58.5°F.
*surface	;	-51.6	= -60.9
50 cm below surface = 19.6 inches	;	-56.0	= -68.8
100 cm below surface = 39.4 inches	;	- 55.9	= -68.6
150 cm below surface = 59.0 inches	;	-55.6	= -68.1
200 cm below surface = 78.7 inches	;	-54.[illegible]	= -66.6
300 cm below surface = 118.8 inches	;	-54.6	= -66.1
400 cm below surface = 157.4 inches	;	-53.2	= -63.7
700 cm below surface = 275.5 inches	;	-49.2	= -56.6
*1000 cm below surface = 394.6 inches	;	-50.1	= -58.2

Why the snow at the 700 cm level is warmer than the snow on either side of it is due to the effect of the warmer summer temperatures slowly penetrating from the surface. The reverse effect should be noted in the summer.

One of the glaciologist's tools for thesting the relative strnegth of the various snow layers, without actuallt digging pits, is the cone penetrometer, popularly called a ramsonde. The resistance of the snow to the vertical penetration, in kilograms, is called the ram hardness. The table below shows some of the ram tests made here near the Pole station.

50 cm depth in natural undistrubed snow -- ram hardness of 20
50 cm depth in snow slightly disturbed --- ram hardness of 54
50 cm depth of snow mixed to a depth of two feet
by bull dozer -------- ram hardness of 545
at 78 cm ------------ ram hardness of 1200

This last snow shown in the above table was so hard that it took a 10 pound sledge hammer to drive a steel crowbar into it. This was accomplished only after many blows which peened the bar. The mixing of the warmer surface snow with the colder snow found only a few inches below it, forming a hard mizture is called compaction.

An interesting sidelight on the use of the compaction phenomena of snow was in the making of some of our camp walls near the inflation shelter. I had hopes that by using the simple compaction techniques a runway for wheeled aircraft could have been built here at the POLe. Our supplies could then have been delivered intact to our front door. Such a runway would have saved a tremendous bill in parachutes and ruined equipment. At the present time, there are in opera ion on the Greenland ice cap snow compaction runways; perhaps one day we shall have one here. Present snow data did not warrent the construction of such a runway at this tim e.

In closing, I sould like to express my sincere and grateful appreciation for aid you all have given me. Our high elevation and the constant low temperatures in the snow mine made digging the flint snow a tough job. Without your efforts, the data I now have would not have been possible to obtain. Dr. Siple's photo concepts have formed the main avenues of my program. His adivce and encouragment, as well as the many long hours he and Ltjg Tuck have spent digging the mine, will never be forgotten. The U.S. Army furnished the camera and film for the snow pictures and valuable aid from its Snow, Ice, Permafrost Research Establishment (SIPRE). Dr. Taylor's kind efforts in helping me in micro-photography and loaning me his personal equipment to do the job is just another example of his many contributions to our camp made throughout the entire year. Osborne, of course, contributed a great deal to my discipline for he built the cold lab, light box, hand warmer and many other things I couldn't have done without. Landolt aided me in my photo techniques and by building a camera stand that would have served, with equal justice, a camera weighing several hundred pounds more than mine. To my roomate, Waldron, I exteend my appreciation for wiring the lab and lighting the snow mine. My present plans are to return to the Antarctic in the very near future, and it would be a pleausre to be able to serve with you again.

THE NAVAL SUPPORT PROGRAM

Roster of Naval Personnel

Ltjg John Tuck, Jr.	.. Officer in Charge
Dickey, Clifford R., Jr. (ET1)	.. Electronics Technician
Havener, Melvin C. (CM2)	.. Mechanic
Johnson, Earl F. (UT1)	.. Utilities
McPherson, William C. (RM1)	.. Radioman
Osborne, Thomas M. (BU1)	.. Builder
Segers, Chester W. (CS1)	.. Chef
Taylor, Howard C., III (Medical Officer)	.. Physician
Waldron, Kenneth 1 (CE2)	.. Electrician

KC4USN
AMATEUR RADIO COMMUNICATIONS

The station equipment consists of the following: a Collins KWS-1 transmitter, capable of a power input of 1000 watts and a Collins 75A-4 receiver. The antennas used are a 35 foot vertical whip and a two-curtain rhombic (3.5 wave lengths to the leg on 20 meters).

Due to bad tubes in the transmitter, a new final stage was built using a pair of 4-125A's in parallel boosting the "rig# back once again to a 1000 watts input.

Almost everyone at the base has operated the station at one time or another. A rotation system insures that any one who desires to operate the world's southern most amateur radio station may do so.

Single Side Band is the main type of emmssion used and accounts for about 99% of the station contacts. CW is used occasionally for various reasons.

The station has been operated in the 10, 15, 20 and 40 meter bands; although 90% of all operation is on the 20 meter band, the 15 meter band accounts for most of the other operating time. One station in the states has been contacted on the 10 meter band (Julesm natch: K2KGJ). There have been four contacts on the 40 meter band.

Following is a list of confirmed FIRST contacts with KC4USN:

BAND	STATION	EMISSION	DAY AND TIME (GMT)
10 meter	K2KGJ	SSB	052330z Feb 57
15 meter	W1EJV	SSB	030145z Feb 57
20 meter	K2kgj	SSB	240408z Dec 56
40 meter	K9BRS	CW	162315z Mar 57

It can be said in general that the station is on the air whenever band conditions permit and will have close to 3,000 hours on the air in its first year of operation. The number of daily contacts may vary from none to as many as fifty-five. This happened on the 21st of April, 1957; it took sixteen hours of continuous operation and wore out three operators.

The main purpose of the station is to provide us with frequent contacts home. Hamgrams and phone patches to the states from the Antarctic and back are a never-ending stream of traffic. For the first six months of operation at this station, 396 hamgrams have been sent ranging from one word to over 863 words in a single message. The great majority of these hamgrams have been sent to Paul Blum of North Syracuse, New York, and his RAGS Radio Amateur Club (W2KCR). As of 30 July, 308 hamgrams have been received from Paul and other radio amateurs throughout the states making a total of 704 messages handled by this station. Forty-eight different hams have made it possible for us to make more than 217 phone patches to friends and families in the states more than 8,000 miles away. Many of these hams come up weekly to keep schedules with us, giving freely of their time. The Only compensation they receive is the satisfaction of having helped some one.

Through phone patches and hamgrams we have participated in the National Gin Rummy Tournament with Chet winning his game. Pillsbury Mills flew an airplane at 9,000 feet and baked a cake just to keep the "cake-eaters" cakes from falling. Doc Taylor graciously talked with the "Queen" of the Clark, New Jersey Centennial at the request of Jules (K2KGJ). Bob Benson played seven games of chess at once with Dale Rudd through Ted Young (WØCO). Mel purchased a calf. Moose swapped a "chow pot" for a "suit of armor" and organized the "South Pole Chapter of the Izaak Walton League". Doc Siple delivered a speech to the "Army Science Conference" and several other speeches and talks. These are only a few of the many examples of the variety of contacts made over ham radio, not to forget the time we called Art Linkletter (collect from K2KGJ) to see if he would accept a collect phone call from the South Pole. People are funny, he did.

Other than such contacts as these and talking with our families, the station provides us with a source of conversation with other hams and an opportunity just to sit and talk with someone besides the eighteen of us here. Over 2522 contacts have been made to date and this record would probably out-do any woman.

POLAR PROBLEMS OF A MECHANIC

When I arrived at this station the 12th of February I found a D-2 cat with a D-4 engine installed, in the garage. The cab was made of plywood and the track was off and the left final drive housing had been replaced with a new one. This cat had arrived late in November and had been dropped by the Air Force as it was impossible to drive it up due to the mountains and crevasses. It was dropped with tracks and cab off as the tracks are larger than standard size so as not ot bog down in the snow and were too large to go through the bomb bay doors of the plane.

The first mechanic to operate and maintain it was John Randal CM3 who came up with the Advance Party to help construct the Pole Station. Brown CMD1 arrived the 29th of December and then was in charge of the equipment. He received a briefing from Randal as to his experience with the equipment. Shortly after he arrived he became bedridden from a back injury and therefore Earl Johnson, the pole UT, was forced to take the responsibility of BROwn's job. The cat was used to pull in supplies and drag the strip so that the plane that was to bring in the rest of the crew could land. The cat burned its bearings out of the final drive while in this performance and was dragged into the garage by the weasel and the help of about all that were present at that time.

The removing and replacement of the old and new housing and parts was accomplished by Mr. Tuck, Willi Hough, Earl Johnson and Cliff Dickey as Brown was unable to spend any length of time out of the rack. The break down waa caused mainly from the fact that Browny waa in the rack and unable to attend the equipment as required and forgot to tell Earl to check it. The cat was used from 14 to 18 hours a day and due to the cold and heacy use the lub ran low and didn't keep the bearings heat free.

When I arrived on the 12th of February the cat was all put together except for the track. Mr. Tuck, Earl Johnson and I completed the replacement and then I took over the maintenance that Earl was doing before I arrived, I didn't have a chance to talk to Browny as he left on the plane that brought me into the Pole. The plane was on the snow for a matter of minutes.

The cat was then used to drag in supplies that were dropped by the Air Force. I could pull eight fuel drums without pulling the cat down to a gear lower than 3rd. Shortly after we arrived the temperature started to go down and w e operated the cat down to a temperature of 90 degrees bel w zero. The jobs it was used for were t haul supplies, dig out the cream ins, bulldoze spots for levelness and build a ridge around half of the camp about eight feet high. When doing this the cat was up on about a 45 degree angle and steam the antifreeze created from being spilled over onto the engine made it quite difficult to see what the blade was carrying and with the sun shining on the frosted windows it was necessary at times to find my way by looking out the door.

I had a lot of trouble with the hydraulic system as the seals would become stiff and would not form a tight seal and the fluid would leak which would cause the balde to drop on its own accord and was difficult to perform a smooth dozing level.

The cat finally did its last job of hauling chow to the emergency Jamesway at 90 below zero and when brought into the garage the fuel filter housing had a split in the side about eight inches long. I removed it and Johnson brazed it. We put it back on but the seals were ruined when removing it and was unable to get pressure so will have to wait until the parts arrive by plane before we can get it running.

The generators we have are the two D-315 cats. At this high altitude we lose about 1/3 of the power. The oil we are using is 9170 which is to be used in cold temperatures but in the garage it is about 65 degrees above zero. We started out using one to two quarts of oil per day and now after there is more l ad on them we use from 12 to '8 quarts a day. Fortunately we haven't had any long periods of power loss. The only parts I have is two used spark plugs and two fan belts for the engines. The troubles that went wrong on them were the radiators required being removed and cleaned about every six weeks as they became plugged with tge lint and sawdust from the dryer and saw used in the same building. At first the power was very unsteady and by adjustment of the compensating valve on the governor and leaking oil line and regular oil change the power is now at top performance as much as frequency is concerned.

The oil being so thin we lose a certain percent of power in blow by of the rings. By pulling p.m.s as soon as due we have always had a generator ready to go on the line in case of the one running should stop.

We have a new generator setting in back of the galley for emergency in case the other two should be unuseable because of fire or mechanical difficulties.

When able to check and hold inventory on parts received last fall I was very disappointed as I felt certain we would not have power from lack of parts in case the generator should break down but up to this date, the 8th of September, we have been very lucky and both generators are still able to operate. I have six 55 gallon barrels of oil and by the time the next is dropped we will be very close to being out.

The weasel held up very well after it was repaired from the damage due to the drops. When dropped it was about eight miles from where the station is. The transmission was cracked and was replaced with a new one before it was able to be driven and the batteries were also smashed and required replacement.

It was used to haul in lighter supplies mainly but during the break down of the cat it was required to do all of the hauling. We used it to haul snow for the water and Mr. Tuck and Willi Hough made two trips 20 some odd miles to bring back some steel trusses that the parachutes dragged while the wind blew them away. They pulles them in with the weasel up to about 1/2 mile from base and I took the cat out and brought them on in the remaining distance. Due to the cold temperature of 60 or more below the weasel had to be brought in and thawed out as the tracks and rollers will freeze up in a very short time. We hope to have a replacement for both the cat and weasel although if the parts ordered arrive both should be able to do their share of work required this summer.

THE UTILITYMAN'S STORY

Shut it off!! Shut it off!! SCREAMS CHet. Bravo starts to bark furiously; soon everyone takes up the cry. omeobe dashes into Met and repaets the call over the squawk bos to the garage where I throw the switch and then dash madly over to the barracks to dnain the line at that point. So ends another day's filling of the galley water tanks. In case tou were wondering what happened to the snow you cut and hauled up, here are the statisiics as of 16 August 1957. It took seven to nine bags (remember them?) to fill the melter and prodice, after four hours of waiting, about 75 to 100 gallons of water. In the course of a night's time I would empty 12 to 16 bags in the melter. From the 17th of May until the date I mentioned previously we used 21,285 gallons of water, for an average of 202.7 gallons per day. Or, if you would care to look at it individually, you used 11.3 gallons each day, which is very good. I wonder how many of you have gotten over the habit of taking a "shipboard" shower. It sure feels good to just let the water run, doesn't it.

While I'm in the statistic giving mood I'll tell you about the fuel oil usage. Both diesel generators used about 2.2 gallons per hour. The barracks stove used about five to eight gallons per day. The jet heaters, when I could keep them running, used some three or four gallons. As of August 15th we had used 400 barrels of fuel and had 410 left. For a grand total, the base as a whole used 1.8 barrels of fuel per day, or about 95.5 gallons.

Talking about jet heaters. "#$%&'%# A rora towers! #$%(#)! These I wouls like to forget.

As the Naval Postal C;erk I cnacelled about 12,000 to 14,000 letters, all philatelic mail, plus the letters that all of you gave ma and all the ones that the plane crews brought in with them. I think those who saw it will always remember our first air drop, and I do mean drop, of mail in February, 1957, and the resultant hunt for missing letters. I don't think that I ever saw a C-124 leave the area so fast.

The next section of my work I was going to skip, but dae to the "friendly advice" given to me by two members of out little group, I changed my mind. Let me say at this point that the next bit of onformation wouod not have been possible without the kind cooperation of Bob Benson, who had been making this particular study for the last 155 days. After I had averaged all of the data, we came to this earthshaking find: the average seat level temperature was .minus 21.8. The chill effect at first was tremendous, but later with the aid of Doc Taylor's invention upon which I made a few improvements, we came up with our present "door-seat" system. Underneath, using a hydraulic system of shall we say "mining" proved quite effective but left the room with a very particular air to it.

Chet's oven proved a swell "proofing box" for the castings that I had to braze. It preheated them nicely and provided for just about the proper cooling needed. I must confess that it did look rather strange to look in the oven to see "what's cooking" and finding a Cat fuel housing baking contently.

That 's about all that I can think of that would interest you at all, so I'll leave you with this pleasant memory - "Remember the rolling of the fuel drums".

BUILDING AT THE SOUTH POLE

After being marooned at McMurdo for six weeks, I arrived here on the last plane on the 12th of February. Looking around I could see that there was plenty of work for a builder here. One morning after the airdrops were over, all hands turned to and we dismanteled the Jamesway and laid the foundation for the 20'x56' Clements barracks building. On the next day we put up the building. Soon after the inside was finished, we moved in. I laid the linoleum in the passageway during the night time. To enclose the barracks within the tunnel net-work, I spliced onto the garage joist connecting the tunnel to the side of the barracks. I spliced onto the mess-hall tunnel joists and also tied onto the main tunnel in the same way, thus retrieving the 2"x4" that were in the tunnel sidewalls. By this time I could see that I would soon be short on lumber since there was none dropped for the winter period. The only plywood that I had was the plywood on the pallets which the Air Force dropped; it was pretty beat up. I then constructed a tunnel from the garage to the messhall. With this the barracks was enclosed on all four sides. Next came the job of building a tunnel over the Jamesway which proved to be quite interesting. Mel helped me on these two jobs.

Just before the sun went down Mr. Tuck and Mel helped me put up the Observatory building, and I finished it off by putting the second deck in with platform steps and installed the dome in the overhead. I then continued the tunnel from the inflation building to the snow tunnel.

The next job was to construct two photo labs followed by the construction of the cold lab next to the science building. Linoleum was laid in the hobby room, radio shack, meteorology department and the science building. A cabinet was made for the phonograph, records and the speaker.

I have spent more than a few days up in the aurora tower, hanging blower fans and cutting holes here and there. The over-head looks like a swiss cheese.

A CHEF AT THE SOUTH POLE

When I arrived at the South Pole, it was necessary for me to fix up the galley. I had to put in panels, shelves, tables, and all of the equipment I needed except the stove, counter, and sinks. Under the water tanks I built a store room. Everything has to be brought in about a week before using it since it t akes that long for the food to thaw out.

I have store caches outside the galley and messhall and one at the other end of camp between the Jamesway and the Science building. I also have an emergency food cache about 250 feet south (towards New Zealand) of the main camp. This cache is by the emergency Jamesway. The supply of food stored there would carry us about six months, but I hope we don't have to eat it for there are few goodies.

When I first started to bake, I had trouble with bread drying out; I soon found that by cutting down on yeast, proofing time, and putting the bread in a plastic bag, it would stay fresh. I also had trouble with cake-falling while it was in the oven. The falling was due to sea level recipes which do not work at 9200 feet elevation. But now I have a recipe that works ok. The secret is to reduce the baking powder.

Water boils at about 170°F. Any fresh frozen vegtables, dry beans, and tough chicken, and anything in that line has to be cooked in a pressure cooker because they will not get soft (done) in an open pot.

The amount of food allowed per man per day is one pound of meat and 2/3 pound of vegtables such as green beans, spinach, potatoes, peas, carrots, and lima beans. The total weight of food per man per day is six to eight pounds. THis includes flour, shortening, juices, cookies, jam, jelly, peanut butter, desserts, and etc.

We did not get any fresh vegtables after the planes left in February. All the vegtables except for a few fresh frozen vegtables are canned and dehydrated. We received about 6,000 pounds of fresh meat --- chicken, turkey, ham, beef, pork, veal, and liver. THe pork, ham, chicken and turkey we had to use first by orders since it is claimed their keeping quality is only six months. The remainder of the winter we had to eat beef and a little hoarded chicken. All the remainder of the meat is canned --- chicken, turkey, porksausage, bacon, frankfurters, ham chunks, beef, and shrimp. The only eggs are powdered and frozen so that all they can be used for is scrambled eggs and cooking.

There are four tables in the messhall that will each seat four people, which leaves two to wait or scramble for seats.

The cook stove is a converted oil stove that was built about 1898 and smokes nearly all the time. The messhall and galley are black with soot. However the stove is very good for baking when it stays hot.

The two water tanks in the galley hold about 300 gallons of water. These are filled by a pipe from the storage tank in the garage. The pipe runs part of the distance through the main barracks building to help keep it from freezing. The UT takes care of the filling of the tank.

THE MEDICAL STORY

The history of the South Pole Medical Department begins in January, 1957, with the arrival of the medical officer and a two hundred pound case of medical supplies. The first sick bay was planned for the grid north corner of the mess hall, but this location was appropriated for library space shortly after the partitions had been erected and shelves built. The new sick bay in the south corner of the Science Building was far superior to the first. The floor space measured 8x12 - adequate for a treatment room and a laboratory as well, and so during the six weeks when the planes did not fly, the construction work was undertaken using any scrap lumber available.

The work was fortunately almost complete by the time the Air Force returned so that the supplies could be moved into their assigned places. A short section of the south tunnelw was laid aside for the large medical crates which were to be used for storage. The vital security locker arrived upside-down but with its precious cargo intact and was therefore pushed by the D2 up to the edge of the garage tunnel to form part of the south tunnel wall.

We will all remember these summer months as hectic and disorganized. I remember it as a time when it was imperative to find the head mirror somewhere in the dozens of crates among the thousands of skillfully packed items. I recall finding the band and then searching for two weeks before finding the mirror itself. Gradually, however, the chaos decreased and order reigned. Sometime in April sick bay was complete and ready for business.

A doctor soon finds, however, that the South Pole is not a good place for the business of medical practice. Outside of a few hundred splinter removals, a handful of aches and pains, and one ot two trifles too delicate to mention, illness and injury were not to be found.

So it was that various research items werr started. Who can forget the insomniometer and how after months of hard engineering, the s econd modification of the third revision destroyed itself in a blindly flash of blue light? Or the "1-5" Day and Night Study which resulted in the astounding discovery that the average was "3"? Or the fungus collection which indicated that there was fungus all over the place, especially a nasty little green one (which we suspect Dr. Siple grew in his hydroponic garden out of shear spite).

So it was the months went by in the medical department. In August the series of medical lectures was started. The topics covered were: Embryology, the Brain, the Heart, the Digestive System, the Kidney, the Male Reproductive System, the Female Reproductive System, Pregnancy, Childbirth, Alcohol, and others - each topic being covered in about an hour and a half on THUrsday nights. I will remember these discussions as one of the more gratifying achievements of the year in that they helped to dispel some of the useless feeling that can overcome a person who has none of his chosen to do.

If we summarize the medical work of the South Pole 1957, we end up with a very negligible list. All the tons of medical supplies and the doctor as well were sent just in case of emergency, and even though it was tedious at times to have no major problems to treat, I am still grateful that the health of the group was always good and that the year passed without serious accident or injury.

ELECTRICAL REPORT

"Junior, the voltage is too low, or too high" was many a greeting besides "Guess we'll have to use candles" after a power failure. At any rate here is my electrical report.

Three diesel Caterpillar D-315, thirty kilowatt electric generator sets modified to single phase 120/208 volts AC, were supplied for primary power. Two of these were housed in the garage where they were used alternately and not only amply supplied electrical requirements but also produced by-product heat sufficient to heat the head, garage and electrical shop besides melting the snow for our water supply and drying out clothes. Many of us also used the generator to warm ourselves and equipment.

Electrical power was also sufficient for provision of power ventilation, heating units and opulent lighting, which until Deep-freeze Antarctic stations, had been unknown to the Antarctic. Main places utilizing power heating and ventilation were the inflation shelter, head, meteorology office, rawin dome, science building and radio department. These same areas were also the large users of electricity.

A most difficult rask was outside wiring where the cable insulation would freeze and crack away causing much trouble besides cold hands. HOwever, by doing the maximum preparatory work possible inside on cable and using an aceytlene torch outside, this problem was somewhat alleviated.

Some of my problems included the lack of materials, for example, which required the use of coffee cans for outlet boxes and other expedients. Maintaining visually clear domes in the aurora tower utilized practically every good fan in camp. Fire alarm "jury rigged" cable connectors caused many false alarms which brought me cl se to being hanged by this cable.

The telephone and the meteorology "squawk boxes" were our two communications systems. The latter often utilized to pipe music (such as "Rock Around the Clock" by Bill Haley) from one end of the camp to the other

To give a better pidture of how our base consumed power, this table illustrates the power loads.

CONTINUOUS LOADS	POWER DRAWN WATTS	INTERMITTENT LOADS	POWER DRAWN WATTS
60 lights 4 fluorescents	4,120=	1 fluorescent 108 lights	9,880
radio equipment	660	radio equipment	2,760
80 outlets for 4 desk lamps, 14 fans, various scientific and living equipment	12,100	46 outlets for 22 desk lamps	1,200
		142 outlets for miscellaneous equipment (drills, saws, fans, science equipment)	10,000
		ionosphere recorder	3,300
		print dryer (darkroom)	2,000
		wood saw	1,100
		winch for hauling snow	2,000
		drill press	1,650
		jet heaters	2,200
		clothes dryer	6,600
TOTAL CONT. LOADS	16,880	TOTAL INTERMIT. LOAD	40,490

* Not true watts as power factor is unknown but kilovolt-amperes.

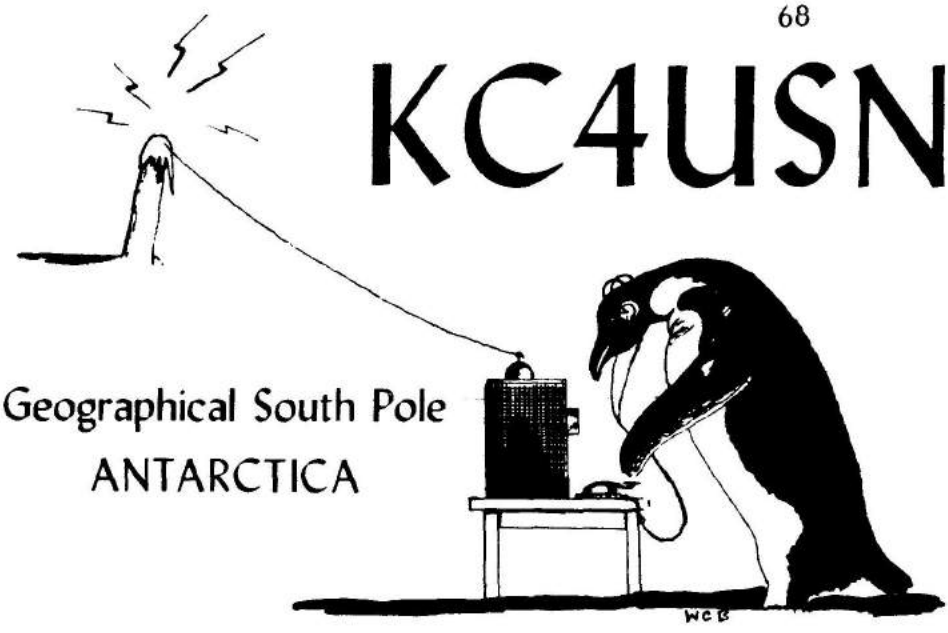
Actual average power consumption is approximately 18 kilowatts and the maximum is approximately 24 kilowatts. All of the above listed outlets are actually split into singles to give a better idea of power drawn.

Below are more statistics as to power drawn and the amount of equipment.

Lights, incandescent	190
Lights, fluorescent (twin 40 watt quick start)	5
Duplex outlets	134
Single outlets	4
Explosion proof outlets (single)	4

In closing, I would like to thanl all my campmates for their understanding and cooperation.

OUR AMATEUR RADIO FRIENDS



The following is the list of the amateur radio operators through whom we had most of the contacts with our families and firends. We shall always be grateful for their faithful and friendly aid.

W2KCR Paul C. Blum (Paul), 101 Kristin Road, North Syracuse, New York; Hamgrams for all personnel.

K2KGJ Julius M.J. Ladey (Jules), 1037 Raritan Road, Clark, New Jersey; Phone patches for nearly everyone; also passed hamgrams.

W_1EJV Alexander A. Yankaskas (Yank), 57 Grove Street, Plainville, Conn.; Phone patches for Mr. Tuck and Chet.

W1UMC John C. Kiley, Jr. (Jock), 109 Essex Road, Chestnut Hill 67, Mass.; phone patches for Mr. Tuck.

W1ZPG Warren H. Hinterland (Warren), 187 Garden St., Cranston, R.I.; Phone patches for Mac and Chet.

W3HN Samuel E. Newman (Sam), 2921 Terrace Dr., Chevy Chase, Md.; Phone patches for Dr. Siple and Ed r.

W3UKF John A. Rose (Doc), 2808 Midvale Ave., Philadelphia 29, Pa.; Phone Patches for Ed R. and passed hamgrams.

W3ZQ Harold R. McBirney (Harold), 8615 Grant St., Bethesda, Md.;
W3ZQ Phone patches for Dr. Siple, Ed F., John, Ed R., and Floyd.

W4AFB Crutcher W. Dunlop (Crutch), 606 Monroe Avenue, Memphis, Tenn.; Phone patches for Floyd and Ken.

W4AHG Byron S. Roudabush (Byron), 203 Valley Brook Drive, Falls Church, Va.; Phone patches for Dr. Siple and Ed R.

W4ECI Everette C. Atkerson (Ack), 1161 Shades Crest Blvd., Birmingham, Ala.; Phone patches for Ed R. and Chet.

W4JPP James H. King, RFD 1, Box 35-A, Fern Creek, Ky.; Phone patch for Chet.

W4KQW Reynold A. Champagne (Ray), 827 Ridgeland Drive, West Palm Beach, Fla.; Phone patches for Earl.

W4LZ Edward Blevins (Ed), Williams Road, Plant City, Fla.; Phone patches for Ed F. and Earl.

W4OYG Emmett G. Karnes, RFD 8, Box 430, Louisville, Ky.; Phone patch for Chet.
W4SFW Frank J. Ambrose, Jr., 2 Star Island, Miami Beach, Fla.; Phone patched for Chet.
W4TCU Curtis E. Smith, Lake Bonny Island, Lakeland, Fla .; Phone patches for Chet.
W4TWW Coleman B. Rowland (Rollan), RFD 7, Box 210, Charleston Hgts., S.C.; Phone patches for John and Earl.
W4VQE Myron T. Kelley (Myron), 426 East Drive, Oak Ridge, Tenn.; Phone patches for Chet and Ed R.
K5EVS Amateur Radio K5EVS (R.J.), Orem B. Gambill, 2514 N. Garrison Ave., Tulsa 6 Oka.. Phone patches for Floyd and Ken.
W5GZK Albert H. Allen, 504 W. 21st St., Phone patches for Floyd.
W5YVJ Bernard Paul (Paul), Lazy-P Ranch, Pifer Road, Houston, Texas; Phone patches for Floyd and Chet.
K6ALL Gerald H Sullivan (Sully), 11461 San Fernando Road, San Fernando Calif.; Phone patches for Cliff and Bob.
W6AZR Harry Flyer, 459 North LaJolla Ave., Los Angeles, Calif.; Phone patches for Dr. Siple, Mr. Tuck, and Willi.
W6CYX Robert Warmke, 1034 Camino Pablo, San Jose, Calif.; phone patches for John.
W6FMA George Pierson 5646 Lasaine Ave., Encino, Calif.; Phone patches for Dr. Siple and Herb.
W6KJS Carlyle R. Norman, 1190 Fordham Way, Mountain View, Calif.; Phone patches for John.
W6LSZ John J. Reilly, 5 Terry Lane, Orinda, Calif.; phone patches for John.
W6NAZ Lenore K. Conn (Lenore), 14867 Round Valley Drive, Sherman Oaks, Calif.; Phone patches for Cliff.
W6ZNT Richard W. Fox, 6139 No. Reverton St., North Hollywood, Calif.; Phone patches for John.
K8AEC Lyle H. Martin (Ron), 5 Hollywood Court, Mount Clemens , Mich.; Phone patches for Dr. Siple, Cliff and Earl.
W8JYJ Cyrus C. Jenks (Cy), 1220 So. Congress St., Ypsilanti, Mich.; Phone patches for Dr. Taylor and Earl.
W8PUD John J. Schleich (John), 1961 Seneca Rd., Cleveland, Ohio; Phone patches for Dr. Siple and Cliff.
K9GGQ Ken Lord (Ken), 210 Liberty, Barrington, Illinois; Phone patches for Herb.
W9KZD Homer C. Butler (Homer), Post Office Box 13, Ashland, Illinois; Phone patches for Dr. Siple, Ken, Ed R., and Floyd.
W9RUK Marvin H. Eichorst (Ike), 1403 Pleasant Road, Glenview, Illinois; Phone patches for Cliff and Ken.
KØBFS Helen A. Hagen (Helen), RFD 3, Box 311-A, Mound, Minn.; Phone patches for Bob.
WØCO Sumner B. Young (Ted), Vill. of Woodland, RFD 3, Wayzata, Minn.; Phone patches for Dr. Siple, Bob and John.
KØEPJ Amateur Radio KØEPJ (Mort), Alva A. Smith, 238 E. Main St., Caledonia, Minn.: Phone patches for Herb, Mel and Ken.

WØFUH Leonard H. Guldman (Len), 3499 So. Bellaire St., Denver, Colo.; Phone patches for Willi, Cliff and Herb.

WØHSV Harold E. Reid (Harold), 2636 Country Club Paryway, Cedar Rapids, Iowa; Phone patches for Herb, Mel and Ken.

WØIWR Rollyn C. Trieman (Claude), 13-C Lake Shore Drive, Lake Montowese, House Springs, Mo.; Phone patches for Arlo.

WØNKR Kenneth H. Cooper (Ken), RFD 3, Box 288-F, Greeley, Colorado; Phone patches for Willi.

WØSYF Ernest W. Pappenfus (Pappy), 1101-30th Street Drive S. E., W Cedar Rapids, Iowa; Phone patches for Dr. Siple, Herb, Mel and Ken.