

SRH- 316

U. S. NAVAL SUPPLEMENTARY RADIO STATION

ADELAIDE RIVER

NORTHERN TERRITORY

AUSTRALIA

23 MARCH 1943 - 21 SEPTEMBER 1945

CERTIFIED TO BE UNCLASSIFIED
by Director, NSA/Chief, CSS



Date: 27 August 1984

REVIEWER'S NOTE:

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U.S. Naval Supplementary Radio Station

Adelaide River

Northern Territory

Australia

23 March 1943-21 September 1945

NOTE: The attached document was prepared by Naval personnel with access to various historical records with the objective of bringing diverse records into a usable narrative history of a Naval activity. The document does not constitute an official Navy history and no claims are made regarding its completeness and accuracy.

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U. S. Steeple Supplementary Radio Station
Adelaide River
Northern Territory
Australia

The Northern Territory is the north-central part of Australia some 523,620 sq. mi. in area. Before World War II brought thousands of military personnel and workers north to construct and man a major naval base at Darwin, there were fewer than 5,000 Australians in the whole territory. The land in the Northern Territory rises gradually from the coast reaching a general height of 1,700 feet with the highest point, Mount Kintore (3,300 feet), located in the southwest. There is much good grazing land but the southern part of the territory is mostly sandy desert. The climate along the coast is tropical with side variations in climate inland.

The capital and chief port of the Northern Territory is Darwin which was heavily bombed by the Japanese during the early days of the war. Darwin was originally connected to the south by defense road, completed in 1940, via Birdum to Alice Springs. Information on rail transportation at the time is not available. It is known that about 1953, a railroad ran south from Darwin some 275 miles to a terminus at Birdum. The terminus for the railroad coming up from the south was Alice Springs. However, by the early 1960's, it was reported that Darwin was connected with the south by two railroads in addition to the road.

Approximately 80 miles to the south of Darwin is Adelaide River (see Appendix A). Although listed on present maps as a population center, the only census which can be found is for the district. In any case, it cannot be nor have been very large because the total population for the district is 300 people as compared to a population of 73,000 for the entire territory based on the 1970 census.

The U. S. Naval Supplementary Radio Station, Adelaide River, Northern Territory, Australia, was conceived by the Fleet Radio Unit, Melbourne (FRUMEL) in late 1942 to establish an intercept station in Northern Australia to cover Japanese shore-based and afloat communications in the islands north of Australia. The plan was formalized in a 15 January 1943 letter from FRUMEL to the Commander, Southwest Pacific Force which proposed the establishment of, "...a U. S. Navy Intercept Station at Darwin (Adelaide River) to cover high and intermediate frequency Orange ((Japanese)) radio transmissions from the South China Sea - South Pacific area..." The letter went on to discuss the establishment of a 24-hour teletype circuit between the Adelaide River station and FRUMEL in order to provide immediate delivery of all Darwin (Adelaide River) intercept to FRUMEL unenciphered. To accomplish the establishment of the circuit, it was proposed to reallocate existing channels in a Melbourne-Alice Springs-Adelaide River teletype circuit.

A 29 January 1943 message from FRUMEL to OPNAV and CCM14 reported that ENS K. E. Goodwin¹ and Radio Electrician S. A. Burnett had departed Melbourne that day to conduct a site survey around Darwin and Adelaide River for the establishment of the proposed intercept station. A request had already been submitted to the U. S. Army for a dedicated 24-hour teletype channel to be activated as soon as construction was completed. It was planned to man the station initially with ENS Goodwin, RADELEC Burnett, and 12 Kana-trained operators. On 14 February, RADELEC Burnett submitted a rough report on the Adelaide River site survey. Using receiving facilities at the U. S. Army Base Section ONE, Darwin, to make the survey, he reported the receiving conditions at Adelaide River were considered to be superior to other sites in the area.

On 26 February 1943, the Officer in Charge, Fleet Radio Unit, U. S. South-

1. For information on ENS Goodwin and other personnel assigned to Adelaide River, see Appendix B.

west Pacific Force, forwarded a progress report to the Commander, Southwest Pacific Force. The site at Adelaide River selected by the survey party had been obtained through the Deputy Assistant Director of Hirings, Rear Headquarters, Northern Territory (ALF) covered by National Security (General) Regulations #53 and existing orders under Regulation #55. The Department of Works had agreed to deliver to the site and erect the housing necessary for berthing, messing, and operations including a power and a water supply, sanitary facilities as well as the erection of ((antenna)) masts, etc. Housing was to be sectional, pre-fabricated masonite hut-type structures. It was estimated that the building materials would arrive at Adelaide River on 25 March. Supplies to run the station were being assembled and packed by the local (Melbourne) Supply Department. Personnel to operate the station were to be provided by the Fleet Radio Unit with a projected complement of two officers and about 20 enlisted personnel, with plans to rotate the personnel every six months. (On 21 February 1944, a reference was made to a policy of rotating enlisted personnel after eight months on board.) In addition to the operations personnel, two Ship's Cooks and one Machinist's Mate were requested as support personnel. Men and material were tentatively scheduled to depart Melbourne on 10 March.

On 24 March, a message from the U. S. Army Base Section ONE to LCDR R. J. Fabian, USN, Australian Commonwealth Naval Board, Melbourne, reported that ground at the Adelaide River site was to be broken on 25 March but completion, then not anticipated before 15 April, was dependent upon the arrival of the building materials. On 25 March, it was reported that the personnel and supplies from Melbourne had arrived at 1600, 23 March, and the personnel were billeted and messing at the U. S. Army Base Section ONE. The local Works superintendant had received his instructions and plans on 22 March but had no word on the building materials. As soon as the generators were set up, ENS Goodwin planned to

establish night watches on the site, apparently in tents furnished by the Army, during the periods that the Works laborers were not working on the site.

On 27 March 1943, the unit was designated as Fleet Radio Unit, Adelaide River Detachment, and its location was given as about two miles northeast of Adelaide River, Northern Territory, and about 75 miles south of Darwin.

On 5 April, ENS K. E. Goodwin reported that station personnel were still being billeted at the U. S. Army Base Section ONE. Reference was made to a message which stated that station personnel had possibly been exposed to typhoid fever while enroute to Adelaide River. Two men had entered the hospital shortly after their arrival at Adelaide River but the diagnosis was dengue fever. A pipeline and pumping station were being set up to supply the station with water pumped from the Adelaide River, about one-half mile from the station, into a 2,000 gallon storage tank. This was an interim measure until a well could be dug. Concrete foundations had been poured for the generators and the operations building, and would shortly be poured for the barracks foundation. The teletype circuit installation project was nearing completion. As an aside, the temperature was reported as not bad - 103° F.

On 8 April, the station was referred to as the U. S. Naval Detachment, Adelaide River, Northern Territory, Australia. At the same time, a Commander, SEVENTH Fleet (COM7THFLT) letter to OP-20G stated, in part, that the total initial complement at Adelaide River was to be two officers, 18 intercept operators, one Machinist's Mate, and two Ship's Cooks. For operations, they would have six HERO receivers, one RAK-2 receiver and two PAS-1 receivers. A Model DAG HFDF set was available and it was planned to ship it to the station in the near future to assist in target identification.

On 17 April, ENS Goodwin forwarded a description of the station as it would

look when completed:

Operations Building	- corrugated iron on rough hewn timber frame (same for all buildings) 12'x30' with a cement deck
Barracks	- 12'x60' with a cement deck
Mess Hall	- 12'x40' with a cement deck
Masts	- 50' iron pipe in three sections set in cement blocks
Power House	- 10'x12' with a cement deck

The projected date for the completion of all construction was now 15 May. The receiving antenna system in 1943 consisted of one "V" antenna and 20 doublets covering a range from 3.5 to 19.54 MHz over a range of 0° to $135/315^{\circ}$.

During this period, Naval elements in the Darwin area primarily depended on the Army for supplies as evidenced by a 29 April 1943 letter from the Commander, Service Force, SEVENTH Fleet (COMSERV7THFLT) to the Officer in Charge, Naval Activities, Darwin, citing the arrangements which had been made to authorize the Commanding Officer, Base Section ONE to provide the U. S. Navy in the area with subsistence and general Quartermaster supplies. The arrangement would continue until there were sufficient Naval personnel in the Darwin area to justify the establishment of an independent Navy supply system.

On 16 May 1943, ENS Goodwin reported the new projected completion date for construction as 28 May. From his description, construction of the operations building, power house, barracks, mess hall and officers' quarters was complete with most equipment installed and working; only finishing touches remained to be accomplished. The legal description of the station's property, as it was then constituted, was given as being located at 131-08-00E and 13-13-27S, "Part of Section 108 hundred unnamed East of Adelaide River, County of Palmerston, and being part of the land comprised in miscellaneous Lease No. 97 entered in the Register Book of Crown Leases, Volume 3A, Folio 17." The land comprised about three acres situated on two slight elevations and bisected by the "Old Mount Bundy Road", no longer in use. He also stated that

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the buildings had been camouflaged by the Allied Works Council personnel with a spray job of green and brown shades in irregular patches. Roof edges were staggered to preclude straight lines. The station had an electric and a kerosene refrigerator, the latter having been left by the former Naval Observer at Darwin to be turned over to the first U. S. Navy activity returning to the area.

In another, and apparently more informal letter of 16 May, ENS Goodwin described some of the difficulties and conditions being encountered by the station. They needed clocks. The available electric clocks were unable to keep accurate time on electrical current which varied between 45 and 52 cycles. An eight-day pendulum clock simply wouldn't keep time. The teletype machine was a source of continual problems. The Army repairman, assigned to maintain the equipment, had been unable to obtain spare parts for his own equipment for about a year and the improvised replacement parts frequently broke down. Fresh meat was usually available for issue six days out of the week with tinned fish provided on Friday. The cigarette issue was three cartons per month and the beer ration was one bottle per man per week, when available. Cigarettes, beer, and clothing were obtained from the Army Quartermaster. Some recreation material including books, a radio, and a phonograph, had been obtained from the Army and the Red Cross. Bug-proofing of buildings could only be accomplished by use of an extremely fine mesh screen. Blackout of the operations room was considered practical in that no direct light could be seen from the air. ENS Goodwin also stated his belief that the station was the only one in the territory not guarded by sentries. Although no photographs of Adelaide River are available, the drawings in Appendix C give some idea of working conditions and what the station looked like.

In both of the 16 May letters, ENS Goodwin listed the station's title as

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Fleet Radio Unit, Adelaide River.

On 29 May, Fleet Radio Unit, SEVENTH Fleet (FRU7THFLT) requested that COM7THFLT obtain authorization from the Army to up-grade the equipment on the teletype circuit between Adelaide River and Melbourne. Traffic delivery was running 12 to 24 hours behind due to line problems, teletype failures, and the lack of separate perforators. Teletype failures were a particular problem since the Naval personnel were not authorized to make repairs or adjustments on the machines. This service was provided by the U. S. Army through the Signal Officer at Base Section ONE, Darwin. At this time, eleven receivers were installed and 16 intercept operators assigned to cover the total intercept mission. A memorandum from FRU7THFLT to OP-20G listed Adelaide River's intercept mission at the time as follows:

- a. Makassar, Ambon, Surabaya, Balikpapan, Manado, and Manokwari 6340/12680A
- b. Surabaya, Saigon, Singapore, Manila, Davao, Makassar, Balikpapan and Takao 5660A/11320A
- c. Ambon and all primary and secondary bases in Banda and Arafuto Sea area 4092.5J/8185J
- d. Ambon, Surabaya, Balikpapan, Makassar, and 23rd Airflot (Kendari) 4900J/9800J
- e. 25th Base Force Manokwari, Detachments of 25th Base Force and ships and units in area 7755J

These circuits were covered continuously when audible. Traffic was forwarded to Melbourne via teletype and photographed for OP-20G. On 21 June 1943, Adelaide River's equipment requirements and assets were listed as follows:

<u>Equipment</u>	<u>Required</u>	<u>On Board</u>
Receivers	18	9
RIP-5	15	8
Line amplifier	1	0
Tape recorder	1	0
Tape pullers	2	0
W. U. typewriter	1	0

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Equipment (cont)

Required

On Board

Frequency meter	1	1
Tube tester	1	1
Signal generator	1	1
Typewriter (standard)	1	1

In a 5 August 1943 memorandum from CDR J. S. Holtwick, Jr., USN, FRU7THEFLT, to the Chief of Staff, COM7THEFLT, it was proposed that the complement at Adelaide River be expanded by approximately 14 to 16 men, in addition to the probable establishment of an additional station on Thursday Island, off the tip of Cape York Peninsula, Queensland, consisting of about 16 men. Personnel and equipment were either available or enroute to Australia to accommodate these proposed expansions but it would be necessary to expand the operations spaces, mess hall, barracks, as well as sanitary and storage facilities at Adelaide River to provide for a total of 40 men. This proposal was accepted and, on 7 August 1943, the Commander, Southwest Pacific Force requested the Australian Commonwealth Naval Board to initiate immediate action for the Allied Works Council to provide the required accommodations.

On 12 August, LTJG Goodwin forwarded an outline of an intercept coverage plan for Adelaide River based on this expansion using 34 to 36 operators and 16 standard high frequency receivers covering a frequency range between 4000 and 7825 KHZ. The Naval address used for Adelaide River in this letter was:

Fleet Radio Unit Detachment
Navy 245
FPO San Francisco

On 13 August, CDR Holtwick forwarded a letter to LTJG Goodwin which reportedly contained an instruction book for a Model DAB-3 HFDF equipment being sent to Adelaide River. LTJG Goodwin was instructed to carefully read the instruction book and then select a site so the equipment could be set up immediately upon arrival.

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In an undated report believed to deal with the selection of a site for the HFDF installation, the Adelaide River district was described as consisting of valley and hill country varying from lightly wooded rises and hills to steep cliffs and mountain ranges. Most of the valley flat lands consisted of everything from broken shale and red dirt to extensive clay pans of gray powder dust which flooded during the rainy season. The intercept station was located on a series of lightly wooded hills and rises about three miles from Adelaide River center. Adjacent to the station was a large clay pan some miles in area which had been used as an emergency landing strip during 1942 but was abandoned since it could only be used during the dry season. During the wet season, it would flood to a depth of a few inches with the unflooded area turning into wet clay while in the dry season, the surface turned to a powder dry surface soil of low conductivity. However, even in the dry season, water could always be found a few feet beneath the surface. It was decided that this particular clay pan would serve well as an HFDF site; particularly since this and other clay pans in the area were about the only flat areas of sufficient size. This clay pan was sufficiently close to the station to permit using the station's generators by running overhead power lines to a point near the site and underground the remaining distance. It was planned to locate the HFDF building on either a natural rise in the area or on a man-made rise to put it above the water level in the wet season. One problem immediately arising the construction of an HFDF building was the lack of lumber for sheathing of bulkheads and the roof because no saw mill was available. Lumber for framing was available using local bush timber stripped of its bark but corrugated iron was generally used as siding and roofing. Until sheathing lumber became available, it was apparently planned to use painted canvas. The report mentioned some testing was accomplished using a small portable HFDF set which had been furnished to the station, perhaps the Model DAG set mentioned earlier. Receiving

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conditions were known to be good and no difficulty was expected with the planned HFDF installation.

In September 1943, a 25'x25' cement-decked building was constructed on the northwest corner of the station to house the Model DAB HFDF equipment. The site was chosen as being free of any interference but it cannot be definitely stated that this was the clay pan area previously discussed. This HFDF equipment was reportedly used primarily to support the intercept mission by locating Japanese transmissions and did not participate in an HFDF net except on request. A narrative written in August 1945 stated that HFDF bearings from the HFDF station at Exmouth Gulf were forwarded to the Royal Australian Air Force W/T (Wireless Telegraphy) Unit #2 or 51st Australian W/T Section at Bachelor, Northern Territory, for use in conjunction with their own. The Exmouth Gulf bearings were then forwarded to Adelaide River for delivery to FRUMEL along with Adelaide River's bearings. On 30 November 1943, FRU7THFLT gave the DAB's coordinates as 13-13-27S 131-07-53E (225 yards due west of the intercept station measured by pacing). As of 15 January 1944, it was reported that work had been completed and the DAB was functioning although its accuracy was yet to be checked out. In December 1944, this DAB was dismantled and reportedly shipped to Manus Island for installation. However, a 10 May 1945 FRU7THFLT news memorandum reported that the Model DAB HFDF equipment at Adelaide River had been dismantled and returned to Melbourne for the ultimate purpose of being turned over to the Australians but after the equipment had been checked over by the electronics repair personnel, it was stored in a warehouse because the Royal Australian Navy advised they couldn't use it. In addition, reference was found in FRUMEL files to a 4 November 1944 message which reportedly deleted Adelaide River from the Mid-Pacific Strategic HFDF Net but, as stated, other notations in Adelaide River files stated that the HFDF site

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participated in a net only upon request.

LTJG Goodwin was also informed of the shipment of two Diesel generators; one slated for Adelaide River and the second for a planned intercept and HFDF station at Cooktown. The original generating plant provided for the station had consisted of two 5 KVA and one 18.5 KVA gasoline-powered generators. Due to problems in obtaining spare parts and increasing station power requirements, the 18.5 KVA generator was ultimately replaced by the 18 KVA Diesel unit with the two 5 KVA gasoline units in standby. In June 1944, a 20KVA 6600/440V transformer was installed by the Allied Works Council. This power source was capable of handling the station's total power requirements with the exception of the transmitter site at the Mount Bundy Homestead.

There was apparently some bureaucratic foot-dragging regarding the construction work required by the planned expansion of Adelaide River because work had not started as of 2 October 1943, and no projected initiation date was available. Six men had already been transferred to Adelaide River in anticipation of the expansion and there was concern that the impending rainy season would set in before the work was completed. In a 6 October 1943 Allied Works Council letter to the NOIC, Naval Headquarters, Darwin, the expansion project was estimated at £ 2,100. On 16 November, FRU7THEFLT reported to COM7THEFLT that the branch of the Allied Works Council scheduled to handle the Adelaide River expansion construction still had not received any word about the project. For this reason, the U. S. Navy Liaison Officer, believed to be at Darwin, had forwarded a request on 13 November to COM7THEFLT requesting authorization to employ 20 Construction Battalion (SEABEE) personnel to complete the project. This request was apparently approved because on 15 December, it was reported that work on the expansion of facilities at Adelaide River, including the installation of the Model DAB HFDF equipment had been started by SEABEE

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personnel. As of 15 January 1944, the work had been completed by personnel of the 84th Construction Battalion from Darwin and from the Allied Works Council, Adelaide River.

Water continued to be a problem for the station. On 3 March 1944, LTJG Goodwin forwarded a letter to the Superintending Engineer, Allied Works Council, Adelaide River, stating the existing water supply was inadequate. He cited a requirement for 2,000-3,000 gallons of water per day which required the existing pumping station to operate 10-15 hours per day. In addition, the pump had broken down after only three months of operations; probably due to undue wear and tear and its being improperly mounted. Reference was also made to the extremely poor quality of the well water available and heavy sedimentation. This well had been drilled to a depth of 106 feet in July 1943 to replace the temporary water system which had drawn water directly from the Adelaide River.

FRU7THFLT news memorandum for the period 16 April-16 May 1944 made reference to LTJG Raymond Katzenberger having relieved LTJG Goodwin during the latter's TAD to Melbourne. It was reported that LTJG Katzenberger would remain at the station as AOIC until needed to fill another billet.

On 11 July 1944, FRU7THFLT submitted a request to COM7THFLT for an additional teletype line between FRU7THFLT and Adelaide River. Heavy traffic volumes plus frequent outages were resulting in a considerable volume of backlogged intercepted material having to be forwarded to FRU7THFLT by airmail which was considered unsatisfactorily slow. There was reportedly an existing Army channel between Adelaide River and Melbourne which carried little traffic and it was thought that the Army would be willing to transfer control of the channel to the Navy if the Navy would agree to handle the Army's small volume of traffic.

A further up-grade of communications at Adelaide River was discussed in an

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8 October FRU7THFLT letter to COM7THFLT citing Assistant Director of Naval Communications (OP-20G) messages outlining a project for the installation of radioteletype facilities to establish a direct link between Adelaide River and Guam. It was requested that COM7THFLT authorize COMSERV7THFLT to initiate action to obtain the required land, buildings, and power, and the installation of the equipment. An increase of 18 men in the station's Allowance was projected. In support of this requirement, additional land for the transmitter site was acquired at the Mount Bundy Homestead about 2100 feet from the intercept station. After being taken over by the Australian Army in 1942, a dance pavilion (34'x57' with a cement floor) and a 12'x25' cook house had been constructed and the old homestead itself repaired. The property had been subsequently returned to the station manager from whom the property, consisting of the three buildings and about eight acres, was leased to the U. S. Navy through the Deputy Director of Hirings for L10 Australian for the duration of the war and six months thereafter or until released by the U. S. Navy.

Although the land had been acquired for the transmitter site, difficulties were experienced in obtaining labor to construct the additional barracks and buildings required to accommodate the increases in personnel and equipment. COMSERV7THFLT could not provide personnel and therefore requested Commander, Task Group, Freemantle, to dismantle six Quonset huts and ship them to Adelaide River along with a construction crew of eight men to set them up. These huts were considered by the station to be unsuitable for the type work being done and even less suitable for barracks. When the huts finally arrived, only two were ever set up; the wooden portions of the remainder having been largely destroyed by termites. In the interim, Adelaide River gathered material and equipment from the Allied Works Council and, using station forces, began construction of the transmitter's antenna facilities. Four carpenters were obtained from the Naval Section Base, Darwin, to enclose the dance pavilion with asbestos cement siding

and wire screen. Fifteen additional men were obtained from Darwin and construction was started on a barracks (20'x60'), officers' quarters (20'x30'), an operations building (20'x35') and an addition to the galley. This construction commenced in late December 1944 and was completed by 5 February 1945 with the exception of small details. The transmitting and receiving rhombic antennas and control lines from the intercept station to the transmitter building at Mount Bundy had been erected and completed by station personnel by mid-January 1945. The transmitter arrived in late January and was installed by station forces. Two 75 KVA Diesel generators were obtained when the Section Base at Darwin was disestablished to replace the 18.5 KVA gasoline-powered generator originally provided with the transmitter and which had proven inadequate. All teletype machines were installed in the transmitter building. Additional teletype and scrambler personnel were received from FRUMEL and, after some testing in April, the Adelaide River-Guam radioteletype circuit was activated on 7 May 1945 when the first "SAGA"¹ was put on the air.

The 8 October FRU7THFLT letter also mentioned that LTJG Raymond Sylvester Katzenberger, USN, was under orders to Adelaide River as Officer in Charge, relieving LTJG Goodwin. The change of command reportedly took place on 29 October 1944.

On 3 December 1944, FRU7THFLT requested COMSERV7THFLT assign a pharmacist's mate to Adelaide River. The letter stated that the station had a complement of two officers and 48 enlisted personnel and was scheduled to receive 18 additional enlisted personnel for a total of 68 men. This, in addition to the station being located some 80 miles from the nearest medical doctor and medical attention was sometimes delayed by impassable roads during the rainy season, required the assignment of the pharmacist's mate.

1. Expansion unknown.

In a 26 January 1945 memorandum from FRU7THFLT to FRUP-20G, Adelaide River's communications were discussed at some length. Landline communications to Adelaide River from Melbourne consisted of two lines (#756 and #1718) leased from the Australian government for \$131,444 per year and outages were frequent. During the period 27 December 1944 through 14 January 1945, routine outages totaled 170 hours and 41 minutes. Aside from the monetary cost these outages represented was the fact that the transmission of important material was being delayed. Work was underway on installing the equipment for the Adelaide River-Guam radioteletype circuit but installation operations were operating under the handicap of being about 80 miles from "civilization" at the Section Base in Darwin which was itself in the process of being disestablished which would leave Adelaide River without support. The letter also contained some general recommendations impacting on the communications plan for the transmission of raw material in the Pacific area as a whole. It was proposed that:

- a. A radioteletype circuit between Adelaide River and FRUMEL be established as well as to Guam, with a high-speed radiotelegraph return circuit.
- b. Adelaide River transmit scrambled raw material two ways simultaneously; north to Guam and south to FRUMEL.
- c. The proposal to establish a teletype circuit between FRUMEL and FRUPAC be abandoned and the existing high-speed radiotelegraph circuit be retained.
- d. That FRUAD retransmit Adelaide River's scrambled raw material on to FRUPAC or continue to transmit the material over the Army/Brisbane circuit.
- e. Establish a one-way radioteletype circuit (originally planned for FRUMEL/FRUPAC) parallel to an existing two-way radiotelegraph circuit. The radioteletype circuit would handle scrambled raw material and the radiotelegraph circuit would handle Colombo ((Ceylon)) and FRUMEL technical and administrative traffic.

It was believed this would result in a more rapid and consistent flow of traffic from FRUMEL to NEGAT¹ with no delays in raw material from Adelaide River,

1. Washington, D. C.

and Townsville.¹ COFFINBO'S OVERFLOW AND FRUMEL'S TRAFFIC WOULD BE HANDLED
expeditiously direct to NEGAT.

On 15 February 1945, it was reported that the Adelaide River station totaled some 25 acres in area. Of this area, 17 acres had been obtained through the "DAD" Hirings, Northern Territory Force, operating for the Commonwealth Government, National Security Regulations #54, while the remaining eight acres had been obtained by leasing the Mount Bundy Homestead for the duration and six months thereafter.

In a 24 February 1945 FRU7THFLT addenda to the FRUMEL Newsletter, the following was written about Adelaide River;

"Adelaide River is getting to be quite a place. The Navy Section Base at Darwin is being abandoned leaving our supplementary station very much on their own. Situated as they are, some ninety miles inland, that statement means just that. This station, from now on, will be completely self-sustaining. Food must be ordered months ahead - supplies of all kinds must be carefully anticipated and ordered in quantity and far enough in advance of requirements to allow for both slow deliveries and unexpected losses through mis-routing, pilferage, etc. It is hard to visualize to what complete detail planning must be done so that a station so thoroughly isolated as Adelaide River can function without interruption....."²

As indicated, one of the biggest problems encountered by the station during its existence was that of transportation. It was often necessary to send trucks to Alice Springs to pick up vital equipment being shipped from the Naval Supply Depot, Melbourne, in order to speed up delivery. The shipping time from Melbourne and Alice Springs via rail varied from three to four weeks plus two additional weeks to move the material via convoy from Alice Springs to Adelaide River. Using station trucks, the trip of approximately 850 miles (one-

1. An Australian station on the east coast of Queensland near Halifax Bay

2. See Appendix D for layout of station

way) could be made in two days without stopping. Material shipped via rail often suffered damaged due to rough handling if not securely packed. In 1945, mail was reportedly delivered and picked-up twice a week, on Tuesdays and Saturdays, by an aircraft operated by Qantas Airways personnel. Officer messenger mail took from one to three weeks from Melbourne largely due to the lack of officer personnel and transportation.

Reference was noted to an OP-20G news memorandum for the period 1-15 March 1945 which listed the station designator "AA" for Adelaide River.

On 2 April, an OP-20G note mentioned that Adelaide River had been assigned the callsign VKQ, an Australian callsign, vice NAY, a U. S. Navy callsign, due to a mutual consent agreement apparently reached early in the war between COM7THFLT and the Director of Naval Communications, Royal Australian Navy.

As previously stated, Adelaide River's primary assignment was coverage of Japanese communications in the islands north of Australia, as well as the Japanese fleets operating in these areas, and search for new communications circuits. All intercepted traffic was forwarded via leased landlines directly to FRUMEL for processing and analysis. The Japanese circuits being covered by Adelaide River were primarily found between 3500 and 7825 KHZ with coverage governed by general activity and priorities assigned by FRUMEL. The most efficient coverage was obtained by using two receivers and one operator. The teletype equipment for forwarding the intercepted material to FRUMEL was also operated by Radio Intelligence personnel. By May 1945, there were 68 operations personnel on board with 43 assigned to intercept, eight to teletype operations, eight to scrambler operations, five to operate general service circuits, and four supervisors. A 17 May letter from FRU7THFLT to COM7THFLT reported an overall total of three officers and 73 enlisted personnel on board Adelaide River.

On 30 May, operational control of Adelaide River was shifted over from FRUMEL to FRUPAC. With this change, intercepted traffic was scrambled and transmitted over the Adelaide River-Guam circuit for retransmission to FRUPAC. When this circuit was established, all teletypes and scramblers were relocated into the transmitter building at the Mount Bundy Homestead. Intercepted traffic was delivered by messenger from the intercept building to the communications building. A desk man sorted out the traffic according to precedence, assigned message numbers, and then sent the traffic to the teletypes for transmission to FRUMEL. The tapes were then forwarded to the scramblers for encryption and subsequent transmission to FRUPAC via Guam. It was estimated that, on the average, intercepted traffic was transmitted to FRUPAC within 45 minutes of its leaving the intercept building. During the period 7 May through 23 August 1945, it was reported that the average group count was 20,450 per day excluding the traffic relayed to FRUMEL for transmission to Washington and Honolulu, a volume estimated at 8,500 groups per day. This was not the total average daily intercept volume because traffic intercepted from two weather circuits was routinely mailed to Honolulu. From approximately March through August 1945, the station reportedly intercepted an average of 760 messages per day with a daily low of 355 and a high of 1,244 messages observed during the period.

Reliable communications under less than optimum weather conditions called for ingenuity. Faced with problems of scrambler tapes becoming limp from the humidity resulting in spurious impulses being transmitted through the transmitter head, the station constructed a "hot box" consisting of a wooden box divided in half. The lower portion contained light bulbs which were left on at all times to warm the upper half in which the scrambler tapes were placed to keep warm and dry until transmitted.

As the war in the Pacific moved nearer Japan, stations, now in the rear areas, were decommissioned and new ones established in forward areas. On 17 June 1945, FRUMEL responded to a COMSERV7THFLT airmailgram stating that there were no plans to decommission Adelaide River until, "...exigencies of war permit."

Due to its isolation, Adelaide River had been assigned a pharmacist's mate. However, on 20 June 1945, FRUMEL reported that the pharmacist's mate on board Adelaide River was temperamentally unsuited for the duty and lacked sufficient medical knowledge to assume responsibility for a large number of personnel on isolated duty. It was requested that a warrant or chief pharmacist's mate capable of assuming the complete duties of a medical officer be assigned to the station. The doctor assigned to the Navy Section Base, Navy 245, Darwin, was being reassigned, presumably in conjunction with the disestablishment of the base, which left Adelaide River with no hospital facilities or competent medical attention. Personnel with medical problems had to be sent to Brisbane in the interim.

On 22 June, it was reported that the station had 30 receivers available and ten positions were being manned. The station had logistic facilities for a maximum of 110 men which could be expanded to 190 with additional bunks. Intercept facilities could be expanded to 70 positions within existing operations spaces.

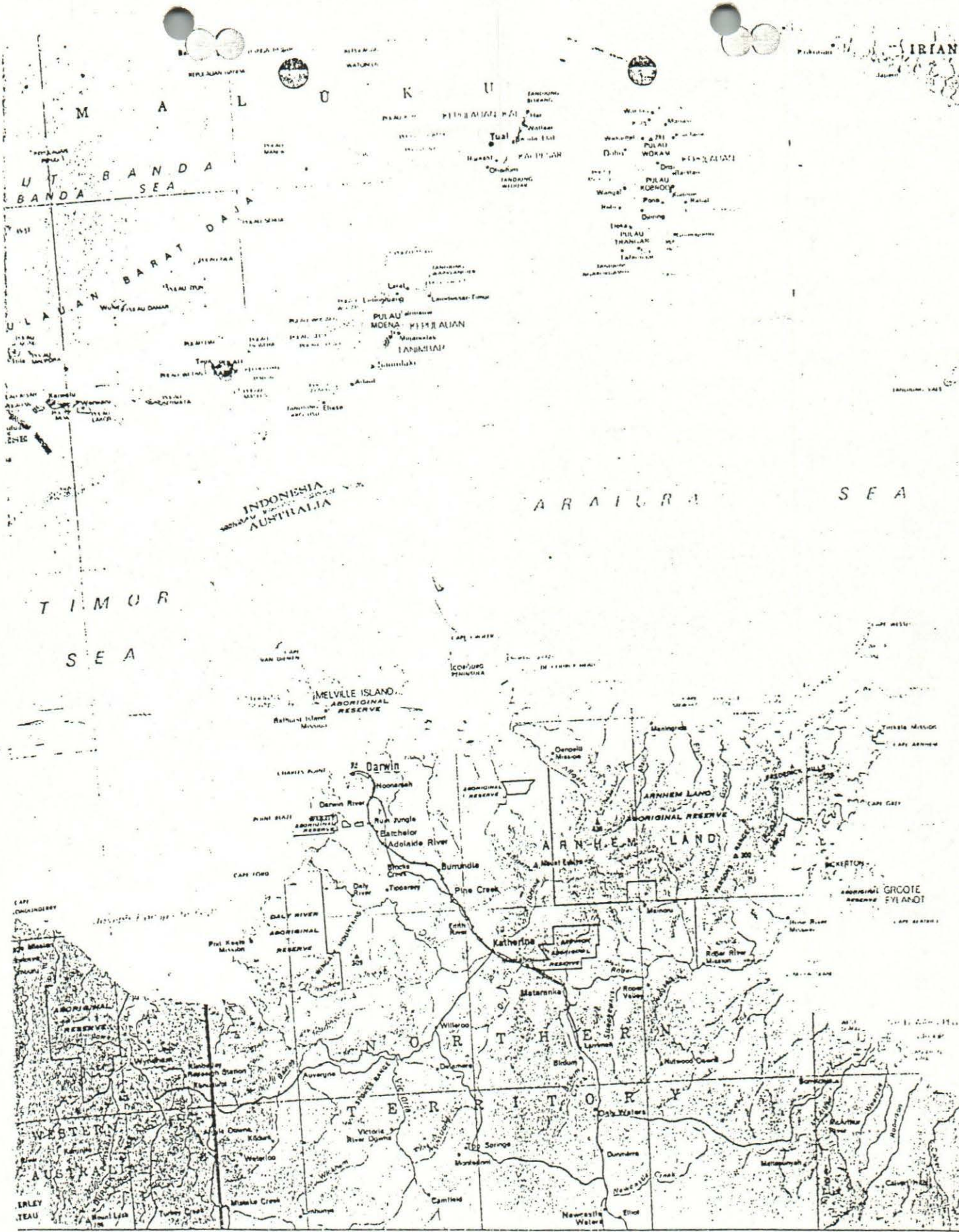
On the humorous side, a 24 July 1945 FRUMEL news memorandum reported that Adelaide River had formed a dance band using funds obtained from Canteen profits for the station musicians. FRUMEL commented that it was not clear with whom they were going to dance as it was understood that the kangaroos in the area used a step that was difficult to follow.

On 29 July, Adelaide River was assigned the address "Navy 179" with the decommissioning of Navy Section Base, Navy 245, Darwin.

With the end of the war, action to decommission Adelaide River was initiated. On 6 September 1945, a message from OP-20G to FRUMEL asked, "...whether you ((presumably the Australian Armed Forces)) wish to take over Adelaide River before we abandon it...". FRUMEL responded on 7 September by saying, "Do not see why you should continue being inconvenienced indefinitely, therefore, suggest you withdraw United States Naval personnel when they are necessary.....Chances of taking over Adelaide River in near future appear negligible. No proposals have been received from London."

Action to close Adelaide River was initiated shortly thereafter. On 21 September, the U. S. Naval Detachment, FRUMEL, reported to OP-20G and FRUPAC that the equipment had been removed from Adelaide River and was being loaded at Darwin for shipment to the Naval Supply Depot, Brisbane. Personnel were either already enroute or at least scheduled to return to Melbourne, the last to arrive by 30 September, where they would await orders and transportation.

On 21 September 1945, the Officer in Charge, U. S. Naval Detachment, Fleet Radio Unit, Navy 136 (FRUMEL) officially reported to the Commander, U. S. Naval Forces, Australia/New Guinea, that the Officer in Charge, U. S. Naval Supplementary Radio Station, Adelaide River, Northern Territory, had reported the station decommissioned effective 21 September. All U. S. Navy material and equipment had been removed and personnel had departed. On 17 October 1945, the return of the property to Australian control was acknowledged by COL A. V. Burgess, assigned to the Headquarters, Northern Territory Force, Australian Military Forces.



P I C H M	bay	cape	island	kepulauan	island	pulau	cape	Peninsula
ENGLISH	bay	cape	island	islands	island	island	cape	Peninsula
FRENCH	Baie	Cap	Îlot	Îlots	Îlot	Cap	Cap	Presqu'île
SPANISH	bahía	capo	isla	islas	isla	capo	capo	Península
ITALIAN	baia	capo	isole	isole	isola	capo	capo	Penisola

For complete glossary see page 1-1

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0022

PERSONNEL

<u>Name</u>	<u>Svc/File Number</u>	<u>Rank/Rate</u>	<u>Service</u>	<u>Date Assigned</u>	<u>Remarks</u>
Allen, Astor B.	625-02-21	RM2	USNR	mid-1943	
Allison, Sherman Harold	875-50-40	RM3	USNR	o/a 10 Oct 44	
Baisden, Arthur D.	755-79-17	FM3	USNR	mid-1943	
Bareilles, John L.	376-61-90	FM2	USN	mid-1943	
Bissell, Chester H.	375-62-98	RMC(AA)	USN	o/a 20 Apr 43	
Boots, Donald Eugene	618-48-05	RM2	USNR	o/a 7 May 44	
Bryan, Edward (n)	214-54-30	RMC(AA)	USN	o/a 4 May 43	Note 1
Burnett, Sidney Addison	156999	RADELEC	USN	12 Mar 43	Note 2
Callaway, Donald G., Jr.	644-67-06	RM2	USNR	o/a 14 Nov 43	
Clendennen, Marian Bradford	356-77-99	RM3	USN	o/a 4 May 43	
		RM2		o/a 7 May 44	apparently second tour
Covey, Donald O.	414-31-38	RMC(AA)	USNR	o/a 24 Aug 43	
Cyphers, Warren R.	316-97-43	RM3	USNR	mid-1943	
Day, Norman F.	663-11-69	RM2	USNR	o/a 14 Nov 43	
Dennis, Oran Herbert	625-26-49	RM3	USNR	o/a 10 Oct 44	
Dillard, Everett A. N.	662-06-80	RM3	USN	o/a 20 Apr 43	
Duke, Carson R.	658-06-67	SC2	USNR	o/a 21 Oct 44	
Escheck, Edwin O	624-77-54	RM3	USNR	o/a 26 Sep 43	
Galloway, Wilmer J.	621-72-96	RM3	USNR	o/a 21 Oct 44	
Gilbert, John M.	245-24-69	FM3	USNR	o/a 21 Oct 44	
Goodwin, Keith Eugene	196857	LTJG	USN	23 Mar 43	Note 3
Graffing, John Richard	710-19-98	RM3	USNR	o/a 7 May 44	
Gribbin, Harry James	875-44-37	RM3	USNR	o/a 7 May 44	
Hall, Harold Louis	857-01-17	FM3	USNR	o/a 10 Oct 44	
Helms, Harvey M., Jr.	272-86-55	FM3	USN	o/a 14 Nov 43	
Higgins, Lee D.	624-87-31	RM3	USNR	o/a 24 Aug 43	
Johnston, Mark E.	726-60-69	RM3	USNR	o/a 21 Oct 44	
Katzenberger, Raymond S.	196925	LTJG	USN	7 Mar 44	Note 4
Keefer, David N.	300-80-33	RM3	USN	o/a 20 Apr 43	
		RM2		o/a 21 Oct 44	apparently second tour
Kelley, Robert G.	606-08-39	RM2	USNR	o/a 24 Aug 43	
Kenley, Roy E., Jr.	633-38-38	RM3	USNR	o/a 24 Aug 43	
Ketcham, Darrell E.	368-02-10	RM1	USNR	o/a 24 Aug 43	
Ledford, Carvel Stokes	267-57-98	PhM1	USNR	3 Feb 45	detached o/a 1 Aug 45
Leonard, Warren D.	618-40-77	RM2	USNR	o/a 26 Sep 43	
Lowery, Joel William, Jr.	271-83-21	MMC(PA)	USN	prob Mar 43	Note 5
Makerevich, Stephen J.	400-41-88	RM1	USNR	o/a 26 Sep 43	

<u>Name</u>	<u>Svc/File Number</u>	<u>Rank/Rate</u>	<u>Service</u>	<u>Date Assigned</u>	<u>Remarks</u>
Mallory, George Joseph	328-04-71	RM3	USN	o/a 7 May 44	possibly previously assigned in Apr 43
Mandell, Jacob (n)	401-97-07	RM1	USNR	o/a 4 May 43	
McBride, Don (n)	616-59-68	RM3	USNR	o/a 24 Aug 43	
Moore, James B.	606-16-23	RM2	USNR	o/a 26 Sep 43	
Moore, Verlon Nathon	347-04-41	RM2	USN	o/a 7 May 44	
Murphy, Samuel Alfred	628-31-54	RM3	USNR	o/a 7 May 44	
Neels, William "B", Jr.	554-20-67	RM3	USNR	o/a 21 Oct 44	
Novak, Antone (n)	156879	LTJG	USN	27 Jan 45	Note 6
Pohlson, Rossmoyne H.	382-81-38	RM2	USN	o/a 24 Aug 43	
Pullin, Charles Raymond	856-63-30	RM3	USNR	o/a 10 Oct 44	
Robertson, Donald L.	382-89-23	RM2	USN	o/a 26 Sep 43	
Rosenthal, James Frank	874-75-10	RM3	USNR	o/a 11 Oct 44	
Salisbury, Earl C.	638-34-20	RM1	USNR	o/a 26 Sep 43	
Santhany, Laverne R.	860-97-34	RM3	USNR	o/a 21 Oct 44	
Schaller, Michael G.	622-58-47	RM2	USNR	o/a 21 Oct 44	
Shaw, Herbert B.	654-77-31	RM3	USNR	o/a 14 Nov 43	
Shewmaker, James V., Jr.	633-43-75	RM2	USNR	o/a 14 Nov 43	
Shook, Clement P.	664-48-72	RM3	USNR	o/a 4 May 43	
Sims, Francis "K"	562-79-16	SC3	USNR	o/a 20 Apr 43	Note 7
Smith, Archie Elmer	382-96-87	RM3	USN	o/a 7 May 44	
Smith, William S.	356-18-21	MM2	USN	o/a 20 Apr 43	
Springman, LeRoy A.	863-61-52	RM3	USNR	o/a 21 Oct 44	
Smithers, Harry A.	376-58-28	RM3	USN	o/a 20 Apr 43	
Taylor, Robert H.	664-14-81	RM2	USNR	o/a 21 Oct 44	
Tourville, Lloyd Alexander	328-40-18	MM1	USNR	6 Jan 45	transferred when the station decommissioned
Town, Fair E.	321-40-26	S2/c	USN	o/a 23 Mar 43	
Thorsen, Robert Roy	376-88-41	RM3	USNR	o/a 10 Oct 44	
Tucker, William Clarence	663-26-12	MM3	USNR	o/a 21 Oct 44	was MM2(T) in Jul 43
Underwood, "R" "J"	625-04-16	RM2	USNR	o/a 14 Nov 43	
Vernon, Charles H.	640-62-82	RM2	USNR	o/a 14 Nov 43	
Walker, William R.	662-55-76	RM2	USNR	o/a 21 Oct 44	
Wall, Jack J.	376-63-12	RM2	USN	o/a 14 Nov 43	
Wallace, Donald M.	247-82-07	RM3	USN	o/a 26 Sep 43	
Walters, Herbert C.	660-30-70	RM3	USNR	o/a 26 Sep 43	
Waters, William A.	633-19-18	RM3	USNR	o/a 24 Aug 43	
Wilson, Jack James	633-82-73	RM2	USNR	o/a 7 May 44	
Woodruff, John F.	553-01-86	S1/c(RM)	USNR	mid-1943	

NOTE 1: Edward (n) Bryan was subsequently promoted to RMC(PA) prior to February 1945, at which time he had reportedly been assigned to FRU7THFLT since September 1941. Assigned to Adelaide River on or about 4 May 1943 as an RMC(AA), it is believed that he was detached on 15 January 1944.

NOTE 2: Sidney Addison Burnett enlisted in the Navy about 1927. On 6 June 1942, he was appointed as a Warrant Radio Electrician from Chief Radioman. On 12 March 1943, he was transferred from FRU7THFLT to Adelaide River, possibly only to assist in the commissioning of the station since a reference was noted indicating that he was to depart the station around May 1943. Regardless of when he departed Adelaide River, it is known that he was assigned as OIC; FRUDET, Cooktown, Queensland, in February 1944, and apparently served there until July 1944 when he was relieved by LTJG Katzenberger. He departed FRU7THFLT about 17 August 1944 for assignment in Washington, D. C., until 26 October 1944 when he was transferred to _____.

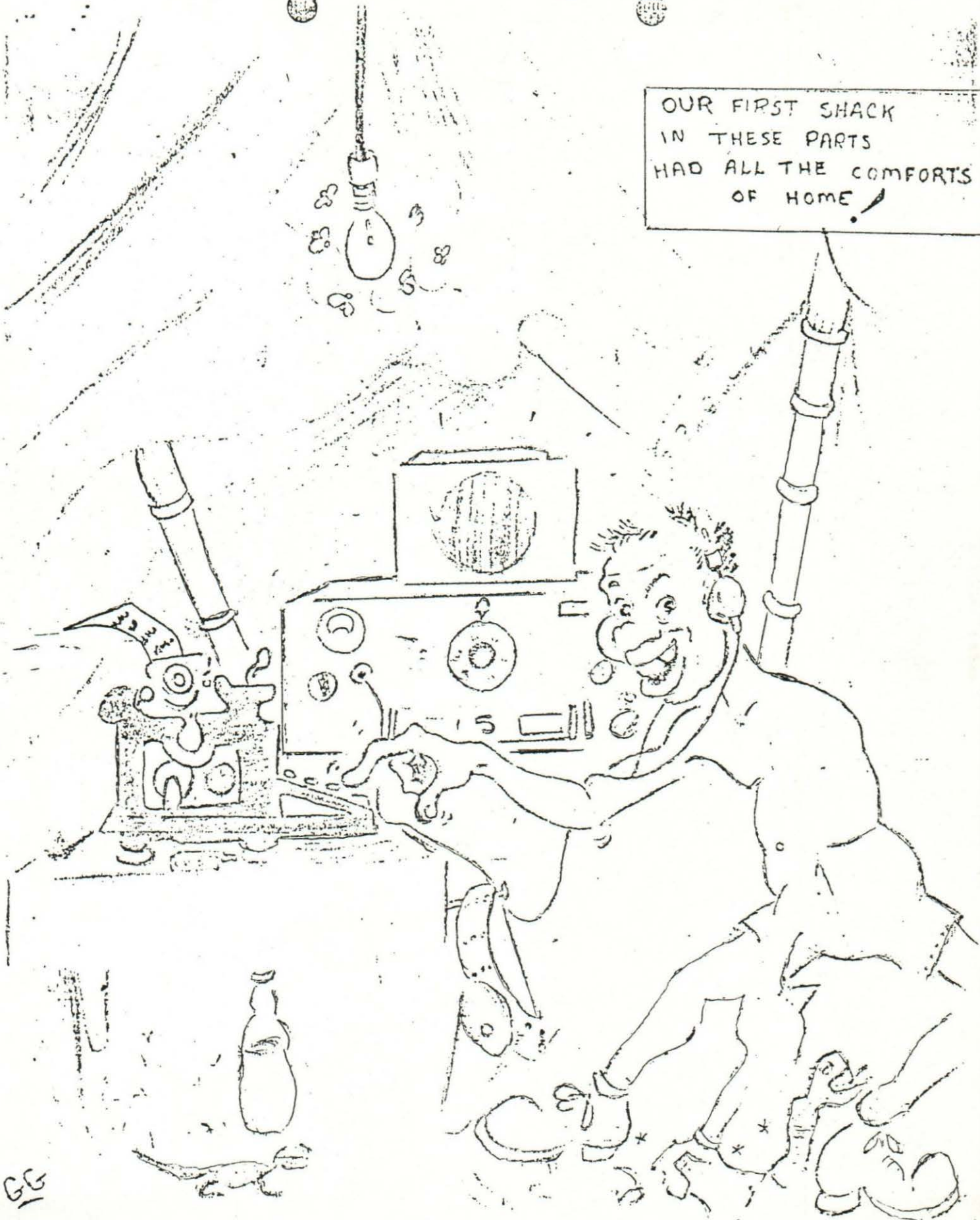
On 6 June 1945, he was reassigned _____ and _____
A 7 June 1946 letter reported he was serving as AOIC _____ and _____
planned to transfer to the Fleet Reserve in 1947. A 21 September 1951 letter containing a request for change of rate from RMC to CTC mentioned that Burnett had served in radio intelligence work from 1932 to 1947 and again from 1950 to the date of the letter. It is assumed that Burnett transferred to the Fleet Reserve in 1947 and was recalled or volunteered to come back on active duty in 1950 with the outbreak of the Korean War.

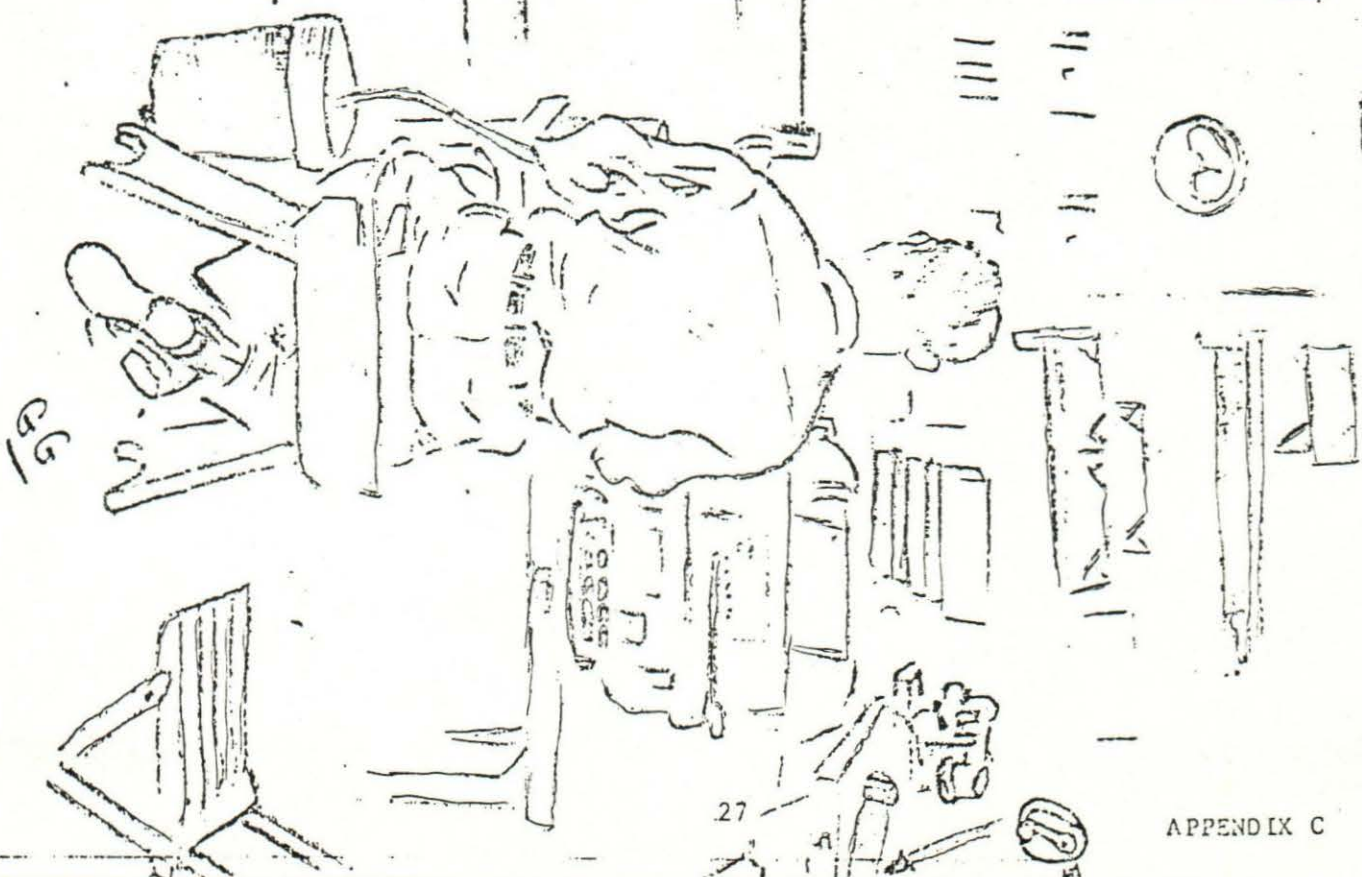
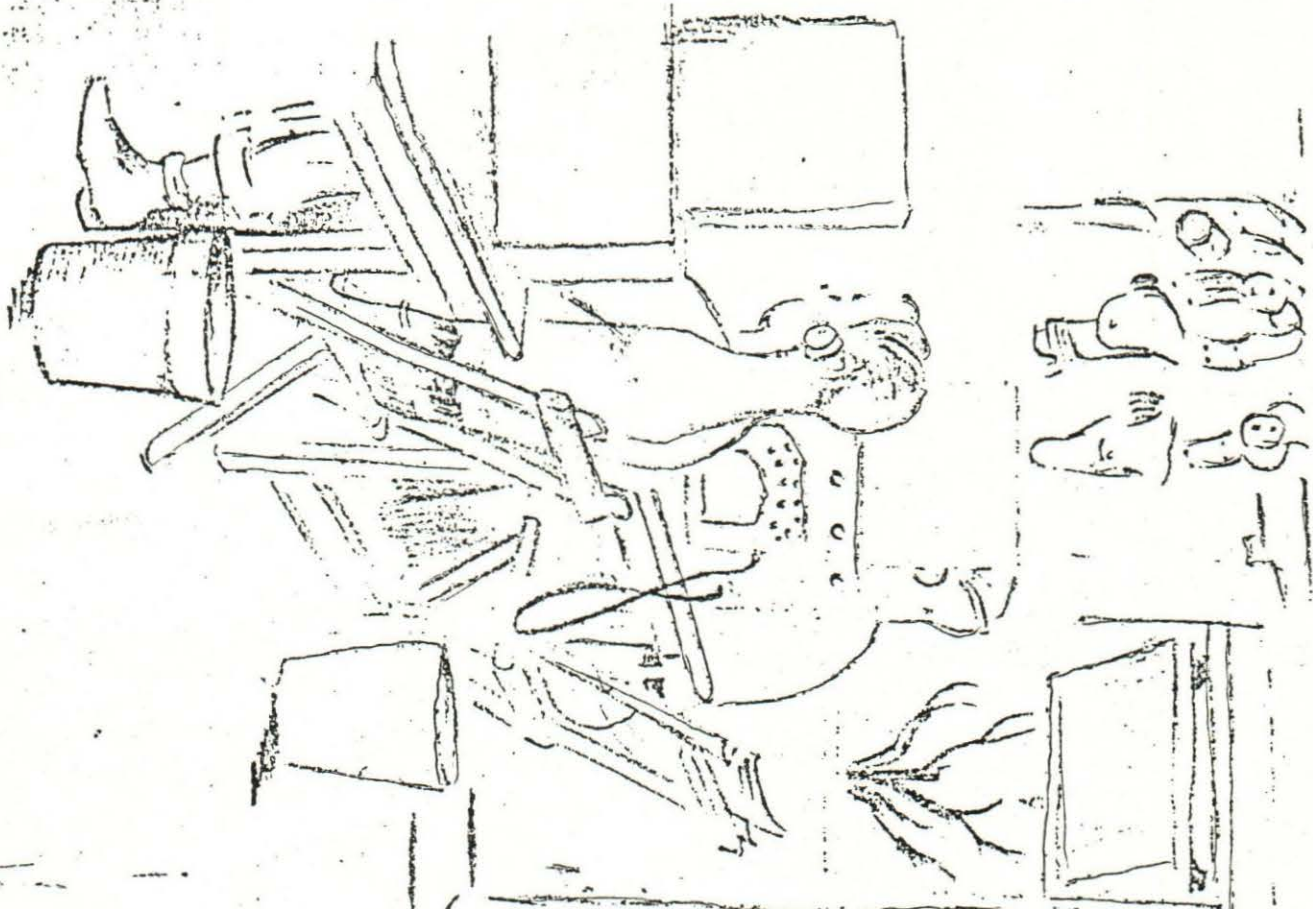
NOTE 3: Keith Eugene Goodwin was an RMC(PA) during the period June 1941 through January 1943 when he was assigned as Radioman In Charge of the HFDF station at Cheltenham, Maryland. According to a letter dated 10 August 1942, he had been in the Navy for 19 years at that time with 14 years assigned to radio intelligence work. He was commissioned as ENS on 19 January 1943 (DOR 15 June 1942), promoted to LTJG on 1 May 1943 and LT on 1 July 1944. He was born on 26 January 1902 in Walloon Lake, Michigan, and joined the Navy on 26 December 1919. From available information, it appears that LTJG Goodwin served as Officer in Charge at Adelaide River continuously from 23 March 1943, except for a period of TAD to FRU7THFLT April-May 1944 and a period of hospitalization about July 1944, until being relieved by LTJG Katzenberger on 29 October 1944.

NOTE 4: Raymond Sylvester Katzenberger joined the Navy on 19 April 1917 and was first assigned to radio intelligence work in 1939. He was appointed as a Warrant Radio Electrician (RADELEC) on 25 June 1942, and promoted to CHRADELEC about 16 June 1943. Commissioned as ENS with a date of rank of 15 May 1943, he was subsequently promoted to LTJG on 15 January 1944, and to LT on 1 June 1945. He was transferred from U. S. Naval Radio Activities, Bainbridge Island, Washington, on 6 October 1943 for assignment to FRU7THFLT arriving in Melbourne in December. He was reassigned to Adelaide River about 7 March 1944 and served temporarily as OIC during the period 10 April through late May while LTJG Goodwin was TAD. He was transferred from Adelaide River on 1 July 1944 to Cooktown, arriving there 13 July 1944, reportedly to assume the duties as OIC. He was subsequently reassigned back to Adelaide River, assuming the duties as OIC on 29 October 1944, and continued to serve in that capacity until the station was decommissioned in September 1945.

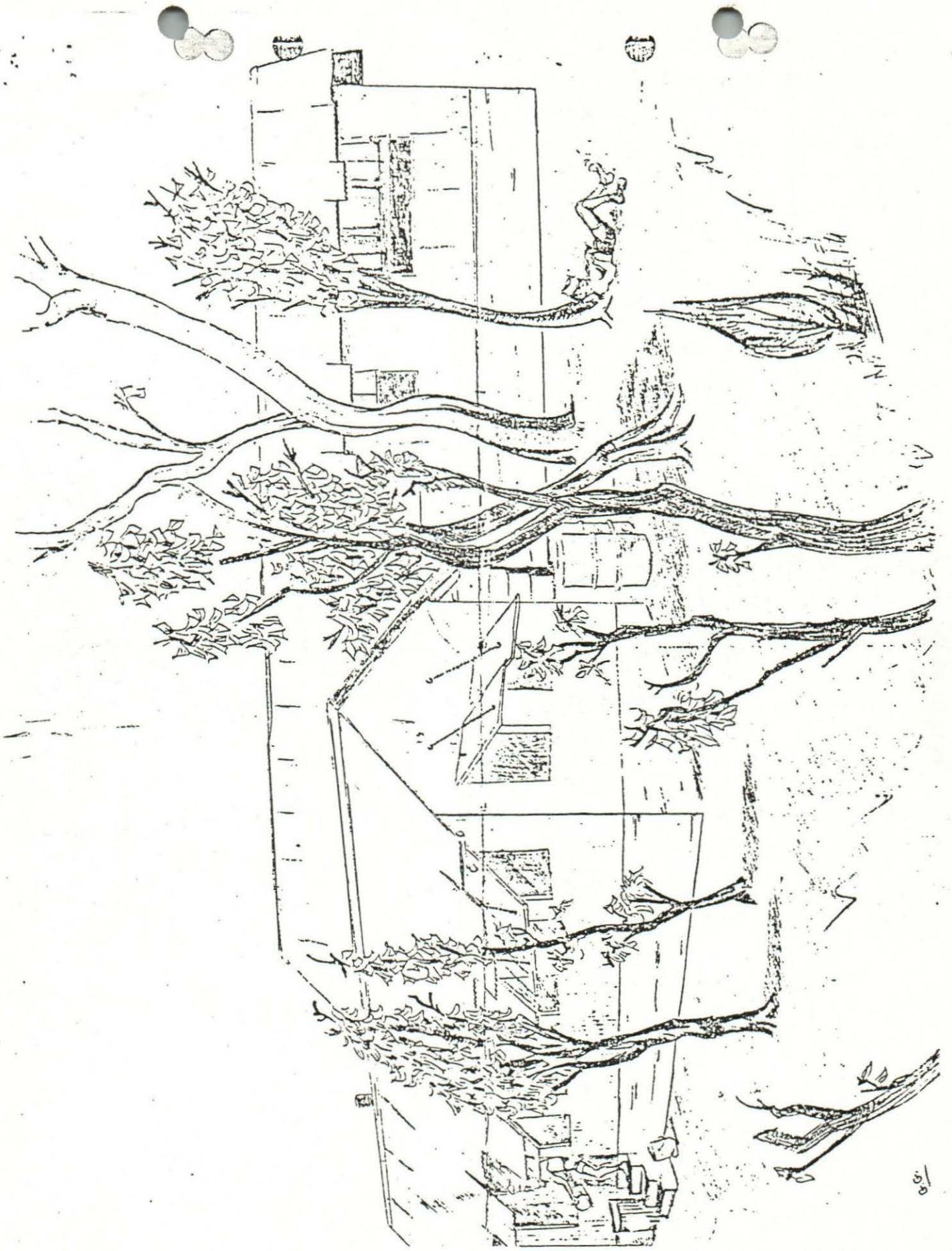
- NOTE 5: WMC(PA) Joel William Lowery, Jr. was probably in the initial party assigned to Adelaide River, possibly only to assist in its establishment since it is known that he departed the station on or about 11 May 1943 and reported back to FRU7THFLT on 15 May 1943. He was appointed as a Warrant Machinist on 15 June 1943, and was assigned as AOIC, U. S. Naval Supplementary Radio Station, Moorabbin, Victoria, Australia, on 22 July 1943. Promoted to CHMACH on 1 September 1944, he was still assigned to FRU7THFLT's complement in May 1945. CHMACH Lowery was born in Fairford, Alabama, on 9 April 1904, and joined the Navy on 15 February 1926.
- NOTE 6: LTJG Antone^{NOVAK}(n) was the Chief Radioman in Charge of the intercept station on Corregidor from at least 7 December 1941 through 6 April 1942, when the last party evacuated the island. Appointed a warrant officer and subsequently commissioned, he was assigned to the U. S. Naval Supplementary Radio Station, Moorabbin, during the period April 1942 through 30 November 1944, serving from at least 21 June 1943 as Officer in Charge. He was reassigned to Adelaide River on 27 January 1945 and served there until the station was decommissioned.
- NOTE 7: Francis "K" Sims was assigned to Adelaide River as a Ship's Cook Third Class and served there through at least mid-June 1945 by which time he had been promoted to SCL. He was promoted to CSC(AA) on 1 October 1945, after having been transferred from Adelaide River. Ship's Cook Sims may have been assigned to Adelaide River the longest of any individual.

OUR FIRST SHACK
IN THESE PARTS
HAD ALL THE COMFORTS
OF HOME!





19



U. S. Naval Supplementary Radio Station, Adelaide River

Main Site

Mount Bundy Road

Control line to
Transmitter Site

Key

1. Teletype Bldg
2. Operations Bldg
3. Truck Shelter
4. Recreation Bldg
5. Galley
6. Barracks
7. Showers
8. Chiefs' Quarters
9. Store Room
10. Barracks
11. Barracks
12. OIC's Quarters
13. Power House
14. Machine Shop
15. Store Room (ex-DAB HFT)
16. Transformer
17. Cess Pool
18. Well
19. Water Tanks

Receiver Antennas

Receiver
Antennas

Landline (teletype)

--- Boundary Line
 -○- Transmission Line

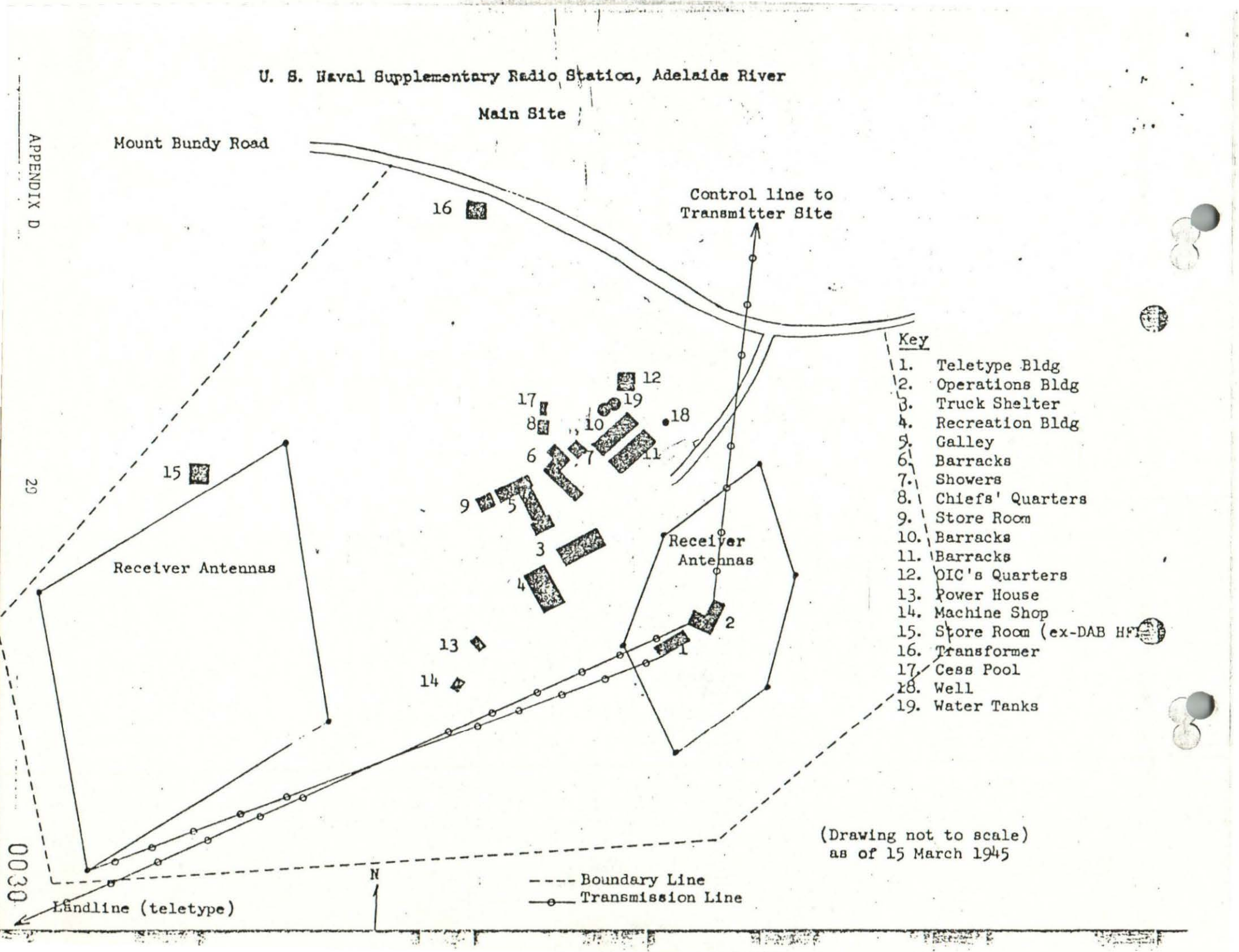
(Drawing not to scale)
 as of 15 March 1945

APPENDIX D

29

0030

N



U. S. Naval Supplementary Radio Station, Adelaide River

Mount Bundy Homestead Transmitter Site

