

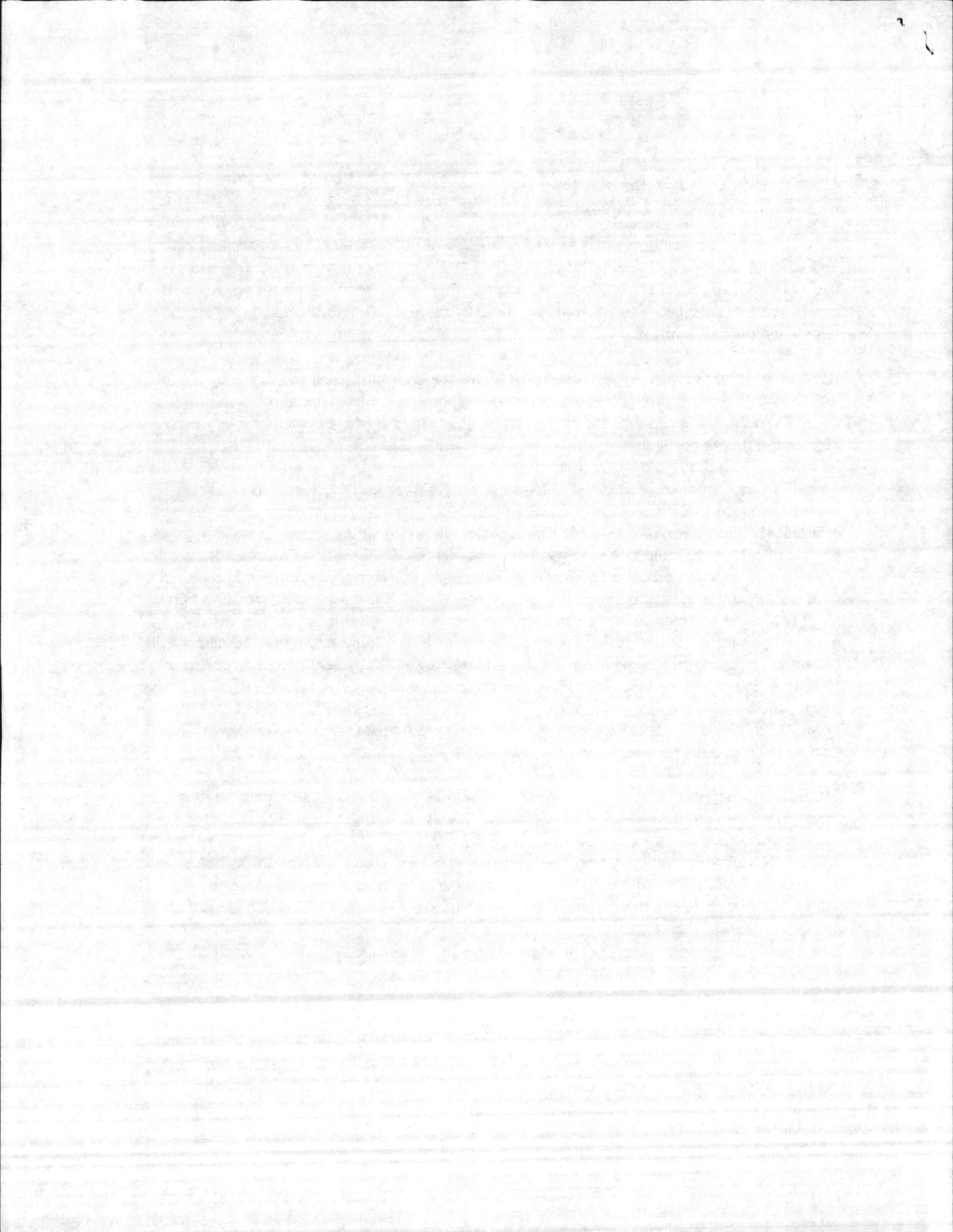
EXECUTIVE SUMMARY

During 1997, the Headquarters, U.S. Marine Corps contracted with the U.S. Army Corps of Engineers, St. Louis District, to conduct archives research directed towards facilitating the development of a comprehensive range inventory on active Marine Corps installations. One purpose for these investigations is to establish all the military ranges, both active and historic, and determine the past Ordnance and Explosives (OE) and Chemical Warfare Materials (CWM) use or possible disposal at each base and/or air station. A second purpose is to develop data that can be used by the Marine Corps in responding to "range rule" requirements to protect the human health and the environment.

For **Marine Corps Base (MCB), Camp Lejeune**, these purposes were achieved by compiling information obtained through historical research at various archives and records holding facilities, performing aerial photo interpretation and map analysis, conducting interviews, and then evaluating the collected information. The research placed particular emphasis on identifying all military ranges, both active and historic, the dates of use, and the types, estimated quantities, and depth and density of ordnance and munitions used. The results of the investigation for **MCB Camp Lejeune** are published in a two-volume report. The first volume, entitled "*Archives Search Report (ASR)*", presents the results of the archival research centering on "range rule" requirements and the summary of identified ranges. The second volume, the "*Range Identification and Preliminary Range Assessment*", compiles information required by the "range rule" and provides individual range identification and assessment information. Over 200 eligible historic and current ranges and range related training facilities were identified as potentially requiring investigations to meet the future "range rule" guidelines. Range data is provided for all Marine Corps camps, bases, training areas, etc. generally treated as part of **Camp Lejeune**. These included the WW II era areas like Hadnot Point, Tent Camp, Paradise Point, Camp Knox, Montford Point, Rifle Range, Courthouse Bay, Onslow Beach, and the Peterfield Point Airfield, and the more recent Camp Geiger, Camp Johnson, MCAS New River, HOLF Camp Davis, and the Greater Sandy Run Area facilities.

MCB Camp Lejeune, which is known as the "World's Most Complete Amphibious Training Base", is located on the coastal plain in Onslow County, North Carolina. The military installation currently covers approximately 246 square miles (153,439 acres) and is bisected by the New River, which flows in a southeasterly direction and forms a large estuary before entering the Atlantic Ocean. The Atlantic Ocean (approximately 14 miles of beach) forms the southeastern boundary of the facility. The City of Jacksonville, North Carolina is located immediately northwest of the cantonment area. The recently acquired Greater Sandy Run Area forms the southwestern segment of modern **Camp Lejeune**. The Marine Corps Air Station, Cherry Point is 52 miles away and the distance to Morehead City, port of embarkation, is 45 miles.

In 1940 the Marine Corps made an aerial and ground survey of the southeastern coast from Norfolk to the Florida Everglades and of the Gulf Coast within 90 miles of Pensacola, with the end in view to select a suitable location for a new base. Marine Corps officers eventually recommended the New River area in North Carolina for a new base. After considering the air

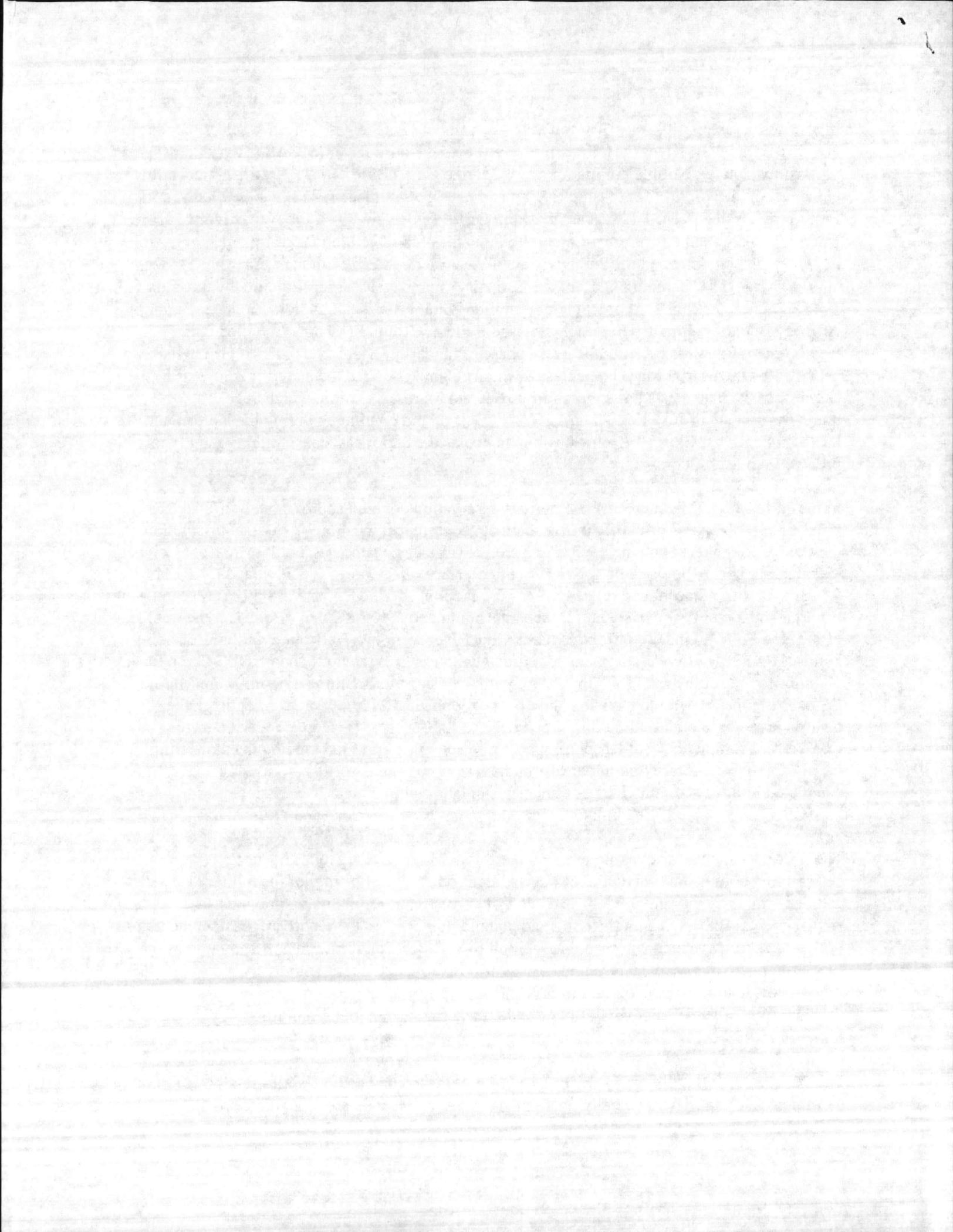


maps and pictures, local statistics, and making personal visits to many areas, a selection board decided on the New River (**MCB Camp Lejeune**) and Neuse River (MCAS Cherry Point) area of Onslow County, North Carolina for a new Marine Corps Base. By 21 April 1941 construction began at New River on "Tent Camp No. 1"; and late in September 1941, the base received its first Marine trainees, the 1st Marine Division. On 20 December 1941, the **New River Marine Barracks** was renamed "**Camp Lejeune**", in honor of the late Lieutenant General John Archer Lejeune, who commanded the 2nd Division of the American Expeditionary Forces in France in World War I. The "Training Center" was formally organized at **Camp Lejeune** by the end of 1941. This center consisted of a School Battalion, Quartermaster Battalion, Engineer Battalion, Artillery Battalion, Infantry Battalion, Barrage Balloon Group, Parachute Battalion and Replacement Battalions -- virtually every phase of modern warfare except an air arm, which was provided by the nearby Marine Air Base at Cherry Point. Toward the end of World War II, the camp was designated as a home base for the Second Marine Division, which began to arrive home from Japan in July 1946. During World War II, and continuing during the Korean and Vietnam conflicts, **Camp Lejeune** has functioned as the major east coast training facility to prepare marines for combat.

In the early 1970s (Vietnam era), the military reservation covered approximately 170 square miles or 110,000 acres primarily in five distinct geographical locations under the jurisdiction of the Base Command. They included Camp Geiger (Infantry Training School), Montford Point (Service Support Schools-Field Medical Service), Mainside, Courthouse Bay, and the Rifle Range area. An adjacent and related 2,772-acre facility, Marine Corps Air Station (MCAS) New River, a helicopter base, existed under separate command (MCAS Cherry Point) on the west side of the New River. Under control of MCAS New River were two Helicopter Outlying Landing Fields (HOLF), HOLF Oak Grove, approximately 25 miles to the north, and HOLF Camp Davis, 10 miles to the southwest. The three major commands at **MCB Camp Lejeune** were Marine Corps Base, the 2d Marine Division and Force Troops Fleet Marine Force, Atlantic. Other historic base commands and facilities included the 1st Marines, Headquarters and Service Company, a complete Naval Hospital, specialized schools to provide training in engineering, supply and basic military training areas. In the late 1980s and early 1990s, investigations were conducted into ways of alleviating deficiencies in land training areas and available firing ranges at **MCB Camp Lejeune**, leading to the development of the Greater Sandy Run Area.

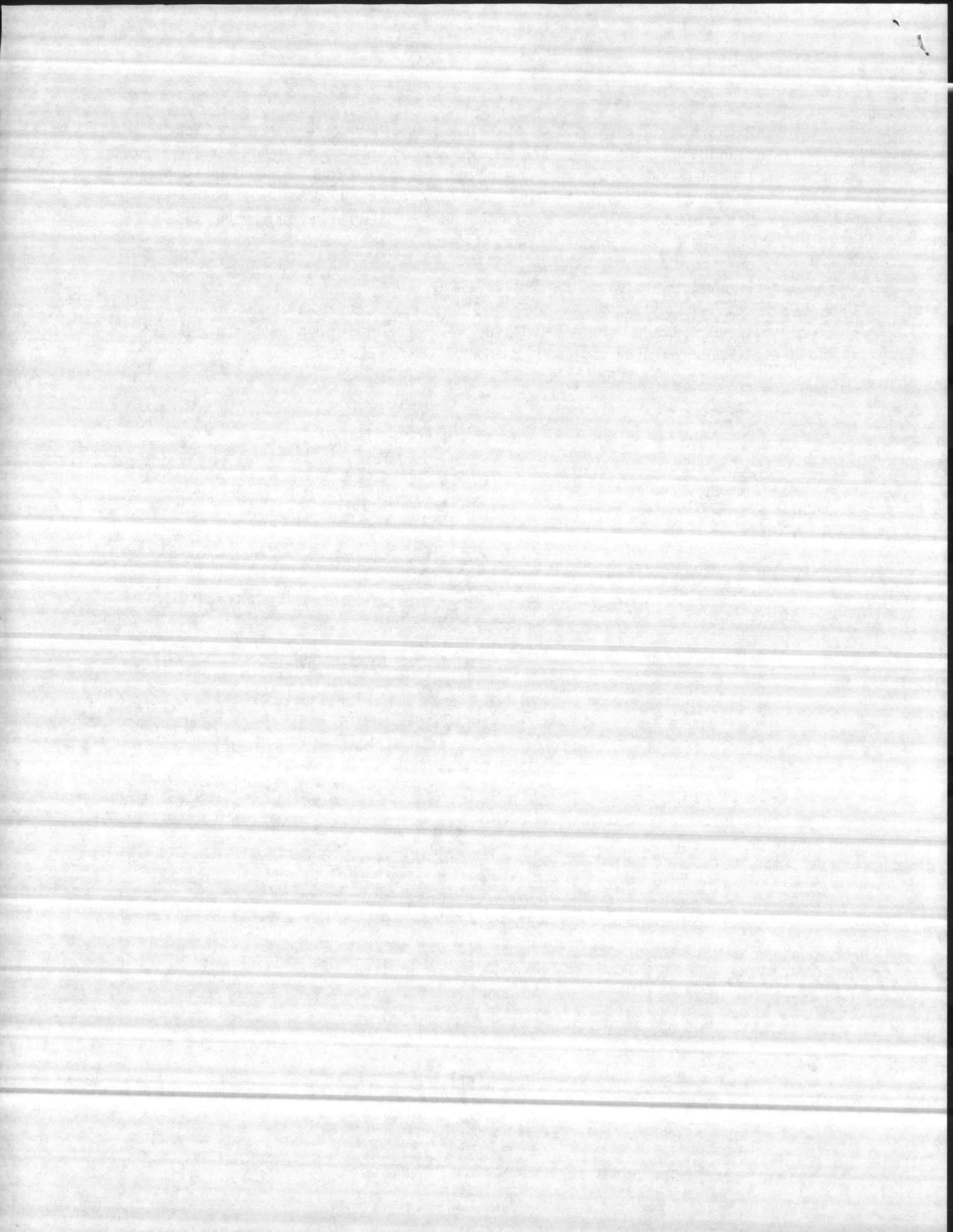
The *ASR* presents the results of the research efforts. These investigations concentrated on determining both historic and current ranges; identifying a brief history of the military activities; and performing a summary review of related site investigations, including previous site environmental studies and engineering and planning reports. In the report are the documentation of the repositories visited and records reviewed by archivists and historians; a summary of the site aerial photo and map analysis; real estate information; and a range summary section. This *ASR* site evaluation of past operations at **MCB Camp Lejeune** and its associated sites involved consideration of past maneuvers, storage and transportation functions, and training/practice with some form of OE.

The "*Range Identification and Preliminary Range Assessment*" compiles information required by the "range rule" and provides individual range identification and assessment information for



MCB Camp Lejeune and associated facilities. The report provides the data needed for the initial phases in the process for evaluating the appropriate response actions on closed, transferred or transferring ranges. In addition to discussing the methodology followed to comply with the Range Identification and Preliminary Range Assessment phases, the report furnishes site specific data for each identified range, discusses general munitions safety issues, and provides Ordnance Technical Data Sheets applicable to the **Camp Lejeune** ranges.

The reader is referenced to the Section 7 of the *ASR* for summary information for possible eligible ranges. A table describing all identified ranges on **MCB Camp Lejeune** in this Executive Summary would be extremely lengthy in size and likely not a practical addition. Should one be preferred, it can be readily included in the final Executive Summary.





**US Army Corps
of Engineers**

HUNTSVILLE ENGINEERING
AND SUPPORT CENTER



FINAL

ARCHIVES SEARCH REPORT

MARINE CORPS BASE CAMP LEJEUNE

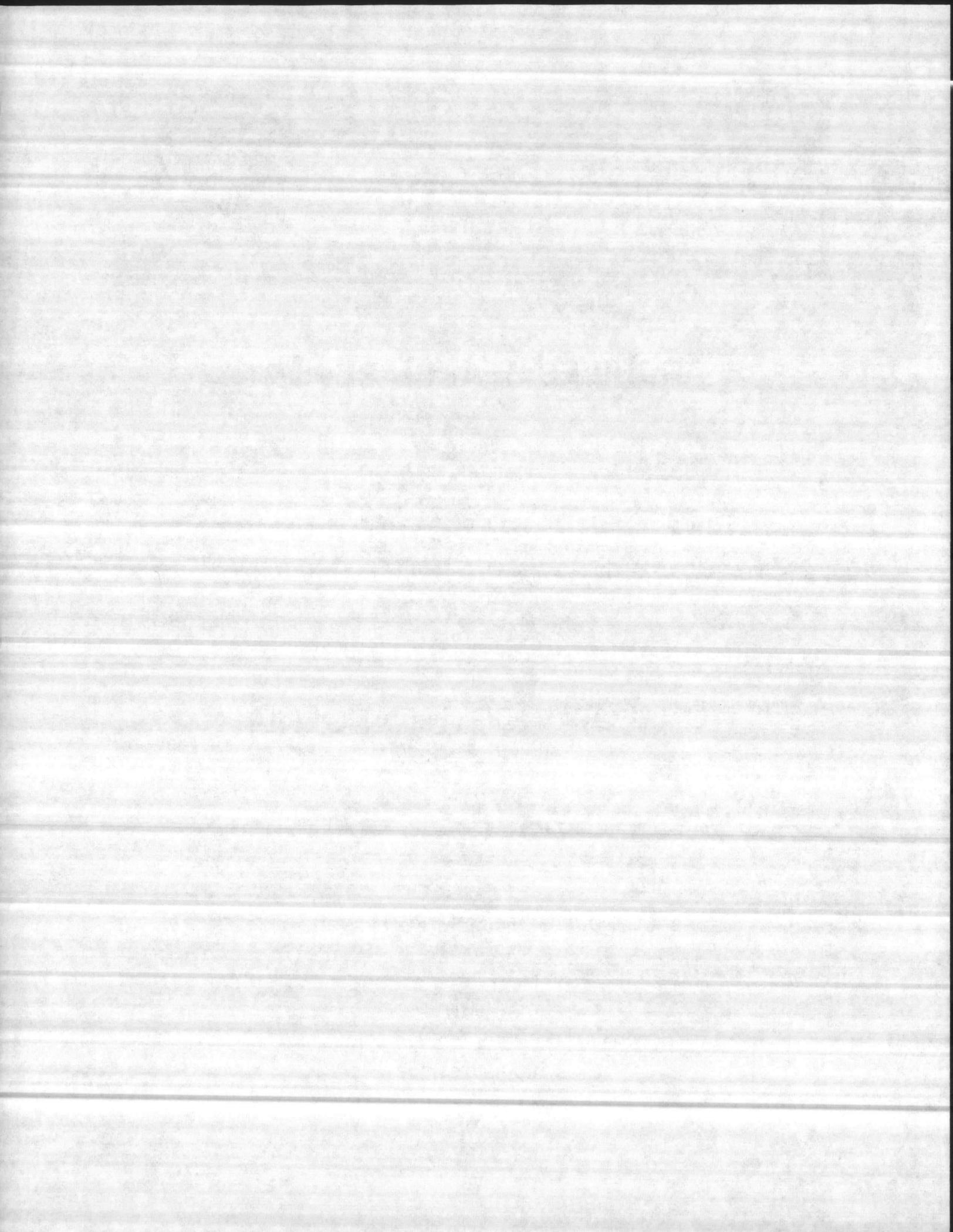
ONSLOW, NORTH CAROLINA

DECEMBER 2001

Prepared by

US ARMY CORPS OF ENGINEERS

ST. LOUIS DISTRICT



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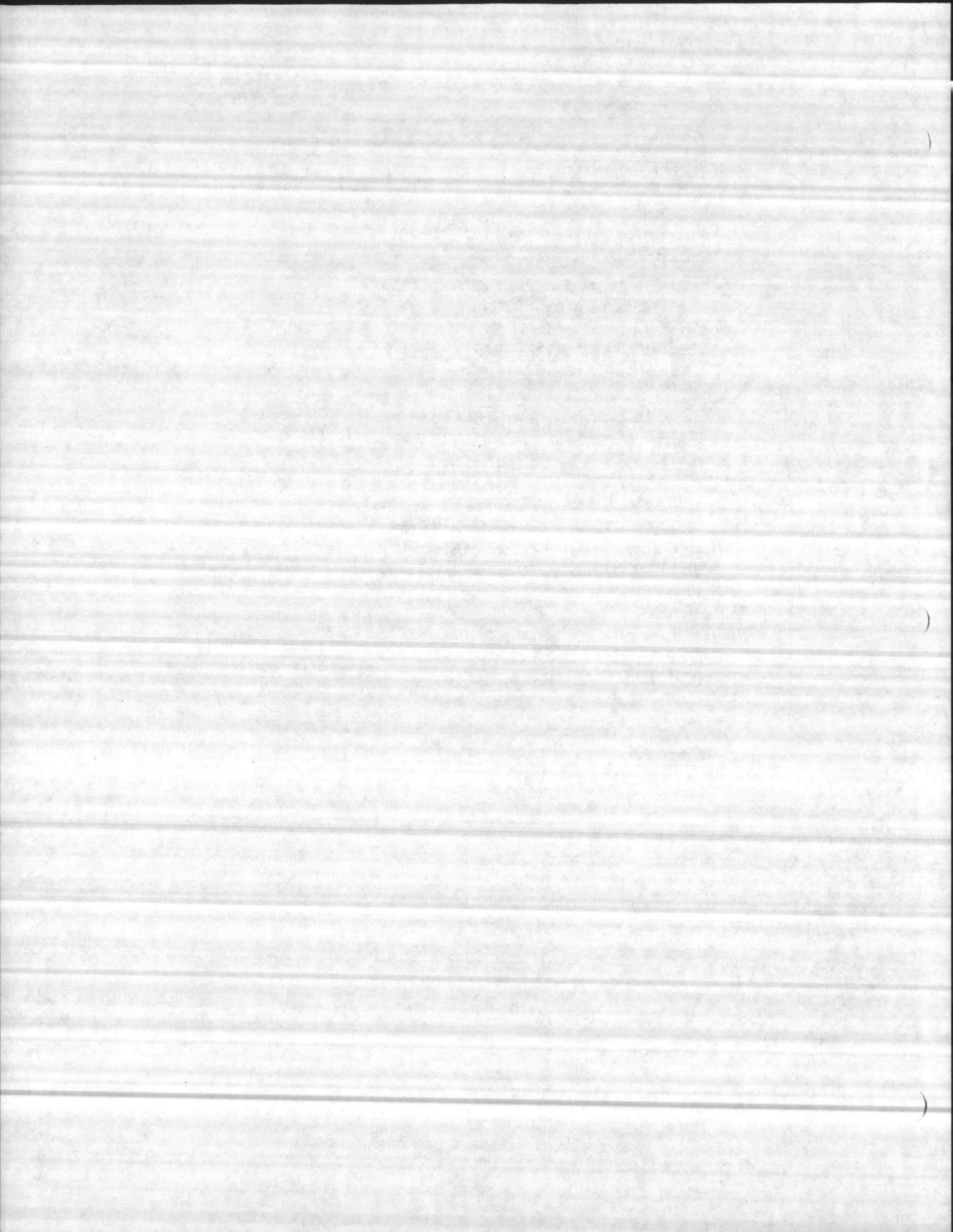
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1.0 INTRODUCTION

1.1 AUTHORITY

Section 107 of the Federal Facilities Compliance Act of 1992 amended the Resource Conservation and Recovery Act (RCRA). This act required the U.S. Environmental Protection Agency (EPA) to promulgate regulations identifying when conventional and chemical military munitions become hazardous waste subject to RCRA Subtitle C regulations. The EPA's final military munitions rule, published 12 February 1997 (62 FR 6622), postponed action on identifying military munitions on closed, transferred, or transferring ranges as solid waste pursuant to the Department of Defense (DoD) developing the "range rule", to adequately protect human health and the environment.

The DoD proposed "range rule", *Closed, Transferred, and Transferring Ranges Containing Military Munitions*, Title 32 Code of Federal Regulations (CFR) Part 178, contains a five part process that is not inconsistent with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The proposed rule is tailored to the special risks posed by military munitions and military ranges. The rule is proposed under the authorities of the Defense Environmental Restoration Program (DERP); the DoD Explosive Safety Board (DDESB); and Section 104 of CERCLA as delegated to the DoD by Executive Order (EO) 12580 (59 FR 2923, January 23, 1987). Active and inactive ranges on military installations are not covered by the "range rule". *DoD Ammunition and Explosives Safety Standards (DoD 6055.9 STD)*, published in July 1997, provides range guidance on these facilities.

In July 1997, the Headquarters, U.S. Marine Corps contracted with the U.S. Army Corps of Engineers, St. Louis District, to prepare an *Archive Search Report (ASR)* and *Range Identification and Preliminary Assessment Report* to facilitate development of a comprehensive range inventory on Marine Corps installations. These reports provide detailed information on facility missions and features relating to ordnance, explosives, suspected chemical warfare materials (CWM) and any other warfare materials (i.e., radiological, biological).

Since 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH), has been the Center of Expertise (CX) and Design Center for Ordnance and Explosives (OE). In cooperation with the USAESCH, the U.S. Army Corps of Engineers, St. Louis District, prepares ASRs in support of environmental restoration at active Department of Defense installations, Formerly Used Defense Sites (FUDS) and installation transitions under Base Realignment and Closure (BRAC) recommendations.

1.2 SUBJECT

Marine Corps Base (MCB) Camp Lejeune, which is known as the "World's Most Complete Amphibious Training Base", is located in Onslow County, North Carolina (see **Plate 1**). The base began in the late 1930s when the Marine Corps realized existing bases at Parris Island, South Carolina, and Quantico, Virginia (Washington, D.C. region), were inadequate for training an expanded amphibious landing force, an action made necessary by the increasing international crises. **MCB Camp Lejeune**, today serves as the home of "Expeditionary Forces in Readiness", functions as the formal school training of approximately 40,000 Marines, and provides job enhancement training for over 8,000 Marines and Department of Defense employees. With 6,000 civilian employees and the approximately 32,000 dependents of the active Marines, along with over 30,000 military retired in the area, **MCB Camp Lejeune's** total regional family is in excess of 100,000 people (Master Plan or History Office, Marine Corps Base, Camp Lejeune, NC, 1998).

The installation currently occupies approximately 246 square miles (153,439 acres) and is bisected by the New River, which flows in a southeasterly direction and forms a large estuary before entering the Atlantic Ocean. The Atlantic Ocean forms the southeastern boundary of the cantonment sector. The City of Jacksonville, North Carolina is located immediately northwest of the cantonment sector. The western and northwestern boundaries of the main base area are U.S. Route 17 and State Route 24, respectively. A recent base expansion has been developed southwestward into an area referred to as the Greater Sandy Run Area (GSRA). This property is bounded by U.S. Route 17 on the east and State Route 50 on the west.

MCB Camp Lejeune owns all the real estate, operates entry-level formal training schools, and provides support and training for tenant commands. According to recently published information, the Corps' most senior command in the Atlantic Region, U.S. Marine Corps Forces Atlantic (MARFORLANT) has, since 1994, had its Headquarters located at the base. Also located at **Camp Lejeune** is the Standing Joint Task Force (SJTF) Headquarters, which was formed in 1996 to provide headquarters functions for three regional commands-U.S. Atlantic Command, European Command, and Southern Command. Along with MARFORLANT and SJTF, at least six major Marine Corps and two Navy Commands are stationed at **MCB Camp Lejeune**. The 2d Marine Division (2d MAR DIV) is the ground combat element of the Force II Marine Expeditionary Force (II MEF); and the 2d Force Service Support Group (2d FSSG) is the service and support element of the II MEF. The 2d Surveillance, Reconnaissance and Intelligence Group (2d SRIG) provides command, control, communication and full intelligence support to the Marine Air Ground Task Force (MAGTF). The MEF Augmentation Command Element (formerly the Reserve Command Element, Marine Air Ground Task Force) augments and reinforces the active component. Marine Corps Air Station (MCAS), New River houses the rotary wing elements of the 2d Marine Aircraft Wing (2d MAW), Marine Air Groups (MAG) 26 and 29. The 6th Marine Expeditionary Brigade (6th MEB) provides the planning staff for the Fleet Marine Force associated with the Maritime Prepositioning Ships Squadron-I. Navy commands are the Naval Regional

Medical and Naval Dental Centers that provide primary medical and dental care to marines and sailors stationed at **MCB Camp Lejeune** and medical care to their families (Marine Corps Base, Camp Lejeune, NC, 1998).

Historically, in mid-July 1940, then Commandant of the Marine Corps, Major General Thomas Holcomb, directed Major John C. McQueen (later Major General) and Captain Verne J. McCaul (later Brigadier General) to make an aerial and ground survey of the southeastern coast from Norfolk to the Florida Everglades and of the Gulf Coast within 90 miles of Pensacola, with the end in view to select a suitable location for a new base. The site recommended by these officers was the New River area in North Carolina. The Commandant then appointed a selection board, under the leadership of Lieutenant General Julian C. Smith, to choose a site. After considering locations from Maine to Florida, the board, studying air maps and pictures, local statistics, and making personal visits to many areas, decided on the New River and Neuse River area of Onslow County, North Carolina (Brief History of Camp Lejeune, North Carolina, History Office, Marine Corps Base, Camp Lejeune, NC, 1954).

On 15 February 1941, the House Naval Affairs Committee made the initial appropriation for surveys and land purchases, and additional monies were allotted soon after, and on 21 April 1941, construction contracts were awarded totaling \$14,575,000. Construction began almost immediately at New River on "Tent Camp No. 1". When Lieutenant Colonel W. P. T. Hill, **Camp Lejeune's** first commanding officer, took command on May 1, 1941, an old summer cottage was used for the headquarters. A reconstructed tobacco barn became the base's first warehouse, and a good rain would turn the mud trails connecting the base with the outside world into a quagmire, making transportation almost impossible. In September 1941, the tent camp was activated as a command post under Colonel D. L. S. Brewster; and later that month the base received its first Marine trainees, the 1st Marine Division, commanded by Major General Philip H. Torrey. On 20 December 1941, the New River Marine Barracks was renamed "**Camp Lejeune**", in honor of the late Lieutenant General John Archer Lejeune, who commanded the 2nd Division of the American Expeditionary Forces in France in World War I (Brief History of Camp Lejeune, North Carolina, History Office, Marine Corps Base, Camp Lejeune, NC, 1954).

By the end of 1942, the "Training Center" was formally organized at **MCB Camp Lejeune**. The center consisted of a School Battalion, Quartermaster Battalion, Engineer Battalion, Artillery Battalion, Infantry Battalion, Barrage Balloon Group, Parachute Battalion and Replacement Battalions -- virtually every phase of modern warfare except an air arm, which was provided by the nearby Marine Air Base at Cherry Point. The original development plan encompassed ten major areas of the base: Hadnot Point (Headquarters and Cantonment), Tent Camp, Paradise Point (Officers Mess, Bachelor Officers Quarters (BOQ), Married Officers Quarters, Guest House), Midway Park (low cost Housing), Camp Knox (War Dog Training), Montford Point (first headquarters location and recruit depot for black marines), Rifle Range, Courthouse Bay (Marine Corps' Engineer School-Amphibious Training), Onslow Beach (Seacoast Artillery and

Antiaircraft Artillery) and the Peterfield Point Airfield. During World War II (WW II), and continuing during the Korean and Vietnam conflicts, **Camp Lejeune** functioned as a training area to prepare marines for combat. Toward the end of WW II, the camp was designated as a home base for the Second Marine Division, which began to arrive home from Japan in July 1946. Since that time, Fleet Marine Force (FMF) units also have been stationed there as tenant commands (Various Documents, History Office, Marine Corps Base, Camp Lejeune, NC, 1954).

By the early 1970s (Vietnam era), the military reservation covered 170 square miles or 110,000 acres primarily in five distinct geographical locations under the jurisdiction of the Base Command. They included Camp Geiger (Infantry Training School), Montford Point (Service Support Schools-Field Medical Service), Mainside, Courthouse Bay, and the Rifle Range area. An adjacent and related 2,772-acre facility, MCAS New River, a helicopter base, existed under separate command (MCAS Cherry Point) on the west side of the New River. Under control of MCAS New River were two Helicopter Outlying Landing Fields (HOLF), HOLF Oak Grove, approximately 25 miles to the north, and HOLF Camp Davis, 10 miles to the southwest. Then there were three major commands at **MCB Camp Lejeune**. They were Marine Corps Base, the 2d Marine Division and Force Troops Fleet Marine Force, Atlantic. Other historic base commands and facilities included Headquarters and Service Company, 1st Marines, Paradise Point; a complete Naval Hospital is situated on Hadnot Point; specialized schools to provide training in engineering, supply and basic military training areas; and the largest training school of the Marine Corps Base, the 1st Infantry Training Regiment located at Camp Geiger. Located at the initial construction site at **MCB Camp Lejeune**, Camp Geiger was the "Tent City" of the WW II era, where the first construction workers were housed and the 1st Marine Division trained (Various Documents, History Office, Marine Corps Base, Camp Lejeune, NC, 1954).

In the late 1980s and early 1990s, investigations were conducted into ways of alleviating deficiencies in land training areas and available firing ranges at **MCB Camp Lejeune**. The development of the Greater Sandy Run Area (GSRA) evolved to address both the short-term and long-term training needs of the Marine Corps Atlantic Forces. GSRA, a 41,000+ acre parcel of land located to the southwest of **MCB Camp Lejeune**, is planned to encompass 10 ranges: 2 multi-purpose tank training ranges; 3 multi-purpose machine gun ranges; 3 infantry fire and maneuver ranges; and 2 anti-armor tracking ranges (Master Plan Update, GSRA, Marine Corps Base, Camp Lejeune, NC, 1998).

1.3 PURPOSE

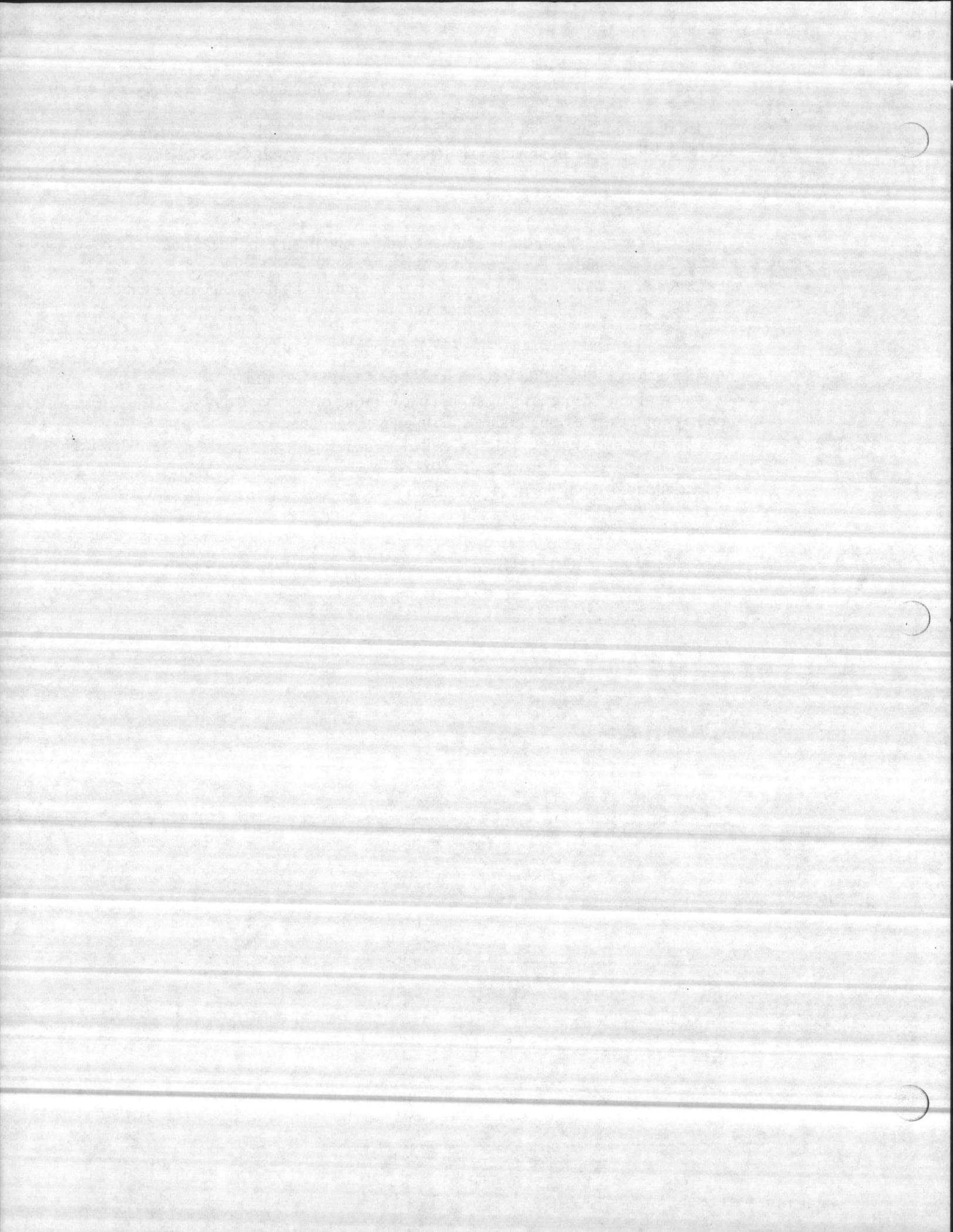
The ASR compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with **MCB Camp Lejeune** or its operations, and an inspection of the site, if appropriate. The search directs efforts towards determining Ordnance and Explosives (OE) and Chemical Warfare Materials (CWM) use or possible disposal on the site. The research places particular emphasis on establishing all the military ranges both active and historic, dates of use, and

types, estimated quantities and depth and density of ordnance used. This process obtains information for developing recommendations for further action at **MCB Camp Lejeune**.

1.4 SCOPE

This investigation focuses on potential OE and/or CWM contamination on identified ranges at **MCB Camp Lejeune**. A companion volume, *Range Identification and Preliminary Range Assessment*, contains the information required by the "range rule" and DoD 6055.9 STD. In support of the range information, the Archives Search Report presents:

- A brief history of the military activities at **MCB Camp Lejeune**
- A review of related site investigations concentrating on verifying the findings of these previous studies and supplementing them.
- Review of archives and repositories visited for historical records, specifying the extent of the records searched
- An aerial photography and map analysis of the site
- Real estate information, past and present
- Findings of the site inspection



2.0 PREVIOUS SITE INVESTIGATIONS

2.1 MASTER PLANS, MCB CAMP LEJEUNE

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1973 *"Camp Lejeune Complex Master Plan"*, August 1973, Environmental
Management Department, Installation Restoration Division, or Public
Works Office, Facilities Management, **MCB Camp Lejeune**.

The Naval Facilities Engineering Command HQ prepared for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command (NAVFAC), Norfolk, Virginia, a *Master Plan Update* for the **Camp Lejeune Complex**, North Carolina. According to the Introduction, Marine Corps Headquarters first requested the Master Plan for the **Camp Lejeune Complex** on 6 November 1972 and it was initiated in August 1972. The plan was envisioned to be an updated version of an existing master plan dated March 1970, which had become obsolete. According to the Executive Summary, "The activities included in the Master Plan Update for the **Camp Lejeune Complex** are the **Marine Corps Base, Camp Lejeune**, the MCAS (H), New River, and the Naval Regional Medical Center." The document noted that no previous master planning had been accomplished for New River. Because of the increased scope, along with federal and DoD planning policies and changes in NAVFACENGCOCOM policy concerning format, the master plan study was essentially a completely new planning effort. The physical area included within the boundaries of the master plan included over 100,000 acres of military owned land. Several Corps and Navy independent commands were located in the area, and each had separate and distinct missions, operational characteristics, and facility requirements. The method of analysis fell into several categories (location, planning data, ecological influences, man-made structures, construction suitability, problem areas, and proposed development). The *Master Plan* serves as a basic reference document for activity facilities development decision-making. Although emphasis is placed on expansion, it can also be useful for repair, maintenance and alterations to existing facilities.

The *Master Plan Update* proved a valuable source for information on the past history, description of the complex, the primary mission and tasks of the various commands, general camp data, and information on training types and areas associated with **MCB Camp Lejeune**. In Section III, it noted that "**MCB Camp Lejeune** provided a complete spectrum of combat training for all types of Marine Corps forces." Training activities were divided into eight major groupings: amphibious assault, helicopter operations, high trajectory artillery, small arms, live firing of direct fire weapons, .50 Caliber and above, engineering equipment, classroom and applied industrial training, and battalion level training. A complete listing of the training ranges and areas in operation during the early 1970s at the **MCB Camp Lejeune** complex was provided in TABLE 4 of the document accompanied by appropriate mapping.

2.2 GREATER SANDY RUN MASTER DEVELOPMENT PLANS

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1994 "Greater Sandy Run Master Development Plan", Marine Corps Base, Camp Lejeune, NC, dtd February 1994, Environmental Management Department, Installation Restoration Division, or Public Works Office, Facilities Management, MCB Camp Lejeune.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1997 "Greater Sandy Run Master Development Plan Update (draft)", Marine Corps Base, Camp Lejeune, NC, dtd July 1997, Environmental Management Department, Installation Restoration Division, or Public Works Office, Facilities Management, MCB Camp Lejeune.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1998 "Greater Sandy Run Master Development Plan Update", Marine Corps Base, Camp Lejeune, NC, dtd October 1998, Environmental Management Department, Installation Restoration Division, or Public Works Office, Facilities Management, MCB Camp Lejeune.

Prepared by EDAW, Alexandria, VA for NAVFAC, this series of documents provides the *Master Plan* for the development of the Greater Sandy Run Area (GSRA) at MCB Camp Lejeune, NC. The purpose for the plan was to guide both the short-term and long-term development at the GSRA. GSRA is a 41,000+ acre parcel of land consisting of pine plantations and cut-over timber lands, located to the southwest of MCB Camp Lejeune. The parcel was acquired in 1992 to alleviate deficiencies in land training areas and available firing ranges at MCB Camp Lejeune. Studies conducted by NAVFAC during the 80's had concluded that existing firing ranges were inadequate and that the land remaining for maneuver areas was insufficient at MCB Camp Lejeune. Portions of Camp Davis, which include the former WW II airfield, were also acquired as part of the GSRA. This airfield consists of a road network and two runways dating from the early 1940s, and had been used intensively in the past by MCAS New River for training helicopter crews under lease arrangements.

The 1994 *GSRA Master Development Plan* proposed a five-year \$40 million dollar program to develop a training/maneuver facility at the GSRA. It summarized, and was based on, a series of environmental investigations conducted to identify and address environmental constraints affecting the site. Facility Development planned for GSRA in 1994 included ten firing Ranges: 2 tank ranges; 1 LAV/AAV range; 3 machine gun ranges; 2 troop fire and maneuver ranges; 2 anti-armor tracking ranges. Ranges were designated SR-1 through SR-10 with the exact location located with 6 digit coordinates on a 1000 meter grid system on Defense Mapping Agency (DMA) maps. The training concept for the common impact area is that, "unlike most areas, only non dud producing ordnance (non-explosive bullets or dummy projectiles) will be fired at the GSRA." The 1998 "*Greater Sandy Run Master Development Plan Update*" listed 10 ranges: 2 multi-

purpose tank training ranges; 3 multi-purpose machine gun ranges (MPMGs); 3 infantry fire and maneuver ranges (Infantry Platoon Battle Courses or IPBCs); and 2 anti-armor tracking ranges (AATRs). All planned ranges remained orientated to a common impact area. As of 1998, three firing ranges (SR-6, SR-7, and SR-10) with support facilities were nearing completion.

2.3 HISTORIC INSTALLATION RESTORATION/ENVIRONMENTAL INVESTIGATIONS

2.3.1 Navy Assessment and Control of Installation Pollutants (NACIP) Program

With the passage of CERCLA, the Department of the Navy began a program to identify, investigate, and clean up past hazardous waste disposal sites. This program was called the Navy Assessment and Control of Installation Pollutants (NACIP) program. The NACIP program included a three phase process, *Initial Assessment Study (IAS)*, *Confirmation Study (CS)*, and *Corrective Measures Implementation (CMI)*. Beginning in August 1981, **MCB Camp Lejeune** was designated for an *IAS*, and during 1982 and 1983 several environmental studies and activities were conducted as part of the NACIP.

Naval Energy and Environmental Support Activity, Port Hueneme, California 93043
1983 *"Initial Assessment Study"*, **Marine Corps Base Camp Lejeune**, North Carolina, dtd April 1983, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

The *IAS* was conducted for **MCB Camp Lejeune**, including MCAS New River, and the HOLF Oak Grove by the firm of Water and Air Research, Inc., Gainesville, Florida, for the Naval Energy and Environmental Support Activity. The purpose for the report was to identify and assess sites posing a potential threat to human health or to the environment due to contamination from past hazardous materials operations. To accomplish this purpose, as the first phase of the NACIP program, a team of specialists conducted, collected, and evaluated evidence of contamination that might pose a potential threat to human health or to the environment. Based on information from historical records, aerial photographs, field inspections, and personnel interviews, the *IAS* identified a total of seventy-six (76) disposal sites. However, fifty-four (54) were found to not contain hazardous waste or did not pose a significant threat to human health or the environment. The study concluded that twenty-two (22) sites potentially were contaminated sites or sources of contamination and warranted further investigation under the NACIP program. Five (5) MCAS New River and seventeen (17) **MCB Camp Lejeune** sites were judged to require further investigation. According to the *IAS* report, **MCB Camp Lejeune** had already taken action to evaluate or mitigate Site No. 2, the former Nursery/Day-Care Center and Site No. 16, the Montford Point Dump. The 22 sites recommended for confirmation (listed in order of priority) were:

1. Rifle Range Chemical Dump, Site No. 69
2. Storage Lots 201 and 203, Site No. 6
3. MCAS Mercury Dumpsite, Site No. 48
4. Former Nursery/Day-Care Center, Site No. 2
5. Transformer Storage Lot 140, Site No. 21
6. Camp Geiger Dump, Site No. 41
7. Mess Hall Grease Disposal Area, Site No. 74
8. MCAS Basketball Court Site, Site No. 75
9. MCAS Curtis Road Site, Site No. 76
10. Courthouse Bay Liquids Disposal Area, Site No. 73
11. Fire Fighting Training Pit, Site No. 9
12. Industrial Area Fly Ash Dump, Site No. 24
13. Campbell Street Underground Avgas Storage and adjacent JP Fuel Farm at Air Station, Site No. 45
14. Hadnot Point Burn Dump , Site No. 28
15. French Creek Liquids Disposal Area, Site No. 1
16. Rifle Range Dump, Site No. 68
17. Montford Point Burn Dump, Site No. 16
18. Industrial Area Tank Farm, Site No. 22
19. Crash Crew Fire Training Burn Pit, Site No. 54
20. Sneads Ferry Road--Fuel Tank Sludge Area, Site No. 30
21. Camp Geiger Area Dump, Site No. 36
22. Camp Geiger Area Fuel Farm, Site No. 35

Relative to Maneuver Areas, Ranges and Targets, Ordnance and Explosives storage, and related OE issues, the IAS addressed a number of items. The report noted that the **MCB Camp Lejeune** base mission required training using live ordnance, and year-round impact areas had been set aside. It mentioned that because ordnance operations were carefully controlled there was little public health or environmental concern about past disposal practices. "Skilled Explosive Ordnance Disposal (EOD) military staff handled unexploded rounds in contained areas where ordnance was either burned or electrically exploded", according to the report. The types of ordnance ranged from small arms ammunition to rockets, artillery and mortar rounds. The principal magazine storage was in the French Creek area, but other smaller storage areas existed in designated areas. The IAS investigation discovered no reports of spills or accidents involving OE. However, the report also mentioned the possibility for "relatively small amounts of unexploded ordnance to have been discarded into dumpsters and then disposed of into buried landfills." Of interest for this ASR document, there is "...evidence to indicate that limited disposal of some ordnance occurred at Site No. 41, the Camp Geiger landfill near the trailer park. On a non-routine, irregular basis, some ordnance was buried...some mortar shells were placed in dumpsters and ultimately taken to the landfill", according to the report, and "A 105mm cannon shell apparently blew up while buried at this dump." Chemical and Training Agent Disposal was also addressed at some length within the IAS. CWM has always been present at **MCB Camp Lejeune**, but definitive information on quantities and storage were lacking. An interview with a staff member resulted in a

statement that in 1958 or 1959, during construction of Air Station housing to the north of Curtis Road, a bulldozer operation discovered glass ampules or vials that smelled an odor of "new-mowed hay". Subsequently, the area was cleared to a depth of 18 inches. These items were believed to be training aids of diluted phosgene. Three other incidences of potential CWM contamination in the form of "gas" burials were identified at Sites Nos. 69 (Rifle Range Chemical Dump), 75 (MCAS Basketball Site), and 76 (MCAS Curtis Road Site). Reports were that with Marines present in protective clothing, 55-gallon and possibly 5-gallon cans were placed in pits. During one incident, supposedly, some drums broke open, releasing a yellow or brown liquid that appeared like fuel oil, but was not fuel oil. Color and appearance suggested various chemical agents, distilled mustard gas, nitrogen mustard, and lewisite. Finally, a review of all 76 disposal sites identified in the IAS indicates the following possible areas not recommended for further studies under the NACIP program could require "range rule" assessment: an early 1960s Explosive Ordnance Disposal site (Site 12), Public Works Development (PWD) Map Sheet 20, Coordinate G9; an Explosive Ordnance Disposal K-326 Range site (Site 20), in use from 1974 through the present, PWD Map Sheet 15, Coordinate 09; and the Engineers TNT Burn Site (Site 67), PWD Map Sheet 23, Coordinates A-19-20/B19-20.

Under the NACIP program, RI/FS activities were initiated in July 1984 and several studies were subsequently conducted at **MCB Camp Lejeune**, including *Confirmation Studies* and *Site Investigations* at various identified potential sites. Details of these investigations of landfills and groundwater contamination under this program are available from the Administrative Record.

2.3.2 DoD Installation Restoration (IRP) and Resource Conservation and Recovery (RCRA) Facility Assessment (RFA) Programs

Investigations continued at **MCB Camp Lejeune** during a transition from the NACIP program to the Installation Restoration Program (IRP) after the enactment of SARA in 1986. **MCB Camp Lejeune** was placed on the CERCLA National Priorities List effective 4 November 1989. The IRP/NACIP programs parallel the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), otherwise known as Superfund. Under the Superfund program, abandoned waste sites which potentially contained hazardous constituents would undergo several phases of environmental investigation that would ultimately determine the need for a remedy, and if necessary, the selection and implementation of the remedy for the site. The phases of investigation include the *Preliminary Assessment/Site Inspection (PA/SI)*, *Remedial Investigation (RI)*, *Feasibility Study (FS)*, *Record of Decision (ROD)* and *Remedial Design/Remedial Action (RD/RA)*. Superfund also has provisions for *Interim Measures (IM)* that can be implemented if a site poses an immediate threat to public health or the environment. In December 1989, a draft Federal Facility Agreement (FFA), under Section 120 of CERCLA to address the remedial and corrective actions needed at the base, was prepared and covered a list of 23 sites developed from previous investigations. Additional SI's were also scheduled for several additional sites. The FFA was signed in February 1991. By late 1991, a Community Relations Plan generic to all **MCB Camp**

Lejeune IR activities was submitted to EPA and the North Carolina DEHNC and then implemented.

U.S. EPA Region IV

- 1989 "RCRA Facility Assessment (RFA) Investigation Report (draft)", MCB Camp Lejeune, dtd December 1989, Environmental Management Department, Installation Restoration Division, MCB Camp Lejeune.

Naval Facilities Engineering Command, Atlantic Division

- 1992 "Site Management Plan for Marine Corps Base Camp Lejeune, North Carolina, Final, Fiscal Year 1992", dtd January 1992, Environmental Management Department, Installation Restoration Division, MCB Camp Lejeune.

This 1992 report, which was initially prepared for NAVFAC by Halliburton NUS, documents decisions and evaluations made during the project planning and scoping process. Besides providing descriptive material and the environmental history of the facility, it sets the proposed deadlines for completion of IR Documents with scheduled amendments to occur on an annual basis. Subsequent *Site Management Plans* for FY 1995, 1996, 1997, 1998, and 1999 prepared under the LANDIV CLEAN Program by Baker Environmental, Inc., Coraopolis, Pennsylvania, for Atlantic Division, Naval Facilities Command (LANTDIV) were considered for factors that might impact this "range rule" ASR documents. The purpose of each of these documents remained to present those environmental remediation activities to be conducted at the MCB Camp Lejeune installation during the particular Fiscal Year and to provide a projection for the long term progress at the facility in accordance with the Navy's IRP.

- 1997 "Site Management Plan for Marine Corps Base Camp Lejeune, North Carolina, Final, Fiscal Year 1998", dtd 12 September 1997, Environmental Management Department, Installation Restoration Division, MCB Camp Lejeune.

- 1998 "Site Management Plan for Marine Corps Base Camp Lejeune, North Carolina, Final, Fiscal Year 1999 (draft)", dtd 28 September 1998, Environmental Management Department, Installation Restoration Division, MCB Camp Lejeune.

According to the *Site Management Plan, FY 1999*, as of September 1998, a total of forty-two (42) sites were included under the IRP at MCB Camp Lejeune. Thirty-four (34) of these sites had been grouped into eighteen (18) Operable Units (OUs). Relative to potential OE related issues (Maneuver Areas, Ranges and Targets, Ordnance and Explosives storage, and potential OE(CWM) issues, the *Site Management Plans* only supplemented the status of previously identified environmental issues, providing the status and future schedules. OE and range identified OUs were:

a. OU No. 4, Site 41, Camp Geiger Landfill Near the Trailer Park. Status: fence erected around site and remedy includes semiannual long-term groundwater and surface water monitoring; deed restrictions, prohibiting development of site; amongst other groundwater and surface water measures.

b. OU No. 4, Site 74, Mess Hall Grease Pit Disposal Area. Status: statement that CWM similar to the types documented at Site 69, also were reportedly taken to Site 74. Results of investigations was that Site 74 poses no unacceptable risks, with remedy including deed restrictions (potential CWM), prohibiting development of site; restrictions on use of groundwater; and long term groundwater monitoring

c. OU No. 14, Site No. 69, Rifle Range Chemical Dump. Status: fence erected around site due to possible disposal operations involving drums of "gas" which possibly contain CE or other agents such as mustard gas; originally part of OU 4; and ongoing remedial investigation on groundwater contamination being conducted with ROD expected during 1998.

d. Pre-Remedial investigations were noted as scheduled for Site 12, Explosive Ordnance Disposal, Site 75, MCAS Basketball Site, and 76, MCAS Curtis Road Site. Based upon various soils, groundwater and related testing conducted by Baker, sites are likely considered for No Further Action, according to the *Fiscal Year 1998 Site Management Plan*.

RCRA-established a national strategy for the management of ongoing solid and hazardous waste operations at active sites. **MCB Camp Lejeune** engages in the generation, treatment, storage and disposal of hazardous wastes, which requires the facility to be permitted under the jurisdiction of RCRA. The Facility Assessment (RFA) is the first step of the RCRA Corrective Action Program. The other major steps or elements are (1) RCRA Facility Investigation (RFI), which is implemented to characterize the extent of release(s); (2) Corrective Measures Study, which is performed to determine the need for and the type of remedial measure(s); and (3) Corrective Measures Implementation, which includes designing, constructing, operating, maintaining, and monitoring the performance of the remedial measure(s) selected to protect human health and the environment. The Department of the Navy addresses environmental issues on their installations under their Comprehensive Long-Term Environmental Action (CLEAN) Program.

Naval Facilities Engineering Command, Atlantic Division

1995 "Facility Assessment Report, Final Submittal", **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 27 October 1995, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

This *Facility Assessment Report* reviewed existing environmental files and reports, and other documents to identify Solid Waste Management Units (SWMUs) at **MCB Camp Lejeune**. SWMUs were screened and categorized into groups that did not have release

potential and those that did have a release potential. Approximately 300 units were identified and assessed by Environmental and Safety Designs Inc., Memphis, Tennessee, for the purpose of identifying units which potentially meet U.S. Environmental Protection Agency proposed definition of a SWMU.

Naval Facilities Engineering Command, Atlantic Division

1993 *"Discussion Brief, Sampling Strategy Plan, Sites 69 and 74 Remedial Investigation and Feasibility Study"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 12 May 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1993 *"Final Remedial Investigation/Feasibility Study, Sampling and Analysis Plan for Operable Unit No. 4 (Sites 41, 69, and 74)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd December 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1995 *"Proposed Remedial Action plan Operable Unit No. 4 (Sites 41 and 74)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 8 May 1995, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1995 *"Revised Final Record of Decision, Operable Unit No. 4 (Sites 41 and 74)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 17 October 1995, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1996 *"Base Long-Term Monitoring Study, Operable Unit No. 4 (Sites 41 and 74)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 21 June 1996, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1996 *"Final Remedial Investigation Report, Operable Unit No. 14 (Site 69)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd December 1996, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1998 *"Final Feasibility Study for Operable Unit No. 14 (Site 69)"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 12 November 1998, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

The above reports are a sampling of the past LANTDIV CLEAN Program reports reviewed for Sites 41, 69, and 74, possible CWM disposal areas.

Naval Facilities Engineering Command, Atlantic Division

1994 *"Site Inspection Work Plan for Sites A, 12, 68, 75, 76, 84, and 85"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 21 April 1994, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1994 *"Site Inspection Field Sampling and Analysis Plan for Sites A, 12, 68, 75, 76, 84, and 85"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 21 April 1994, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Naval Facilities Engineering Command, Atlantic Division

1998 *"Final Pre-Remedial Investigation Screening Study Work Plan for Sites 12, 68, 75, 76, 84, 85, and 87"*, **Marine Corps Base, Camp Lejeune**, North Carolina, dtd 24 November 1998, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

The above reports are a sampling of the past LANTDIV CLEAN Program reports reviewed for Site 12, the old EOD range, and Sites 75 and 76, possible CWM disposal areas.

The Record of Decision (ROD) and Remedial Design/Remedial Action (RD/RA) phases have been achieved for a number of the other Operable Units at **MCB Camp Lejeune**. Current details and status of these management actions dealing with air station solid and hazardous waste are available from the Administrative Record for **MCB Camp Lejeune**. Only studies that present data relative to the proposed range identification and assessment rules are noted.

2.3.3 Other Environmental Programs & Reports

a. Other related documents that are part of the IRP include the Data Management Plans, Waste Management Plans, Health and Safety Plans, Community Relations Plan, as well as a series of Technical Memorandums. Through 1998, there has been at least six (6) Time Critical Removal Actions, Final RODs have been signed for about 30 sites, and four Groundwater Cleanups were in progress.

b. Underground Storage Tank (UST) Program has been ongoing as part of the IRP. Details of investigations and removal actions on both above and underground storage tanks are available from the Administrative Record for **MCB Camp Lejeune**.

2.4 SPECIAL TRAINING ANALYSIS, CAMP LEJEUNE, NORTH CAROLINA

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1985 *"SPECIAL TRAINING ANALYSIS, Camp Lejeune, North Carolina"*,
dtd December 1985, Environmental Management Department, Installation
Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1986 *"SPECIAL TRAINING ANALYSIS, Camp Lejeune, North Carolina"*,
dtd April 1996, Environmental Management Department, Installation
Restoration Division, **MCB Camp Lejeune**.

First published in draft format during November-December 1985 time frame, and then later revised in April 1986 apparently to reflect review comments, the *SPECIAL TRAINING ANALYSIS* was conducted at **MCB Camp Lejeune** for a threefold purpose. The study's first purpose was to determine the area of maneuver land and the number and type of firing ranges required to support the training missions of **Camp Lejeune**. The next purpose was to assess the supply of training land and ranges and determine whether there were suitable and adequate facilities available to fulfill the training needs. The third purpose was to develop land use concept plans designed to correct deficiencies in training facilities identified during the previous stages of analysis. The report was prepared by Harland Bartholomew & Associates, Inc., Memphis, Tennessee, under contract N62470-83-6088, for the Commander, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia. The analysis of the Marine Corps organizational structure and mission, training and maneuver requirements, and land/environmental limitations and deficiencies led to the development of four alternative concept plans and the Preferred Concept Plan for **MCB Camp Lejeune**. "The primary conclusion of the *SPECIAL TRAINING ANALYSIS* was that the requirements for firing ranges, impact areas and other restrictions left an inadequate amount of maneuver and training acreage available at **Camp Lejeune**." The report concluded that there was a deficiency of about 52,000 acres that could be met by the acquisition of a contiguous parcel west of the base. The report also noted that poor layout of existing ranges and the configuration of the impact areas were even more serious deficiencies. The recommendations included the long range acquisition of additional land, and the implementation of a series of other actions to alleviate problems confronted by units training at the base. The *SPECIAL TRAINING ANALYSIS* proved a valuable source for general information on the number of existing ranges and impact areas, the number of required additional ranges, and other base information, including data relative to projected required versus available maneuver and training areas at **MCB Camp Lejeune**.

2.5 FINAL ENVIRONMENTAL IMPACT STATEMENT, PROPOSED EXPANSION AND REALIGNMENT OF THE MARINE CORPS BASE CAMP LEJEUNE

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1989 *"Final Environmental Impact Statement, Proposed Expansion and Realignment of the Marine Corps Base Camp Lejeune, Onslow County, North Carolina"*, dtd 1989, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

This *Draft and Final Environmental Impact Statement (EIS)* described in detail the proposed action and the purpose and need for the expansion and realignment of **MCB Camp Lejeune**. It references two previous baseline studies that documented the deficiencies in training and facilities at the camp. Both studies had determined the number and quality of firing ranges and the amount of maneuver area existing on the installation were found to be inadequate and insufficient. Presented are the alternatives considered, the affected environment, and the environmental consequences. The *Final EIS* also describes modifications to the proposal in response to public comment and to further mitigate potential environmental impacts. Thirteen alternatives were evaluated and then three alternatives were identified as most reasonable and formed a shortlist of options to resolve the training area deficiencies. After a quantified comparison was conducted using certain operational, environmental, and socioeconomic variables, a preferred Alternative, the acquisition of the Greater Sandy Run Area (Alternative E) and realignment of the Base via relocation of the "F" series of ranges around the G-10 impact area, opening Starretts Meadows for maneuver, was selected as the Preferred Alternative.

2.6 MAINTENANCE AT RANGES, MCB CAMP LEJEUNE

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1998 *"Final Work Plan for Maintenance at Ranges D-29 and A-1, MCB Camp Lejeune"*, dtd May 1998, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia
1998 *"Final Work Plan for Maintenance at Ranges I-1, B-12, and F-11, MCB Camp Lejeune"*, dtd December 1998, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

These two reports prepared by OHM Remediation Services Corp. (OHM) identify and describe how OHM will implement major tasks encompassing the removal and separation of bullet fragments, chemical stabilization of lead-contaminated soil, and site restoration at the respective ranges. Presented in Appendices are the complementary components of the work plan: Site-Specific Health and Safety Plans; Construction Quality Control Plans; Sampling and Analysis Plans; Environmental Protection Plans; and Transportation and Disposal Plans. All ranges are currently in use for small-arms target practice. The maintenance activity is part of the range management program to minimize the potential

for environmental releases at small arms ranges. Recovered bullet materials are to be shipped to an off-site recycling facility. In addition to soil remediation measures, new bullet traps with dust collectors will be installed at each range.

2.7 ENVIRONMENTAL ASSESSMENT FOR P-933: MULTI-PURPOSE RANGE COMPLEX HEAVY AND SMALL ARMS QUALIFICATION RANGE

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1993 *"Preliminary Report: Environmental Assessment for P-933: Multi-Purpose Range Complex Heavy and Small Arms Qualification Range, U.S. Marine Corps Base, Camp Lejeune, North Carolina"*, dtd January 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1993 *"Draft: Environmental Assessment for P-933: Multi-Purpose Range Complex Heavy and Small Arms Qualification Range, U.S. Marine Corps Base, Camp Lejeune, North Carolina"*, dtd 10 September 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1995 *"Final: Environmental Assessment for P-933: Multi-Purpose Range Complex Heavy and Small Arms Qualification Range, U.S. Marine Corps Base, Camp Lejeune, North Carolina"*, dtd 30 June 1995, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Prepared by the Environmental Company, Inc, Charlottesville, Virginia, the *Environmental Assessment (EA) for P-933* addresses the specific impacts associated with a proposal to construct and operate a Multipurpose Range Complex (MPRX) in the southern sector of the Greater Sandy Run Area (GSRA). According to the *EA for P-933*, "The overall long-range GSRA development plan includes a total of ten ranges and associated support facilities ...estimated to be complete by FY 2005." Also, the proposed MPRC/SR-10 would consist of four tank maneuver trails, and stationary and moving targets; and would have the capacity to provide simultaneous, combined tank, light vehicle, dismounted infantry, and attack helicopter training, according to the *EA*. The report provides a description, evaluation, and comparison of alternatives, with the selection of a preferred alternative. Described are the affected environments, both natural and man-made, and included is discussions of the environmental impacts and mitigation measures associated with the development of the MPRX in the GSRA. "Only non-explosive steel or copper jacketed ordnance would be used on the proposed MPTR so that the SDZ (Surface Danger Zone) would not be 'dudded', and no long term unexploded ordnance and/or contamination hazards would be created."

2.8 ENVIRONMENTAL ASSESSMENT FOR P-949: MULTI-PURPOSE TRAINING RANGE

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1993 *"Draft: Environmental Assessment for MCON P-949, Multipurpose Training Range, Marine Corps Base Camp Lejeune, North Carolina"*, dtd 19 March 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1993 *"Environmental Assessment for MCON P-949: Multipurpose Training Range, Marine Corps Base, Camp Lejeune, North Carolina"*, dtd 28 September 1993, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1994 *"Environmental Assessment for MCON P-949: Multipurpose Training Range, Marine Corps Base, Camp Lejeune, North Carolina"*, dtd 26 May 1994, Environmental Management Department, Installation Restoration Division, **MCB Camp Lejeune**.

Prepared by the Environmental Company, Inc, Charlottesville, Virginia, the *Environmental Assessment (EA) for MCON P-945* addresses the specific impacts associated with a proposal to construct and operate a Multipurpose Training Range (MPTR) in the northeast quadrant of the Greater Sandy Run Area (GSRA). Stated in the EA is that "The MPTR would be designed to teach tank crews the skills needed for engaging stationary and moving targets...and...provide a combined tank firing range and maneuver area in which tanks could train in conjunction with dismounted infantry". The report provides a description, evaluation, and comparison of alternatives, with the selection of a preferred alternative. Described are the affected environments, both natural and man-made, and included is discussions of the environmental impacts and mitigation measures associated with the development of the MPTR in the GSRA. According to the EA for MCON P-945, "Only non-explosive steel or copper jacketed ordnance would be used on the proposed MPTR so that the SDZ (Surface Danger Zone) would not be 'duded', and no long term unexploded ordnance and/or contamination hazards would be created". Also, "...other incendiary devices (smoke grenades, booby-trap simulators, hand held illumination) would be used on the range."

2.9 ENVIRONMENTAL ASSESSMENT, JOINT EXERCISE OCEAN VENTURE 92 (OV92)

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia

1991 *"Environmental Assessment, Joint Exercise, Ocean Venture 92 (OV92)"*, dated 19 December 1991, Environmental Affairs Office, MCAS Cherry Point.

This EA considered the proposed action of U.S. Atlantic Command (USCINCLANT) sponsored, Joint Training Exercise, utilizing components of the Army, Navy, Air Force, Marines, and the Coast Guard. The joint training was to be conducted during spring of 1992 on military reservations, ocean waters and other selected exercise locations. These operations were to be divided into five broad categories: amphibious assault, land maneuvers, air support, and logistics. The training exercised selected organizations of component services in the procedures and tactics to be used in a low- to mid-intensity conflict and to train USCINCLANT forces for joint combat operations. The document contained information on **MCB Camp Lejeune**, and Outlying Fields associated with both installations.

2.10 MARINE CORPS LAND AND TRAINING AREA REQUIREMENTS STUDY

Headquarters, United States Marine Corps

1978 *"Marine Corps Land and Training Area Requirements Study"*, dtd
September 1978, Defense Technical Information Center, Ft. Belvoir, VA.

The document provided an analysis on recommendations of observations to remedy base range and maneuver area deficiencies applicable throughout the Marine Corps. The report identifies the most prevalent deficiencies at the majority of the bases as:

- (1) lack of adequate maneuver space for types of units and weapons currently assigned, and
- (2) the available and configured live-fire ranges did not possess the proper characteristics to effectively complete prescribed gunnery exercises.

Recommended alternative solutions to address shortfalls and deficiencies for specific bases are provided in the document. For MCAS Cherry Point, it lists sixteen (16) live-fire ranges and maneuver areas that were required for tenant activities. Shortfalls and Deficiencies at BT-11 and BT-9 are discussed within the report. The need for Infantry and Security Training is noted, including a basic 25-meter Firing Range (zero), a Hand grenade Qualification Course, a Machine Gun Range Complex, and a Combat Pistol Range. The document notes these ranges were not available at MCAS Cherry Point, and the approach was to conduct this training at **MCB Camp Lejeune**.

2.11 STANDARD OPERATING PROCEDURE FOR RANGE CONTROL

Headquarters, **Marine Corps Base Camp Lejeune**, North Carolina

1960 *"Regulations Governing the Use of Field Firing Ranges, Training Facilities and Maneuver Areas"*, Base Order (BO) 11102.1B, dtd 5 May 1960, Wilmington District Corps of Engineers and/or Headquarters or Range Control Office, **MCB Camp Lejeune**.

Headquarters, **Marine Corps Base Camp Lejeune**, North Carolina

1970 "Standard Operating Procedures for Training Facilities and Services", Base Order (BO) P11102.1G, dtd 6 February 1970, Wilmington District, U.S. Army Corps of Engineers, and/or Headquarters or Range Control Office, **MCB Camp Lejeune**.

Headquarters, **Marine Corps Base Camp Lejeune**, North Carolina

1985 "Standard Operating Procedures for Range Control Operations (Short Title: Range Control SOP)", Base Order (BO) P11102.1K, dtd 11 October 1985, Wilmington District, U.S. Army Corps of Engineers, and/or Headquarters or Range Control Office, **MCB Camp Lejeune**.

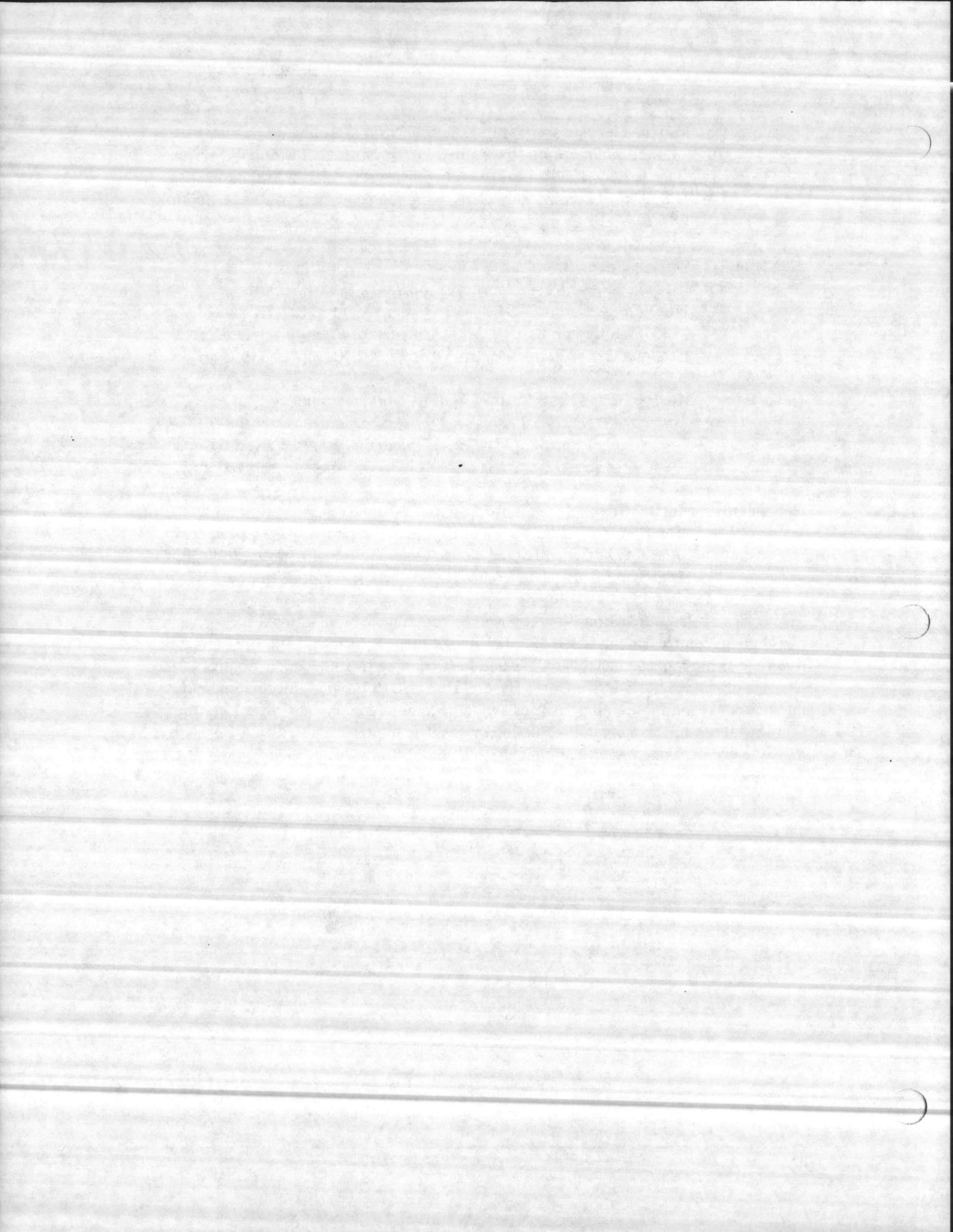
Headquarters, **Marine Corps Base Camp Lejeune**, North Carolina

1986 "Standard Operating Procedures for Range Control Operations (Short Title: Range Control SOP)", Base Order (BO) P11102.1K, dtd December 1986, Headquarters or Range Control Office, **MCB Camp Lejeune**.

Headquarters, **Marine Corps Base Camp Lejeune**, North Carolina

1994 "Standard Operating Procedures for Range Control Operations (Short Title: Range Control SOP)", Base Order (BO) 3570.1 dtd 2 June 1994, Headquarters or Range Control Office, **MCB Camp Lejeune**.

This series of Base Orders has the purpose "To promulgate regulations for the assignment, control, safe use, and maintenance of ranges at **Camp Lejeune** to include live field firing ranges, maneuver areas and field training facilities under control of the Commanding General, Marine Corps Base". These *SOPs* provide information and instructions regarding training services available to units training at **Camp Lejeune**. Significant use of this series of regulations was made in preparing the *Archives Search Report and the Range Identification and Preliminary Range Assessment* for **MCB Camp Lejeune**.



3.0 SITE DESCRIPTION

3.1 LAND USE

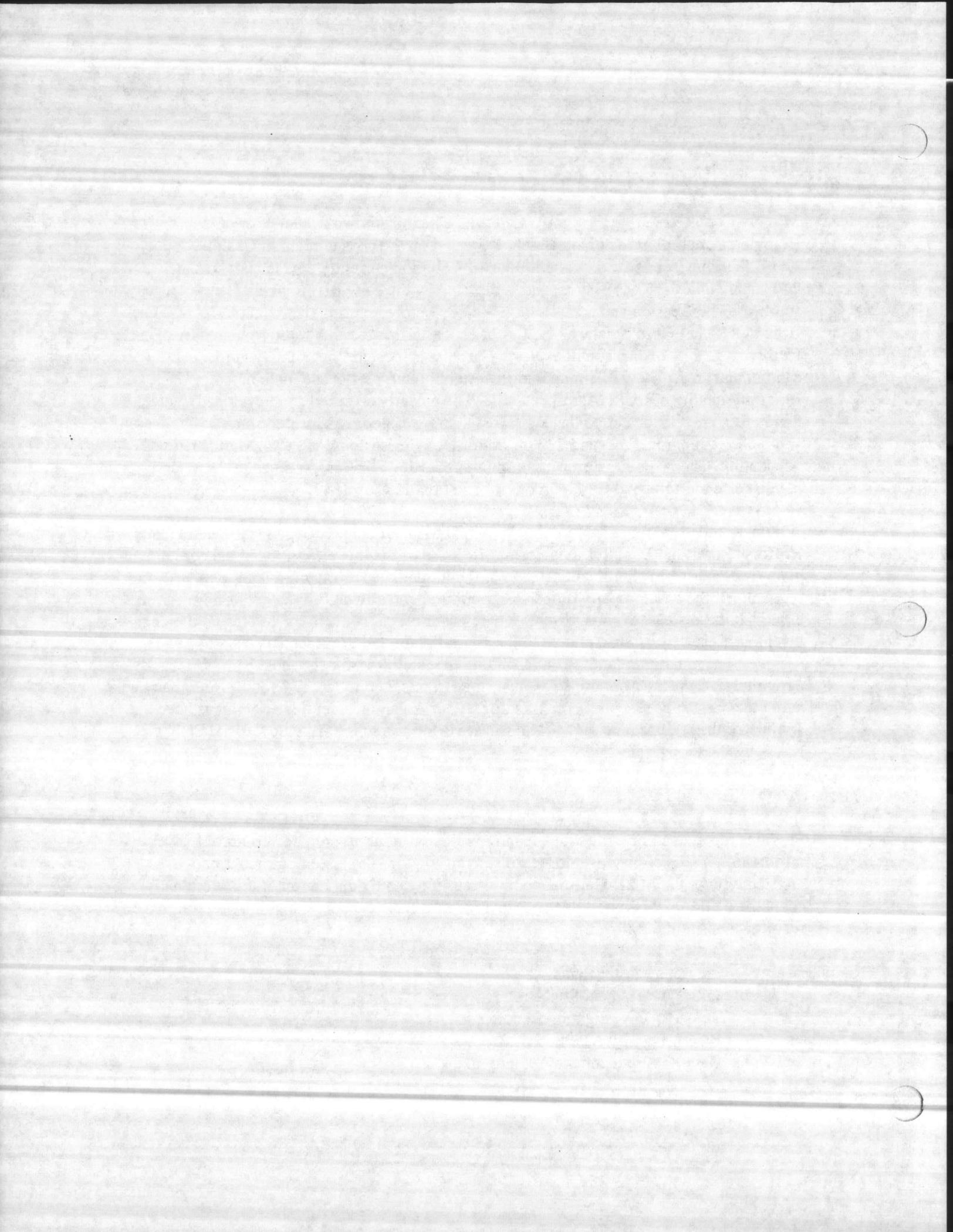
Marine Corps Base (MCB) Camp Lejeune, which is known as the "World's Most Complete Amphibious Training Base", is located on the coastal plain in Onslow County, North Carolina (see **Plate 1**). The military installation currently covers approximately 246 square miles (153,439 acres) and is bisected by the New River, which flows in a southeasterly direction and forms a large estuary before entering the Atlantic Ocean. The Atlantic Ocean (approximately 14 miles of beach) forms the southeastern boundary of the facility. The City of Jacksonville, North Carolina is located immediately northwest of the cantonment area. The western and northwestern boundaries of the main base are U.S. Route 17 and State Route 24, respectively. The recently acquired and developed Greater Sandy Run Area is located to the southwest. **Camp Lejeune** is located some 350 miles south of Washington, D.C. and 222 miles north of Charleston, S.C. The Marine Corps Air Station, Cherry Point, **Camp Lejeune's** supporting Air Base, is 52 miles away and the distance to Morehead City, port of embarkation, is 45 miles.

Within 15 miles are three large, publicly owned tracts of land: Croatian National Forest, Hoffman Forest, and Camp Davis Forest. Because of the low elevations in the coastal plain, wetlands form significant acreage of the immediate surrounding lands and segments of the base property proper. Agricultural and silvicultural interests have exploited these areas, to some extent. There is a growing concern on a state and national level that these ecosystems, unique to the coastal plain, require a protected status to survive. The remaining land use surrounding the facility is, for the most part, agricultural. Typical crops are soybeans, small grains, and tobacco. Productive estuaries along the coast support commercial fishing. Tourism and residential resort areas have stimulated the regional economy. The facility is located in the Atlantic Coastal Plain on generally flat topography.

3.2 OTHER SITE DATA

Previous reports and investigations regarding this installation prepared comprehensive information on the climate, geology, soils, hydrology, ecology, demographics and archaeology for the **MCB Camp Lejeune** area. To avoid duplication of this work and economize efforts, this report does not include information concerning these topics. If required, consult the following:

- a. Previous Master Plans
- b. Initial Assessment Study
- c. Remedial Investigation Reports
- d. RCRA Facility Assessment Reports
- e. Base Realignment and Cleanup Plans



4.0 SITE HISTORY

4.1 HISTORICAL SITE SUMMARY

4.1.1 General Site History

In 1940, shortly before the outbreak of WW II, the Marine Corps decided to establish an amphibious training facility on the East Coast. After surveying the eastern seaboard, in April 1941, the determination was made to construct a divisional training facility in the vicinity of New River, North Carolina. The War Department purchased a 170 square mile tract (approximately 83,000 acres of land and 24,000 acres of water area) primarily consisting of farmland surrounding the New River, including eleven miles of coastline. On 1 May 1941, the Marine Corps initially established a base, then known as Marine Barracks New River, NC, which began as a tent camp located southwest of the City of Jacksonville (16 May 1941 Historic Map, **Appendix G**). In December 1941, the military accelerated plans to expand the training complex at New River. The original headquarters located at Montford Point moved to Building 1 at Hadnot Point in August 1942. Later in 1942, the base took the name of "**Camp Lejeune**", in honor of the late Lieutenant General John Archer Lejeune, who commanded the 2nd Division of the American Expeditionary Forces in France during World War I.

The training complex at **MCB Camp Lejeune** has grown considerably since its original construction in 1942. Periodic additions to the mission of the Marine Corps led to several growth periods of new facilities at **Camp Lejeune**. The initial development of the camp occurred during three separate major periods of construction. Beginning with temporary quarters and tent camps, followed by a permanent Marine Corps Base with organizational units housed in an orderly fashion, **Camp Lejeune** then completed its third phase of development with the establishment of support facilities in the outlying areas of Montford Point, Peterfield Point, Camp Geiger, and Courthouse Bay. Virtually all of these facilities constructed since the early 1940s are still being used today. In the formative years of **Camp Lejeune**, the Marine Corps limited its operational and training activities to various types of amphibious warfare. At the same time, the Marines acquired large areas of land for general infantry training, which went unused for many years. With the evolution of Marine Corps tactical theories since WW II, from extensive beach operations to a concept of vertical envelopment warfare, new training ranges and facilities developed with accompanying airspace for various tactical air operations with new types of amphibious assault. The types and configuration of training facilities at **MCB Camp Lejeune** evolved further as the Marine Corps trained for wars in Korea, Vietnam, and Saudi Arabia, as well as for actions such as peacekeeping in Lebanon and a host of noncombatant evacuation operations throughout the past decade.

MCB Camp Lejeune has now grown to include satellite facilities at Camp Geiger, Camp Johnson, Stone Bay, and the Greater Sandy Run Training Area. Camp Johnson now serves a crucial role in the follow-on training of thousands of Marines every year. Camp Geiger is a vital training center unto itself with more than 12,000 Marines undergoing Marine combat training every year. Its hub of activity reflects the original days of training in 1941, when 6,000 Marines of the 1st Marine Division prepared for the War in the Pacific. Today, **MCB Camp Lejeune** includes an expansive 14 miles of beach capable of supporting amphibious operations. There are 54 live-fire ranges, 89 maneuver areas, 33 gun positions, 25 tactical landing zones, and a state of the art military operations in urban terrain training facility. **Camp Lejeune** is now the Marine Corps Base Camp for more than 47,000 Marines and Sailors serving with major commands, including the II Marine Expeditionary Force, II Marine Expeditionary Force Augmentation Command Element, 2nd Marine Division, Reserve Support Group, Marine Corps Base, School of Infantry, 2nd Force Service Support Group, and the Chemical, Biological Incident Response Force.

4.1.2 Summary of Ordnance and Explosive Activities

4.1.2.1 General

As previously mentioned, in April 1941, the determination was made to construct a divisional training facility in the vicinity of New River, North Carolina. This base originally consisted of approximately 83,000 acres of land and 24,000 acres of water area located south and southeast of the City of Jacksonville, along the New River. In the summer of 1941, a major training exercise was conducted on the site. Elements of the 1st Marine Division conducted maneuvers with the 1st Army Infantry Division. 6,000 Marines of the 1st Division first occupied the original tent camp during September 1941. A 20 September 1941 document recommended the development of the following facilities at the Marine Barracks – New River, as the site was designated:

1. A landing field southwest of the tent camp
 2. An AA firing range at Hurst (Onslow) Beach
 3. A Barrage Balloon Area at Courthouse Bay
 4. Parachute Jumping Fields
 5. A Parachute Tower east of Hadnot Point
 6. A Glider Base
 7. A 5" Gun Firing Area at Hurst Beach
 8. A Boat Gun Range on Onslow Beach
 9. Amphibian Tractor and Boat Basin on Courthouse Bay
 10. An Anti-Mechanized Range
- (Barrett, 1941)

The Boat Gun Range was relocated to the New River in Area "K", which allowed personnel to load the boat at the main base and conduct assault landing procedures into the artillery impact area, which allowed firing of the weapons on the assault boats. The

Anti-mechanized Range was eventually constructed near the beach, northeast of the Onslow Beach firing points. All the other proposed facilities were constructed more or less as proposed. In October 1941, the base was preparing to use the "G" Area as a shore bombardment impact area. (Brewster, 1941)

The 1942 Construction Completion Report identified the following ranges (see Plates 2 and 3 and Historic Maps G-1 & G-2, Appendix G for locations).

1. Artillery Training Area
2. Infantry, including Tank and Anti-Tank, Combat Training
3. Rifle Range
4. Boat Gun and Anti-Boat Gun Ranges.
5. Anti-Aircraft and Five-inch Gun Range
(Carr & J.E. Greiner Co, 1942)

Effective 20 December 1942, the site was renamed "Camp Lejeune" and initial construction of the base was completed in 1943. Construction and development of the base has continued to the present. The Army Base known as Camp Davis was located near MCB Camp Lejeune. Army use of this base ended in late 1944, and the Marine Corps obtained use permits from the Army to conduct maneuvers on the property. This property was also used by the Dutch Marines, who were training under the direction of the Marines at MCB Camp Lejeune. In 1946, this property was turned over to Navy control and most of the property at Camp Davis was eventually disposed of, but the Marine Corps acquired the portion of the base that contained the former Army Air Field. (The portions of Camp Davis that were acquired did not include any of the firing ranges belonging to Camp Davis.)

On 1 February 1942, the entire New River was divided into sectors and declared a Danger Zone. The Danger Zone Sectors were: Jacksonville River Sector, Morgan Bay River Sector, Farnell Bay River Sector, Grey Point River Sector, Stone Creek Sector, Stone Bay River Sector, Courthouse Bay River Sector, and Traps Bay River Sector (Stimson, 1942). Also in 1941, the danger zone was established for the seaward firing range and was centered at Hurst Beach (34° 34' 15" North, 77° 16' 10" West) bound by limiting lines bearing North 85° East and South 40° West, extending 25,000 yards seaward (Lewis, 1943). In May 1945, MCAS Cherry Point established a danger zone for Bombing Target 5, which included Rocket Range 1 and Strafing Target 2 (Cushman, 1945).

In the 1980's, this property was combined with an area known as the Greater Sandy Run Area, which the Marine Corps began the process to acquire in order to expand the training facilities on MCB Camp Lejeune. The Glider base at Camp Lejeune was never used to train glider personnel, but became a Marine Corps Air Station under operational control of the air bases command located at MCAS Cherry Point. This airfield, currently used for helicopter operations, operates two subordinate fields, Camp Davis and Oak Grove. (Oak Grove Field is addressed under the MCAS Cherry Point Archives Search and Range Identification and Preliminary Range Assessment Reports.)

4.1.2.2 Ammunition Storage Activities

The original proposed area for the installation magazine area was northeast of its current location, across Snead's Ferry Road. This area interfered with some of the range activities and eventually a decision was reached to construct the magazine at its present location. The following table shows ammunition storage facilities and the years they appear on the map.

Type of Magazine (General Location)	'43	'44	'46	'47	'49	'50	'51	'54	'94
Small Arms (Magazine Area)	6		7	7	7	7		9	9
Fuze & Detonator (Magazine Area)	9		14	14	14	14		14	14
Fixed Ammunition (Magazine Area)	8		8	8	8	8		8	8
High Explosive (Magazine Area)			11	11	11	11		11	13
Ready Magazine (Rifle Range)	4	4	4	4		4	4	4	4
Ammunition Storage (Tent Camp 1 & 2)		1		1	1	1			
Small Arms (Beach Area A)								2	

NOTE: Not all sheets associated with a time period were available and blank information may be due to missing information.

4.1.2.3 Range Activities

Initial planning for ranges on the Marine Barracks – New River called for Areas “K” and “M”, plus the parts of “L” north of the rifle range, to be used as an artillery impact area and for Area “F” to be used for combat training ranges. Additionally, a beach firing area for anti-aircraft guns and 5 inch guns was established, and an anti-Tank range was built near Browns inlet (Plate 2). In 1941, it was proposed that the “G” Area should be used for shore bombardment, but no information has been uncovered to confirm this. In 1943, parts of Area “K” were removed from the impact area to allow the establishment of two ranges, each of which fired into the remainder of the “K” Area. *Camp Training Order Number 5-1946*, 16 March 1946, ended the use of Area “M” as an impact area, leaving a part of Area “L” (known as Area “L-2”), Area “K” and Area “N” (beach area from Browns Inlet to Bear Inlet) as impact areas for artillery. Area “N” was also used by aircraft as a strafing and bombing range. Area “F” was still in use for combat ranges. 1000-inch ranges were established near the various training camps (Plates 3 and 4). By the 1950's artillery impact areas were “L-2”, “K-2”, “N-1”, and a new Area “G-10”, plus a designated portion of the Atlantic Ocean (Plate 5). Infantry weapons ranges continued

to be developed in various portions of the base, with the exception of "L-2" which was closed; the artillery impact areas remained in the same general locations from the 1950's forward and were only expanded in size to accommodate new weapons (**Plates 6 through 11**). Each individual range is detailed in the *Range Identification and Preliminary Range Assessment* volume.

4.1.2.4 Maneuver Areas

Maneuver areas existed in all parts of the post. These areas were normally limited to blank ammunition and simulators, but in cases where the training areas overlapped, an impact or other range area, live munitions may have been used in the training exercise.

It must also be noted that training was sometimes conducted in areas not identified as ranges during the early days of the base, prior to the formalization of range areas. An example is contained in a January 1942 document, which reports on combat practice firing of a Mortar Platoon in the Onslow Beach Area. (Cresswell, 1942)

4.1.3 Summary of Chemical, Biological, and Radiological Activities

4.1.3.1 Gas Chambers

Gas Chambers have been identified in the "B", "D", "K", and Rifle Range Areas (see **Plate 15**).

4.1.3.2 NBC Training

A 1945 newspaper article in the **Camp Lejeune Globe** identified a Gas Training Area on the south shore of Duck Creek where it enters the New River. This training area included a 'Mustard Walk' through an area contaminated with mustard by detonating one-gallon mustard mines.

The *1986 Range SOP* listed the area around Bldgs 934 and 935 as having a NBC Training Trail.

4.1.3.3 Other NBC Activities

A 22 April 1953 document detailing an inspection of Chemical Corps items stored at **Camp Lejeune** listed the following:

Description	Amount
Chlorine	90 lbs
Set, Gas, Toxic, M1	Unknown
Set, Gas Ident, Det, M1	163 ea
Set Access, Gas Ident, Det, M1	47 ea
Set, Gas Ident, Instruc, M1	Unknown
Set, Gas Ident, Instruc, M2	Unknown

This amount of chemical training material indicates that a significant amount of chemical training was conducted by **Camp Lejeune** personnel.

The *Training Facilities SOP*, February 1970, listed the following standard simulants that are available for training at the discretion of the unit commander and with approval of G-3 Training.

1. Detonation War Gas Identification Set
2. M2, HD Toxic Gas Set
3. Training kit for chemical agent detection
4. Training Ammunitions (such as tear gas grenades)
5. Atomic Explosion Simulator
6. Locally fabricated atomic simulator
7. Biological simulant BG-1

Although weapons systems, which potentially use depleted uranium projectiles are associated with **MCB Camp Lejeune**, no information has been found to indicate that this type of ammunition was fired on the camp.

4.2 REVIEW OF HISTORICAL RECORDS

Appendix A contains a list of references of all in-text citations, along with the location of the copied document. Concentration in three areas directed the research methodology for this report:

- locating documentation concerning the military use of the site
- compiling the types, quantities and probable locations of OE and/or CWM used by the military
- collecting real estate information

Researchers searched the following locations relating to OE and CWM activities at **MCB Camp Lejeune**. The research team used finding aids and records managers to assist in locating documents relevant to the research topic. The ASR team accumulated complimentary documents reviewed on **MCB Camp Lejeune**, but not specifically used, with the original ASR documents. **Appendix D** also contains a list of additional personnel contacted who reported no pertinent information.

4.2.1 NATIONAL ARCHIVES II - COLLEGE PARK, MARYLAND
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740-6001
(301) 713-6800

4.2.1.1 TEXTUAL RESEARCH BRANCH - (301) 713-7250

The research team consulted with the archivists, reviewed finding aids, conducted research in the following records, and copied pertinent historical materials as indicated:

Record Group 18

Entry 46

Box 37

No pertinent information found.

Record Group 18

Entry 46

Box 178

No pertinent information found.

Record Group 18

Entry 46

Box 185

No pertinent information found.

Record Group 18

Entry 294

Box 881

No pertinent information found.

Record Group 18

Entry 294

Box 882

No pertinent information found.

Record Group 18

Entry 600

Box 1480

Folder: Air Adjutant General Files

No pertinent information found.

Record Group 18
Entry Project Files
Box 2264
Folder: Air Adjutant General Files
No pertinent information found.

Record Group 18
Entry Project Files
Box 2265
Folder: Air Adjutant General Files
No pertinent information found.

Record Group 18
Entry Projects Files
Box 2292
Folder: Air Adjutant General Files
No pertinent information found.

Record Group 18
Entry Project Files
Box 2806
Folder: Air Adjutant General Files
No pertinent information found.

Record Group 18
Entry Project Files
Box 1017
No pertinent information found.

Record Group 18
Entry Project Files
Box 1461
No pertinent information found.

Record Group 18
Entry Project Files
Box 1462
No pertinent information found.

Record Group 18
Entry Project Files
Box 1465
No pertinent information found.

Record Group 18
Entry Central DGC Files
Box 1520
No pertinent information found.

Record Group 18
Entry Air AG
Box 2321
No pertinent information found.

Record Group 18
Entry Air AG
Box 3197
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts 1947-1948, Aug 1948
Box 63
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval District 1947-1948, Dec 1947, 4th
Naval District through Dec 1947, 8th Naval District
Box 25
Folder: 6th District Correspondence
Found Naval District Disposal Records of Camp Davis.

Record Group 71
Entry, Naval District Correspondence Files, 1952-1958
Box 1
Folder: Correspondence
No pertinent information found.

Record Group 71
Entry, Naval District Correspondence Files, 1952-1958, 156-ND-4, 1955
through 1958 through 156-ND-8, 1958
Box 22
Did not find pertinent information.

Record Group 71
Entry, Naval District Correspondence
Box 3
Folder: 5th Naval District
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 11
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 12
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 16
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 18
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 22
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 25
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 34
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 31
Folder: 5th Naval District
No pertinent information found.

Record Group 71

Entry, Naval District Correspondence
Box 36
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 29
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 32
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 38
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 43
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 48
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 52
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 53
No pertinent information found.

Record Group 71
Entry, Correspondence with Naval Districts
Box 49
No pertinent information found.

Record Group 71
Entry 1001
Box 906
Folder: C34-7-CP
No pertinent information found.

Record Group 71
Entry 1001
Box 907
Folder: C34-36-CP
No pertinent information found.

Record Group 71
Entry 1001
Box 908
No pertinent information found.

Record Group 71
Entry 1001
Box 909
Folder: Bogue
No pertinent information found.

Record Group 71
Entry 1001
Box 910
Folder: C34-36-CP-3
No pertinent information found.

Record Group 71
Entry 1001
Box 911
Folder: C34-36-CP-5
No pertinent information found.

Record Group 71
Entry 1001
Box 912
Folder: C34-36-CP-7
No pertinent information found.

Record Group 71
Entry 1001
Box 913
No pertinent information found.

Record Group 71
Entry 1001
Box 913
Folder: C34-36-CP-8
No pertinent information found.

Record Group 71
Entry 1001
Box 914
Folder: C34-36-CP-9
No pertinent information found.

Record Group 71
Entry 1001
Box 914
Folder: C34-36-CP-10
No pertinent information found.

Record Group 71
Entry 1001
Box 915
Folder: S-34-36-CP
No pertinent information found.

Record Group 71
Entry 1001
Box 936
Folder: Real Property Case Files New River
No pertinent information found.

Record Group 71
Entry 1001
Box 937
Folder: Real Property Case Files New River
No pertinent information found.

Record Group 71
Entry 1001
Box 940
Folder: Real Property Case Files New River
No pertinent information found.

Record Group 71
Entry, Report on Army Facilities Acquisition, 1944
Box 1
No pertinent information found.

Record Group 71
Entry 74A
Box 1, NARS-1
No pertinent information found.

Record Group 71
Entry 74A

Box 2, Masbate Harbor PI to La Pallice, France
No pertinent information found.

Record Group 71
Entry 74A

Box 3, Casablanca to Pusan, Korea, NARS A-1
No pertinent information found.

Record Group 71
Entry 74A

Box 4, Iliuliuk Base, Dutch Harbor, AL, NARS A1
No pertinent information found.

Record Group 71
Entry 74A

Box 5, Habbakuk
No pertinent information found.

Record Group 71
Entry 74A

Box 6, Misc. Bases, including Iceland
No pertinent information found.

Record Group 71
Entry 1001

Box 941
Folder: Real Property Case Files New River
No pertinent information found.

Record Group 71
Entry Naval District Correspondence

Box 3
Folder: 5th Naval District
Found Letter to the Chief of the Bureau of Yards and
Docks, SUBJECT: Fiscal Year 1958, MCIN Program,
Request for Assembly of Final Land Data, 19 April
1957.

Record Group 71

Entry Correspondence with Naval District 1947-1948, Dec 1947, 4th
Naval District thru Dec 1947, 8th Naval District

Box Number (not given)

Folder: 6th Naval District Correspondence

Found 6th Naval District disposal records regarding
Camp Davis.

Record Group 71

Entry Records of the Bureau of Yards and Docks, Naval District
Correspondence Files 1952-1958

Box 1

Folder: Correspondence

Copied a couple of miscellaneous articles.

Record Group 71

Entry Naval District Correspondence Files, 1952-1958, 156-ND-4, 1955
thru 1958 thru 156-ND-8, 1958

Box 22

No pertinent information found.

Record Group 71

Entry 1001

Box 934

Folder: New River

Copied Letter to Officer in Charge of Construction,
Camp Lejeune, SUBJECT: Riparian Rights to Main
Tributaries of New River Inlet within Camp Lejeune
Boundaries with Reference to Dynamiting Fish in
French Creek Inlet, 28 May 1947; Letter to the Chief,
Bureau of Aeronautics, SUBJECT: Marine Corps Air
Facility, Camp Lejeune, North Carolina, Transfer of
Land in Connection with; Letter to Senator Smith from
Assistant Secretary of the Navy for Air, 14 February
1951; Letter to the Judge Advocate General, SUBJECT:
Riparian Rights to Main Tributaries of New River Inlet
within Camp Lejeune Boundaries, 25 April 1947; Letter
to Commandant, Sixth Naval District, SUBJECT:
Marine Corps Air Facilities, Peterfield Point, Camp
Lejeune (Comments Relative to the Establishment of),
12 September 1951; Letter to the Chief of Naval
Operations, SUBJECT: Acquisition of 5,173.5 acres of
Land, More or Less, in Onslow County, North Carolina,
By Condemnation, 27 August 1941; and Letter to
Officer in Charge of Construction, Camp Lejeune,

SUBJECT: Reservation Boundary Description, Camp
Lejeune, North Carolina, 1 June 1950.

Record Group 71
Entry 1001

Box 934

Folder: C-34-40-NR

Copied Letter to the Chief, Bureau of Aeronautics,
SUBJECT: Marine Corps Air Facilities, Camp
Lejeune, N.C., Transfer of Land in Connection with, 7
January 1952.

Record Group 71
Entry 74A

Box 1 NARS-1

No pertinent information found.

Record Group 72
Entry 59A-2624

Box 1

Folder: Correspondence, Reports

Copied Monthly Status Report of Naval Aircraft,
31 December 1945.

Record Group 74
Entry, 9218

Box 34

Folder: General Correspondence 1907-1949

No pertinent information found.

Record Group 74
Entry, 9218

Box 88

Folder: General Correspondence 1907-1949

No pertinent information found.

Record Group 74
Entry 25

Box 808

Folder: KV9, General Correspondence, 1944

No pertinent information found.

Record Group 74

Entry 25

Box 809

Folder: General Correspondence, 1944

No pertinent information found.

Record Group 74

Entry 25

Box 198

Folder: KK/A3

No pertinent information found.

Record Group 74

Entry 25

Box 200

Folder: Bu Ord, General Correspondence, 1942

No pertinent information found.

Record Group 74

Entry 25

Box 425

Folder: Bu Ord, General Correspondence, 1942

No pertinent information found.

Record Group 74

Entry 25

Box 361

Folder: KV9, Bu Ord General Correspondence, 1943

No pertinent information found.

Record Group 74

Entry 25

Box 452

Folder: KV9, Bu Ord General Correspondence, 1943

No pertinent information found.

Record Group 74

Entry 25

Box 453

Folder: KV9, Bu Ord General Correspondence, 1943

No pertinent information found.

Record Group 74
Entry 25

Box 498
Folder: Bu Ord, General Correspondence, 1944
No pertinent information found.

Record Group 74
Entry 1001

Box 125
Folder: L11-3/KV
No pertinent information found.

Record Group 74
Entry 4444

Box 193
Folder: KV, Construction & Proc Files, 1946
No pertinent information found.

Record Group 74
Entry 4444

Box 194
Folder: KV, Bu Ord Construction & Proc Files, 1946
No pertinent information found.

Record Group 74
Entry 1529

Box 1078
Folder: KV9, Construction & Proc Files, 1945
Copied Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Dynamite, Storage of, 16 June 1945.

Record Group 74
Entry 1003A

Box 114
Folder: KV, General Correspondence, 1948-1949
No pertinent information found.

Record Group 74
Entry 1003A

Box 476
Folder: KV, General Correspondence, 1949
No pertinent information found.

Record Group 74
Entry 1003A

Box 125

Folder: L11-3/KK

Copied Letter to the Quartermaster General of the Marine Corps, SUBJECT: Disposition of Mines and Fuzes, 2 September 1948; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Unserviceable Explosives, Disposition of, 19 February 1948; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Disposition of Unserviceable Ammunition, 2 June 1948; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Obsolete Ammunition, Disposition of, 1 November 1948; and Letter to the Quartermaster General of the Marine Corps, SUBJECT: Obsolete Explosives, Disposition of, 7 April 1948.

Record Group 74
Entry 1529

Box 1079

Folder: Construction & Proc, 1945

No pertinent information found.

Record Group 74
Entry 5595

Box 129

Folder: Quantico

Copied Letter to the Chief of the Bureau of Ordnance, SUBJECT: Ammunition Item, Transfer of, 4 April 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Shipment of Ammunition, 4 April 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Shipment of Ammunition, 27 March 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Transfer of Ammunition, 4 April 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Shipment of Rockets, 25 April 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Cartridge, Ball Revolver, Caliber, 38 Special, 158 Grain Bullet, Distribution of, 1 August 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Rockets and Fuzes, Shipment of, 29 May 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Shipment of Ammunition, 21 July 1947; Letter to the Chief of the Bureau of Ordnance, SUBJECT: Ammunition, 6 June

1947; Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Shipment of Grenades, 2 September 1947;
Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Shipment of Ammunition, 24 September
1947; Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Ammunition, Shipment of, 23 October
1947; Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Shotgun Shells, Request for, 15 October
1947; and Letter to the Chief of the Bureau of
Ordnance, SUBJECT: Ammunition, Shipment of
3 July 1947.

Record Group 74
Entry 5595

Box 130
Folder: KV, Construction & Proc, 1947
No pertinent information found.

Record Group 74
Entry 1003A

Box 114
Folder: General Correspondence 1949
No pertinent information found.

Record Group 74
Entry 5595

Box 130
Folder: KV
Copied Letter to Commanding General Marine
Barracks, Camp Lejeune, SUBJECT: Composite
Danger Area for Camp Lejeune, Camp Davis and
Marine Corps Air Station, Cherry Point, 10 December
1947.

Record Group 74
Entry 25

Box 200
Folder: Bu Ord General Correspondence, 1942
No pertinent information found.

Record Group 74
Entry 25

Box 425

Folder: KP 136

Copied Letter to the Chief of Ordnance, SUBJECT:
Artillery Ammunition, Shipment of, 21 April 1942;
Message to NAD St. Juliens Creek, 18 December 1942;
and Message to NAD St. Juliens Creek, 15 December
1942.

Record Group 74
Entry 25

Box 361

Folder: Bu Ord General Correspondence 1943

No pertinent information found.

Record Group 74
Entry 25

Box 452

Folder: Bu Ord General Correspondence 1943

No pertinent information found.

Record Group 74
Entry 25

Box 453

Folder: Bu Ord General Correspondence 1943

No pertinent information found.

Record Group 74
Entry 25

Box 498

Folder: Bu Ord General Correspondence 1944

No pertinent information found.

Record Group 74
Entry 1529

Box 1078

Folder: Construction & Proc Files 1945

No pertinent information found.

Record Group 77
Entry, Sec Class Subs Files

Box 308

Folder: Camp Davis

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related
Activities 1940-1945

Box 55

Folder: Airfields

No pertinent information found.

Record Group 77

Entry Sec Class Subj Files

Box 307

Folder: 601.53

Copied Letter to the Chief of Engineers, SUBJECT:
Condemnation and Declaration of Taking, Automatic
Weapons Firing Range, Camp Davis, North Carolina,
25 September 1944.

Record Group 77

Entry Sec Class Subj Files

Box 307

Folder: 602

Copied Memorandum for the Chief of Engineers,
SUBJECT: Antiaircraft Artillery Units at Camp Davis,
North Carolina, 20 September 1944; and Letter to
Commanding General, AAF, SUBJECT: Information
on Facilities at Camp Davis, North Carolina, 9 January
1945.

Record Group 77

Entry Security Classified Subject Files 1940-1945

Box 499

No pertinent information found.

Record Group 77

Entry Security Classified Subject Files 1940-1945

Box 500

No pertinent information found.

Record Group 77

Entry Security Classified Subject Files 1940-1945

Box 501

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related Activities 1940-1945

Box 51

Folder: Airfields

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related Activities 1940-1945

Box 52

Folder: Airfields

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related Activities 1940-1945

Box 53

Folder: Airfields

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related Activities 1940-1945

Box 54

Folder: Airfields

No pertinent information found.

Record Group 77

Entry General Correspondence Files relating to Airfields and Related Activities 1940-1945

Box 56

Folder: Airfields

No pertinent information found.

Record Group 127

Entry 18A

Box 1983

Folder: 2400-15

Copied Memorandum for the Chief of Staff, Tenth Marines, SUBJECT: Standard Spotting and General Bombardment Procedure and Terminology, 9 December 1946; and Letter to Commanding General, Marine Corps Air Station, Cherry Point, SUBJECT: Assignment of Space in Camp Lejeune Area to be

Utilized for the Construction of Bombing and Strafing
Targets for Use of Air Fleet Marine Force, Atlantic
Units Attached to Marine Corps Air Station, Cherry
Point, NC, 28 October 1947.

Record Group 127
Entry 18A

Box 1975
Folder: 2400-10

Copied Battalion Training Order Number 33-49,
Regarding 90mm AA Comparative Firing Practice, 26
May 1949; and Division Training Memorandum
Number 75-49, Night Firing Over the Intra-Coastal
Waterway, 10 October 1949.

Record Group 127
Entry 18A

Box 1976
No pertinent information found.

Record Group 127
Entry 18A

Box 1977
No pertinent information found.

Record Group 127
Entry 18A

Box 1978
No pertinent information found.

Record Group 127
Entry 18A

Box 1979
No pertinent information found.

Record Group 127
Entry 18A

Box 1980
No pertinent information found.

Record Group 127
Entry 18A

Box 1981
Folder: 2400-10

Copied Letter to Major General Commandant,
SUBJECT: Target and Fire Support Areas for Practice

Firing of Ships Engaged in Naval Gun Fire Support, 31 October 1941; Letter to Major General Commandant, SUBJECT: Report on Combat Practice Firing of Mortar Platoon, 21 January 1942; Division General Order Number 24, Designation of and Safety Regulations for Field Firing on Division Small Arms Ranges, 15 December 1941; Letter to the Commandant, U.S. Marine Corps, SUBJECT: Combat Firing Practices, Report of, 26 May 1942; Letter to the Commandant, U.S. Marine Corps, SUBJECT: Reports of Field Firing, 27 March 1942; and Memorandum for the Division of Personnel, SUBJECT: 3-inch Antiaircraft Firing for the Bureau of Ordnance, 10 April 1942.

Record Group 127
Entry 18A

Box 1982
Folder: 2400-10

Copied Letter to Director, Division of Plans and Facilities, SUBJECT: Visit to Training Center, Camp Lejeune, 11 May 1943; Training Memorandum Number 5 (1943), Training Activities, Onslow Beach, 11 February 1943; Letter to Commanding General, Training Center, New River, North Carolina, SUBJECT: Field Exercises, Marine Corps Schools, 10 November 1942; and Report of Field Exercises of the Base Defense Section, 8th Artillery Course, 1942.

Record Group 127
Entry 18A

Box 1984
No pertinent information found.

Record Group 127
Entry 18A

Box 1985
No pertinent information found.

Record Group 127
Entry 18A

Box 1990
No pertinent information found.

Record Group 127
Entry 18A
Box 1991
Folder: Documentation
Found Rifle Squad Reports.

Record Group 127
Entry 18A
Box 1992
Folder: Documentation.
Found Rifle Squad Reports.

Record Group 127
Entry 18A
Box 1993
Folder: Documentation
Found Rifle Squad Reports.

Record Group 127
Entry 18A
Box 1994
Folder: Documentation
Found Rifle Squad Reports.

Record Group 127
Entry 18A
Box 1570
No pertinent information found.

Record Group 127
Entry 18A
Box 1571
No pertinent information found.

Record Group 127
Entry 18A
Box 1572
No pertinent information found.

Record Group 127
Entry 18A
Box 1573
No pertinent information found.

Record Group 127

Entry 18A

Box 219

No pertinent information found.

Record Group 127

Entry 18A

Box 220

Folder: General Correspondence, 1939-1950

No pertinent information found.

Record Group 127

Entry 18A

Box 221

Folder: General Correspondence, 1939-1950

No pertinent information found.

Record Group 127

Entry 18A

Box 222

Folder: General Correspondence 1939-1950

No pertinent information found.

Record Group 127

Entry 18A

Box 223

No pertinent information found.

Record Group 127

Entry 18A

Box 224

Folder: General Correspondence, 1939-1950

No pertinent information found.

Record Group 127

Entry 18A/B

Box 249

Folder: 1310

No pertinent information found.

Record Group 127

Entry 18A

Box 840

Folder: Camp Lejeune

Copied Letter to the Chief of the Bureau of Ordnance,
SUBJECT: Report of Inspection of Ammunition
Storage, Camp Lejeune, N.C., 18 November 1944.

Record Group 127

Entry 18A

Box 1579

Folder: General Correspondence, 1939-1950

No pertinent information found.

Record Group 127

Entry 18A

Box 1580

No pertinent information found.

Record Group 127

Entry 18A

Box 1581

Folder: General Correspondence, 1939-1950

No pertinent information found.

Record Group 127

Entry 18A

Box 1983

Folder: 2400-15, Correspondence, Training

Copied Letter to Commandant, U.S. Marine Corps,
SUBJECT: Trained Personnel for Rifle Ranges, 8
August 1942. Copied info on AA Training at Camp
Lejeune. Copied info on Rifle Matches at Camp
Lejeune. Copied Memorandum for the Director,
Division of Aviation, SUBJECT: Base Defense
Training Unit at New River, North Carolina, 8
December 1942; and Letter to LTC Franklin B. Nihart,
SUBJECT: Executive Officer Instructions for Conduct
of the Southeastern Division Rifle and Pistol Matches,
15-20 May 1950.

Record Group 127
Entry 18A

Box 1982

Folder: 2400-10 (Additional Folder)

Copied Letter to Commanding General, Camp Lejeune,
SUBJECT: Assignment of Space in Camp Lejeune
Area to be Utilized for the Construction of Bombing
and Strafing Targets for Use of AirFMFant Units
Attached, Request for, 10 September 1947; Training
Schedule for the Thirteenth Base Defense Course, Time
Period from 22 February to
27 February 1943; and Letter to the Commanding
General, Training Center, Camp Lejeune, New River,
North Carolina, SUBJECT: Special Training in 155mm
Gun, M1, 23 February 1943.

Record Group 127
Entry 18A

Box 1572

Folder: Camp Lejeune

Copied some maps

Record Group 127
Entry 18A

Box 1573

Folder: Camp Lejeune

No pertinent information found.

Record Group 127
Entry 18A

Box 211

Folder: 1275-65

Copied Letter to Commandant of the Marine Corps,
SUBJECT: Range Facilities, Report of, 18 March
1946.

Record Group 127
Entry 18A

Box 217

No pertinent information found.

Record Group 127

Entry 18A

Box 218

Folder: Camp Lejeune

Copied Modification No. 1 to Camp General Order Number 78, Training Facilities, Regulations Governing Use of, 6 March 1947; and Letter to the Chief of Naval Operations, SUBJECT: Danger Zones in Navigable Waters, 3 June 1947.

Record Group 127

Entry 18A

Box 229

Folder: 1275/70

Copied Letter to the Major General Commandant, SUBJECT: Location of Facilities at Marine Barracks, New River, North Carolina, 20 September 1941.

Record Group 127

Entry 18A

Box 1574

Folder: Camp Lejeune

Copied Camp General Order Number 52-1946, Regulations in the Care and Handling of Ammunition, 4 May 1946.

Record Group 181

Accession 13601

Box 2

Folder: 5th Naval District

Did not find pertinent information.

Record Group 181

Accession 13601

Box 8

Folder: 5th Naval District

Did not find pertinent information.

Record Group 181

Accession 13601

Box 9

Folder: 5th Naval District

Did not find pertinent information.

Record Group 181
Accession 13601
Box 10
Folder: 5th Naval District
Did not find pertinent information.

Record Group 181
Entry 16194
Box 8
Folder: 5th Naval District
Did not find pertinent information.

Record Group 181
Entry 16194
Box 9
Folder: 5th Naval District
Did not find pertinent information.

Record Group 181
Entry 16194
Box 10
Folder: 5th Naval District
Did not find pertinent information.

Record Group 181
Entry 59A1816
Box 8
Folder: 5th Naval District, 1956-1957
Did not find pertinent information.

Record Group 181
Entry 59A1816
Box 9
Folder: 5th Naval District, 1956-1957
Did not find pertinent information.

Record Group 181
Accession 59A1816
Box 1
Folder: Correspondence of the Commandant, 1956-1957
Did not find pertinent information.

Record Group 181

Accession 59A1816

Box 2

Folder: Correspondence of the Commandant, 1956-1957
Did not find pertinent information.

Record Group 181

Accession 59A1816

Box 3

Folder: Correspondence of the Commandant, 1956-1957
Did not find pertinent information.

Record Group 181

Accession 59A1816

Box 4

Folder: Correspondence of the Commandant, 1956-1957
Did not find pertinent information.

Record Group 181

Accession 10403

Box 3

Did not find pertinent information.

Record Group 181

Accession 10403

Box 5 of 5

Did not find pertinent information.

Record Group 181

Accession 13601

Box 2

Folder: 5th Naval District
Did not find pertinent information.

Record Group 181

Accession 13601

Box 8

Folder: 5th Naval District
Did not find pertinent information.

Record Group 181

Accession 13601

Box 9

Folder: 5th Naval District
Did not find pertinent information.

Record Group 181

Entry 10403 1945 - 1952 5th District Correspondence of Commandant

Box 4 of 4

Folder: Miscellaneous

Found Navy Manuals and Plans.

4.2.1.2 CARTOGRAPHIC AND ARCHITECTURAL BRANCH – (301) 713-7030

The research team consulted with the archivists, reviewed finding aids, and copied several maps of **MCB Camp Lejeune**.

4.2.1.3 STILL PICTURES BRANCH – (301) 713-6625

The research team consulted with the archivists, reviewed finding aids, and did not find any useful information or materials to be placed in the ASR.

4.2.2 NATIONAL ARCHIVES I - WASHINGTON, DC
EIGHTH AND PENNSYLVANIA AVENUES
WASHINGTON, DC 20408-0001
(202) 501-5400

The research team consulted with the archivists, reviewed finding aids, and did not find any indication of relevant records.

4.2.3 WASHINGTON NATIONAL RECORDS CENTER
4205 SUTLAND ROAD
SUTLAND, MD 20746
(314) 538-4085

The research team reviewed relevant accession listings applicable to the team's site. The research team did not identify specific records considered useful for the team's research efforts at the time, based on the retrieval and availability of records at other locations.

4.2.4 NATIONAL PERSONNEL RECORDS CENTER
9700 PAGE AVENUE
ST. LOUIS, MO 63132
(314) 538-4085

The research team reviewed accession listings, conducted research, and found pertinent information in the following records:

Record Group 338
Accession 57A6004
Box 1
Folder: 39

Copied Letter to Commanding General, SUBJECT:
Chemical Corps Item Stored at Camp Lejeune, North
Carolina, 22 April 1953.

Record Group 338
Accession 57A6004
Box 1
Folder: 41

Copied Letter to Commanding General, SUBJECT:
Plant Impregnating, M2 Stored at Camp Lejeune, North
Carolina, 16 April 1953.

4.2.5 U.S. ARMY CHEMICAL AND BIOLOGICAL DEFENSE COMMAND
HISTORICAL OFFICE
BUILDING E5183
ABERDEEN PROVING GROUND, MD 21010
(410) 671-4430

The research team checked its own office files and with the staff of the History Office, U.S. Army Chemical & Biological Defense Command, and found specific information on chemical warfare agents, training and test activities at **MCB Camp Lejeune, N.C.**

4.2.6 U.S. AIR FORCE HISTORICAL RESEARCH CENTER
CHENNAULT CIRCLE
BUILDING 1405
MAXWELL AFB, AL 36112
(205) 953-2447

The research team conducted a review of office finding aids and ascertained this repository mostly likely did not have information or information, which could be found elsewhere.

4.2.7 NAVAL HISTORICAL CENTER, ARCHIVES
901 M STREET, SE
BUILDING 57
WASHINGTON NAVY YARD
WASHINGTON, DC 20374
(202) 433-3170

The research team consulted with the archivists and historians, reviewed finding aids, conducted research, and found information of a general nature pertaining to 5th and 6th Naval Districts.

4.2.7.1 PHOTOGRAPHIC ARCHIVES, BUILDING 57, (202) 433-2765

The research team consulted with the archivists, reviewed finding aids, and ascertained this repository did not contain pertinent information.

4.2.7.2 AVIATION HISTORY BRANCH, BUILDING 157-1, (202) 433-4355

The research team found information previously retrieved at other repositories.

4.2.7.3 NAVY DEPARTMENT LIBRARY, BUILDING 44, (202) 433-4131/4132

The research team consulted with the library's staff, conducted key word research on the library's computer, and did not find any pertinent information, which had not been previously retrieved.

4.2.8 HEADQUARTERS, U.S. MARINE CORPS ENVIRONMENTAL RESTORATION PROGRAM OFFICE CODE LFL 2 NAVY ANNEX, ROOM 3110 WASHINGTON, DC 20380-1775 (703) 695-8302/DSN 225-8302

The research team found and copied an assortment of documents including the following: Marine Corps Air Station New River, Airfield and Airspace Operational Study, Draft Report, 15 November 1995; Letter to the Commanding General, Marine Corps Base, Camp Lejeune, SUBJECT: Disposal of Excess Real Property, Buildings AS-413 and AS-714, 21 July 1980; Executive Order 11508, Installation Survey Report, Marine Corps Air Station (H), New River, Jacksonville, North Carolina, May 1972; Letter to the Commander, Naval Facilities Engineering Command, SUBJECT: Marine Corps Air Station, New River, North Carolina, Proposed Condemnation of Leasehold Interest Covering Former Camp Davis Airfield, 10 August 1988; Installation Survey Report, Marine Corps Air Station (H) New River, Jacksonville, North Carolina, 11-12 May 1972; Extract of Air Installations Compatible Use Zone, Marine Corps Air Station (Helicopter) New River, NC, HOLF Camp Davis, and HOLF Oak Grove, July 1978; Point Paper on Camp Davis Airfield, 5 April 1988; and Land and Training Areas Requirements MIS, Summary of Assets by Primary Use at Each Installation, 1995.

4.2.8.2 LAND USE AND BASE STRUCTURE OFFICE, CODE LFL
(703) 695-8232

The research team consulted with the Office Chief, who stated that his office did not have historical documents of significance to the team.

4.2.9 MARINE CORPS HISTORICAL CENTER
MARINE CORPS HISTORY AND MUSEUMS DIVISION
REFERENCE BRANCH/ARCHIVES
WASHINGTON NAVY YARD
901 M STREET, S.E.
BUILDING 58
WASHINGTON, DC 20374-0580
(202) 433-3864

The research team conducted research through historical vertical files, found, and copied historical documentation, including the following: Unofficial Guide to New River Marine Corps Air Station, 1973; a Book of Information Acceleration, Camp Lejeune 1975; United States Marine Corps Lineage of Camp Lejeune, 29 February 1980; Document entitled "New River," n.d.; United States Marine Corps Lineage of Marine Corps Air Station, New River, Jacksonville, North Carolina, 16 February 1996; Press Release No. 05-135-72, MCAS (H), New River, North Carolina; Camp Lejeune Marines, 1943; Summary of Facilities on Camp, 1 April 1947; Extract of Command Chronology, Assistant G-4, 1 July to 31 December 1965; Extract of Command Chronology, Assistant G-3, Training Facilities, 1 July to 31 December 1966; Extract of Command Chronology, Assistant G-3, Training Facilities, 1 January to 31 June 1967; Extract of Command Chronology, Base Training Facilities Officer, 1 July to 31 December 1967; Extract of Command Chronology, Base Training Facilities Officer, 1 January to 30 June 1968; Extract of Command Chronology, Base Training Officer, 1 July to 31 December 1968; Extract of Command Chronology, Assistant Chief of Staff, Training, 1 January to 30 June 1973; Extract of Command Chronology, Base Training Facilities Branch, 1 January to 30 June 1976; Extract of Command Chronology, Base Training Facilities Branch, 1 July to 31 December 1979; Extract of Command Chronology, Base Training Facilities Branch, 1 July to 31 December 1980; a Brief History of New River Marine Corps Air Station, 1976; pamphlet entitled "*Camp Lejeune Engineer*," Vol. 1, No.2, April 1944; Document labeled Part IV, Camp Lejeune, Portion of Command Narrative, 1941 to 1945; and a Brief History of Camp Lejeune, North Carolina, 15 August 1954.

4.2.9.1 MARINE CORPS HISTORICAL CENTER, LIBRARY, BUILDING 58,
(202) 433-3447

The research team consulted with the Librarian and conducted a key word search on the Library's Computer System of Holdings. The research team did not find any pertinent information on the assigned site, which had not been previously retrieved at other repositories.

4.2.9.2 MARINE CORPS COMBAT DEVELOPMENT CENTER
MARINE CORPS RESEARCH CENTER
MARINE CORPS UNIVERSITY, LIBRARY/ARCHIVES
2040 BROADWAY STREET
QUANTICO, VA 22134-5107
(703) 784-4685

The research team had a check of files conducted at the Center. The Librarian advised the Ordnance and Technical Services Branch that the Center did not have pertinent information

4.2.10 U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
OFFICE OF COAST SURVEY, N/CS261
MARINE CHART DIVISION
NAUTICAL DATA BRANCH
1315 EAST-WEST HIGHWAY
SILVER SPRING, MD 20910-3282
(301) 713-2737, EXT. 123

The research team consulted with Nautical Branch Chief and her staff, reviewed files of hard copy maps, as well as maps with supporting documentation on microfiche, and copied historical maps with annotations of supporting documentation on **MCB Camp Lejeune**.

4.2.11 NATIONAL ARCHIVES—SOUTHEAST REGION
1557 ST. JOSEPH AVENUE
EAST POINT, GA 30344-2593
(404) 763-7477

The research team consulted with the archivists, reviewed finding aids, conducted research, copied maps of **MCB Camp Lejeune**, and copied historical documentation in the following records as indicated:

Record Group 181
Entry 2191
Boxes 2, 3, and 11 of 30
Folder: Naval Codes N1-9 and N1-13
Did not find pertinent information.

Record Group 181
Entry 2191
Box 26 of 30
Folder: N-13
Copied Naval District List.

Record Group 181
Entry 2191

Box 5 of 30
Did not find pertinent information.

Record Group 270
Entry 58A542

Box 76
Folder: Camp Lejeune
Found information on Real Estate Transfers (1946)
Camp Lejeune, 31.6 acres, Onslow County.

Record Group 270
Entry 51A1

Box 310
Folder: Camp Lejeune
Found information on Real Estate Disposal, 31.6 acres.

Record Group 270
Entry 51A1

Box 291
Did not find pertinent information.

Record Group 270
Entry 51A1

Box 290
Did not find pertinent information.

Record Group 270
Entry 51A1

Box 328
Did not find pertinent information.

Record Group 270

Entry Regional Counsel Files, Legal Counsel Files 1947-1950
Box 57
Did not find pertinent information.

Record Group 291
Entry 2151

Box 7 of 9
Did not find pertinent information.

Record Group 291

Entry 81-0004

Box 15 of 15

Folder: MCB Camp Lejeune

Copied Executive Order 11508, Real Property Survey of Marine Corps Base, Camp Lejeune, North Carolina, 13 January 1971; and Letter to Douglas Kinsey, Commissioner, Property Management and Disposal Service, General Services Administration, 1 February 1972.

Record Group 356

Entry 64A1172

Box 9 of 12

Did not find pertinent information.

4.2.12 FEDERAL RECORDS CENTER
1557 ST. JOSEPH AVENUE
EAST POINT, GA 30344-2593
(404) 763-7477

The research team consulted with the archivists, reviewed accession listings, and did not find records, which appeared pertinent to the team's research effort.

4.2.13 U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
P.O. BOX 1890
WILMINGTON, NC 28402-1890
(919) 251-4501

The research team consulted with support personnel, researched files, and copied numerous documents, including the following: Notice of Proposed Rule Making, 22 CFR 334.440, Danger Zone and Restricted Area Regulations for New River, NC, and vicinity, Marine Corps Firing Ranges, 1961; Letter to Commanding General, Marine Corps Air Station, Cherry Point, NC, SUBJECT: Danger Areas Prescribed by the Civil Aeronautics Board, 6 February 1951; Letter to the Division Engineer, SUBJECT: Modification of Surface Danger Zone Extending to Seaward of Onslow Beach, Onslow County, North Carolina, 24 October 1951; Letter to MAJ Beardon, Marine Corps Base, Camp Lejeune, SUBJECT: Navigation Regulation in the New River in the Vicinity of Camp Lejeune, 1 August 1984; Section 204.56 - Danger Zone Regulations, 204.56, New River, NC, and Vicinity: Marine Corps Firing Ranges; 1960; Notice of Public Hearing, 10 November 1959; Base Order P11102.1K, 11 October 1985, with Change 1, 1 December 1986; Letter to the Chief of Engineers, SUBJECT: Change to Boundaries of the Browns Island Target and Bombing Range Area, BT-3, Camp Lejeune, Onslow County, North Carolina, 22 July 1983; Public Notice of Amendment to 204.56, New River, N.C., and Vicinity, Marine Rifle Ranges, 29 September 1983; Letter to the

Commanding General, Marine Corps Base, Camp Lejeune, NC, SUBJECT: Standing Operating Procedures for Range Control Operations, 10 December 1985; Letter to the Commanding General, Headquarters, Marine Corps Base, Camp Lejeune, SUBJECT: Prohibited Area in Stone Bay, Request for, 17 July 1956; Letter to the Commanding General, Marine Corps Base, Camp Lejeune, SUBJECT: Request for Promulgation of a Navigation Regulation for the New River by the Marine Corps Base, Camp Lejeune, North Carolina, 21 August 1984; Letter to the Chief of Engineers, SUBJECT: Danger Zone for Firing Ranges, 10 August 1945; Danger Zone Regulations, 204.55, Waters of the Atlantic Ocean, Firing Sectors between Bogue Inlet, NC, and Little River, SC, 9 September 1943; Base Order 11102.1B, Regulations governing the Use of Field Firing Ranges, Training Facilities and Maneuver Areas, 5 May 1960; Base Order P11102.1G, Standing Operating Procedure for Training Facilities and Services, 6 February 1970; Letter to the U.S. Army Corps of Engineers, SUBJECT: Location Maps of Offshore Impact Area, 25 March 1983; Notice of Amendment of Danger Zone Regulation 204.55, Waters of the Atlantic Ocean, Firing Sectors between Bogue Inlet and Cape Fear, North Carolina, 23 November 1945; Public Notice for Danger Zone Regulation affecting Navigable Waters in the Vicinity of Onslow beach, Camp Lejeune, North Carolina, 20 August 1959; Danger Zone Regulation 204.55, Waters of the Atlantic Ocean: Firing Sectors between New River and Cape Fear, North Carolina, Amendment, 1943; 6th Indorsement on Danger Zone Regulations 204.55a, 1942; Part 204 – Danger Zone Regulations, Miscellaneous Amendments, 28 September 1961; Danger Zone Regulation, Waters of the Atlantic Ocean, Firing Sector between Bogue Inlet and Stump Sound, North Carolina, 27 October 1943; Letter to the U.S. Army Corps of Engineers, Wilmington District, SUBJECT: Repromulgation of Danger Zone and Restricted Areas, Regulations currently under CFR 204 and 207, 28 January 1985; Public Notice, 13 September 1990; Letter to the District Engineer from the Commanding General, Camp Davis, 28 April 1943; Letter to the District Engineer, SUBJECT: Navigable Waters Endangered by Military Artillery and Bombing Ranges, Vicinity of Onslow Beach, Camp Lejeune, North Carolina, 1959; Letter to the Division Engineer, SUBJECT: Danger Zone Regulations – Bogue Inlet to Cape Fear, NC, 11 December 1944; and 33 CFR, Chapter II, Sections 334.420 through 334.460, 1 June 1986.

4.2.14 NAVAL FACILITIES ENGINEERING COMMAND
NAVAL CONSTRUCTION BATTALION CENTER
NAVFAC HISTORY OFFICE AND MUSEUM
1000 23rd STREET
PORT HUENEME, CA 93043-4301
(805) 982-5563/5146

The research team consulted with the historians, reviewed files on the assigned site, and copied documents reflecting past activities at **MCB Camp Lejeune**, including numerous maps.

4.2.15 NAVAL FACILITIES ENGINEERING COMMAND
NAVAL CONSTRUCTION BATTALION CENTER
DEFENSE STANDARDIZATION PROGRAM DIVISION
CIVIL ENGINEERING SUPPORT OFFICE
CESO, CODE 1564B
PORT HUENEME, CA 93043-4301, (805) 982-5593

The research team consulted with support personnel, conducted research of the index card file for microfiche film, reviewed maps on an obsolete microfiche viewer, and copied maps, with the best quality possible, on the assigned site and its related activities.

4.2.16 NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
LAFAYETTE RIVER ANNEX
CLAIMANT BRANCH & REALTY OFFICE
NORFOLK, VA 23511-2699
(757) 322-4920/4923

The research team consulted with the realty specialist, conducted research, and copied documentation, including the following: Greater Sandy Run Area (GSRA) Master Development Plan Update, Marine Corps Base, Camp Lejeune, N.C., by EDAW, Inc., October 1998; and an Initial Assessment Study of Marine Corps Base, Camp Lejeune, North Carolina, by the Naval Energy and Environmental Support Activity, April 1983.

4.2.17 DEFENSE TECHNICAL INFORMATION CENTER (DTIC), 8725 JOHN J.
KINGMAN ROAD, SUITE 0944, FT. BELVOIR, VA 22060-6218, (703)
767-8038/9040 or DSN 427-8038/9040

The research team ordered and received a copy of Marine Corps Land and Training Area Requirements Study, Document Number AD-B131084, September 1988.

4.2.18 HEADQUARTERS, MARINE CORPS AIR STATION (MCAS) CHERRY
POINT, COMMAND HISTORIAN'S OFFICE, CHERRY POINT, NORTH
CAROLINA 28533, (919) 466-4479

The research team conducted research and found documentation, which references administrative and operational relationship between MCB Camp Lejeune and MCAS Cherry Point. Documents copied are listed in the ASR on MCAS Cherry Point. Among the documents copied included a Narrative entitled "*Camp Lejeune Leathernecks*," October 1946.

4.2.19 UNITED STATES MARINE CORPS BASE, CAMP LEJEUNE, NORTH
CAROLINA 28542, (910) 451-5326/DSN 751-5326

4.2.19.1 PUBLIC WORKS OFFICE, FACILITIES MANAGEMENT, (910)
451-2818

The research team visited Mr. John Jordan, Mapping Specialist, who had previously attended the "kick-off" meeting held in late October 1999. Mr. Jordan briefly explained the file arrangements in his office and copying procedures. The research team conducted a thorough research of its map files and copied numerous historical and current maps of **MCB Camp Lejeune**, focusing on ranges, ordnance storage, and disposal areas.

4.2.19.2 INSTALLATION RESTORATION DIVISION (IRD), ENVIRONMENTAL
MANAGEMENT DEPARTMENT (EMD), (910) 451-5068/9609

The research team conducted coordination and preparation for research at **MCB Camp Lejeune** with Mr. (Mick) Senus, Staff, and Mr. Neal Paul, Department Chief, Environmental Management Department (EMD), Installation Restoration Division (IRD). They also visited Jeff Wyrick, Staff Support, EMD, IRD. At EMD, the research team perused the collection of environmental assessments, reports, and related records and copied selected sections of numerous reports, briefing handouts, and other environmental documents, including the following: an Initial Assessment Study of Marine Corps Base, Camp Lejeune, North Carolina, March 1983, by the Naval Energy and Environmental Support Activity; Extract from Camp Lejeune Complex Master Plan, 6 November 1972; Excerpts of the Final Site Management Plan for Marine Corps Base Camp Lejeune, North Carolina, Fiscal Year 1992, by Halliburton for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, January 1992; Excerpts from the Final Site Management Plans for Marine Corps Base Camp Lejeune, North Carolina, Fiscal Years 1995 through 1998 by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia; and the Final Draft Fiscal Year 1999 Site Management Plan, Marine Corps Base, Camp Lejeune, North Carolina, by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 28 September 1998. Also collected were selected sections of the following: Final Submittal Facility Assessment Report for Marine Corps Base Camp Lejeune, North Carolina, prepared by Environmental and Safety Designs, Inc. for Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 27 October 1995; Final Remedial Investigation/Feasibility Study, Sampling and Analysis Plan for Operable Unit No. 4 (Sites 41, 69, and 74), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 2 December 1993; Final Proposed Remedial Action Plan, Operable Unit No. 4 (Sites 41 and 74), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 8 May 1995; Revised Final

Record of Decision, Operable Unit No. 4 (Sites 41 and 74), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 17 October 1995; Draft Baseline Long-Term Monitoring Study, Operable Unit No. 4 (Sites 41 and 74), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc., for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 21 June 1996; Draft Final Site Inspection Work Plan for Sites A, 12, 68, 75, 76, 84, and 85, Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 21 April 1994; Draft Final Field Sampling and Analysis Plan for Sites A, 12, 68, 75, 76, 84, and 85, Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 21 April 1994; Appendices, Volume II of II, Final Site Pre-Remedial Investigation for Screening Study for Sites A, 12, 68, 75, 76, 84, and 85, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 24 November 1998; Proposed Remedial Action Plan (PRAP) for Operable Unit No. 14 (Site 69), at Marine Corps Base Camp Lejeune, North Carolina, Department of the Navy, United State Marine Corps, May 1968; Final Remedial Action Report, Operable Unit No. 14 (Site 69), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, December 1996; and the Final Feasibility Study for Operable Unit No. 14 (Site 69), Marine Corps Base Camp Lejeune, North Carolina, prepared by Baker Environmental, Inc. for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, 12 November 1998. The research team collected entire reports of the following: Maintenance at Ranges D-29 and A-1, MCB Camp Lejeune, North Carolina, prepared by OHN Remediation Services Corporation for Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA 23508, May 1998; the Final Work Plan for Maintenance at Ranges I-1, B-12, and F-11, MCB Camp Lejeune, North Carolina, prepared by OHN Remediation Services Corporation for Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA 23508, December 1998; and the Draft Sampling and Analysis Plan for Characterization of Impact Berm at Range D 30, Marine Corps Base Camp Lejeune, North Carolina, Battelle for the Installation Restoration Division, Environmental Management Department, 7 October 1996. Documents collected for the Greater Sandy Run Area (GSRA) included the Greater Sandy Run Area (GSRA) Master Development Plan Update, Marine Corps Base, Camp Lejeune, N.C., by EDAW, Inc., October 1998; and an Initial Assessment Study of Marine Corps Base, Camp Lejeune, North Carolina, by the Naval Energy and Environmental Support Activity, April 1983. The research team also obtained a copy of an infra-red photo of Freeman's Creek given to Jeff Wyrick by the GIS Office at MCB Camp Lejeune, which possibly shows a portion of a minefield at the marine camp training area.

4.2.19.3 United Services Organization (USO), JACKSONVILLE, NORTH
CAROLINA, (910) 455-3411

The research team conducted a review of the USO's collection of historical paraphernalia, which included a small library of books on the history of the Marine Corps. The research team did not note any additional useful information.

4.2.19.4 TRAINING, EDUCATION, AND OPERATIONS OFFICE,
HEADQUARTERS, (910) 451-5326

The research team visited Ms. Renee Hawthorne, Deputy Assistant Chief of Staff for Training, Education, and Operations, who kept historical documentation in her own office, specifically the Construction Completion Reports for Camp Lejeune and the U.S. Marine Barracks, New River, NC, published by the U.S. Navy Bureau of Yards and Docks, Volumes I, II, and III, dated between 15 April 1941 and 30 September 1942, under Navy contract number Noy 4751.

While conducting research at Headquarters, **MCB Camp Lejeune**, the research team found and made copies of historical materials, which included the following: Map (annotated with the old progressive military map grid system) of Camp Lejeune, 1942, in the Completion Report Covering the Design of Camp Lejeune, US Marine Barracks, New River, NC (Volumes I, II, and III); Article, 11 April 1945, by Marion A. Allen, entitled, "Gas Area Is being Used By Schools," in *Camp Lejeune Globe*, on page 9; Article, 6 June 1945, by E. M. Chelette, entitled "Week-Long Intensive Maneuvers Prove Rugged," in *Camp Lejeune Globe*, page 8; Final Draft Copy of Marine Corps Range and Training Area Order, 26 May 1993, by C.W. Fulford, Jr.; Article, 14 March 1945, by Al Lewis, entitled "*Miniature Radio-Controlled Plane Gives Real Atmosphere*," in *Camp Lejeune Globe*, page 8; Command Narrative, Camp Lejeune, NC, 1 September 1945 to 1 October 1946, 31 March 1947, by T.G. McFarland; Article, 21 March 1945, by L.A. Wilson, entitled "*Monford Marines in Combat Training*," in *Camp Lejeune Globe*, page 16; and Article, 23 May 1945, by L.A. Wilson, entitled "*It's Live Ammo*," in *Camp Lejeune Globe*, page 10; and a copy of a video, entitled "Command Brief, MCB, Camp Lejeune."

The research team also conducted research at the secondary location for historical records, Building 11, as noted by Ms. Hawthorne. At this location, the research team reviewed, collected, and shipped by mail to the team's home office duplicates of historical documentation, which included the following: Special Training Analysis, Camp Lejeune, North Carolina, April 1986; Environmental Assessment for MCON P-949, Multi-Purpose Training Range, Marine Corps Base, Camp Lejeune, North Carolina; Draft of the Environmental Assessment for P-933: Multi-Purpose Range Complex and Small Arms Qualification Ranges, U.S. Marine Corps Base, Camp Lejeune, North Carolina; Final: Environmental Assessment for P-933: Multi-Purpose Range Complex, U.S. Marine Corps Base, Camp Lejeune, North Carolina; Draft: Environmental Assessment for MCON P-949, Multi-Purpose Training Range, Marine Corps Base, Camp Lejeune, North Carolina, 19 March 1993, by the Environmental Company, Inc.;

Environmental Assessment for MCON P-949, Multi-Purpose Training Range, Marine Corps Base, Camp Lejeune, North Carolina; a Booklet containing Range Policy and History Files; Special Training Analysis, Camp Lejeune, North Carolina, December 1985; Greater Sandy Run Master Development Plan, Marine Corps Base, Camp Lejeune, NC, for the Naval Facilities Engineering Command, February 1994; Environmental Assessment For MCON P-949, Multi-Purpose Training Range, Marine Corps Base Camp Lejeune, NC; Preliminary Report: Environmental Assessment for P-933: Multi-Purpose Range Complex—Heavy and Small Arms Qualification Ranges, U.S. Marine Corps Base, Camp Lejeune, NC, January 1993, by The Environmental Company, Inc.; Booklet of Files marked Training Ranges Projects, Volume 2; Booklet marked 1992 EIRWG Requests; Booklet marked Fort AP Hill Training Area—TRMD; Booklet marked Training Ranges Policy/Priority; and the Marine Corps Systems Command “Munitions Rule Training Manual,” Fall 1998. In addition to the above, the research team also reviewed and retrieved, with the permission of Ms. Hawthorne, CD-ROMs on the Joint Electronic Library, April 1994 and April 1996, a CD-ROM entitled “Weapon System on Compact Disc,” which is a search software system, and 35mm graphic slides depicting the CG’s Brief of the “Littoral Warfare Training Complex,” which includes **MCB Camp Lejeune**.

4.2.19.5 BASE LIBRARY, (910) 451-5724/3178/3026

The research team visited the Base Library at **MCB Camp Lejeune** and met with Martha Spencer, Reference Librarian, who assisted the research team in reviewing available historical materials on **Camp Lejeune**. The research team conducted a key word search in the Library’s computer system and found an article entitled “*Practice Bomb Found by Kids*,” published in the Globe Newspaper, 20 April 1978, written by Sgt. Rick Morris. During the week, the research team also attempted several times to contact Mr. Glen Pappas, Historian, Base Library. Although Mr. Pappas did not return calls regarding the messages left for him, the research team concluded that Ms. Spencer, the Reference Librarian, had provided the necessary assistance.

4.2.19.6 RANGE CONTROL, (910) 451-5803

The research team visited Mr. Don Hashagen, Range Control Office, **MCB Camp Lejeune**, who has been with the Range Control Office for many years. Mr. Hashagen provided the research team with copies of relevant materials, including maps of Camp Lejeune and Base Order P3570.1, Standard Operating Procedures for Range Control, 2 June 1994. After which, Mr. Hashagen escorted the research team to the EOD Platoon, H&S Company, 8th Engineer Support Battalion, 2nd Force Service Support Group (FSSG).

4.2.19.7 EOD PLATOON, H&S COMPANY, 8th ENGINEER SUPPORT
BATTALION, 2nd FORCE SERVICE SUPPORT GROUP (FSSG), (910) 451-
1444/1338, DSN 751-1444/1338

Mr. Hashagen introduced the research team to several members of the EOD unit, including MAJ Martin, SGM Dlugosh, MSG Ray, Sergeant Middleton, MSG Carnal, and SSG Husband. At the meeting the research team provided the members of the EOD unit an in-brief on the mission and purpose of the research team at **MCB Camp Lejeune** supported by the research team's expertise on information thus found on the target ranges. The research during the meeting with the EOD personnel gathered data and marked **MCB Camp Lejeune** maps with information given verbally, as well as copying documentation, which included the following: Letter to Commanding General, MCB Camp Lejeune, by R.K. Albright, 7 December 1978, SUBJECT: Hazardous Live Minefield Clearance Operation: estimate for; Memorandum to Director, TSD, by G.B. Chaney, 16 March 1993, SUBJECT: Vulnerability Assessment; Letter to Commanding General, MCB Camp Lejeune, by H.D. Clark, 10 December 1964, SUBJECT: Job Order Number Assignment, Mine Test Project; Letter to Commanding General, MCB Camp Lejeune, by H.D. Clark, 14 December 1964, SUBJECT: Plans for Preparation and Conduct of Test to Determine the Service Life of Mines and Demolitions under Sandy, Saline Conditions; Letter to Commanding General, MCB Camp Lejeune, by N.J. Dennis, 20 January 1965, SUBJECT: Revised Schedule for Test to Determine the Service Life of Mines and Demolitions under Sand and Saline Conditions, Submission of; School Order P8092.1, Standard Operating Procedures for Conduct of Mine and Demolitions Test, J.M. Mackenzie, 6 July 1965; Letter to Commanding Officer, Marine Corps Engineering School, by Elliott B. Robertson, 1 December 1964, SUBJECT: Test to Determine the Service Life of Mines and Demolitions under Sandy, Saline Conditions, Assignment of; Letter to Commanding General, MCB Camp Lejeune, by F.L. Sedlacek, 1965, SUBJECT: Test Program Request for Mine Emplacement Life Program; and Base Order 8092.1A, Hazardous Live Minefield, by W.W. Stegemerten, 26 March 1968.

4.2.19.8 CONSOLIDATED PUBLIC AFFAIRS OFFICE, (910) 451-2751

The research team met MAJ Scott B. Jack and MAJ Scott Fazekas, Consolidated Public Affairs Office (PAO), **MCB Camp Lejeune**. After explaining the purpose of the research team's visit, MAJ Jack directed the research team's attention to the numerous bound volumes of newspaper articles from the publication, *Camp Lejeune Globe*, collected for each year since the establishment of Camp Lejeune. The research team concentrated its research efforts in reviewing articles published during the 1940s and 1950s, since the research team had less information on **Camp Lejeune** during those time periods. The research team copied a number of articles, which provided peripheral background information on **MCB Camp Lejeune**. Most of the articles reviewed duplicated those found previously at other sources of information, specifically in the Training, Education, and Operations Department.

4.2.19.9 EOD, CAMP GEIGER, (910) 450-0558

The research team visited the EOD Office at Camp Geiger and met SSG Kapp, NCOIC on duty, regarding his unit's purpose, records, and any information he had to offer on UXO discovered within the purview of his unit's mission. SSG Kapp did not have any pertinent information to provide to the research team.

4.2.19.10 ACTING HISTORIAN, MCAS NEW RIVER, (910) 450-6590 DSN 750-6590

The research team visited CPT Sara Fullwood, the Acting Historian for MCAS New River at **MCB Camp Lejeune**. CPT Fullwood provided documentation pertinent to the team's research effort that included a letter to the Assistant Chief of Staff, Facilities, by D.N. Buckner, 1988, SUBJECT: FY 89 Locally Funded Minor Construction Submission for B-12 Pistol and Shotgun Range.

4.3 SUMMARY OF INTERVIEWS

The archive search team conducted telephone and personal interviews to assist in the collection of information for this report. **Appendix D** lists interviewees. Trip Reports summarized elsewhere also contained the recollections summarized below. Mr. George Sloan III, Project Safety Officer and Historian, Mr. Frederick T. Miller, Archivist/Historian, and Mr. Gerald V. Schwalbe, Project Manager conducted and participated in the discussions summarized in this section. The team attempted to locate veterans of **MCB Camp Lejeune** and persons with first hand knowledge with some success. The interviews corroborated much of the information uncovered from historical records.

4.3.1 Environmental Management Division (EMD), Installation Restoration Division (IRD), **MCB Camp Lejeune**

During the "Kick Off" Meeting held on 28 October 1998, research periods (essentially between 19-25 January 1999), and during occasional phone conversations, George Sloan, Frederick Miller, and Gerald Schwalbe met and discussed the facility history and old ranges with representatives of the EMD, IRD and other offices at **MCB Camp Lejeune**. Individuals contacted at EMD, IRD and who assisted with the "range rule" ASR investigation included Mr. Neal Paul, Department Chief, and IRP associates Mr. Michael (Mick) Senus, Mr. Jeff Wyrick, and later, Ms. Nikki Hall.

Mr. Paul, POC for the team, indicated that there would be a considerable amount of interest in what the district would accomplish for **MCB Camp Lejeune**. He stated, "At recent Remedial Action Board (RAB) meetings, local interests were expressing their desire to have a number of closed ranges cleared of ordnance." The issue had already been defined and forwarded to an agency located in Washington DC for guidance. **MCB Lejeune's** relationship with local interests through the RAB can only be described as

"sensitive", according to Mr. Paul. He requested that St. Louis District, U.S. Army Corps of Engineers staff members maintain close coordination with the EMD (IRP) prior to approaching the community and interviewing officials, former employees, and others with knowledge of the past history of the **MCB Camp Lejeune**. He offered to introduce the team to Mr. L. J. Kimball, an individual who should be interviewed. Mr. Kimball is a retired Lt. Colonel with an extensive historic knowledge of **MCB Lejeune**, who resides off base in the town of Jacksonville. It was explained that the Huntsville OE Center of Expertise was addressing Formerly Used Defense Sites (FUDS), and that possibly, some of the ranges to which he referred were, or should be, part of that program. During general discussion it was noted that the "range rule" ASR would map both "active" and "inactive" ranges, in case at some later date it was decided to transfer or close these properties. Mr. Paul responded that it was highly unlikely that the ranges now in use at **MCB Camp Lejeune** would ever be used for any other purpose but training. He and his associates would introduce **MCB Camp Lejeune** staff that could assist the team in our historic research. The "Training and Operations folks" would be of most use in our studies, according to Mr. Paul. It was his belief that they had already collected a considerable amount of history on the training at **MCB Camp Lejeune**. He requested that all visits to the camp be coordinated through his office to insure the right individuals were available for meetings and interviews. He noted that one big OE question remains, whether or not an old Mine Field(s) was ever cleared during the 1950s. Some old timers previously approached by the Environmental Department have indicated clearance occurred, while other individuals have no recollection. His office has recovered no formal documentation of past removal activities.

Messrs. Senus and Wyrick generally assisted in our research tasks by introducing us to the appropriate representatives at various offices on the Marine Corps base. At the "Kick Off" meeting, Mr. Senus indicated that the team should drop by John Jordan's office and obtain his assistance with retrieving mapping. Mr. Senus mentioned documents that we might wish to review include a 1989 Land and Training Area Archaeology study/report conducted by the base archaeologist, Mr. Eric Davis, who works in the Environmental Department. Also, we should contact Larry Brandt in facilities/mapping for Master Plans, and the base library has an excellent History of **Camp Lejeune**, according to Mr. Senus. He offered to introduce us to both individuals, while also suggesting that the team might like to drop by the Range Management Office and meet with Mr. Don Hashagen, the EOD Range Coordinator. It was also noted that contractors involved in the environmental remediation activity at **MCB Camp Lejeune** have collected Aerial Photography. During a later return research visit to **MCB Camp Lejeune** during the week of 18 January 1999, Mr. Wyrick assisted by introducing St. Louis District staff to many other base employees and private citizens, who furnished information on the base history and old ranges. He also accompanied researchers to a visit at the USO in Jacksonville where the team conducted a group interview.

4.3.2 Training Support Division, MCB Camp Lejeune

Mr. Darryl Patton, Director, represented the Training Support Division office at the "Kick Off" meeting also offered comments on the presentation of objectives for the ASR and Range Identification and Preliminary Range Assessments reports. He confirmed the Range Management Office, Training Support Division should have useful information stating Mr. Don Hashagen, EOD Range Coordinator is the right contact. On two occasions, the research team met with Mr. Hashagen, who provided copies of relevant materials including extra copies of the **Camp Lejeune** Military Installation Map and Base Order P3570.1, Standard Operating Procedures for Range Control, dated 2 June 1994. In addition to providing suggestions on other base personal who the team might wish to meet and interview, he also escorted the research team to the EOD Platoon, H&S Company, 8th Engineer Support Battalion, 2nd Force Service Support Group (FSSG), and introduced several members of the EOD unit.

4.3.3 Base Training Resource Management, MCB Camp Lejeune

Mr. Joe Ramirez represented the Base Training Resource Management office at the "Kick Off" meeting. He asked a series of questions centering on the products and/or basic elements of the ASR and Range Identification and Preliminary Range Assessments reports. By responding to these questions, Messrs. Sloan and Schwalbe addressed many of the tasks involved in finalizing the reports. Highlighted was the Who, What, Where, Why (Purpose), How, and final products, expected from the "range rule" research. Mr. Sloan, using his Comparison of the ASR vs. Range Rule summary sheet, discussed the anticipated requirements of the rule, and how the information to be generated might be utilized in developing a Range Tracking System, as input into Range Risk Assessment and Range Assessment phases. It was mentioned that after the meeting the St. Louis District representatives desired to collect some initial information (the current MCB "Special Range/Maneuver Map", Master Plans, Real Estate Data, etc.). Mr. Ramirez offered the assistance of his staff upon the teams return visit for research on ranges.

4.3.4 Public Works Department, MCB Camp Lejeune

The Public Works Department (PED) was represented at the "Kick Off" meeting by Mr. John Jordan. He along with other employees of the PWD provided extremely valuable assistance in retrieving mapping used in the production of the ASR and Range Identification and Preliminary Range Assessments reports. Mr. John Jordan indicated that the only about 374 acres in 5 +/- land parcels have been excessed from **MCB Camp Lejeune**, occurring around 1973-74. Since 1941-42 **MCB Camp Lejeune** has been growing in size, according to Mr. Jordan. He furthermore indicated that there is a considerable amount of facility drawings and maps stored in two rooms of map drawers in his department. Although the system is well organized and relatively easy to use, it would be expected a thorough review might require a week's time. During an afternoon meeting after the "Kick Of" meeting, Mr. Jordan made available a number of base and real estate maps; and he also provided the research team with one copy of the limited

distribution **Camp Lejeune** Military Installation Map ("special map" NAD83/WGS 84). He indicated additional copies are available from Don Hashagen at the Range Management Office in Training Support Division.

4.3.5 GIS Office, Environmental Management Office, MCB Camp Lejeune

After the "Kick Off" meeting, Mick Senus introduced the team to Ms. Frances Railey, who briefly described their GIS system. A considerable amount of information is stored in this AutoCad Arc/Info system. (The mapping data was extremely valuable in the preparation of **MCB Camp Lejeune** reports.) On a later visit, Mr. Schwalbe, along with David Kreighbaum and Ray McCollum, representing the St. Louis District Mapping and Cartography Branch, again coordinated with Ms. Railey to insure the effective use would be made of their stored mapping data. Thus, discussions at this second meeting centered on employing a methodology/technology system for transfer and exchange of geospatial data files from users of differing Geographic Information System (GIS) platforms (St. Louis District's Intergraph and Camp Lejeune's AutoCad Arc/Info system). The problems involved the effective interfaced between these two differing file formats. Ms. Railey agreed that interfacing of our historic based maps onto their GIS system would lead to "value added" for **MCB Camp Lejeune**. Ms. Railey, assisted by a contract employee, and Messrs Kreighbaum and McCollum fully discussed various options at the meeting and also in later telephone conversations in accordance with an agreement to exchange information concerning their research. Both agencies agreed to contact the respective companies for assistance. Railey discussed at some length a module to the AutoCad system that might import/export files from the other two above-discussed systems. Research at **Camp Lejeune** by another department showed favorable possibilities for this scenario. She subsequently provided the St. Louis District team the necessary mapping data (in Arc/View format).

4.3.6 Subordinate Organizations, MCB Camp Lejeune

Research team member, Mr. Fred Miller, made several telephone inquiries to contact subordinate organizations at **MCB Camp Lejeune**. These included the G-3/G-4 Sections of the Marine Expeditionary Force and the G-3 Section of the 2nd Force Support Group. MSG Prim of the G-3 Section, Marine Expeditionary Force, returned the research team's call and reported that his units command chronologies are forwarded to the Training, Education, and Operations Department at Base Headquarters. He further stated, to his knowledge, his Section did not maintain files on target ranges. LTC Flowers and LTC Rollandini, G-3 Section, of the 2nd Force Service Support Group, received messages from the research team. However, the research team did not receive any responses from either Officer. Mr. Miller also contacted CPT Jones, current Staff OIC, Chemical Biological Incident Response Force (CBIRF), MCB Camp Lejeune, who stated his unit's mission is "strategic" in nature and recently established in the spring of 1995 by Presidential Directive Number 39.

4.3.7 2nd Marine Division Association (Retirees), MCB Camp Lejeune

Research team member, Mr. Fred Miller, contacted Mr. Jack Hernandez, President, and COL (Ret.) Chuck Van Horn, Executive Secretary, of the 2nd Marine Division Association, which was having its annual reunion at **MCB Camp Lejeune** that included viewing a "live" fire exercise. The research team reached both individuals at the Onslow Inn in Jacksonville, where association's members had their hotel accommodations. After the research team explained the purpose of the research team's visit, COL (Ret.) Van Horn stated his only recollection of **Camp Lejeune** pertinent to the research team's focus is that "the old combat town at **Camp Lejeune** is contaminated by the use of CS grenades." Mr. Hernandez received an offer from the research team to address the Association members to invite interviews on training experiences at **MCB Camp Lejeune**. However, Mr. Hernandez stated that their Association had a very limited time to their schedule and suggested contacting the Association later by letter regarding our research (P.O. Box 8180, **Camp Lejeune**, NC 28547) or by e-mail at foocats@gibraltar.net.

4.3.8 Interviews with individuals referred by EMD, IRD, MCB Camp Lejeune

Mr. Jeff Wyrick, EMD, IRD, suggested that a possible interview with the father-in-law of Jim Swartzenberg. Mr. Swartzenberg's father-in-law had been stationed at Camp Davis during World War II, knows the location of the ranges and ammo storage areas, served as a Warrant Officer in a missile attachment, worked on Topsail Island, and currently raises oysters at the age of 87, business address--J&B AquaFood, 16 East Bayshore Blvd., Jacksonville, NC 28540, (910) 347-7240, farm address--704 tar Landing Road, Holly Ridge, NC 28445, e-mail address of son-in-law <oyster@coastalnet.com>.

A second information source provided by Mr. Wyrick was Mr. Charlie Lauer, a retired Marine. Mr. Wyrick relayed a discussion he had with Ms. Tracey DeBow, who spoke with Mr. Charlie Lauer, a retired Marine, who now lives in Sneads Ferry. According to Ms. DeBow, Mr. Lauer did not volunteer to meet with our research team. However, he provided Ms. DeBow with the following information: Besides recommending the **MCB Camp Lejeune** Base Library as a good source of information, Mr. Lauer made reference to a COL. Jackson, who had been a Company Commander, fired at the rifle ranges on **Camp Lejeune**, had a 1967 base map that showed ranges at locations not indicated on current maps. According to Ms. DeBow, Mr. Lauer said the map showed two additional grid squares of the rifle range not designated on current maps, which used .22 caliber ammunition, behind a current range which fires in the direction of a nearby river. This range may have been across from Courthouse Bay, as indicated by the following directions Mr. Lauer provided: "On Sneads Ferry Road, travel south on Route 172, after passing a blinking light at the turn for Courthouse Bay, a road on the right side leads into a wooded area where the old range once existed."

4.3.9 Training, Education, and Operations Department, Headquarters, Marine Corps Base, MCB Camp Lejeune

The research team met briefly with Ms. Peggy Briley, Training, Education, and Operations Department, Headquarters Building and discussed specifics regarding research efforts for the "range rule" ASR. She, in turn, introduced the research team to Ms. J. Renee Hawthorne, Deputy Assistant Chief of Staff, Training, Education, and Operations Department, Marine Corps Base, **MCB Camp Lejeune**. In the Department's conference room, the research team provided Ms. Hawthorne a briefing on the tasking by HQ Marine Corps and the research efforts of the team scheduled for **Camp Lejeune**. The research team supported the ensuing discussion with specifics under the "range rule" requirement, providing background information on the tasking by HQ Marine Corps, including research efforts already conducted at other Marine Corps sites. Ms. Hawthorne expressed her sincere desire to assist the research team in accessing historical documentation, which she readily admitted was not necessarily placed in an organized fashion. In fact, her office basically maintained historical documentation on **MCB Camp Lejeune**, not only in the closet of the command briefing room, but also in a temporary location near the headquarters building (Building 11), which was currently occupied by a contractor, MITRE, whose site leader is Mr. William H. Schopfel. (Records maintained included specifically Construction Completion Reports for **Camp Lejeune** and the U.S. Marine Barracks, New River, NC, published by the U.S. Navy Bureau of Yards and Docks, Volumes I, II, and III dated between 15 April 1941 and 30 September 1942.) In response to research team's query as to tracing historical records and manuals from subordinate offices at **MCB Camp Lejeune**, Ms. Hawthorne said she would be glad to assist by coordinating with LTC Tony Fazio, Adjutant, **MCB Camp Lejeune**, who the research team previously attempted to contact. Later during the research visit, Ms. Hawthorne informed the research team that, according to LTC Fazio, record management procedures did not facilitate the maintenance of historical records useful for the team's purpose.

4.3.10 EOD Platoon, H&S Company, 8th Engineer Support Battalion, 2nd Force Service Support Group (FSSG), MCB Camp Lejeune

Mr. Don Hashagen introduced the research team to several members of the EOD unit stationed at **MCB Camp Lejeune**. The EOD unit staff present included MAJ Martin, SGM Dlugosh, MSG Ray, Sergeant Middleton, MSG Carnal, and SSG Husband. These individuals provided their input, by annotating a map of **Camp Lejeune** showing the locations of old target ranges, former ammo dumps, field ammo supply points (ASP), suspicious areas believed to be contaminated by ordnance, and locations where UXO had been found. SGM Dlugosh, who appeared to be one of the most knowledgeable members of the EOD unit, characterized **MCB Camp Lejeune** as "not any different from MCB Camp Pendleton." As an example, MSG Ray noted that the New River Housing Area is now located on a former grenade range. EOD members also provided other information, which included references to "Area M" as having a former ammo dump and the discovery of 40mm rounds at a particular ASP at **MCB Camp Lejeune**.

The research team also briefly visited with the EOD office located at Camp Geiger. Here they met with SSG Kapp, NCOIC on duty, regarding his unit's purpose, records, and any information they might possess on UXO discovery. SSG Kapp was unable to furnish any additional pertinent information.

4.3.11 Research team members, Messrs. Miller and Schwalbe, accompanied by Mr. Jeff Wyrick, EMD, IRD, visited the USO in Jacksonville and met the following individuals to conduct a group interview: SGM (Ret.) Ray Humphreys, 514 Brejnn Marr, Jacksonville, NC 28546, (910) 353-4120; SGM (Ret.) John Carson, 195 Audubon Drive, Jacksonville, NC 28546, (910) 347-1931; and LTC (Ret.) Norman A. Chandler, 100 Radcliffe Circle, Jacksonville, NC 28546, (910) 455-3834.

4.3.11.1 SGM (Ret.) Humphreys, who spent 32 years in the Marine Corps at various posts in an assortment of assignments, is a member of the Local Community's RAB, which is concerned about the environmental effects in the Jacksonville area as related to **MCB Camp Lejeune**. The research team displayed sensitivity toward the concerns of SGM (Ret.) Humphreys and asked him to relay the same attitude to the others on the RAB. SGM (Ret.) Humphreys, who retired 20 years ago, engaged himself in community affairs and expressed that his concerns, for the most part, were on hazardous toxic waste issues. He specifically referred to the metal substance Mercury being scraped and buried by the Photo Lab on or about 1955 at **Camp Lejeune**. SGM (Ret.) began his military career in the Infantry, and then, diverted into other specialties such atomic weapons assembly, through courses at White Sands, NM, and surveying of military property, which he conducted on the Marine Air to Ground Combat Center at Twenty-nine Palms, CA, in 1956. Between 1957 and 1960, SGM (Ret.) Humphreys recalls a place called the "Duck Hut" at **MCB Camp Lejeune** where the 2nd Heavy Rocket Battalion fired. He also remembers pulling boxes of small arms ammunition out of streams at **MCB Camp Lejeune** and referred to the main dump area as "MLQ 50." Up until about 1980, SGM (Ret.) Humphreys stated, "everything was buried."

4.3.11.2 SGM (Ret.) Carson started his military career in January 1942, during which time he underwent intensive training to become a soldier in the elite unit, known as "The Raiders." Having served overseas, SGM (Ret.) Carson spent a great deal of his time with the 2nd Marine Division, serving in a number of positions to include Staff NCO in G-5. While his memory appeared vague, SGM (Ret.) Carson referred to the "Engineer Stockade" during World War II, and ten years thereafter, as the Demolition School. He recalled 3.5 inch inert rockets being found near where the "MAC" ranges are now positioned. SGM (Ret.) Carson also remembers firing machine guns (30 caliber) to the north, not south, along Lyman Road that runs east to west through **MCB Camp Lejeune**.

4.3.11.3 LTC (Ret.) Chandler, who entered the Marine Corps in 1970 and served in a variety of capacities, such as a Rifle Range Officer, Infantry Combat Cargo Officer (at sea), Weapons Officer, Operations Officer, Liaison with Special Operations, and Commander of both Company and Battalion size units. LTC (Ret.) Chandler served in Base Operations during the initial development stages of the Greater Sandy Run Range

Facility and oversaw training operations at Stone Bay, **MCB Camp Lejeune**. Between 1989 and 1992, LTC (Ret.) Chandler stated that **Camp Lejeune** had an "amnesty program," for turn-in of ammunition by personnel with no questions asked. He estimated that one million rounds of various types of ammunition had been returned. Despite the return of unexpended ammunition, LTC (Ret.) Chandler agreed with SGM (Ret.) Humphreys that much ammunition had been buried at **MCB Camp Lejeune**. With respect to the possibility of buried ammunition, LTC (Ret.) provided specifics as follows:

- a. Location (Coordinates 758768) at **MCB Camp Lejeune** (series of huts, hard back hooches, mock-up Viet Cong (VC) village with tunnels), 1967 – 1974, supposedly not for live firing, and in the vicinity of this training facility 30,000 rounds (30-06) ammunition were buried and/or burned-off.
- b. Old Stone Bay (Airbase) Camp, **MCB Camp Lejeune**, at the anti-aircraft (106 recoilless rifle) section, 1960 – 1970, ammunition was possibly buried (the 106 recoilless brass was cleaned up and sold).
- c. Old Stone Bay Camp, **MCB Camp Lejeune**, in the AA battery area, 1945 – 1955, ammunition was possibly buried.
- d. Stone Bay, **MCB Camp Lejeune**, "live" 2.75 rounds were buried at least 6 feet deep
- e. At Combat Town, **MCB Camp Lejeune**, there was heavy use of the chemical agent, CS, and possibly ammunition was buried at this location.

During the group interview, the research team noted on the current "Special Map" for **MCB Camp Lejeune**, the locations referenced by the retired Marines. While the interviews above revealed new and additional information, based solely on recollections affected by lapse of time, it would be prudent to cross-reference and check historical documentation and other sources of information on target ranges and possible disposal areas at **MCB Camp Lejeune** to sustain the reliability of such information.

4.3.12 Other parties visited or interviewed for information

Representatives of the research team from the St. Louis District also visited and discussed the **MCB Camp Lejeune** assignment with Ms. Spencer, Base Reference Librarian, MAJ Scott B. Jack and MAJ Scott Fazekas, Consolidated Public Affairs Office, and CPT Sara Fullwood, Acting Historian for MCAS New River. Attempts to reach Mr. Glen Pappas, Historian at the Base Library were unsuccessful. Information collected from these sources is addressed elsewhere in this report.

4.3.13 Wilmington District, U.S. Army Corps of Engineers

The research team met with two Wilmington District representatives, Mr. John Baden, DERP-FUDS coordinator, phone (910) 251-4754 and Mr. David Franklin, Regulatory Branch phone (910) 251-4952. Mr. Baden is personally familiar with various North Carolina targets once used by the Navy, including those associated with MCAS Cherry Point. He readily discussed his personal experiences in attempting to collect Navy Real Estate and other Historic Records from which to identify projects eligible for the FUDS Environmental "clean up" program. Mr. Baden indicated that Real Estate records (for FUDS) were not maintained at the Wilmington District, and that if any records existed, they would be found at the Savannah District. It appeared the Marine Corps studies could result in additional sites for investigation by Wilmington under the DERP-FUDS program. Mr. Franklin had met with Mr. Ken Cobb, Environmental Affairs Department, MCAS Cherry Point, and had assisted with the collection of documents in anticipation of eventually addressing "range rule" requirements. Mr. Franklin assisted Mr. Cobb by providing much of his historic data. Historic "danger zone" records are maintained in Wilmington District records holding. These are valuable references documenting the District's operation and maintenance activity along the Intracoastal Waterway. Mr. Franklin provided three boxes of records, in which there was information that proved to be important to the "range rule" studies covering both MCAS Cherry Point and MCB Camp Lejeune.

4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

4.4.1 Interpretation of Aerial Photography

Government and Contractor personnel conducted an aerial photography search to find available imagery with less than 1:24,000 scale and provided stereo viewing, but acquired others as needed. In order to reduce costs, historical aerial and oblique photos were borrowed from the installation. Photographic analysis and land use interpretation were performed using the following photographic sources:

<u>Photo Date</u>	<u>Scale(1:x)</u>	<u>Source</u>	<u>Record Group</u>
11 OCT thru 21 FEB 1990	37,000	USDA --EROS	n/a
07 NOV 1980	37,000	USDA-- EROS	n/a
16 NOV 1970	20,000	ASCS - Archives II	145
17 DEC thru 09 JAN 1961	20,000	ASCS - Archives II	145
25 JAN thru 04 MARCH 1956	20,000	ASCS - Archives II	145

21 OCT 1949	20,000	ASCS – Archives II	145
08 NOV 1944	22,000	DIA – Archives II	373
18 SEP 1943	21,000	DIA – Archives II	373

Photography listed above covering the **MCB Camp Lejeune** site was examined. Features visible on the photography and considered to be significant are shown and described at **Plates 24, 25 and 26**.

Stereo photography was analyzed from hardcopy prints using pocket stereoscopes. All measurements in this analysis were made using analog instrumentation, and should be considered approximate. The use of the word “probable” denotes that the signature of the discussed object or area highly correlates with the signature of a known object or area. Use of the word “possible” denotes that the signature resembles that of a known object or area, but accurate determination cannot be made due to image or equipment constraints. Confirmation of some interpreted features was made using cartographic data described in paragraph 4.4.2 Map Analysis (below).

NOTE: Features will be identified using the Military Grid Reference System covering **Camp Lejeune** in the format for lower left (SW) corner of each 1000-meter grid square (Easting Northing). Two digits for each will be used unless further detail is necessary.

1943 Photography

1943 Photography was reviewed concurrently with 1944 photography. Any differences are noted below, under 1944 Photography.

1944 Photography

Photo 16V-124

Construction is visible in the vicinity of an apparent Anti-Aircraft (A-A) Range (Onslow Beach/Hurst Beach Firing Area) (93 29). No weaponry is visible on the imagery.

Photo 16V-126

A series of roads bordered by berms is probably the Anti-Tank Range (94, 32). The area is marked on the Military Installation Map as dismantled electrified rail line. The soil in some areas appears mottled in tone, suggesting possible disturbance. No depth can be seen to indicate cratering.

Photo 16V-129

Three ranges are visible in this area (93 38). The long range may be Machine Gun Range “C”. Approximately 200 yards down range, the area becomes heavily cratered, showing possible multiple use. A scarred area to the immediate east is labeled on 1946 maps as

Artillery Firing Point 2. To the south (94 37), is an open area showing possible target berms, which may be Musketry Range "C".

Photo 16V-132

Around (93, 43), a series of ranges is visible in the vicinity of Machine Gun Range "A". At least 5 target berms are visible in this area. A series of craters is visible to the immediate east. The largest craters approach 30' in diameter.

Photo 16V-97

A number of structures are visible in the area of the present Engineer Training Area 4 (91 32).

Photo 16V-102

Musketry Range "A" is visible as two 600'-long berms, facing SSW in direction (91 43). Large 30' craters are visible downrange of the eastern-most berm. One crater is over 50' in diameter, leading to the possibility of Explosive Ordnance Disposal (EOD) activities.

Photo 16V-67

The area that becomes Artillery Firing Point 4 is a cleared area. Construction appears in the vicinity, but no weaponry or emplacements are visible.

Photo 16V-70

An ammunition storage area is visible. Numerous bunkers and storage structures are visible at (35 88). The area does not appear to be fenced. To the south, a closed-loop road is visible in the vicinity reported on map source (1943) as being the Miniature Anti-Aircraft Range. A small trail off of this loop leads to a 50'-diameter area that shows irregular-toned soil. The soil of the entire area has a mottled look, such as from cratering, but no depth to the small circles is visible. A small hill resembling a berm is visible in this area, but origin of this feature cannot be determined from the imagery. No other features that resemble an A-A range are visible.

Photo 16V-72

Machine Gun Range "B" is visible as a heavily scarred area containing revetments and trenches (87 39). Three large structures at the origin of the range are probably for observation/storage. This area is immediately west of the Cantonment Area. A heavily cratered area, one grid to the north, is probably Musketry Range "B". In modern times, the area has become Engineer Test Area 3. Some of this activity may be going on in 1944, due to the concentration of craters and ground scars in the area.

Photo 16V-39

Two connected, rectangular cleared areas (800' x 250' and 800' x 350') in the vicinity of Duck Creek (849 345) are reported to have been a Chemical Weapons Training area. A rectangular structure, numerous ground scars, and a 50' devegetated circle are each visible on the site. With the exception of the denuded circular area, the site begins to revegetate from its earlier cleared state.

Photo 15V-190

A 250' berm is visible at the end of a 500'-long clearing. No evidence of range activities is visible. No listed ranges appear in this area (80 32).

Photo 15V-191

Numerous craters are visible in the area presently labeled "K-2" Impact Area. Two musketry ranges and a machine gun range appear to have fields of fire that cover this area. The craters are visible in the southern end of what is now "K-2" (80 33).

Photo 15V-156

A firing complex composed of three rifle ranges is visible on land near the southwest end of Stone Bay (76 31). Numerous target berms represent different shooting distances on each range. Range houses are visible near the firing points. A set of structures to the south is either classrooms or barracks.

Photo 15V-190

A large cleared rectangle is a possible mortar range adjacent to the north end of Stone Bay (76 33). The area is labeled on a 1946 map as Mortar Range L-1. Apparently, range activity was ongoing prior to that date. The rectangle is heavily cratered. A set of 5 small, rectangular structures in a linear array is visible downrange. Possible firing points are visible near the northern end of the cleared area. Craters are also visible on the other side of berms near the firing points, behind the area where the firing would be. This cratered area is adjacent to Stone Bay. A tower, probably for observation, is visible near the bay. To the East, across Mill Creek, is the location of the present "K-2" Impact Area.

Photo 15V-160

A rectangular pattern of roads may show a training area, or former housing or bivouac area. The area is south of present day Landing Zone (LZ) PARROT (77 38).

Photo 15V-162

A demolition course listed as 1946 on map source is active in 1944, immediately south of New River Air Station (77 42). The feature is listed as Infantry Weapons Demo Course on map source. The area is heavily cratered. Some craters are over 30' in diameter. Mounded material is visible in this area – probably soil. A berm is visible south of the airfield, about 1000-inch north of the heavily cratered area. A dirt road leads from the airfield to the berm, then to an area of disturbed soil adjacent to Southwest Creek. The signature in the aerial photography suggests possible disposal/dumping. The soil is disturbed on the shoreline, at the terminus of the road. Rectangular excavations are possible remnants of EOD activities. Another similar signature presents itself 2000' to the northeast. A 100' pier is visible in this area. Cratering is visible atop a small hill overlooking the pier. No excavation is visible on the shoreline. A linear array of 20' craters atop the hill suggests EOD activity. The airfield appears active. Small aircraft are visible on the tarmac. A small revetment is visible south of the administrative area of the airfield. The feature may be a mound of soil, but accuracy is degraded by image quality.

A road from the administrative area of the airfield terminates at this point. Ordnance storage igloos are not visible in the vicinity.

Photo 15V-164

Another range is visible approximately one-mile north of the airfield. The area is listed on 1945 map source as Live Ammunition Indoctrination Range. A Rifle Range is visible on the northern end of this area. A 450'-long berm is visible in this area. Numerous craters are visible in an area 1500' south of the Rifle Range.

Photo 15V-86

A small cleared parcel of land, dotted with craters, is visible east of the Town of Dixon (74 30). The craters appear less than 20' in diameter, and are numerous. This parcel of land resembles a test area, but no excavations are visible. A dirt quadrangle to the south may be for parking.

Photo 15V-91

A number of small, dark, irregular objects are visible in a heavily scarred area, north of the Town of Verona. The area is near a site marked Miniature Anti-Tank Range on 1943 source. None of the small shapes can definitely be identified as a tank, at the resolution of the imagery.

1949 Photography

Photo 1F-84

The 1943 Anti-Tank Range is visible as a set of curved rail lines. Two structures are visible near the firing points. A truck in the area shows that the range may still be active. Two igloos, remnants of three dismantled igloos, and heavily scarred ground are visible in the Engineer Firing Area from 1947 (95 32). Some of the activity may be due to work on Engineering Firing Range 1946, which overlays this area.

Photo 1F-87

Musketry Ranges "C-1", "C-2" and "C", plus Machine Gun Range "C" are visible in a large open area centered around (94 37). Artillery Firing Point 2 is visible (95 39) as a cleared area aside the present State Route 172.

Photo 1F-89

Machine Gun Range "A" is visible, but appears inactive. The range begins to revegetate. Cratering is still visible in on the southern 1/3 of the range. An observation tower still stands on the northern end of the range.

Photo 2F-31

A cleared area where Artillery Firing Point 4 once stood is noted (90 30). No activity is visible in this area, which had begun to revegetate.

Photo 2F-28

Loop road visible where Miniature Anti-Aircraft Range is reported to have stood. No evidence of the Anti-Aircraft Range is visible (89 35).

Photo 2F-24

Remnants of Musketry Range "A" are visible (91 43). Some new trenches and craters appear on the east side of the range; otherwise, the range appears inactive.

Photo 2F-97

Remnants of Demonstration Training Area (Engineer Firing Range) (84 28) show no recent activity.

Photo 2F-95

Berm for 1000-Inch Range (from 1946 data) is visible (82 30). An open area is visible where Artillery Firing Point 6 was reportedly located (82 31). No evidence of range activities is visible. 1945 Firing Point 10 is not visible (84 33). An open area associated with Firing Position 5 (85 37) is visible. Small rectangular objects the size of a car are visible in the vicinity. Nothing is visible to locate the Demonstration Firing Point 1.

Photo 2F-86

An open area is visible where Hand Grenade Range (1945) once stood (85 45). No range features are visible.

Photo 2F-47

The 1000-Inch Range, Machine Gun Qualification Range, and Pistol Range all visible east of the Cantonment Area (87 39). Field Firing Range also visible (87 40). Ground scars and small craters are visible downrange.

Photo 2F-113

A heavily cratered area on the northeast side of Stone Bay is visible. The craters are in the vicinity of the current "K-2" Impact Area (79 34). Outdoor storage is visible near the current Rhodes Point (82 35). The objects are aligned in linear arrays, but no specifics are visible on the imagery. A small pier is visible in the water in this area.

Photo 3F-47

A large range complex is visible adjacent to the western end of Stone Bay (76 31). Three rifle ranges (listed as 1943 on map) and a smaller 150' range are visible north of a set of 15 administrative structures. Trenches and craters in an area immediately west suggest a training or engineering disposal area. A two-lane gravel road from the administrative area services this area.

Photo 3F-52

Small rectangular cleared areas (around 600' in length) at (75 38) are noted. Use of these areas cannot be determined, but the signature is similar to other training areas. No

features are visible within these areas that would indicate use. The areas may be agriculturally based.

Photo 3F-55

A large cleared area, labeled Mortar Range M-1 on 1945-map source is heavily cratered (75 40). A berm is visible at the western terminus of the range. This range is immediately east of the Town of Verona. This area is the current SOI Camp.

Photo 3F-26

The cleared area in the vicinity of Mortar Range L-1 (77 34) still shows numerous craters, but no apparent berms. The area is still largely devoid of tall vegetation. A jeep trail now runs down the center of the range to Stone Bay. To the east, the south end of the present "K-2" impact area is heavily cratered.

Photo 5F-4

The Direct Fire Artillery Range (Anti-Tank Range) is visible near the Intercostal Waterway (94 32). The area is heavily scarred. Linear scars resembling roads run the length of the cleared area, which totals nearly 1500'. Cleared rectangles in the immediate vicinity may be artillery-firing points also (Artillery Firing Point 3, Beach Artillery Firing Point) (96 32). Ground scars in a clearing to the east are similar to other artillery firing areas on the base.

1956 Photography

Photo 4N-126

A possible training area is visible (93 30). The area is not denoted on any map source as a military area. Structures are still visible on the Anti-Tank Range. A large, cleared rectangle that leads north from the range terminates in a graded area labeled Observation Post (OP) 1 on current map source. 1958 Map source lists this area as 50' .22 Caliber Range (94 34). Craters and trenches are visible near the southern end of this range. To the immediate west are visible elements of the Assault Demolition Course (93 34). Igloos visible in 1949 are still located in this area. A bare area is visible in a section called Battle Indoctrination Course (92 33).

Photo 4N-129

A Combat Range (94 37) is visible. A long berm and a short berm are visible on the range. A large administrative-type building and smaller Quonset-hut units are visible in the area. Small scars from craters are visible on the southwestern end of the range.

Photo 4N-130

A series of six berms to the north are elements of two Field Firing Ranges (94 38). The berms are in many orientations, but mainly west. The area downrange is heavily cratered and scarred.

Photo 4N-132

Another Field Firing Range is visible (93 43). The cleared area shows two berms and numerous craters and ground scars.

Photo 3N-112

A possible Anti-Aircraft Artillery (AAA) Range is visible on the beach (90 26). Three storage structures and numerous ground scars are visible. The signature for this area is similar to AAA ranges on other military bases. An area containing numerous trenches is visible in (89 27). The trenches do not appear to contain fill, but are grouped in parallel arrays. Some grading appears to have occurred in this area in prior years. Disturbed soil is evident. The area is presently Landing Zone Albatross. A small cleared area (88 28) is a possible demolition area. Small craters, possible mounded material, and small objects are evident in this area.

Photo 3N-114

A cleared area (91 30), currently Landing Zone Goose, may be an artillery firing point in 1956. Parallel, linear ground scars may be remnants of artillery activity.

Photo 3N-120

Two field firing ranges, discussed in 1949, are visible south of Highway 24 (90 42) (91 42). No recent ground scars are visible on either range.

Photo 3N-180

A large demolition area is visible adjacent to a man-made harbor (87 25). A series of 10 trenches is visible on the south end of the range. The north end of the range is heavily cratered and shows numerous ground scars from jeeps.

Photo 3N-186

Foundations of razed structures are visible in the area that was the Assault of a Fortified Position Range (87 36). The area has overgrown with vegetation. Analysis cannot determine if these foundations were actually part of the range.

Photo 3N-132

A large, rectangular cleared area (87 37) is probably the Flame Thrower Range. A lone tower is visible on the 1200' x 900' range.

Photo 3N-188

A cleared area, east of the Cantonment Area (87 37) is probably the Field Firing Range. This becomes a Mortar Range on a 1958 map. Two observation towers are visible on the northern end of the range. The 50' .22 Caliber Range is visible as a small rectangle with firing points. Machine Gun and Pistol Qualification Ranges are visible to the immediate north (87 39). The Machine Gun Range shows two bunkers (probably for observation) and two berms. One berm fits the description of the 1000-Inch Machine Gun Range. Another Field Firing Range is visible to the north (87 40). Most of the craters do not appear recent. A set of craters on the northern end of the range, by the firing points,

appears fresh. This set may be foxholes or remnants of EOD activity. A Skeet Range listed on 1954 source is not visible on the imagery. A parachute tower is visible in the area.

Photo 3N-168

Two ranges are visible (82 30). The ranges do not appear to have fresh ground scars. In 1954, these are listed as 1000-Inch ranges. In 1958, the areas are listed as 50' .22 Caliber ranges.

Photo 3N-165

A range is visible north of the "K-2" Impact Area (81 35). The area is listed on 1958-map source as Transition Range. Two sets of firing points and a downrange berm are visible on this range. The 300-Yard Range – Zero of Battle Sights is visible as an "L" shaped berm in a cleared area (82 35). The downrange area is cratered.

Photo 3N-163

1958 Maps show two ranges on the west side of the Cantonment Area. While no artillery pieces are immediately visible, a number of berms or walls are visible in the areas shown by the map to be ranges. The map location of Practice Hand Grenade Range D-3 is visible as an open area north of the Cantonment Area (84 39). No throwing pits or berms are visible in the vicinity.

Photo 4N-25

A cleared area, containing numerous ground scars, is visible on the photography at map coordinates (81 29). This is listed as the 1000-Inch range on 1946 map source. Immediately south is a set of three berms. Ground scars where earth was pushed up to form the berms are still visible. No other features identifying a range are visible. This area, presently TLZ Kite (817 297), is not listed as a range on any map source available to this study.

Photo 4N-22

Four areas around the "K-2" Impact Area are analyzed as ranges (78 35) Range K-12, (79 35) Demolition Range, and (77 34) Transition Firing Range. All of these areas show the signature of a range, but berms and firing points are not visible (or are under construction). A berm and zigzag trench are visible in the vicinity of Hand Grenade Range K-10 (77 34).

Photo 4N-19

A large, rectangular cleared area is visible near present-day Eagle Landing Zone. No range features are visible.

Photo 4N-17

50' .22 Caliber Range A-1 is visible as firing points and a berm (792 445).

Photo 4N-45

Pistol Range L-1 and Rifle Range L-2 are visible (75 30). The ranges appear well kept and active. Construction is visible at (77 29) as a cleared rectangular area (400' x 500'). A 350' trench, at right angles to a small linear object (possibly a pipe or mound of material), is visible. A depressed area showing disturbed soil is also visible near the center. Four trails from vehicles end near the center of this area. A small object or mound of material is visible in the southeast corner of the cleared rectangle. Area has a signature similar to a dump, but exact determination cannot be made from the imagery.

Photo 4N-99

Mine Warfare and Demonstration Area L-6 is visible as a compound of structures in a cleared area (72 30). A 100' x 1000' cleared area, one structure, and numerous jeep trails are visible in the vicinity of L-5, 30 Caliber Electric Pop-up Range (73 31). No other range features are visible.

Photo 4N-93

A number of ranges are visible around the current SOI area, south of New River MCAS. A small berm at the crest of a hill is visible adjacent to a cleared area that goes downhill (75 41). The signature fits a Grenade Range (M-10 is shown near this position on map source). Grenade pits are not visible, but may not have been needed due to topography. Two ranges are close together near the north end of grid (75 40). One range shows a target butt, cut out of a hill, approximately 83' from a road, which could be used as firing points. Immediately adjacent, is a set of firing points 150' away from a berm. This range is in the vicinity of M-17 Practice Hand and Rifle Grenade Range, but doesn't fit the signature. Immediately west (351 408) is a cleared rectangle containing four zigzag trenches, perpendicular to the long axis of the range. Small, rectangular structures are visible on the range. A target butt is located approximately 400' from the farthest trench (possible Infiltration Course M-6). A set of structures is visible to the north of the current SOI Base Camp (765 415). Use for these structures is unknown. To the west of the current SOI area, a small rectangular structure is visible atop a hill (746 410). The area is labeled Assault of a Fortified Position Area (M-8) on 1958 map source.

Photo 4N-92

A 1200' x 360' cleared area is visible at (73 42). Five evenly spaced 30' square objects are visible in a linear array down the center of the rectangle. Two U-shaped berms, located on the southern end of the rectangles, are overgrown with vegetation. Use for this area is unknown. A 50' .22 Caliber Range is visible as firing points and a berm (74 45).

Photo 2N-74

Many of the structures on former Camp Davis have been razed. Remnants remain of the Rifle Range, Ordnance Storage Area, and Airfield. The airfield appears usable.

1960 Photography

Photo 1AA-74

Two parts to the Mechanized Anti-Tank Range (discussed previously) are visible. The southern part (G-5) is a set of electrified tracks. The northern part (G-5A) resembles a set of firing points on the north end of a large cleared rectangle. Artillery Range G-7 is visible (96 34) as a cleared quadrangle. Small, vehicle-sized objects are visible on the southern end of the range. Soil has been bulldozed into mounds near the southern end. Cratering is evident on the southern end of the range. A small rectangular cleared area, 250' x 350' shows ground scars typical of artillery firing points (96 35). This is the probable location of Artillery Range G-6.

Photo 4AA-119

Rectangular structures on the beach may be firing points for AAA and anti-boat ranges.

Photo 4AA-121

Demolition Assault Area (G-4) and Battle Infiltration Course Range G-11 remain largely the same.

Photo 4AA-124

Combat Range G-1 is visible as a cleared rectangle upon which building foundations are seen. A water tower is still visible in the area (94 37). Field Firing Range F-3 is a large cleared area. A 1000' berm is situated on the eastern end of the range. The western end of the range is heavily cratered.

Photo 4AA-127

Remnants of Field Firing Range F-14 are visible (91 42).

Photo 4AA-111

A set of ground scars identifies Miniature Anti-Aircraft Range G-13 (89 35). Immediately north, a 250' berm aside a tank path identifies G-14, the 1000' Tank Machine Gun Range.

Photo 4AA-113

Numerous structures are visible in the vicinity of Combat Village F-16 (89 37).

Photo 1AA-86

Machine Gun Qualification Range F-10 appears active (87 39), immediately east of the Cantonment Area. A complex of four Skeet Ranges (D-9) is visible in the former parachute area (85 40). The ranges are aside each other.

Photo 1AA-151

Transition Range K-6 is visible (81 35). The 300-yard Range Zero of Battle Sights, K-19, is visible as two sets of firing points and a berm (81 35).

Photo 1AA-151

A berm or wall is visible on the west end of the Cantonment Area in the map location of Artillery Firing Point D-29 (851 369). No other evidence shows this to be a firing area. The same description fits Artillery Firing Range D-30, which appears to be a parking lot (84 38).

Photo 1AA-171

A number of ranges are visible on the northern end of the K-2 Impact Area. Close Combat Range K-8 is visible as a set of small berms and firing points. Sets of foxholes are visible on Combat Firing Range K-5. A possible Demolition Range is visible in the vicinity of K-16. A 150'-long rectangular structure and numerous dug-in firing positions or craters appear on the range. An unidentified 150' range is visible to the immediate west of K-16. Paths lead from the firing positions to the target butt. Flame Thrower Range K-21 is visible as an open area containing three small pits. Burn scars are not visible, leading to the possibility that the range is not undergoing current use. Eight crate-sized objects sit 350' away from 10 firing positions on the Combined Infantry Weapons Range K-9. The Landscape Target 1000-Inch Range K-15 is visible as a 350' rectangular cleared area with relatively few improvements. Transition Firing Range K-4 has similar characteristics, and is four times as large.

Photo 1AA-174

A large, rectangular cleared area (1200' x 2500') is visible in the area of present-day Landing Zone Eagle. Numerous ground scars are visible in this area, but no evidence of artillery or small arms use.

Photo 1AA-177

50' Range A-1 is visible as a U-shaped berm in a cleared area (795 442). This location does not match any map coordinates for the A-1 Range. A 150' trench showing possible fill is visible west of a set of structures near the present-day Mallard Landing Zone (789 455). More possible fill is visible aside the excavation, to the north. An unimproved road leads to this site from the group of structures.

Photo 2AA-122

50' 22 Caliber Range is visible (74 43). Two connected berms are visible, leading to possibility of other use. To the immediate east, three flat-topped linear mounds are visible. The material appears to be soil, and a roadway for vehicles appears to lead to the top of each mound. The longest mound is 250' in length. The mounds are similar to firing berms, but are surrounded by high trees.

Photo 2AA-120

A series of five earthen bunkers, each separated by an unimproved surface road, is visible in a swampy area west of New River MCAS (74 42). Use of these structures is unknown, although the area resembles the signature of an APC. Unidentified objects are visible near the top of some of the structures. Eight rectangular structures (60' x 20') are visible around the perimeter of the area. A set of structures is also visible near the entry point to

the area. Ranges visible around the current SOI Camp location are believed to be: M-7, 1000-Inch Machine Gun Range (75 40); M-6, Infiltration Course (75 40); and M-8, Assault of a Fortified Position Range (74 40). One rectangular structure (70' x 20') is visible in the area. Live Hand Grenade Range M-10 appears active (75 41).

Photo 2AA-120

A cleared area showing a number of craters is probably L-5, the 30. Caliber Electric Pop-up Range. A structure on the area appears to be a 20' x 20' wall.

Photo 2AA-113

An area with a similar signature to a dump is visible to the west of the L-2 Rifle Range (745 304). Two trenches are visible, the longest of which measures 400'. Possible fill is visible. A road passes by each trench. Possible grading is visible in the area. The Mine Warfare and Demolition Area (L-6) is still active, immediately north of the town of Dixon (72 30).

Photo 2AA-91

Possible dump southeast of Stone Bay Rifle Range (77 29) is slightly smaller (1/2 size) of 1960, but shows two trenches (the second where the linear object was in 1960). The signature of the area still resembles a dump, but again, exact determination cannot be made from the imagery. Some sort of fill is in the trenches, which may be dirt.

1970 Photography

Note: 1970 imagery does not cover "G-10" and "K-2" Impact Areas. Coverage over Cantonment area was not available to this study.

Photo 2LL-58

Artillery Ranges G-7 and G-6 are still visible. Ground scars and a berm from Artillery Range G-7 still visible (95, 34). Cratering is visible downrange.

Photo 2LL-101

Field Firing Range F-1 is visible.

Photo 2LL-104

Field Firing Range F-3 still visible. Area is heavily scarred. Scars also visible in vicinity of Combat Range G-1 (formerly discussed as Musket Range C-1). A grassy open area is visible in the location of Artillery Firing Point 2.

Photo 2LL-110

Ground scars visible in vicinity of Field Firing Range F-2. Field Firing Range F-14 has revegetated.

Photo 2LL-148

Field Firing Range F-12 still visible. Ranges in Complex F-7, F-10 and F-11 appear active.

Photo 2LL-154

I-4 Demolition Area does not appear to be in current use.

Photo 2LL-230

Range L-2 visible.

Photo 2LL-276

A number of ranges are visible around the current SOI Base Camp. These include: Live Hand Grenade Range M-10, Infiltration Course M-6, 1000-Inch Machine Gun Range M-7, and M-17 Practice Hand and Rifle Grenade area. The area listed as SOI Base Camp contains numerous ground scars and is craters from EOD activities. At least six trenches are also visible in this vicinity.

1980 Photography

Note: 1980 imagery does not cover "G-10" and "K-2" Impact Areas. Coverage over Cantonment Area was not available to this study.

Photo 378-19

Bare soil is visible in the vicinity of a map-noted artillery firing point at (887 254). No unusual ground scars are visible. Artillery Firing Points are also visible in landing zones Albatross (89 27), Bluebird (87 26), and Canary 85 28). Another labeled firing point is visible as an open field at (892 290), immediately south of Albatross. Two Engineer Test Areas are visible (88 28) and (88 29). Both show cratering from EOD activities. Another visible artillery point is located on map source at (81 30). Other map-identified artillery firing points have no visible signatures on photography.

Photo 378-18

At least six Skeet Ranges are still visible north of the Cantonment Area, near TLZ Sparrow (85 40).

Photo 378-24

Ranges F-2 (90 42) and F-4 (91 42) are visible, but show no recent ground scars. Firing positions are visible on Range F-4 (91 42). A range, which is probably Range F-18 or F-11, is visible immediately east of the Cantonment Area (87 39). Firing points and ground scars are visible. Scars are still visible in the vicinity of Range G-6 (94 33). Ground scars are visible on Range G-7 (95 34). Possible artillery firing points are visible at TLZ Gull (96 35).

Photo 278-194

The Stone Bay Rifle Range complex is visible. The surrounding area is heavily wooded. No unusual ground scars are visible in the vicinity.

Photo 278-24

Firing Points for Range L-5 are visible in an open area (73 31).

Photo 278-182

Ranges visible around current SOI Camp on previous imagery appear to revegetate, showing lack of use. A number of revetted objects are visible near TLZ Parrot (76 39). The area has the signature of an ordnance storage area, but an exact determination cannot be made.

Photo 378-120

Ground scars visible on former Camp Davis runway (now TLZ Pheasant) do not appear to be ordnance related (66 23).

1988 Thru 1990 Photography

Note: Photography from this data set was taken over three years. The photographs will be treated as a single data set for this report.

Photo 3888-172

Range G-7 begins to revegetate, but still show a few active scars. Some possible firing points are visible in Tactical Landing Zones Gull and Crane.

Photo 988-2

Open area by TLZ Bluebird is map-identified artillery area. Area shows no signs of firing points. A large open area near present-day TLZ Falcon is a possible firing point for artillery. The artillery firing point is listed on a map as being in the southern portion of this area. Ground scars are visible in this area, but no determination of use can be made from the imagery. G-6 Range area remains unchanged. Scars of electrified rail line are still visible. Possible artillery firing points are visible near TLZ Dodo (88 30). Scars of a former artillery firing area are visible between TLZs Sparrow and Dove (86 31). The area does not appear to be in recent use.

Photo 988-6

An ammunition storage area is visible west of the "G-10" Impact Area (88, 35). Scars of Ranges G8/G9 are visible immediately northwest of the "G-10" Impact Area (90 37). Small, rectangular objects on the ranges may be targets. A lot of ground scars are still visible in the area of former ranges near TLZs Pigeon and Raven (93, 38). A berm is still visible in this area.

Photo 988-7

An open rectangular area, containing possible firing points is visible (89 42). To the east, scars from Ranges F-2, F-4, and F-5 are still visible, near TLZ Coot.

Photo 3888-179

Engineer Test Areas 6 and 7 are visible. The areas have been graded. ETA 6 is undergoing active grading or de-duding. Craters or small excavations are visible on the southern end of ETA 7.

Photo 3888-179

Two Artillery Firing positions are visible (84 33) and (86 34). Neither ranges show active firing points.

Photo 3888-182

Scars from numerous ranges are visible surrounding the K-2 Impact Area. The scars coincide with current range names on the Military Installation Map. Skeet Ranges are still visible immediately east of TLZ Sparrow (85 40). Range complexes F-11 and F-18 are visible east of the Cantonment Area. The area appears to be undergoing construction. Open areas for Cantonment Area Ranges D-29 and D-30 are visible, but no firing points are interpreted from the photography.

Photo 3888-180

Stone Bay Rifle Range Complex visible.

Photo 3488-163

Range L-5 is visible. At least 5 berms and numerous ground scars are visible in the cleared area that outlines the range.

Photo 788-37

An open are in Range A-1 shows possible firing points near the tree line (79 44). The range fan on the Military Installation Map covers more than is cut from the trees, leading to the possibility of another set of firing points in the area.

Photo 2988-11

A small encampment is visible in the SOI Base Camp area.

<u>Plate</u>	<u>Year of Photo</u>	<u>Title</u>
24	1944	Former Chemical Test Area
25	1956	Unknown Training Area
26	1998	Rifle Range Complex

Terrain at the site is relatively flat as would be expected in a coastal area. Much of the area is forested. Small lakes and rivers are other hydrographic features of the area included with the Atlantic Ocean. Agriculture is a major use for cleared areas. Major

roads and rail plus other lines of communication service the area. Numerous small towns are visible in the area.

4.4.2 Map Analysis

The site was analyzed using the following maps:

USGS 7.5 minute quadrangle maps (1:24,000)

Brown's Inlet, N.C. (1952); photo revised 1983
Camp Lejeune, N.C. (1952)
Folkstone, N.C. (1982)
Haws Run, N.C. (1981)
Jacksonville South, N.C. (1952); photo revised 1988
Maple Hill SW, N.C. (1981)
New River Inlet, N.C. (1952); photo revised 1971
Trenton, N.C. (1982)
Snead's Ferry, N.C. (1952); photo revised 1971

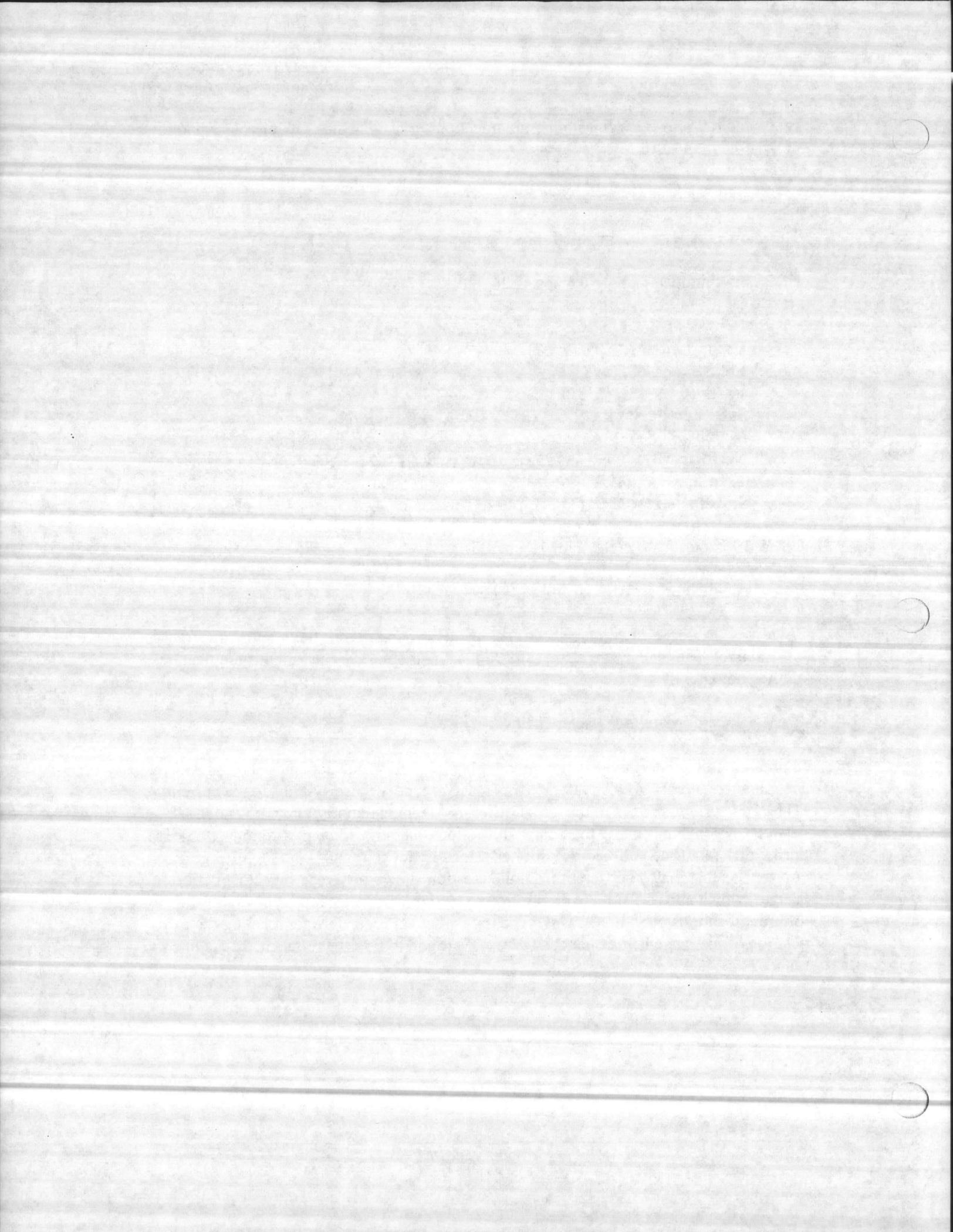
USGS 30' x 60' quadrangle map (1:100,000)

New River, North Carolina (1991)

Review of the above-cited map sheet(s) confirms general descriptions found in paragraph 4.4.1 above. The maps were also useful in locating boundaries and identifying features on the photography.

4.4.3 Source of Mapping Discrepancies

In preparing this report three different mapping systems were encountered (Progressive, State Planer, and UTM). An attempt was made to rectify these systems to the current UTM grid system. Errors in mapping, differing mapping datums, and conversion between systems may cause the depicted location of a range to be in different locations during different time periods. Additionally, historic range regulations supplied grid coordinates that may be different from the location shown on a map from that period. Ranges, which appear from the description to be the same, may appear in slightly different locations on various maps. The only practical procedure for locating the exact position of the range is to conduct a survey of ground to find the remnants of the historic range.



5.0 REAL ESTATE

5.1 DOD (MARINE CORPS) OWNERSHIP

The installation presently occupies approximately 246 square miles (153,439 acres) and is bisected by the New River, which flows in a southeasterly direction and forms a large estuary before entering the Atlantic Ocean. This acreage figure includes Greater Sandy Run Area, which is an over 41,000-acre parcel of land located to the southwest of the historical main **MCB Camp Lejeune** military installation. For detailed information on current property ownership or for other Real Estate information, contact **MCB Camp Lejeune** (Public Works Department or the GIS Office in the Environmental Management Department).

5.2 HISTORIC DOD OWNERSHIP

In April 1941, the determination was made to construct a divisional training facility in the vicinity of New River, North Carolina. Review of the available property records indicates that the first parcels were in essence obtained when Declaration of Takings were filed for fourteen individual parcels (Areas "A" through "M") between 3 April 1941 and 3 October 1941 (Historic Real Estate Map, **Appendix G**). This base, thus, originally consisted of 84,533.78 acres of land, according to the Declaration of Takings, plus some 24,000 acres of water. Later, according to the July 1947 edition of the *Public Works of the Navy Data Book*, published by the Bureau of Yards and Docks, the Navy owned 85,155 acres of hard land and 26,000 acres of waters (111,155 total acres). The history text "*Camp Lejeune Leathernecks*" by Gertrude S. Carraway confirms this figure stating, "The mammoth reservation of 173.68 square miles includes some 111,155 acres of which 85,155 acres are on land and 26,000 are under water."

During the World War II (WW II) era several bombing targets and rocket ranges were associated with nearby MCAS Cherry Point. Acquisition of these target sites was by lease from private ownership. One of these targets, BT-5, the Bear Island Bomb Target (includes Rocket Range (RR) -1 and Strafing Target (ST) -2), is an active target under **MCB Camp Lejeune** ownership. The range, later known as the Brown Island Bomb Target, was a 3-miles by 6-miles rectangle restricted area and included all the navigable waters between Bear Creek and Onslow Beach Bridge on the eastern shore of the **Camp Lejeune Reservation**.

"Peterfield Point" airfield was initially occupied in April 1944 and was one of several outlying bases coming under the command of MCAS Cherry Point. Peterfield Point was closed after WW II until the "about 2,000-acre airbase" was again commissioned in 1951. Marine Corps Air Station (MCAS) New River eventually became a separate 2,772.24-acre command with the first assigned Helicopter Group arriving in July 1954. On June 8, 1972, MCAS New River was renamed McCutcheon Field in honor of the late General Keith Barr McCutcheon who had a long distinguished marine career and was instrumental in the development of many aviation concepts and techniques. The Camp

Davis Airfield, originally an Army Airfield established to support anti-aircraft training, was closed and then disposed of at the end of WW II. MCOLF Camp Davis, a.k.a. HOLF Camp Davis was again commissioned when, on 4 June 1956, the Navy leased 955 acres of the old Camp Davis (the airfield area) from International Paper Company, and established the area as a subordinate or outlying field for MCAS New River. (MCB Camp Lejeune recently permanently acquired this and other land as part of the base expansion at the Greater Sandy Run Training Area.) Also, in 1963, MCOLF Oak Grove was designated a HOLF and placed under MCAF New River for operational use. BuDocks with the approval of the Secretary of Navy first gave authorization for the development of MCOLF Oak Grove on 19 November 1942. It was the third of the first three Outlying Fields assigned to MCAS Cherry Point to be completed, was designated as an Auxiliary Air Facility on 16 August 1942, and then opened in September 1943. This field was inactivated on 15 June 1947, and from 1947 to 1963 only sporadic activities occurred at this field. The original acreage for this field of 976.46 acres has remained unchanged and under the ownership and control of MCAS Cherry Point. The MCOLF Camp Davis and MCAS New River (McCutcheon Field) properties are addressed within these reports on MCB Camp Lejeune, while range information for the MCOLF Oak Grove site is addressed within separate reports covering MCAS Cherry Point.

By the early 1970s (Vietnam era), the military reservation was still considered to covered approximately 170 square miles or 110,000 acres primarily in five distinct geographical locations under the jurisdiction of the Base Command. These included Camp Geiger, Montford Point, Mainside, Courthouse Bay, and the Rifle Range area. The adjacent and related 2,772-acre facility, MCAS New River, now a helicopter base, existed under separate command (MCAS Cherry Point) on the west side of the New River.

The Navy ownership of the facility has been modified only slightly since the WW II era. Changes include area quitclaims, some revisions due to final parcel survey, and certain changes to reflect infrastructure requirements (utility easements, road relocations, etc.) One fairly recent Real Estate Summary Map, NAVFAC Drawing. No. 4096456 (obtained copy indicates it as last amended in 1985), indicates that the Total Fee acres (including the Naval Hospital and MCAS New River) were 85,498.74 acres (**Appendix G**). The Summary of Acreage table on the drawing also indicates that the estate, including fee easement, lease and other is 83,133.35 acres, excluding the Naval Hospital (166.6 acres), MCAS New River (2,772.24 acres), and the USO Jacksonville, N.C. Capehart Housing - Berkeley Manor is about 353 acres under 55-year leases since March 1959; and the acquired Wherry Housing is about 631 acres under 75-year leases since the 1951-52 time frame. There are also permits for various schools located within the base boundary, about 194 acres. Rights of acreage to use by others total 1698.25 acres, according to the Summary of Acreage Table.

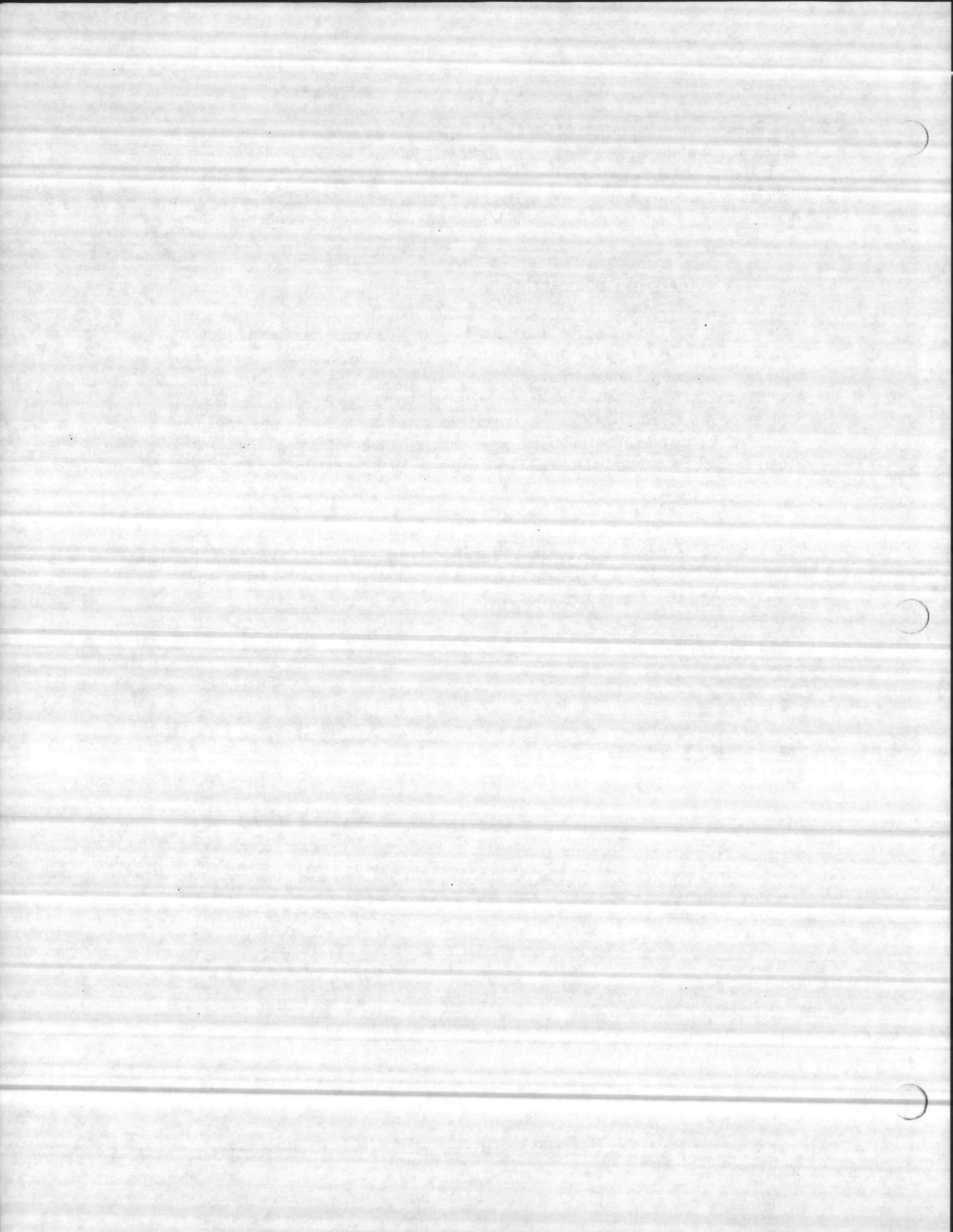
The most recent expansion at **MCB Camp Lejeune** is the procurement and ongoing development of the Greater Sandy Run Area, which is an over 41,000-acre parcel of land located to the southwest of main base. The parcel was acquired in 1992 to alleviate deficiencies in land training areas and available firing ranges at **MCB Camp Lejeune**, thus, addressing both the short-term and long-term training needs of the Marine Corps Atlantic Forces.

5.3 POTENTIAL DoD OWNERSHIP

Archival research conducted for both the two major North Carolina Coast Marine Corps installations, **MCB Camp Lejeune** and MCAS Cherry Point, identified several properties under previous military ownership or control that are not addressed in detail within the associated reports. For better discussion on these sites the reader is directed to companion reports on MCAS Cherry Point. Several of the properties and/or parcels of land have already or will be addressed under the Defense Environmental Restoration Program (DERP), Formerly Utilized Defense Site (FUDS) Program

5.4 SIGNIFICANT PAST OWWNERSHIP OTHER THAN DoD

The archival research did not reveal any significant past non-DoD land ownership, related to ordnance or explosives, including Chemical Warfare Materials, of the properties that now comprise **MCB Camp Lejeune**.



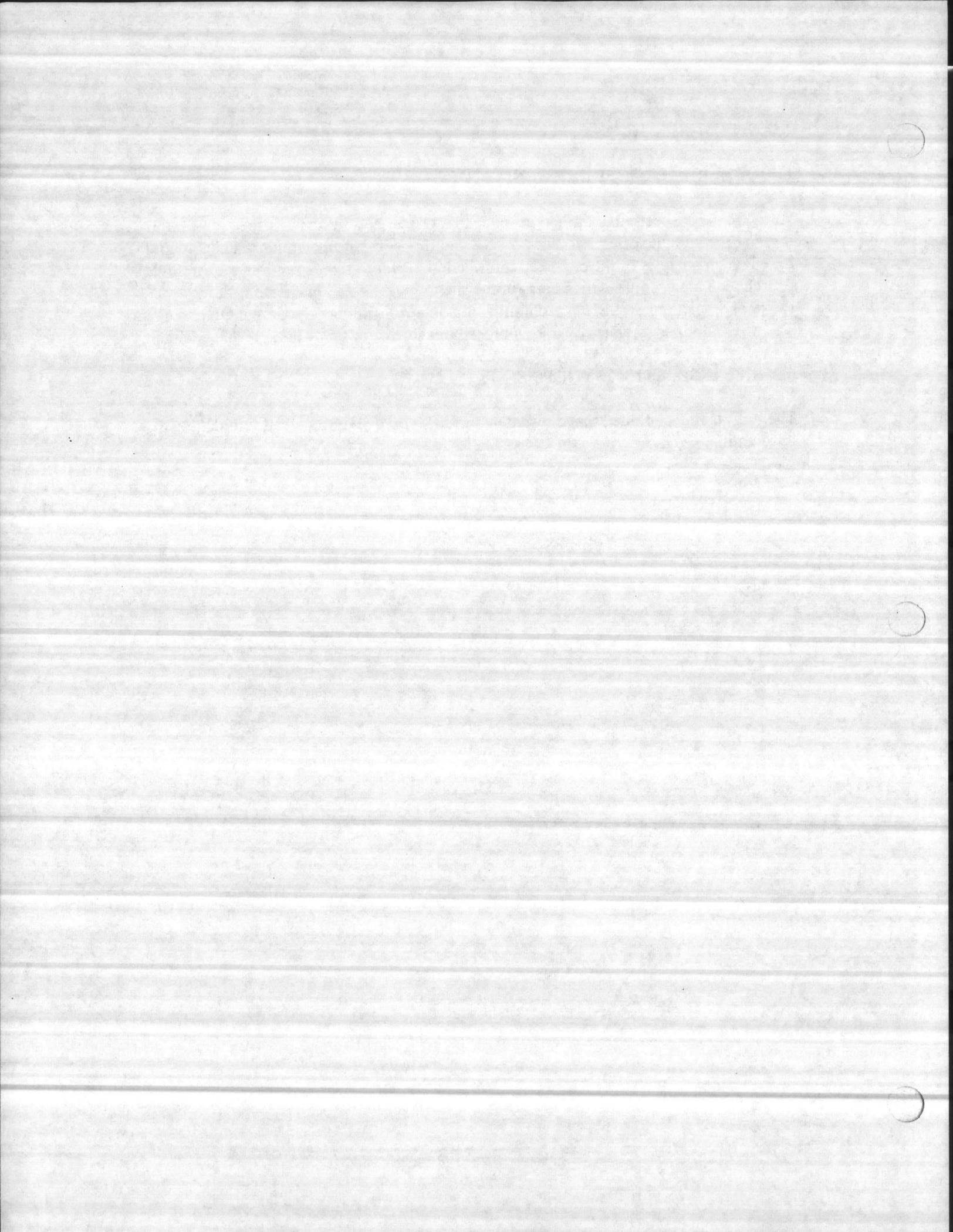
6.0 SITE INSPECTION

6.1 GENERAL PROCEDURES AND SCOPE

An ASR site inspection is limited in scope to a visual, non-intrusive inspection of the areas of the site identified as having an OE and CWM hazard potential. This potential is based on an analysis of the collected information. Prior to the inspection, the Archive Search team determines which areas of the site to investigate. The team follows a site safety and health plan (SSHP) prohibiting digging or handling of potential OE and CWM. The SSHP defines standard operating procedures to ensure safety and prevent accidents.

6.2 SITE INSPECTION SYNOPSIS

The ASR team concluded that a visual inspection would result in no additional information.



7.0 RANGE SUMMARY

7.1 RANGE IDENTIFICATION/PRELIMINARY RANGE ASSESSMENT

7.1.1 General

The review of the historical information presented in Section 4.1, other Sections, and the Appendices of this ASR indicates that the **Marine Corps Base (MCB), Camp Lejeune** and most associated military training sites were established before, or shortly after, the outbreak of WW II. In April 1941, the Marine Corps made the determination to construct a divisional training facility in the vicinity of New River, North Carolina; and by May 1941, they had established the base, initially known as Marine Barracks New River, NC. At an adjacent 2,772-acre facility located on the west side of the New River, the Marine Corps also established an auxiliary landing field, Marine Corps Air Station (MCAS) New River under command of MCAS Cherry Point. Eventually, with the incorporation of helicopter operations into the Marine Corps, two Helicopter Outlying Landing Fields (HOLF) were placed under control of MCAS New River. The first was at Oak Grove (Pollocksville), approximately 25 miles to the north, and the second outlying landing field was at Camp Davis, 10 miles to the southwest. One World War II (WW II) era air bombing range (known as Bear or Brown Island Bomb Target) is now located within the boundary of **MCB Camp Lejeune**. This range, along with the facilities on the MCAS New River Air Station, Camp Geiger, and Camp Davis Airfield, are addressed partially within this Archives Search Report, but the HOLF Oak Grove (Pollocksville) site is discussed in greater detail within the companion reports covering MCAS Cherry Point.

To summarize the development and use of ranges, it is appropriate to discuss the historic training/practice procedures occurring over various base areas and with some attention to time frames. Early documentation refers to various regions of the camp by names such as Hadnot Point, Montford Point, Peterfield Point Airfield, Mainside, Tent Camp, Paradise Point, Camp Geiger, and Courthouse Bay, Midway Park, Camp Knox, Rifle Range, and Onslow Beach. More recent historic land area descriptions include Camp Geiger (unchanged since WW II), Camp Johnson, Stone Bay, and the Greater Sandy Run Training Area. However, the Historic Real Estate-Declaration of Takings established the base through the acquisition of fourteen individual parcels (individual areas were assigned letters "A" through "M") between 3 April 1941 and 3 October 1941 (about 85,000 land acres and 24,000 acres of water). These "lettered" base divisions are still in common use and offer convenient references to summarize the extensive past training/range/maneuver activities at **MCB Camp Lejeune**.

To develop the *Range Identification/Preliminary Range Assessment* required researchers to evaluate records, reports, documents, maps, photos, and other information collected during the archival research. Their evaluation resulted in the identification of over 200 major range complexes with past ordnance usage that possibly will eventually require assessment under "range rule" guidelines. The site information assessment also included an analysis of aerial imagery used in coordination with the collected historical maps and

other documents. The ASR site evaluation of past operations at **MCB Camp Lejeune**, and its support training areas, involved consideration of past maneuvers, storage and transportation functions, and training/practice with some form of OE. This historical data assisted the researchers in establishing the period of use, locations and boundaries of those sites possibly eligible for range rule assessment. Highlighted below are the various range sites determined by following archival research procedures. For details on all potential "range rule" eligible sites the reader is directed to the *Range Identification/Preliminary Range Assessment* Volume, as training sites are not fully summarized in this ASR Section. This historic evaluation of **MCB Camp Lejeune** and associated training facilities established the following ranges, maneuver/training, other OE related areas as potentially requiring range identification and assessment under future "range rule" guidelines.

7.2 MARINE CORPS BASE CAMP LEJEUNE - MAIN BASE - 1941-1943

The early historical ranges existing during the time frame from about 1941 through 1943 are referenced on **Plates 2 and 3**. The location of these early ranges, in general, established the range pattern, which has remained fairly constant throughout base history until the present. The documented ranges in the early history of **MCB Camp Lejeune** consisted of the following: an Anti-Mechanized Range, Artillery Training Area, the Onslow Beach/Hurst Beach Firing Area, Boat Gun Range "J" Location, Miniature Anti-Tank Range (Tank Battalion Tent Camp), Rifle Range, Pistol Range (Rifle Range Complex), Machine Gun Range "D", Combat Range - Musketry Range "D", Machine Gun Range "A", Musketry Range "A", Unnamed Range I, Combat Range - Musketry Range "B", Machine Gun Range "B", Musketry Range "C", Miniature Anti-Aircraft Range (Area "D" & "F"), and an Anti-Tank Range. Also established was a rectangular shaped combination Combat Area and Impact Area in the Northeast Sector of the base generally in Areas lettered "F" and "G".

7.2.1 Anti-Mechanized Range

The Anti-Mechanized Range appears on a 1941 map showing proposed ranges for **Camp Lejeune (Feature 1, Plate 2)**. Although it is unknown if this range was used, documents were recovered that discussed using the shoreline of the New River for firing at towed targets on the river (the Anti-Mechanized Range probably functioned as an Anti-Boat range). The artillery impact area (Areas "K" and "M") served as the safety area for the fire. The firing point was at Latitude 34° 35' 47" N, Longitude 77° 22' 47" W, or Military Grid 817 309. Information was not recovered that provided an estimated of the type or quantity of munitions used on this range.

7.2.2 Artillery Training Area

The Artillery Training Area appears on an August 1941 map, which shows proposed ranges on Marine Corps Base, New River (Camp Lejeune) (Feature 2, Plate 2). The firing point was established as a start line from approximately Latitude 34° 33' 45" N, Longitude 77° 16' 49" W, to Latitude 34° 34' 23" N, Longitude 77° 16' 05" W, or Military Grid 9079 2695 to 9194 2810, with the primary direction of fire at 300° Grid. The impact area of this range covered the current "K-2" Impact Area, portions of Area "M" and all of the current "K" Ranges. Based upon the range name the assumption is that 75mm, 105mm, and 155mm Howitzers, and perhaps, other weapons may have been fired on this training range.

7.2.3 Onslow Beach/Hurst Beach Firing Area

The Onslow Beach/Hurst Beach Firing Area danger area is described in the Federal Register as follows: "That portion of the Atlantic Ocean within a sector of a circle bounded by radii of 25,000 yards bearing 85° true and 220° true, respectively from Hurst Beach, Onslow County, North Carolina (Latitude 34° 34' 15" N, Longitude 77° 16' 10" W), and the included arc." The firing point is at Military Grid 9181 2785 as shown as **Feature 3, Plate 2**. The primary targets were aerial and seaborne with firing toward the sea, but one training document indicated firing 81mm mortars along the beach at land targets. Types of munitions fired included Small Arms, .30 and .50 Cal, 40mm AAA, 90mm AAA, and 81mm Mortar. The Onslow Beach/Hurst Beach Firing Area later became Range E-1, which was eventually divided into Ranges E-1A and E-1B, with the beach area between used for recreation.

7.2.4 Boat Gun Range "J" Location

The Boat Gun Range "J" Location appears on an August 1941 map which shows proposed ranges on Marine Corps Base, New River (Camp Lejeune) (Feature 4, Plate 2). According to research documents, Site "J" west of Duck Creek Road was selected as the most suitable site. It lies to the westward of the Duck Creek Crossroad, and to the eastward of the usable area of Traps Bay. The danger zone inland should be approximately 20 degrees to each site of the beach limits of the range and approximately 5,500 yards in depth for .30 cal machine gun firing. The danger zone falls largely into the artillery impact area. According to documentation, two targets 100 yards by 6 feet and sufficient point targets were established and required a beach area approximately 300 yards in length. The position of the Boat Gun Range "J" was Latitude 34° 33' 26" N, Longitude 77° 17' 19" W, or Military Grid 9001 2638. The only explosive hazard would be .30 Caliber Machine Gun complete rounds remaining near the firing lines/points.

7.2.5 Miniature Anti-Tank Range (Tank Battalion Tent Camp)

The reference to Miniature Anti-Tank Range (Tank Battalion Tent Camp) was on the 1942 map enclosed in the Construction Completion Report for **Camp Lejeune**. The 1944 TM 9-855 identified a 1000-Inch Miniature Antitank Range at the site that involved firing at a moving target car on a traverse track. The downrange safety distance of 1,600 yards suggests firing was limited to .22 Caliber weapons. The site, as shown as **Feature 1, Plate 3**, is located at Latitude 34° 43' 29" N, Longitude 77° 28' 32" W, or Military Grid 7331 4537.

7.2.6 Rifle Range

The Rifle Range (a.k.a. as L-2 Rifle Range) was originally approved in December 1941, and formally identified in Camp Training Order Number 5 -1946, dated 19 March 1946. It is still in its original location at Latitude 34° 37' 21" N, Longitude 77° 26' 44" W, or Military Grid 7538 3080 (**Feature 2, Plate 3**). The Training Order identified the Rifle Range as consisting of "A", "B", and "C" Ranges and authorized the firing of .30 Caliber weapons. As shown on **Plate 21** taken from a June 1951 map, this Range Complex originally had firing lines at 200, 300, 500, and 600 yards for small caliber training.

7.2.7 Pistol Range

A Pistol Range was also constructed at the Rifle Range Complex at the same time the Rifle Range was established. The location of this range, also identified as the L-3 Pistol Range or L-1 Range, has not changed since initial construction (**Feature 3, Plate 3 and Plate 21**). The location is given as Latitude 34° 35' 41" N, Longitude 77° 26' 02" W, or Military Grid 7678 3085. Firing lines for small arms were constructed at 15 and 25 yards.

7.2.8 Machine Gun Range "D"

The Machine Gun Range "D" was shown on the 1942 map enclosed in the Construction Completion Report for **Camp Lejeune**; and appeared on 1943 revisions to the base map. The location was at Latitude 34° 37' 18" N, Longitude 77° 25' 08" W, or Military Grid 7823 3381, with the primary direction of fire at 70° Grid (**Feature 4, Plate 3**). Machine Gun Range "D" was located within the original Artillery Training Area Range and the current K Range Complex. Collected information indicates complete rounds of Small Arms up to .30 Caliber, 60mm and 81mm Mortars (safety fan within old artillery range) could exist within the safety fan of this range.

7.2.9 Combat Range - Musketry Range "D"

The Musketry Range "D" was shown on the 1942 map enclosed in the Construction Completion Report for **Camp Lejeune**; and appeared on 1943 revisions to the base map. The location was at Latitude 34° 37' 02" N, Longitude 77° 24' 14", or Military Grid 7959 3328, with the primary direction of fire to the northeast (**Feature 5, Plate 3**). Musketry Range "D" was located within the original Artillery Training Area Range and within the current K Range Complex. Collected information on the shape of the range fan suggests that small arms were fired on this range. It is unknown if any other weapons were fired on the range. Complete rounds of Small Arms up to .30 Caliber, 60mm and 81mm Mortars (safety fan within old artillery range) could exist within the safety fan of this range.

7.2.10 Machine Gun Range "A" and 1000-Inch Range "F"

Machine Gun Range "A" first appeared on the map accompanying the 1942 Construction Completion Report. The March 1946 Camp Training Order Number 5-1946 identified this range as a .30 Caliber Range located at Latitude 34° 42' 42" N, Longitude 77° 15' 19" W, or Military Grid 9356 4345 (**Feature 6, Plate 3**). The primary direction of fire was 181° Grid. Later, portions of Machine Gun Range "A" was situated within Range F-1 as shown on an August 1951 map. Small caliber munitions were fired at this range in the early era of **Camp Lejeune**. Nearby to Machine Gun Range "A" was a 1000-Inch Range "F". This 1000-Inch Range "F" was established by the 1945 Camp Training Order, but was disestablished and no longer could be used for firing by 1946. Small arms would have been fired on this range, which was located at Latitude 34° 42' 44" N, Longitude 77° 15' 14" W, or Military Grid 9358 4350.

7.2.11 Unnamed Range 1

This range appeared on the 1943 revisions of the February 1942 base map, but was not named. It was located at Latitude 34° 39' 56" N, Longitude 77° 15' 00" W, or at Military Grid 9382 3832. The shape and size of the range fan indicates that this range was used for small arms. However, it is unknown if other weapons were fired on Unnamed Range 1. This range was directed towards the Northwest and lies within several of the more recent "F" series ranges (**Feature 7, Plate 3**).

7.2.12 Musketry Range "A"

Musketry Range "A" first appeared on the map accompanying the 1942 Construction Completion Report. The March 1946 Camp Training Order Number 5-1946 stated that this range was used for field firing of .30 and .50 Caliber at stationary targets, field firing of .30 Caliber at surprise targets, and demonstrative firing of 60mm and 81mm mortars at stationary targets. It was located at Latitude 34° 42' 27" N, Longitude 77° 17' 10" W, or Military Grid 9062 4345, with the primary direction of fire at 195° Grid (**Feature 8, Plate 3**). More recent Range F-2 is now positioned over portions of this range.

7.2.13 Combat Range - Musketry Range "B"

Musketry Range "B" first appeared on the map accompanying the 1942 Construction Completion Report, and was identified on a 1943 map as a Combat Range. The March 1946 Camp Training Order Number 5-1946 identified this range as a .30 Caliber range. It was located at Latitude 34° 41' 08" N, Longitude 77° 19' 16" W, or Military Grid 8736 4069, with the primary direction of fire at 105° Grid (**Feature 9, Plate 3**). More recent Range F-12 is now positioned over portions of this range.

7.2.14 Machine Gun Range "B"

Machine Gun Range "B" first appeared on the map accompanying the 1942 Construction Completion Report. The March 1946 Camp Training Order Number 5-1946 identified this range as a .30 Caliber range located at Latitude 34° 40' 33" N, Longitude 77° 19' 28" W, or Military Grid 8703 3961, with the primary direction of fire at 78° (**Feature 10, Plate 3**). More recent Range F-10 is now positioned over portions of this range.

7.2.15 Musketry Range "C"

Musketry Range "C" first appeared on the map accompanying the 1942 Construction Completion Report. The March 1946 Camp Training Order Number 5-1946 identified this range as a .30 Caliber range located at Latitude 34° 39' 28" N, Longitude 77° 14' 39" W, or Military Grid 9434 3744, with the primary direction of fire at 264° (**Feature 11, Plate 3**). Portions of this range lie within several of the more recent "F" series ranges.

7.2.16 Miniature Anti-Aircraft Range (Area "D" & "F") and 1000-Inch Range "D"

Also known as AA-2, the Miniature Anti-Aircraft Range (Area "D" & "F") first appeared on the map accompanying the 1942 Construction Completion Report, and later on the 1943 revisions to the base map. The Construction Completion Report indicates anti-aircraft weapons with a range of less than 7,500 yards could be used in this area. Regulations covering the establishment of a miniature AA Range stated that .22 Caliber weapons were to be fired upon this type of range. The range fan drawn on the base maps, however, suggests a safety fan that is normally associated with .30 Caliber weapons. The location was at Latitude 34° 38' 10" N, Longitude 77° 17' 56" W, or Military Grid 8927 3515 (**Feature 12, Plate 3**). Portions of this range lie within several of the more recent "F" series ranges. A 1000-Inch Range "D" was located in the same general area as the Miniature Anti-Aircraft Range (Area "D" & "F") and possibly used the same firing line area. Small arms would have been fired on this range, which was located at Latitude 34° 38' 09" N, Longitude 77° 17' 50" W, or Military Grid 8942 3512.

7.2.17 Anti-Tank Range

An Anti-Tank Range first appeared on a 1942 Historic Map. Formal establishment was within the 1946 Camp Training Order Number 5-1946, which identified this range for use

firing "Anti-Tank and rocket grenades, .30 Caliber & .50 Caliber, 20mm, 37mm, and 40mm" weapons with the danger zone extending seaward 10,000 yards from the firing point. Subsequent Base Orders from 1960 through 1993 have resulted in modifications to the type of munitions, the location, and the line of fire. However basically the Anti-Tank range has remained in the Southeast corner of the base with fire direction away from the camp over Browns Inlet. It has also been identified as the Mechanized Anti-Tank Range, the G-5, Mechanized Anti-Tank Range, the G-5, Mechanized Tank and LAV Gunnery Range, and the G-5A, Mechanized Anti-Tank Range (1954 map only). As per 1986 regulations, the Anti-Tank Range is located at Latitude 34° 36' 46" N, Longitude 77° 14' 44" W, or Military Grid 942 321, with the primary direction of fire at 141° Grid. The general type of munitions fired includes Small Arms up to .50 Caliber, 20mm, 37mm, 40mm, 90mm, 105mm, 120mm, 155mm, Recoilless Rifles, TOW Missiles, M58 Line Charge, Anti-Tank Rockets, and Grenades (**Feature 13, Plate 3**).

7.3 MARINE CORPS BASE CAMP LEJEUNE - MAIN BASE - 1943-1949

By the end of WW II, the main base at **Camp Lejeune** had been established and the various training/maneuver areas and live firing ranges were positioned throughout the camp. **Plate 4** presents a compilation of the 50 potential "range rule" eligible sites taken from various Historical Maps dated 1943 through 1946. Many, but not all, of these ranges were positioned early in the war period, and are summarized within the previous paragraph. Close observation of the site designations also suggests that at some point during this time frame, it began to become the base standard practice to assign range numbers based upon the location within the individual real estate parcels (Areas assigned letters "A" through "M") acquired in 1941 by the Navy. Details for all the ranges shown on plates covering certain historic periods will not be provided by the remaining summary discussion. Highlights on certain specific general target areas or activities of interest will be covered; but the reader is encouraged to consult the *Range Identification/Preliminary Range Assessment* report for the detailed data on individual ranges.

7.3.1 Area "B" (Camp Geiger and/or Tent Camp Area)

Within Area "B" (Tent Camp Area), there were located a 1000-Inch Range, a Miniature Anti-Aircraft Range, and Miniature Anti-Tank Range (**Features 1, 2, and 5, Plate 4**). All three ranges were shown on the 1942 map enclosed in the Construction Completion Report for **Camp Lejeune**; and the 1000-Inch Range was reference in the 1946 Camp Training Order. The 1000-Inch Range was used for .30 Caliber weapons firing at location Latitude 34° 44' 07" N, Longitude 77° 27' 56" W, or Military Grid 7426 4652. This range was disestablished of the March 1946 Training Order. The Miniature Anti-Aircraft Range involved wide angle of fire range limited to .22 Caliber weapons firing against aerial targets on a wire and pulley system; and the Miniature Anti-Tank Range involved firing .22 Caliber weapons at a moving target car on a traverse track. The Miniature Anti-Aircraft Range and Miniature Anti-Tank Range were located at Latitude 34° 43' 29" N, Longitude 77° 28' 32" W (Military Grid 7331 4537), and at Latitude 34° 44' 04" N, Longitude 77° 27' 48" W (Military Grid 7446 4612), respectively. Also

identified within Area "B" were a Live Ammunition Indoctrination Course and an Infantry Weapons Demonstration Course (also known as B-17), which were established during the 1943 through 1946 time frame. The Live Ammunition Indoctrination Course involved training with Small Arms, Hand and Rifle Grenades, Anti-Tank Rockets, and Recoilless Rifles. It was located at Latitude 34° 43' 37" N, Longitude 77° 26' 21" W, or Military Grid 7665 4553 (**Feature 3, Plate 4**). The Live Ammunition Indoctrination Course was disestablished effective 19 March 1946, and was no longer used for firing live ammunition. The Infantry Weapons Demonstration Course involved firing of all infantry weapons to include Small Arms up to .50 Caliber Mortars 60mm & 81mm, 2.36" and 4.5" Rockets, 37mm Gun, 57mm, 75mm, and 90mm Recoilless Rifles. This range was located at Latitude 34° 41' 48" N, Longitude 77° 26' 11" W, or Military Grid 7682 4217, with the line of fire to the southeast into Areas "M" and "K" (**Feature 6, Plate 4**).

7.3.2 Area "A" (Montford Point)

From 1946 to approximately 1955 a 1000-Inch Range was positioned at Montford Point. It was also known as Range A-1, 1000-Inch Range (MG and .22 Cal). Used for small arms fire it was located at Latitude 34° 43' 46" N, Longitude 77° 24' 46" W, or Military Grid 7907 4575, with the primary direction of fire at 242° Grid (**Feature 4, Plate 4**).

7.3.3 Area "M"

The original Artillery Training Area that appeared on an August 1941 map had an impact area which covered current "K-2" Impact Area, portions of the "M" area, and all of the current "K" Ranges. By 1945, a Mortar Range denoted M-1 (**Feature 7, plate 4**), and by 1946, an Artillery Firing Point 7 (**Feature 8 plate 4**) fired into an establish impact area designated Area "M". The 1945 Camp Training Order established the range, but by March 1946, it was disestablished and no longer used for firing live ammunition. According To the Training Order, Impact Area "M" was in the "General area bounded by U. S. Route 17, Stone Creek, New River, Mill Creek, Verona Look Road, Lewis Creek, New River & Southwest Creek." Mortar Range M-1 was located at Latitude 34° 41' 11" N, Longitude 77° 27' 39" W, or Military Grid 7456 4108. Based upon the range designation 60mm and 81mm Mortars (HE, WP, Illumination) were fired onto this range. Artillery Firing Point 7 was used for 105mm according to the 1945 Camp Training Order. According to the 1945 Camp Training Order, an Artillery Demonstration Firing Point may have been once situated within Area "M" at location 7587-3525. This location suggests that fire would into the "K" Impact Area. The 1946 Camp Training Order deleted the Artillery Demonstration Firing Point.

7.3.4 Area "K"

Located within and firing into Impact Area "K" were the Musketry Range "D", Musketry Range "E", and Machine Gun Range "D" Ranges, all in use during the 1943 through 1946 time frame (**Features 11, 14, and 15, Plate 4**). A 1946 Camp Training Order identified three firing points, firing 37mm, 75mm, 90mm, 105mm, and 155mm weapons firing into

the "K" Impact Area; and a 1947 modification confirmed the use of Area "K" as an artillery impact area. It was "bounded on the west by Lewis Creek, Verona Loop Road to USMC Bench Mark 46, from USMC Bench Mark 46 by road to Bench Mark Hines, and New River Inlet to mouth of Lewis Creek," according to the document. The 1945 Camp Training Order established Musketry Range "E"; but by March 1946, it was disestablished and no longer used for firing live ammunition. Musketry Range "E" was positioned at Latitude 34° 38' 38" N, Longitude, 77° 24' 53" W, or Military Grid 7867 3627, with its primary direction of fire at an estimated 135°. Descriptions of Machine Gun Range "D" and Musketry Range "D" were previously summarized in paragraphs 7.2.8 and 7.2.9, respectively. Collected information indicates complete rounds of Small Arms up to .30 Caliber were fired on these ranges, however, 60mm and 81mm Mortars (safety fan within old artillery range) could exist within the safety fans areas.

7.3.5 Area "L" (Adjacent to Stone Bay)

Located within and firing into Area "L" in the 1943 through 1946 time frame were Mortar Range L-1 and Mortar Range L-2, as well as the Rifle Range Complex (**Features 12, 13, and 17, Plate 4**). As discussed in paragraph 7.2.6, the Rifle/Pistol Range Complex was originally approved in December 1941, formally identified in a March 1946 Camp Training Order, and is still in its original location. A 1000-Inch Machine Gun Range, authorized for firing .30 Caliber weapons, was also positioned within the Rifle/Pistol Range Complex. The March 1946 Camp Training Order indicated that its location was Latitude 34° 35' 41" N, Longitude 77° 27' 06" W, or Military Grid 7511 2904. Another early range located in the complex was a 1000-Yard Machine Gun Range at Latitude 34° 35' 42" N, Longitude 77° 26' 42" W, or Military Grid 7625 3090. According to collected documents, the general types of munitions used included Small Arms, .30 Caliber, 60mm Mortar, 37mm (Canister Shot), 2.36" AT Rocket, and Flame Thrower. Two Individual Field Firing Ranges, Numbers 1 and 2, were also located in the complex. Also known as Combat Ranges, both were used for practice with small arms and were located to west of the Rifle Range. **Plate 21** shows the overall complex layout according to a June 1951 map. Mortar Range L-1 was identified in the 1946 Camp Training Order as authorized for firing 60mm and 81mm mortars. It was positioned at Latitude 34° 37' 50" N, Longitude 77° 26' 22" W, or Military Grid 7637 3484, with a primary direction of fire at 165°. The 1945 Camp Training Order established Mortar Range L-2; but by March 1946, it was disestablished and no longer used for firing live ammunition. Mortar Range L-2 was positioned at Latitude 34° 34' 29" N, Longitude 77° 25' 43" W, or Military Grid 7721 2862. Based upon the range designations and use at other similar ranges on **Camp Lejeune**, 60mm and 81mm mortars (HE, WP, Illumination) were fired on Mortar Range L-2.

7.3.6 Area "C"

Within Area "C" a Live Hand Grenade Course was established by the 1945 Camp Training Order, but by March 1946, it was disestablished and no longer used for firing live ammunition. The position was given as Latitude 34° 48' 31" N, Longitude 77° 20'

54" W, or Military Grid 8518 4539. The range designation lends to an assumption that High Explosive and Practice Hand Grenades were used on the Live Hand Grenade.

7.3.7 Area "D" (Hadnot Point Area)

Within Area "D", there was established a Demonstration Firing Point 1 and Artillery Firing Point 5. The Demonstration Firing Point 1 was established by the 1945 Camp Training Order, but by March 1946, it was disestablished and no longer used for firing live ammunition. The firing point was positioned at Military Grid 8374 3837 with the direction of fire estimated to be at 215° Grid (**Feature 19, Plate 4**). Artillery Firing Point 5 was identified in the 1946 Camp Training Order at being located at Military Grid 8772 4213 with weapons used to include 90mm, 40mm, .50 Cal, .30 Cal (**Feature 20, Plate 4**).

7.3.8 Area "H"

There were three Artillery Firing Points either located or directed into/across Area "H" in the 1943 through 1945 time frame. Artillery Firing Points 4, 6, and 10 were established by the 1946 Camp Training Order and are shown on **Plate 4, Features 16, 22, and 21**, respectively. According to the documentation, Artillery Firing Point 4 was positioned at Military 9057 3090 and weapons firing 90mm, 105mm, 155mm were directed in a westerly direction over Area "H". Artillery Firing Point 6 was at Military Grid 8240 3146 and was used for 37mm 75mm, 105mm (M7B1) weapons. Its fire was directed towards the northwest over the New River and impacted into Areas "K" and "M". Likewise, Artillery Firing Point 10 was at Military Grid 8409 3367, with its direction of fire estimated to be at 295° Grid, also towards Areas "K" and "M". Presumably, training with similar artillery weapons occurred at this firing point.

7.3.9 Area "J" (Courthouse Bay area)

Within Area "J" a 1000-Inch Range was established in the Amphibian Base Area by the 1945 Camp Training Order, but by March 1946, it was disestablished and no longer used for firing live ammunition. The position off of State Rt. 172, near Courthouse Bay, was given as Latitude 34° 35' 28" N, Longitude 77° 22' 45" W, or Military Grid 8179 3033 (**Feature 23, Plate 4**). Small arms were usually fired at this type of range. An Artillery Firing Point designated 12 may have been once situated within Area "J" at location 8160 3105, with an estimated direction of fire at 295° Grid. This direction suggests that fire would be across the rifle range complex, and thus, it may not have been used. It was deleted in the 1946 Camp Training Order.

7.3.10 Area "I"

Area "I" lies along the southern boundary of the base adjacent to the Intracoastal Waterway. During the 1943 through 1946 time frame, documentation indicates there existed two Engineering Firing Areas and Artillery Firing Point 2 (1945) (**Features 24, 25, and 26, Plate 4**). The Engineer Firing Range (Engineer School Range 1) was

established in a 1947 Modification to the 1946 Camp General Order. This document identified this range and authorized anti-tank and rocket grenades, demolitions, and flame-throwers. Its location was given under the Progressive Map Grid System as Grid Square 1366-1287. This position is Latitude 34° 34' 17" N, Longitude 77° 21' 07" W, or Military Grid 8424 2809. The Engineer Firing Range (Engineer School Range 2) was also established in the same 1947 Modification to the 1946 Camp General Order, and the same weapons were authorized for the site. Its position was given under the Progressive Map Grid System as Grid Square 1368-1286, or Latitude 34° 33' 45" N, Longitude 77° 19' 57" W, Military Grid 8600 2706. According to the documentation, Artillery Firing Point 2 (1945) was positioned at Military 8683 2544 to 8764 2539 with the direction of fire estimated at 135° Grid, a southeastern direction into Onslow Bay.

7.3.11 Areas "E" and "N" (Onslow Beach/Hurst Beach)

These two sectors were lands purchased on the Ocean side and to the southeast of the Intracoastal Waterway. The Onslow Beach/Hurst Beach Firing Area previously described in Paragraph 7.2.3 existed along this sector; and many ranges with firing points in Area "G" were directed over these properties and out into Onslow Bay. Browns Inlet forms the dividing boundary line between these two **Camp Lejeune** sectors. During the 1943-1946 time frame, within Area "E", there were the Artillery Firing Point 5 and the Engineer Beach Demolitions and Training Area range sites (**Features 27 and 28, Plate 4**). Further to the northeast, within Area "N" was located Strafing Target Number 2 and Rocket Range Number 1 (**Features 35 and 46, Plate 4**). All these four range sites were identified within the 1946 Camp Training Order. According to the documentation, Artillery Firing Point 5 was positioned at Military 9113-2719 and weapons firing 90mm, 40mm, .50 Caliber, and .30 Caliber were directed in a southeasterly direction into the Atlantic Ocean (Onslow Bay). The Engineer Beach Demolitions and Training Area was positioned at Latitude 34° 34' 32" N, Longitude 77° 15' 36" W, or Military Grid 9268 2836. The 1946 Camp Training Order authorized the use of live ammunition and demolitions, and assigned the area to the Specialist Training Regiment. Eventually this area became part of the E-1 Beach Firing Area. Rocket Range Number 1 was established as an aviation range for rocket firing only. Although MCAS Cherry Point controlled air operations for this range, which is located within Bomb Target Number 5, the target is physically within the boundary of **Camp Lejeune**. It later was re-designated Bomb Target Number 3, and eventually became part of Impact Area "N-1". Rocket Range Number 1 is described as a circle with a 2,500 yard radius about a center positioned at Latitude 34° 37' 01" N, Longitude 77° 11' 01" W, or Military Grid 9979 3279. Strafing Target Number 2 was utilized at an aviation range for strafing with 75mm cannon. It, likewise, was located within Bombing Target Number 5, became Bombing Target Number 3 and eventually Impact Area "N-1". Strafing Target Number 2 was positioned at Latitude 34° 35' 54" N, Longitude 77° 13' 39" W, or Military Grid 9572 3082.

7.3.12 Area "G"

Bordering Areas "E" and "N" is a larger tract of nearly 13,000 acres, Area "G". The area has been actively used for "live" firing from early in MCB Camp Lejeune history. The Anti-Tank Range, as discussed in paragraph 7.2.17, was initially established by early 1942 and identified in a 1946 Camp Training Order for use firing "Anti-Tank and rocket grenades, .30 Caliber & .50 Caliber, 20mm, 37mm, and 40mm" weapons with the danger zone extending seaward 10,000 yards from the firing point. As discussed, although the location and lines of fire have occasionally shifted, basically the Anti-Tank Range has remained in the Southeast corner of the base with fire direction away from the camp over Browns Inlet (**Feature 29, Plate 4**). Other Ranges, Firing Points, and possible "range rule" eligible sites during the 1943 through 1946 time frame identified within Area "G" includes the following: Engineer Firing Range (two locations); Direct Fire Artillery Range, Artillery Firing Point 3; Beach Artillery Firing Point; Musketry Range "C-1", Musketry Range "C"; and the OC Battalion Field Firing Range. Each of these Ranges were identified in the March 1946 Camp Training Order. The two locations mapped for the Engineer Firing Range are centrally positioned in Area "G" with the firing point and danger area coordinates established using the Progressive Map Grid System. The original area was presented in the 1942 Construction Completion Report, with a modification established by the March 1946 Camp General Order. The Engineer Firing Range can be positioned at Latitude 34° 37' 21" N, Longitude 77° 15' 03" W, or Military Grid 9364 3354 (**Features 30 and 31, Plate 4**). Authorized on this range were anti-tank and rocket grenades, flame thrower, and demolitions. The Artillery Firing Point 3 and Beach Artillery Firing Point were located at Military Grid 9665-3376 and 9715-3424, respectively (**Features 32 and 34, Plate 4**). Nearby was the Direct Fire Artillery Range, later referenced as the G-7 Artillery Range and G-7 Field Firing Range, which was initially positioned at Latitude 34° 37' 42" N, Longitude 77° 13' 22" W, or Military Grid 962 341 (**Feature 33, Plate 4**). First identified in the 1946 Camp Training Order, this range was modified in 1947 with use established as all caliber artillery firing direct fire, including tanks and LVTs. Musketry Range C-1 was located adjacent to the original Musketry Range "C" discussed earlier in paragraph 7.2.15 (**Features 36 and 37, Plate 4**). The location for Musketry Range C-1 is at Latitude 34° 39' 20" N, Longitude 77° 14' 50" W, or Military Grid 9405 3720, with the primary direction of fire at 245° Grid. Both Musketry Ranges were identified within the 1946 Camp Training Order as .30 Caliber Ranges. The OC Battalion Field Firing Range (**Feature 49, Plate 4**) was established under the 1945 Camp Training Order, but by March 1946, it was disestablished and no longer used for firing live ammunition. Information was not provided relative to the weapons or the direction of fire for this range. However, the location was given as Latitude 34° 38' 48" N, Longitude 77° 17' 06" W, or Military Grid 9057 3630. No information has been uncovered for this range. The Miniature Anti-Aircraft Range (Area "D" and "F"), also known as AA-2 (**Feature 47, Plate 4**), was positioned in Area "G", with fire to the northeast; and nearby was the 1000-Inch Range "D". Both these ranges were previously described in paragraph 7.2.16.

7.3.13 Area "F"

Another land tract of intensive use for firing weapons was the sector designated Area "F". As shown on **Plate 4**, during the early era of **MCB Camp Lejeune**, the following ranges were actively used for training in Area "F": Machine Gun Range "C"; Artillery Firing Point 2 (1946); Artillery Firing Point 14; Machine Gun Range "A"; Artillery Firing Point 8; Artillery Firing Point 1; Musketry Range "B"; Musketry Range "A"; and Musketry Range "C-2". Machine Gun Range "C" is positioned at Latitude 34° 39' 50" N, Longitude 77° 14' 59" W, or Military Grid 9385 3813, with the primary direction of fire at 271° Grid (**Feature 38, Plate 4**). Complete rounds of small arms would be expected to occur at or near firing line, while due to the overlap with other ranges, 60mm and 81mm Mortar rounds might be encountered in the impact area. Portions of Machine Gun Range "C" lie within current Range F-3. Artillery Firing Point 1 and Artillery Firing Point 2 (1946), (**Features 43 and 39, Plate 4, respectively**) were addressed in the March 1946 Camp Training Camp Training Order. The weapon fired at Artillery Firing Point 1, located at 8772-4213, was the 90mm gun. The weapons fired at Artillery Firing Point 2, located at 9461-3926, were the 90mm and 105 guns. Artillery Firing Point 8 and Artillery Firing Point 14 (**Features 42 and 40, Plate 4, respectively**) were established in the 1945 Camp Training Camp Training Order, but deleted in March 1946. Artillery Firing Point 8 was located at 9051-4249 to 9089-4270, with the direction of fire estimated to be at 165° Grid, while Artillery Firing Point 14 was located at 9084-3937 to 9094-3928 to 9095-3965, with the direction of fire estimated to be at 295° Grid. Although each of these four artillery firing points were positioned inside Area "F" boundaries, it is believe there targets may have been situated within Area "G", the same impact area as presently designated G-10. Machine Gun Ranges "A" and "B", and Musketry Ranges "A" and "B" were previously described in earlier paragraphs 7.2.10, 7.2.12, 7.2.13, and 7.2.14. The directions of fire and positions for each of these small arm ranges may have shifted slightly, but the locations were essentially the same as first established (see **Features 41, 44, 45, and 48, Plate 4**). Musketry Range "C-2" appeared on the map attached to the 1946 Camp Training, but was not mentioned in the document (**Feature 50, Plate 4**). It was possibly positioned at Latitude 34° 40' 24" N, Longitude 77° 15' 10" W, or Military Grid 936 392. The size and shape of the "C-2" range fan indicates that only small arms were likely fired on this range.

7.4 MARINE CORPS BASE CAMP LEJEUNE - MAIN BASE - 1950-1969

Plates 5 through 12 present range overlays onto the current **MCB Camp Lejeune** Military Installation Map covering a period from about 1950 to 1969. These range layouts were determined from a series of historic maps, copies of which can be found in **Appendix G**. What becomes readily apparent is that a system was established that identified the location of the firing point in one of the "lettered" areas and then assigned a number to the particular feature. Plates in this ASR indicate Feature Number and Description for each identified range. Formal designations were also assigned impact and safety areas to clearly delineate the "lettered" sector in which it was positioned (i.e.

"G-10", "K-2", "L-2", and "N-1"). During the 1950 to 1969 time frame, the firing alignment and position for many ranges continued to occasionally shift and the range name might change, but basically the arrangements were very similar, based upon the documents collected. As with previous paragraphs, this overview is developed by reference to each specific "lettered" area. Again not all information is presented in this summary section and the reader is referred to the *Range Identification/Preliminary Range Assessment* report for the detailed data on individual ranges.

7.4.1 Area "A"

From 1951 through 1958, a Small Arms Range designated A-1 (.32, .38, and .45 Caliber pistols authorized by Base Orders and Range Regulations) was positioned at about 34° 43' 28" N, Longitude 77° 25' 00" W, or Military Grid 787 452. It was at approximately at the same location as the 1000-Inch Range, Montford Point, described in paragraph 7.2.2, which was at Latitude 34° 43' 46" N, Longitude 77° 24' 46" W, or Military Grid 7907 4575 (Plates 5, 6, and 8). A later shift of the firing point after 1958 was to about Latitude 34° 42' 52" N, Longitude 77° 24' 55" W, or Military Grid 788 441, with an Azimuth of 165° Grid and a left flank at 790441 with an Azimuth of 148°. The A-1 Pistol and/or Shotgun Range is authorized .22 Caliber, .38 Caliber, .45 Caliber, 9mm, 12 Gauge, and MP-5 Ammunitions. The primary direction fire for this range has since early 1960 been between 150° and 152° (Plates 10, 13, 16, 18, and 20).

7.4.2 Area "B"

In the 1950's, the following ranges and range related facilities were located within Area "B": B-3, Gas Chamber; B-5, Practice Hand Grenade Course; B-6, 50-Foot Small Arms Range (a.k.a. B-6, 50-Foot, .22 Caliber Range or B-6, 1000-Inch Range (MG and .22 Caliber); and B-17- Infantry Weapons Demonstration Course. The 1960 Base Order also referenced a B-14, ABC Warfare Area, as located in Military Grid Square 7444.

7.4.2.1 The B-3, Gas Chamber appears on range maps from 1953 to 1958 and is described in a 1960 Base Order as a one room facility at Grid Square (GS) 7546. If used only as a gas chamber, only Chemical Warfare Training Agents (Tear Gas) would have been used in troop training. Often the area surrounding gas chambers was used for other chemical training, involving, War Gas Identification Sets and Riot Control Hand Grenades.

7.4.2.2 The B-5, Practice Hand Grenade Course was established at Latitude 34° 44' 08" N, Longitude 77° 27' 38" W, or Military Grid 7472 4653. Practice Hand Grenades were likely used on this range.

7.4.2.3 The B-6 50-Foot Small Arms Range was, according to the May 1960 Base Order, used with .22 Caliber rifle and pistol, .32, .38, and .45 Caliber pistols. The exact range location depends on the time frame and an exact location may require a site survey. The

Infantry Weapons Demonstration Course was described in paragraph 7.2.1. **Plates 4, 6, 8, and 10** show these range facility locations.

7.4.2.4 The B-14 ABC Warfare Area, which is cited as in Grid Square 7444 (**Plate 15**), is assumed to have had Chemical Warfare Training Materials such as Riot Control Grenades and Chemical Agent Identification Kits used in this area. The 1960 Base Order does not list authorized Chemical Warfare Training Materials. The following items are listed in the 1970 version of the Base Order, and it can be assumed that they may have been used in Chemical Training in 1960: Detonation War Gas Identification Set, M2 HD Toxic Gas Set, and Biological Agent Simulant BG-1.

7.4.3 Area "C"

No ranges were present in Area "C" once the Live Hand Grenade Course was disestablished and no longer used for firing live ammunition in 1946.

7.4.4 Area "D"

Within the Area "D" sector, there existed a number of ranges and "range rule" related facilities during the period from 1950 through 1969. These included two Practice Hand Grenade Courses (D-3 and D-6), a 50-foot Small Bore Range (indoors and also once designated D-6), D-7 Gas Chambers, D-9 Skeet Range, D-27 Fortified Beach Assault Area, and two additional 50-Foot Small Bore Ranges (D-29 and D-30). In addition, a Base CS and NBC Trail and the aforementioned Range D-6, 50-Foot Small Bore Range were designated on a 30 June 1954 Historical Map (**Plate 22**).

7.4.4.1 Both the D-3 and D-6 Practice Hand Grenade Courses (Practice Courses 1 and 2, respectively) were in use from about 1953 to 1959. D-3 was located at Latitude 34° 40' 18" N, Longitude 77° 21' 03" W, or Military Grid 846 392; and D-6 at Latitude 34° 39' 07" N, Longitude 77° 20' 30" W, or Military Grid 854 370 (**Plates 6, 8, and 10**). Practice Hand Grenades were used on these two ranges.

7.4.4.2 An Indoor Small Bore Rifle and Pistol Range, also assigned the designation of D-6, first appeared on a 1954 base map (**Plate 22**) and was later identified in the 1960 Base Order. It was identified as a .22 Caliber indoor range located in Building 451.

7.4.4.3 The D-7 Gas Chamber was at Latitude 34° 39' 42" N, Longitude 77° 20' 42" W, or Military Grid 8510 3809. It was described in the 1960 Base Order as a two room facility, Building 756. If used only as a gas chamber, only Chemical Warfare Training Agents (Tear Gas) would have been used in troop training. Often the area surrounding gas chambers was used for other chemical training, involving, War Gas Identification Sets and Riot Control Hand Grenades.

7.4.4.4 The D-9 Skeet Range first appeared on a 30 June 1954 map, and has continued to be noted in range regulations from 1960 until the present. It is located in the parachute

tower area (Military Grid 855 397) and is authorized for fire from all gauges of shotguns, .410 through 12 Gauge, with the primary direction of fire at 28°.

7.4.4.5 The D-27, Fortified Beach Assault Area (a.k.a. Assault of a Fortified Position) first appeared on a 1951 range map and was located by the 1960 Base Order as in Grid Square 8736 (Military Grid 879 364). The authorized ammunition included blank small arms, demolitions, practice rockets, smoke grenades, and pyrotechnics. The firing of rockets and flame-throwers could take place in any direction the surface danger area of which did not include the spectator stands, the main service road, Sneads Ferry Road, or the magazine area. These ranges are plotted on **Plates 6, 8, and 10**.

7.4.4.6 The final possible "range rule" eligible facilities within Area "D" were two 50-Foot Small Bore Ranges (D-29 and D-30) located at Military Grid 839 381 and Military Grid 850 367, respectively (**Plate 10**, also see **Plates 13, 16, 18, and 20**). First shown on a 1958 map, the 1960 Base Order stated that these ranges were for use of .22 Caliber rifles and pistols. These ranges have continued to be active through the present with the 1994 Base Order authorizing use of .38 Caliber, .45 Caliber, 9mm, 5.56mm, and 12 Gauge ammunition. The firing at both ranges were out into the New River, and the reader is directed to the *Range Identification/Preliminary Range Assessment* for details on the ongoing slight adjustments in range positions and firing directions.

7.4.5 Area "E"

Most of the beach along Onslow Bay from the New River Inlet to the Brown's Inlet has been utilized for a beach firing area beginning in 1942 and continuing throughout the history of **MCB Camp Lejeune**. The sector is known as the Onslow Beach/Hurst Beach Firing Area and was addressed, in part, by earlier paragraphs 7.2.3 and 7.3.11. The E-1 Range was eventually expanded and divided into two separate ranges E-1A and E-1B separated by a beach recreation area. As shown on **Plates 5, 6, 8, 10, and 11**, E-1A is located from Latitude 34° 32' 30" N, Longitude 77° 18' 19" W, to Latitude 34° 34' 20" N, Longitude 77° 15' 47" W (Military Grid 8845 2470 to 9240 2800). E-1B is located from Latitude 34° 34' 20" N, Longitude 77° 15' 47" W to Latitude 34° 35' 27" N, Longitude 77° 13' 51" W (Military Grid 9240 2800 to 9540 3000). Small Arms, 37mm, 40mm, and 90mm Guns have fired at towed and remote controlled aerial targets, plus towed and remote controlled water borne targets.

7.4.6 Area "F"

Area "F" has been used as a Firing Range since the base was planned and constructed in the early 1940's. In 1941, the overall area was generally planned to be Combat Area and Impact Area; and many of the earliest WW II era ranges, which were described in paragraphs 7.2 and 7.3, were established in this sector (see **Plates 2, 3 and 4**, and paragraph 7.3.13). With reference to **Plates 5 through 11**, it can be seen that there evolved a significant number of firing points for diverse types of training ranges located about the periphery of Area "F", with the fire generally directed inward towards the center

of the sector. During the time frame covering this summary, 1950 through 1969, Field Firing Ranges existed at seven (7) different sites throughout the "F" tract. These received the designations F-1, F-2, F-3, F-4, F-12, F-13, and F-14. F-5, F-7, and F-10 were 1000-Inch Ranges for specific small caliber weapons. F-10 was also known as a Machine Gun Qualification Range. Of the remaining three ranges, F-6 was a Live Hand Grenade Range, F-9 a Triangulation Range, and F-11 a Pistol Range. A complex referred to as F-16 Combat Village was established to simulate conditions of warfare in small towns. Again as previously discussed, these ranges may have periodically shifted slightly or there angle of fire may have been modified, but basically the F series of ranges remained fairly constant throughout the 1950 through 1969 time frame.

7.4.6.1 Field Firing Range designated F-1 (a.k.a. F-1 Infantry Weapons) first appeared on a 1951 range map, and the 1960 Base Order authorized the use of small arms and 3.5" rocket launchers on this range. Although High Explosive ordnance was not to be impacted on this range, explosive charges could be used to simulate enemy artillery. F-1 was at Latitude 34° 42' 31" N, Longitude 77° 15' 21" W. The Base Order identified the right flank at coordinates Military Grid 933 429 with an Azimuth of 207° Grid, and the left flank at coordinates Military 936 429 with an Azimuth of 182° Grid. Small Arms, 3.5" Rockets (Practice), and Demolitions were the general types of munitions used at F-1. This range was positioned nearby the earlier Machine Gun Range "A" previously described in paragraph 7.2.10.

7.4.6.2 Field Firing Range designated F-2 (a.k.a. F-2, .30 Caliber Electric Pop-Up Range; F-2, Squad Defense Firing & Machine Gun Surprise Targets; and F-2, Field Firing/BZO Range) first appeared on a 1951 range map. The 1960 Base Order indicates the range use for firing Small Arms up to .30 Caliber, and that incoming artillery may be simulated using demolition charges. F-2 was at Latitude 34° 42' 27" N, Longitude 77° 17' 10" W, or Military Grid 906 428. The Base Order identified right flank at coordinates 906 428 with an Azimuth of 223° 50' Grid, and the left flank at coordinates 908 427 with an Azimuth of 177° 50' Grid. The range continues in use today, but there have been slight modifications to direction of fire. Later weapons authorized have included rifles and automatic rifles (.38 Caliber, .45 Caliber, 5.56mm, 7.62mm, 9mm, and 12 Gauge), WP and smoke hand grenades, and demolition up to 1/2 pound. F-2 was positioned nearby the earlier Musketry Range "A" previously described in paragraph 7.2.12.

7.4.6.3 Field Firing Range designated F-3 first appeared on a 1951 range map, and the 1960 Base Order authorized the use of all infantry weapons except the 106mm recoilless rifle. F-3 was at Latitude 34° 39' 43" N, Longitude 77° 14' 57" W, or Military Grid 939 379. The Base Order identified right flank at coordinates 937 379 with an Azimuth of 331° 50' Grid, and the left flank at coordinates 936 378 with an Azimuth of 387° 25' Grid. The range continues in use today, but there have been slight modifications to direction of fire. Later, weapons authorized have included rifle (.30 Caliber), 3.5" rocket (practice), rifle grenades (practice), M-48 spotting round of .50 Caliber spotting rifle, M60 and SAW machine guns, shotguns, pistols, M73 rocket launcher, and 1/4 lb demolition charges. Thus, Small Arms, 2.36" and 3.5" Rockets, M73 LAAW, 60mm and 81mm Mortars,

57mm, 75mm, and 90mm Recoilless Rifles, Hand Grenades, and Rifle Grenades are all the general types of munitions used at F-3. Field Firing Range F-3 was located approximately at the Machine Gun Range "C" position previously described in paragraph 7.3.13.

7.4.6.4 Field Firing Range designated F-4 (a.k.a. F-4, Moving Vehicle Range) was located adjacent to F-3 during the 1950's. It was positioned at Latitude 34° 39' 43" N, Longitude 77° 14' 57" W, or Military Grid 939 379. The shape and size of the range fan indicates that Small Arms were fired at F-4. This range was also nearby Machine Gun Range "C" position previously described in paragraph 7.3.13.

7.4.6.5 F-5 was shown on an April 1953 range map and identified as a 1000-Inch Range, which indicates that it is used for small arms training. It's firing position was at Latitude 34° 39' 29" N, Longitude 77° 17' 33" W, or Military Grid 8992 3756, with the direction to the northeast (**Plate 7**).

7.4.6.6 A Live Hand Grenade Range designated F-6 was, according to the 1960 Base Order, located at Latitude 34° 39' 41" N, Longitude 77° 19' 04" W, or Military Grid 876 381. The F-6 Range originally consisted of 5 throwing pits, 2 observation pits, and one covered troop shelter. It had right flank coordinates 876 382 to 877 381 with a hazard distance of 100 yards directly in front, and the left flank coordinates were 875 838 to 876 383 with a hazard distance of 120 yards directly in front. The range continues in use today, but there have been slight modifications to the coordinates and the direction of fire. The types of munitions include Hand Grenades, Practice, HE, and WP.

7.4.6.7 In the early 1950's a .22 Caliber Range, 1000-Inch Range designated F-7 was located at Latitude 34° 40' 13" N, Longitude 77° 19' 25" W, or Military Grid 871 390. Only limited information was found, but it can be assumed that Small Arms were fired on this range. The 1960 Base Training Order indicated that an F-7, Flame Thrower Range was positioned at Latitude 34° 40' 16" N, Longitude 77° 19' 25" W, or Military Grid 871 391, in the near vicinity to the earlier F-7 Range used for small arms training. The right flank of the Flame Thrower Range was at coordinates 871391 with an Azimuth of 96° 45' Grid, and the left flank at coordinates 870393 with an Azimuth of 60° Grid (see **Plate 15**).

7.4.6.8 Shown on a 1953 range map was the F-9, Triangulation Range at Latitude 34° 40' 11" N, Longitude 77° 19' 26" W, or Military Grid 8707 3893. It is adjacent to F-11 described below (**Plates 6 and 8**). In the 1960 Base Order, an F-9, 3.5" Rocket and Rifle Grenade Range was identified as under construction. No other reference was uncovered and the location, if completed, is unknown. Proposed were the firing of all types of Rifle Grenades and 3.5" Rockets.

7.4.6.9 A Machine Gun Qualification Range designated F-10 (a.k.a. F-10B Machine Gun Qualification Range) appears on 1950's era maps. The range position is Latitude 34° 40'

16" N, Longitude 77° 19' 25" W, or Military Grid 871 391. No information was recovered on weapons fired or types of targets. See **Plates 5, 6, 8, and 10** for the location of this range, which was also referenced, F-10B on a September 1953 map. This range was also nearby Machine Gun Range "B", an earlier range site previously described by paragraph 7.3.14. Near the same location was another 1000-Inch Range designated F-10A at Latitude 34° 40' 13" N, Longitude 77° 19' 25" W, or Military Grid 871 390. Small Arms were likely fired on this range.

7.4.6.10 The F-11 Pistol Range originally appeared on a 1951 range map, and the 1960 Base Order identified its use for .22 Caliber rifle and pistol, and .32, .45 Caliber pistols. Range F-11 has also been known as the F-11, Pistol Qualification Range, F-11, Rifle and Pistol Range, and F-11, Rifle and Pistol BZO Range. F-11 was at Latitude 34° 40' 23" N, Longitude 77° 19' 29" W, or Military Grid 870 393. The Base Order identified right flank at coordinates 869 394 with an Azimuth of 91° 55' Grid, and the left flank at coordinate 869 396 with an Azimuth of 85° 20' Grid. The range continues in use today as a Pistol Range. There were periodically slight modifications to the direction of fire.

7.4.6.11 Field Firing Range designated F-12 (a.k.a. F-12, .30 Caliber Electric Pop-Up Range, F-12, Reinforced Platoon Attack, F-12, Individual, Team, & Squad Assault Range) first appeared on a 1951 range map. The 1960 Base Order stated that this range was under construction and small arms were authorized for use on this range. F-12 was a Latitude 34° 40' 56" N, Longitude 77° 19' 14" W, or Military Grid 874 403. The range continued in use at least through the late 1990's, and since it was established, there have been slight modifications to direction of fire. The 1970 Base Order identified the right flank coordinates as 874 403 with an Azimuth of 113° Grid and the left flank coordinate of 874 404 with an Azimuth of 91° Grid. Later weapons authorized have included 30 Caliber, 5.56mm, & 7.62mm, WP hand grenades, rifles, M60 machine gun, and SAW plus ½ lb demolition blocks and ¼ lb demolitions charges to simulate artillery. This range was positioned nearby the earlier Musketry Range "B" previously described in paragraph 7.2.13.

7.4.6.12 Field Firing Range designated F-13 (a.k.a. F-13, Combined Arms Range and F-13, Mortar Range) appeared on maps from the 1950's, but no information was provided on weapons fired or types of targets. Its position was at Latitude 34° 40' 01" N, Longitude 77° 19' 01" W, or Military Grid 877 386. The assumption is that Small Arms and 60mm and 81mm mortars were fired on Range F-13. The Mortar ammunition most likely would have been fired into the impact area in "G" Area ("G-10").

7.4.6.13 Field Firing Range designated F-14, (a.k.a. F-14, Combined Arms Range) first appeared on the 1951 range map, and the 1960 Base Order identified range use for all weapons except 106mm the recoilless rifle and 90mm gun. High explosive ammunition was not to be impacted on Range F-14. It was positioned at Latitude 34° 42' 13" N, Longitude 77° 16' 51" W, or Military Grid 911 426, and the fire was into Area "G" (G-10 Impact Area). The Base Order identified the right flank at coordinates 912 421 with an

Azimuth of 188° magnetic and the left flank at coordinates 919 416 with an Azimuth of 182 ° magnetic.

7.4.6.14 F-16 Combat Village first appeared on a February 1953 range map. It was identified in the 1960 Base Order as a range consisting of 25 buildings positioned at Latitude 34° 39' 24" N, Longitude 77° 17' 34" W, or Military Grid 8988 3742. The complex likely employed Blank Ammunition, Smoke Grenades, Practice Hand Grenades, Practice Mines, Boobytrap Devices, and various Simulators and Pyrotechnics. Munitions could be located anywhere in the buildings or in building debris.

7.4.7 Area "G"

According to one historical document Area "G" appears to have been in use by 1942 as a Target and Fire Support Area for practice firing by ships engaged in Naval Gun Fire Support. Other significant ranges originally established in Area "G" during WW II era included the Anti-Tank Range (see paragraph 7.2.17), various Artillery Firing Points, and two Engineer Firing Ranges (see paragraph 7.3.13 and **Plates 3 and 4**). Formal establishment of the "G-10" Impact Area seems to have occurred around 1951. The later 1970 Base Order stated that "Impact Area 'G-10' normally will not be used for impacting aircraft ordnance", suggesting occasionally air ordnance could have been dropped into the impact area during the summary period 1950 through 1969. Impact Area "G-10", which covers over one half of the acreage of Area "G" (nearly 13,000 acres) is presently one of the most important training active High Explosive firing ranges on **MCB Camp Lejeune**. A more recent Base training Order indicated that G-10 was authorized for "All Indirect Fire/Close Air Support (L) up to 250 lb TNT equivalent. The Reader is directed to the *Range Identification/Preliminary Range Assessment*, paragraph 2.208, for detailed data on the G-10 Impact Area. With reference to **Plates 5 through 11**, within Area "G", during the period from 1950 through 1969, various types of high explosive and other type training facilities existed. These training facilities included the following: a Combat Range (G-1); Demolitions Assault Course (G-4); Anti-Tank Range (G-5) and Mechanized Anti-Tank Range (G-5A); Artillery Ranges (G-6 and G-7); Battle Indoctrination Course (G-11); Miniature Anti-Aircraft Range (G-13); Tank Machine Gun Range (G-14); and the aforementioned G-10 Impact Area. Again as previously discussed, the location of ranges may have periodically shifted slightly, and the angle of fire may have been modified.

7.4.7.1 The G-1 Combat Range is plotted on maps produced during the 1950's. It was positioned at Latitude 34° 39' 17" N, Longitude 77° 14' 44" W, or Military Grid 942 371, and its fire was directed towards the southwest into the "G-10" Impact Area. The direction of fire suggests that some type of explosive munition may have been used on G-1, but no information has been uncovered to indicate which munition. This range is located in part of the area of Musketry Range "C-1", previously described in paragraph 7.2.15.

7.4.7.2 A Demolition Assault Course designated G-4 (a.k.a. G-4, Demolition Range) first appeared on a 1951 range map, and the 1960 Base Order identified the munitions authorized for use as all types of rifle grenades, flame throwers, and land mines. No firing was to be conducted outside of Grid Square 9232, according to the Base Order. The layout of G-4 changes various over time, but essentially it is considered the same range. It's established positioned is at Latitude 34° 36' 53" N, Longitude 77° 15' 43" W, or Military Grid Square 926 327. It has continued in use from the early 1950's until about 1987. Weapons and High Explosives authorized on G-4 include Small Arms, Rifle Grenades, Flame Throwers, Land Mines, the use of M68A1 (inert) linear charges, in addition to demolitions and land mines not to exceed a charge of 50 pounds net TNT equivalent per shot.

7.4.7.3 The G-5 Anti-Tank Range, which was previously described in paragraph 7.2.17, has been established since 1942 and has remained as a training facility through the present (1993 Base Order). Base Orders from 1960 through 1993 have listed modifications to the type of munitions, the location, and the line of fire. However basically the Anti-Tank Range remains in the Southeast corner of the base with fire direction away from the camp over Browns Inlet into the N-1 Impact Area. Historic munitions use includes Small Arms up to .50 Caliber, 20mm, 37mm, 40mm, 90mm, 105mm, 120mm, 155mm, Recoilless Rifles, TOW, M58 Line Charge, Anti-Tank Rockets, and Grenades.

7.4.7.4 The Mechanized Anti-Tank Range designated G5-A first appeared on a 1953 map, and is evident on other maps prepared in the 1950's and 1960's. The earliest description of the range, however, is found in the 1970 Base Order that identified G5-A as having two firing lines. The rear firing line was authorized for firing tank guns 90mm through 120mm, artillery (less HOWTAR), 106mm recoilless rifles, while the forward firing line was authorized for 106mm recoilless rifles, machine guns, and 3.5" rockets (practice only). The rear firing line is positioned at Latitude 34° 37' 23" N, Longitude 77° 14' 49" W, to Latitude 34° 37' 27" N, Longitude 77° 14' 37" W, or Military Grid 940 336 to 943 337. The front firing line is at Latitude 34° 36' 48" N, Longitude 77° 14' 32" W, to Latitude 34° 36' 48" N, Longitude 77° 14' 28" W, or Military Grid 944 325 to 945 325. The Azimuth from the right flank is at 162° Grid and from the left flank 172° Grid. As with Range G-5, Range G-5A fire was into the N-1 Impact Area. Munitions fired at this range include Small Arms, 90mm, 105mm, 120mm Tank Guns, all Artillery except HOWTAR, 106mm Recoilless Rifle, 3.5" Rocket.

7.4.7.5 The G-6 Artillery Range appears on historic maps dated between 1951 and 1959. It is positioned at Latitude 34° 39' 02" N, Longitude 77° 13' 37" W, or Military Grid 959 366. The designation suggests that all types of artillery were fired on this range, including 75mm, 105mm, and 155mm Howitzer (HE, WP, Illumination). Range G-6 fire was also into the N-1 Impact Area.

7.4.7.6 The Artillery Range designated G-7 (a.k.a. Direct Fire Artillery Range, G-7 Field Firing Range) was briefly described in paragraph 7.3.12. All types of Artillery Weapons

were fired into Moving and Stationary targets (water marshes, tank hulls, Browns Island, and other improvised targets) located in Impact Area "N-1".

7.4.7.7 G-11 Battle Indoctrination Course or G-11 Battle Infiltration Course first appeared on a 1951 range map, and was identified in the 1960 Base Order as an infiltration course. It was located at Latitude 34° 36' 59" N, Longitude 77° 16' 23" W, or Military Grid 916 329. Weapons included .30 Caliber Small Arms, Machine Guns, and Demolition Materials placed in Fixed Demolition Pits.

7.4.7.8 A Miniature Anti-Aircraft Range designated G-13 appeared on range maps 1953 through 1958. It was positioned at Latitude 34° 37' 59" N, Longitude 77° 17' 51" W, or Military Grid 894 348. G-13 fire is directed into the G-10 Impact Area, and as such may have involved the firing of other than .22 Caliber normally fired on Miniature Anti-Aircraft Ranges.

7.4.7.9 A Tank Machine Gun Range G-14 appeared on range maps from 1953 through 1959. It was positioned at Latitude 34° 38' 25" N, Longitude 77° 17' 43" W, or Military Grid 896 356. G-14 also fired into the G-10 Impact Area and it is presumed training with .30 and .50 Caliber machine guns occurred on this range.

7.4.8 Area "H"

After the WW II era, no documentation was collected indicating the existence of training facilities eligible for investigation under the "range rule" located within or fired into or across Area "H".

7.4.9 Area "I"

Within the Area "I" sector, there apparently existed three Demolition Areas during the period from 1950 through 1969. The first Demolition Area, which was designated I-2, appeared on an August 1951 range map and was situated Grid Square 8828 north of Highway 172 (Plate 5). A second I-2 Demolition Range was at a different site located in Military Grid Squares 8327, 8427, 8428, and 8528, according to the 1960 Base Order. This latter I-2 Range remained in existence from about 1960 through 1988. Later documents gave the position as Grid Square 8327 (1970), and Latitude 34° 34' 21" N, Longitude 77° 20' 57" W, or Grid Square 845 282 (1986). Demolitions, Land Mines not to exceed 50 pounds net TNT equivalent per shot, and M68A1 (inert) were authorized by later Base Orders. The I-4 Demolition Area was shown of the 1951 range map as an irregular shaped area within Grid Square 8725, while a later 1953 range map depicts I-4 as encompassing the entire Grid Square.

7.4.10 Area "J"

Within the Area "J" sector, there existed only two 1000-Inch ranges designated J-1 and J-2 during the period from 1950 through 1969 (Plates 5, 6, 8, 10, and 12). The J-1 1000-

Inch Range (a.k.a. J-1, 50-Foot, .22 Cal Range, and J-1, 50-Foot Small Bore Range) appeared on the 1951 range map, and in the 1960 Base Order was authorized for firing .22 Caliber rifles and pistols. It was positioned at Latitude 34° 35' 47" N, Longitude 77° 22' 22" W, or Military Grid 8253 3045. The Base Order identified the right flank of J-2 at coordinates 82525 30450 at an Azimuth 341° 15' Grid and the left flank at coordinates 82485 30420 at an Azimuth 320° 30' Grid (fire direction into the New River). The J-2 1000-Inch Range (a.k.a. J-2, 50-Foot, .22 Cal Range, J-2, 50-Foot Small Bore Range, J-2, Battle Sight Range, and J-2, Scaled Target Sub-Cal Range) also appeared on the 1951 range map. The 1960 Base Order also identified this range as a .22 Caliber rifle and pistol range located at Latitude 34° 35' 43" N, Longitude 77° 22' 14" W, or Military Grid 8267 3056. Range use seems to have continued into the late 1980's, and later weapons fired at J-2 included the .30 Caliber rifle, M16 firing .22 Caliber rimfire, Brewster device for 105mm tank gun, and sub-caliber devices for LAVs/AAVs. As with other facilities minor shifting of firing point position and direction historically occurred at J-1 and J-2.

7.4.11 Area "K"

As indicated in paragraph 7.3.4, Area "K" initially established in 1941, and continued through the late 1940's, as an impact area. An Artillery Training Area fired directly into Area "K", as well as into the neighboring Area "M", during the WW II era. Area "K" was bounded on the west by Lewis Creek, Verona Loop Road to USMC Bench Mark 46, from USMC Bench Mark 46 by road to Bench Mark Hines, and New River Inlet to mouth of Lewis Creek." The formal designation, "K-2" Impact Area, seems to have been established in the early 1950's, as it first appears on a 1953 map. **Plates 2, 3 and 4** show the early ranges firing into the sector during this early time frame. This use as an impact area continued throughout the 1950's as two ranges (M-5 and M-5A situated within, and described below in the paragraph describing Area "M", used Area "K" as the impact area (**Plate 6**). Artillery such as 75mm, 105mm, and 155mm Howitzers were fired on M-5 and M-5A. A later period 1985 Base Training Order indicated that "K-2" was authorized for "Aircraft Ordnance – all not to exceed 250 lbs TNT equivalent, Artillery – All Types, Mortars – All Types, and ground weapons." A subsequent change to this Base Order limited air ordnance to practice bombs and 7.62mm machine guns. The recent 1994 Base Order authorized the following ammunition: 5.56mm, 7.62mm, 40mm grenade, 105mm, 83mm, 84mm, 155mm, 81mm, 60mm, DRAGON, MK-76 practice bombs, and MK 80 series inert bombs for the "K-2" Impact Area. On a 1958 training area, there first appeared a series of ranges located close by and firing directly into the "K-2" Impact Area. Many of these ranges were described in the 1960 Base Training Order (**Plates 10, 12 and 15**). The following system of ranges are shown on maps and described in training orders from about 1958 through 1965: K-1, 81mm Mortar Field Firing Range; K-4, Transition Firing Range; K-5, Combat Firing Range; K-6, Transition Range; K-7, Combat Firing Range; K-8, Close Combat Course; K-9, 3.5 Inch Rocket Range; K-10, Rifle Grenade Range; K-11, Infiltration Course; K-14, Close Combat Course; K-15, Machine Gun Field Firing Range (500-Inch and 1000-Inch); K-16, Infantry Weapons Demonstration Range; K-17, Practice Hand Grenade Course; K-19, 300-yard Battlesight Range; K-20, Hand Grenade Range; K-21, Flame Thrower Range; K-23, Gas Chamber;

K-24, Demolition Range; and K-25, Assault of a Fortified Position Range. This multitude of Area "K" ranges had firing points surrounding the boundary of Impact Area K-2, with fire direction into the designated impact area (Plate 10 and 12). Designations and titles of the Area "K" ranges have occasionally changed. However, up until about 1987, the K range system are shown on source maps in similar positions with firing directed into the impact area (see Plates 13, 14, 16, 17, 18, and 19). Table 7-1 presents a brief summary of data on each 1958-1969 era Area "K" ranges. The Reader is directed to the *Range Identification/Preliminary Range Assessment* for detailed data on the "K-2" Impact Area (paragraph 2.209), and the numerous surrounding ranges established to prepare Marines for combat.

TABLE 7-1
1950-1969 "K" RANGES

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
K-1	81mm Mortar Field Firing Range	Military Grid: Grid Square 8235	81mm HE, WP, Illumination, and Practice
K-4	Transition Firing Range	Latitude: 34° 38' 03" N Longitude: 77° 25' 18" W Military Grid: 780 351	30 Service Ammunition, M48 Trip Flares and Pyrotechnics
K-5	Combat Firing Range	Latitude: 34° 38' 31" N Longitude: 77° 23' 41" W Military Grid: 805 360	M1 Rifles, BAR's, .30 Cal Machine Guns and 3.5" Rocket Launchers (Firing Practice Rounds only)
K-6	Transition Range	Latitude: 34° 38' 28" N Longitude: 77° 22' 58" W Military Grid: 816 359	.30 Cal Service, M48 Trip Flares and Pyrotechnics
K-7	Combat Firing Range	Latitude: 34° 37' 46" N Longitude: 77° 25' 34" W Military Grid: 776 347	Small Arms, 3.5" Practice Rockets, and Demolitions And Pyrotechnics
K-8	Close Combat Course	Latitude: 34° 38' 28" N Longitude: 77° 23' 17" W Military Grid: 811 359	M1 Rifles, BAR's, Submachine Guns and .45 Cal Pistols Firing Service Ammunition
K-9	3.5 Inch Rocket Range	Latitude: 34° 38' 26" N Longitude: 77° 24' 55" W Military Grid: 786 359	3.5" Rockets
K-10	Rifle Grenade Range	Latitude: 34° 37' 40" N Longitude: 77° 25' 33" W Military Grid: 776 345	Small Arms, M28 and M29 Rifle Grenades, WP Hand and Rifle Grenades, Pyrotechnics, and Demolitions
K-11	Infiltration Course	Latitude: 34° 37' 27" N Longitude: 77° 25' 33" W Military Grid: 776 341	Small Arms and Demolitions (1/4 Lb)

K-14	Close Combat Course	Latitude: 34° 37' 17" N Longitude: 77° 25' 37" W Military Grid: 775 338	M1 Rifles, BAR's, .45 Cal Pistols and Submachine Gun
K-15	Machine Gun Field Firing Range (500 Inch and 1000- Inch)	Latitude: 34° 38' 03" N Longitude: 77° 25' 07" W Military Grid: 783 352	M1 Rifles, Shotguns, .30 and .50 Cal Machine Guns All Firing Service Ammunition
K-16	Infantry Weapons Demonstration Range	Latitude: 34° 38' 41" N Longitude: 77° 12' 18" W Military Grid: 979 359	Small Arms, 3.5" Rockets, 75mm Recoilless Rifle, Pyrotechnics, and Demolitions
K-17	Practice Hand Grenade Course	Latitude: 34° 38' 41" N Longitude: 77° 23' 09" W Military Grid: Grid Square 8133 3628	Practice Hand Grenades
K-19	300-yard Battlesight Range	Latitude: 34° 38' 16" N Longitude: 77° 22' 38" W Military Grid: 821 355	M1 Rifles, BAR's, And 81mm Mortars with the Mortars Impacting only in the K-2 Impact Area
K-20	Hand Grenade Range	Latitude: 34° 37' 53" N Longitude: 77° 25' 42" W Military Grid: 774 349	WP And HE Grenades (Hand Thrown)
K-21	Flame Thrower Range	Latitude: 34° 38' 46" N Longitude: 77° 24' 21" W Military Grid: Grid Square 7936	No Munitions only Flame Throwers
K-23	Gas Chamber	Military Grid: Grid Square 8036	Chemical Warfare Training Agents (Tear Gas); Possible War Gas Identification Sets and Riot Control Hand Grenades
K-24	K-24, Demolition Range	Latitude: 34° 38' 41" N Longitude: 77° 23' 37" W Military Grid: 806 363	Demolitions Not To Exceed 20 Pounds TNT Equivalent Per Shot
K-25	Assault of a Fortified Position Range	Latitude: 34° 38' 16" N Longitude: 77° 22' 22" W Military Grid: Grid Square 8235	Blanks, Practice Rockets, Demolitions, WP Grenades, and Pyrotechnics from M1 Rifles, BAR, 30 Machine Guns, 3.5" Rocket Launchers, and Flame Throwers

7.4.12 Area "L"

As mentioned in paragraph 7.3.5, early in the base history within Area "L", an impact area existed that was primarily for Mortar use, and Rifle Range Complex (**Plates 4 and 21**). The impact area, which was designated the L-2 Impact Area, first appeared on 1951 and 1953 maps, and was defined by the 1960 Base Order as authorized for artillery. L-2 existed from about 1951 to approximately 1962 and was described as a circle with a radius of 960 meters centered at coordinates 7627033920. The Reader is directed to the

Range Identification/Preliminary Range Assessment for detailed data on the L-2 Impact Area (paragraph 2.210). Two ranges (M-1 and M-4 described below in the paragraph on Area on Area "M", used Area "L-2" as the impact area (**Plates 6 and 8**). During the 1950 through 1969 time frame, in the vicinity of the Rifle Range Complex described previously in paragraph 7.3.6 and shown on **Plate 21**, were added the following ranges: L-3 Machine Gun Transition Range; L-4 1000-Inch Range; L-5 Multi-Purpose Gun Range, and L-6 Mine Warfare and Demolition Course. Each of these is highlighted in the following paragraphs.

7.4.12.1 The Machine Gun Transition Range designated L-3, appeared on 1953 and 1954 range maps at Latitude 34° 35' 38" N, Longitude 77° 27' 34" W, or Military Grid 747 308 (**Plate 8**). It would be assumed that Small Arms were fired on this range.

7.4.12.2 A 1000-Inch Range, designated L-4 appeared on the 1953 range map, and was described in the 1960 Base Order as authorized for .22 Caliber rifles, .45 Caliber pistols and submachine guns on this range. **Plates 6, 8, 10, and 12** indicate the general location and various firing directions into the New River. L-4 was positioned at Latitude 34° 35' 13" N, Longitude 77° 26' 26" W, or Military Grid 7614 3001.

7.4.12.3 The Multi-Purpose Machine Gun Range, designated L-5, first appeared on a 1958 map of the Training Area, and was described in the 1960 Base Order as authorized for the use of .30 Caliber rifles. It has been in use since that time until the present, and has been identified by the following common names: L-5, .30 Caliber Electric Pop-Up Range; L-5, Squad Offense Range; L-5, Combat Rifleman Environmental Range; L-5, Advanced Tactics Range; and L-5, Squad, Platoon, Company Fire and Maneuver Range. Later Base Training Orders, from 1970 through 1994, have authorized other weapons, including Small Arms (rifles and pistols, but no armor piercing ammunition), WP Hand Grenades and Rifle Grenades (Practice), M60 Machine Guns, SAW, and Shotgun. Located at about Latitude 34° 35' 20" N, Longitude 77° 28' 26" W, or Military Grid 731 303, various Base Training Orders have adjusted or refined the boundaries of the firing line and the direction of fire (see **Plates 10, 13, 16, 18, and 20**).

7.4.12.4 The L-6 Mine Warfare and Demolition Course was shown on a 1958 range map and no other document. Based on the designation, it is assumed that Land Mines and Demolitions were used on this range, but it is believed possible that only Practice Munitions were used. The position was at Latitude 34° 35' 43" N, Longitude 77° 28' 30" W, or Military Grid 730 310 (**Plate 10**).

7.4.13 Area "M"

Area "M" was used as artillery training area and impact area since early in base history. As indicated in paragraph 7.3.3, between 1941 and 1945, the live fire and maneuver exercises conducted in this area possibly used Mortars, Recoilless Rifles, 2.36 in Rockets, and Hand and Rifle Grenades in this area is possible. The Reader is directed to the *Range Identification/Preliminary Range Assessment* for detailed data on the Impact Area "M"

(paragraph 2.211). During the 1950's located within the Area "M" tract boundary were four likely Artillery Ranges. These were the M-1, M-4, M-5, and M-5A Range. Each of these artillery ranges is described in paragraphs below. In the 1960 Base Order and on a 1958 range map, another series of training facilities were identified as having been established in the north part of Area "M", southwest of the Marine Corps Air Facilities, across Southeast Creek feeding the New River (**Plates 10 and 15**). These were the M-4, Rifle Grenade Range; M-4A, Practice Hand Grenade Course; M-5, Practice Rifle Grenade Range; M-6, Infiltration Course; M-7, Landscape Range; M-8, Assault of a Fortified Position Range; M-9, Combat Village Area; M-10, Hand Grenade Range; M-11, Assault on a Fortified Position Area; M-15, Mine, Booby Trap Display Area; M-16, Outdoor Classroom; and M-17, Practice Hand and Rifle Grenade Range. **Table 7-2** presents brief summary data on these 1958-1969 era training/maneuver ranges.

**TABLE 7-2
1958-1969 "M" RANGES**

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
M-4	Rifle Grenade Range	Latitude: 34° 41' 22" N Longitude: 77° 27' 10" W Military Grid: 753 414	.30 Caliber, M3 Crimped Cartridges, M28 Rifle Grenade, M29 Rifle Grenade, White Phosphorus Hand and Rifle Grenade, Pyrotechnics and Demolitions
M-4A	Practice Hand Grenade Course	Military Grid: Grid Square 7541	Practice Hand Grenades
M-5	Practice Rifle Grenade Range	Latitude: 34° 41' 06" N Longitude: 77° 27' 10" W Military Grid: 753 409	M29 Practice Rifle Grenade
M-6	Infiltration Course	Latitude: 34° 40' 56" N Longitude: 77° 27' 21" W Military Grid: 750 406	Small Arms and Demolitions (1/4 lb)
M-7	Landscape Range (a.k.a. 1000-Inch Machine Gun Range)	Latitude: 34° 40' 59" N Longitude: 77° 27' 10" W Military Grid: 753 407	.30 Caliber Weapons, (Pistols and Revolvers), and Riot Guns
M-8	Assault of a Fortified Position Range	Latitude: 34° 40' 52" N Longitude: 77° 2' 41" W Military Grid: Grid Square 7440	M1 Rifles, Flame Throwers, and 3.5" Rocket Launchers
M-9	Combat Village Area	Latitude: 34° 41' 03" N Longitude: 77° 27' 28" W Military Grid: Grid Square 748 408	(Seven Buildings) Small Arms (Blanks), Boobytrap Devices, Practice Hand Grenades and Land Mines, Pyrotechnics, Smoke Grenades
M-10	Hand Grenade Range	Latitude: 34° 41' 12" N Longitude: 77° 26' 58" W Military Grid: 756 411	WP and HE Hand Grenades

M-11	Assault on a Fortified Position Area	Latitude: 34° 39' 52" N Longitude: 77° 26' 41" W Military Grid: 760 386	Small Arms, Practice Rifle Grenades, WP Hand and Rifle Grenades, Pyrotechnics and Demolitions
M-15	Mine, Booby Trap Display Area (a.k.a. M-15 Mine Field Disposal Area)	Latitude: 34° 40' 49" N Longitude: 77° 27' 30" W Military Grid: Grid Square 747 404	Practice Mines, Improvised Mines, and Booby Trap Devices
M-16	Outdoor Classroom	Latitude: 34° 40' 23" N Longitude: 77° 27' 58" W Military Grid: 741 396	Blank Ammunition and Pyrotechnics
M-17	Practice Hand and Rifle Grenade Range	Latitude: 34° 41' 05" N Longitude: 77° 27' 14" W Military Grid: 752 409	Practice Grenades

7.4.13.1 Range M-1 appeared on a 1951 map, and it is shown firing into the "L" Impact Area (Plate 5). It is unknown as to what weapons may have been used at M-1, which was positioned at Latitude 34° 39' 34" N, Longitude: 77° 27' 46" W, or Military Grid 743 381.

7.4.13.2 A Field Firing Range, designated M-4, appeared on 1953 and 1954 range maps at Latitude 34° 39' 41" N, Longitude 77° 27' 46" W, or Military Grid 743 383. This location is essentially at the same place as M-1. The range title suggests Small Arms were fired on this range. However, information was not collected that provided definite data on the type or estimated quantity of the munitions used on either M-1 or M-4 (Plates 6 and 8).

7.4.13.3 The M-5 Artillery Range was positioned at Latitude 34° 42' 38" N, Longitude 77° 28' 35" W, or Military Grid 732 438, with the firing direction into the "K-2" Impact Area. The name of the range indicates that Artillery such as 75mm, 105mm, and 155mm Howitzers were fired at M-5. The only reference collected was 1953 map as shown on Plate 5. Firing from this range was directed into the "K-2" Impact Area.

7.4.13.4 The M-5A Artillery Range also appeared on the 1953 range map (Plate 5) at Latitude 34° 41' 59" N, Longitude 77° 28' 22" W, or Military Grid 735 426. As with M-5, it is assumed that Artillery such as 75mm, 105mm, and 155mm Howitzers were fired on this range into the "K-2" Impact Area.

7.4.14 Area "N"

The beach area from Brown's Inlet to the Bear Inlet has been utilized time at MCB Camp Lejeune for an impact area since the WW II era, and continues until the present. The sector was actively used as an impact range for various Artillery Firing Points, the Anti-Tank Range, a Bombing Target Number 5, and as a Staffing Target and Rocket Range. Impact Area "N" was addressed, in part, by paragraph 7.3.11. The 1946 Camp Training

Order listed the following weapons as authorized to fire into the "N" Impact Area: Artillery rockets, 37mm, 57mm 75mm, 90mm, and 105mm artillery weapons. The historic bombing target, staffing and rocket range targets received aerial rockets and bombs, plus staffing using 75mm cannon fired from an aircraft. One document was recovered that stated in 1944, seven 500 lb GP bombs were dropped in Browns Island ("N" Impact Area) as part of a training exercise, where some of the bombs were rigged not to explode on impact. The 1960 Base Training Order stated that Artillery, consisting of Mortars, Tank and Anti-Tank Guns, may be fired to impact in the "N-1" Impact Area. Artillery rockets and 106mm Recoilless Rifles will only impact in this area.

7.5 MARINE CORPS BASE CAMP LEJEUNE - MAIN BASE - 1970-PRESENT

Plates 13 through 20 present range overlays onto the current **MCB Camp Lejeune Military Installation Map** covering a period from about 1970 to 1993 (the date assigned to the present **Camp Lejeune Military Installation Map**). The various range layouts were determined from a series of historic maps, copies of which can be found in **Appendix G**. During the 1960's the system that identified the location of the firing point in one of the "lettered" areas by assigning a range number proceeded by the letter assigned to the area became the traditional and convenient procedure. Plates in this ASR during the recent history period also reflect this identification method. From 1970 through the present, range firing alignments and positions continued to occasionally shift, and the range name and designation feature number occasionally would change. The concentrations of firing points in maneuver/training areas, however, remained nearly identical in earlier periods, as addressed by paragraph 7.4. This summary section is also developed by reference to a specific "lettered" training sector. Tables are again used to simplify range information for certain training complexes. The reader is referred to the *Range Identification/Preliminary Range Assessment* report for the detailed data on any specific range.

7.5.1 Area "A"

The previously described Small Arms Range (Pistol and Shotgun) designated A-1 continues in use through the present. The recent 1994 Base Order authorized the firing of .22, .38, and .45 Caliber, 9mm, and 12 Gauge weapons on this range. The fire direction is into the New River at between 150° and 152° Grid (**Plates 10, 13, 16, 18, and 20**).

7.5.2 Area "B"

The ranges identified within Area "B", in recent time frames, include the B-12 Baffled Pistol Range and the B-14 Assault of Fortified Position Range (see **Plates 13, 16, 18, and 20**). The B-12 Baffled Pistol Range (a.k.a. as B-012, Rifle and Pistol Range) was first identified in the 1970 Base Order as authorized for firing .22 Caliber rifles and pistols. Recent Base Orders have included the firing of service pistols and shotguns and .38 Caliber, .45 Caliber, and 9mm weapons. The range is at Latitude 34° 43' 08" N, Longitude 77° 27' 49" W, or Military Grid 744 447, with the firing direction at between 167° and 170°. The B-14 Assault of Fortified Position Range is positioned at Latitude

34° 32' 12" N, Longitude 77° 28' 09" W, or Military Grid 734 425. Historically, weapons authorized for use at B-14 included service rifles, M79 grenade launchers, flame-throwers, M60 machine guns, M72 rocket launchers, and the SAW. Munitions used were Small Arms (firing of blanks), 3.5" Rocket (Practice), Rifle Grenade (Practice), Demolitions (1/2 lb), WP Hand Grenade, 40mm Grenade (Practice), Thickened and Unthickened Fuel (1960); and Blank Ammunition, M73 Sub-Caliber, Demolition Block (1/4 lb), and Hand Smoke Grenades (1986) & (1994).

7.5.3 Area "D"

Within the Area "D" sector, training continued at the D-6 50-foot Indoor Small Bore Rifle and Pistol Range (**Plate 22**), D-9 Skeet Range, D-27 Fortified Beach Assault Area, D-27 Fortified Beach Assault Area, and the two 50-Foot Small Bore Ranges designated D-29 and D-30. These ranges were each highlighted in paragraph 7.4.4 and are shown on **Plates 13, 16, 18, and 20**). A D-11A Flame Tank and Flame Thrower Range was also in existence during the 1970's at Latitude 34° 39' 02" N, Longitude 77° 18' 59" W, or Military Grid 877 368. Flame-throwers and small arms weapons firing blank ammunition were in general use at this site (**Plate 13 and 16**).

7.5.4 Area "E"

As discussed in paragraphs, 7.2.3, 7.3.11, and 7.4.5, the beach area of "E" sector has been utilized as a firing area beginning in 1942 and continuing throughout the history of **MCB Camp Lejeune**. The range area, which was originally referenced as the Onslow Beach/Hurst Beach Firing Area, was divided into Ranges E-1A and E-1B from about 1958 through the 1970's, and recombined into one range in approximately 1986. In recent times this sector has transitioned from the Anti-Aircraft Artillery Range to an Air Defense Firing Range. The E-1 Air Defense Firing Range (a.k.a. E-1, Hawk, Stinger, and Redeye SAM Range) was identified in 1986 Base Order as a Surface to Air Missile Range which runs from Grid Square 8824 northeast along the beach to Riseley Pier. According to the document right flank coordinates at 880246 with an Azimuth of 185° Grid and left flank coordinates at 899260 with an Azimuth of 85° Grid. Weapons use has included 20mm, Redeye, Stinger, HAWK; and later, the 1994 Base Order added the 20mm VULCAN gun system to the list of weapons authorized on E-1. **Plates 16, 18 and 20** show location. In addition to the weapons mentioned historic firing has included include Small Arms up to .50 Caliber, 20mm, 37mm, 40mm, 90mm, and 120mm.

7.5.5 Area "F"

The Area "F" training site, which was established early in base history, continues in use through the present. Most of the ranges established in the 1950's and 1960's remain today. **Table 7-3** presents a brief summary of information on Area "F" ranges existing from 1970 to the present; and **Plates 13, 16, 18 and 20** show their positions. Generally, with a few exceptions, each was previously described in paragraph 7.4.6, but the reader

should review the *Range Identification/Preliminary Range Assessment* for detailed range information.

TABLE 7-3
1970-Present "F" RANGES

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
F-2	Field Firing Range (a.k.a. F-2, .30 Caliber Electric Pop-Up Range F-2, Squad Defense Firing & Machine Gun Surprise Targets F-2, Field Firing/BZO Range)	Latitude: 34° 42' 27" N Longitude: 77° 17' 10" W Military Grid: 906 428	Small Arms, Smoke Grenades, and Demolitions (1/2 pound limit)
F-3	Field Firing Range	Latitude: 34° 39' 43" N Longitude: 77° 14' 57" W Military Grid: 939 379	Small Arms, 2.36" and 3.5" Rockets, M73 LAAW, 60mm and 81mm Mortars, 57mm, 75mm, and 90mm Recoilless Rifles, Hand Grenades, and Rifle Grenades
F-4	Fire Control Range (a.k.a. F-4, Individual, Fire Team, and Squad Fire Control Range F-4, Squad Combat Patrol Range)	Latitude: 34° 41' 57" N Longitude: 77° 16' 23" W Military Grid: 918 421	Small Arms, WP Hand Grenades, Smoke Hand Grenades, Rifle Grenades (Practice), and Demolitions (1/2 lb)
F-5	Squad Life Fire and Maneuver Course (a.k.a. F-5, Machine Gun Training and Battlesight Range F-5, Field Firing and Battlesight Range F-5, Military Police Pistol Range)	Latitude: 34° 42' 16" N Longitude: 77° 17' 03" W Military Grid: 909 426	Small Arms, Rifle Grenades (Practice), 3.5" Rockets (Practice), WP Hand Grenades, Smoke Grenades, Demolition Materials
F-6	Live Hand Grenade Range	Latitude: 34° 39' 41" N Longitude: 77° 19' 04" W Military Grid: 876 381	Hand Grenades, HE, WP
F-9	Battle Sight Range	Latitude: 34° 41' 02" N Longitude: 77° 19' 04" W Military Grid: 8765 4050	Small Arms, Rifles and Pistols
F-10	Machine Gun Qualification Range (a.k.a. F-10, 500-Inch, 1000-Inch, & Battlesight Range F-10, Machine Gun and Shotgun Range)	Latitude: 34° 41' 15" N Longitude: 77° 19' 11" W Military Grid: 875 409	Small Arms, Service Ammunition from Rifles, Shotguns, Pistols, SAW, and M60 Machine Gun
F-11	Pistol Range (a.k.a. F-11, Pistol Qualification Range F-11, Rifle and Pistol Range) F-11, Rifle and Pistol BZO Range	Latitude: 34° 40' 23" N Longitude: 77° 19' 29" W Military Grid: 870 393	Small Arms, .22 Caliber, .38 Caliber, .45 Caliber, 5.56mm, 7.62mm, 12 Gauge

F-12	Field Firing Range (a.k.a. F-12, .30 Caliber Electric Pop-Up Range F-12, Reinforced Platoon Attack F-12, Individual, Team, & Squad Assault Range)	Latitude: 34° 40' 56" N Longitude: 77° 19' 14" W Military Grid: 874 403	Small Arms, Smoke Grenades, and Demolitions (1/2 pound limit)
F-13	Flame Thrower Range	Latitude: 34° 39' 48" N Longitude: 77° 19' 04" W Military Grid: 876 382	None (Only Flame Fuel)
F-17	Dry Net Training	Latitude: 34° 39' 58" N Longitude: 77° 18' 29" W Military Grid: 885 385	Small Arms Blanks
F-18	Machine Gun Field Fire Range (a.k.a. F-18, Night Field Firing and Artillery Sub-Caliber Range F-18, Night Field Firing Range)	Latitude: 34° 40' 20" N Longitude: 77° 19' 25" W Military Grid: 871 392	Small Arms and 14.5mm Artillery Sub-Caliber

7.5.6 Area "G"

The use of Area "G" as an impact area and training site was established early in base history, also continues in use through the present. Most of the ranges established in the 1950's and 1960's remain today. **Table 7-4** presents a brief summary of information on Area "G" ranges existing from 1970 to the present; and **Plates 13, 16, 18, 20** show their positions. A number of earlier era ranges remained in use and were previously described in paragraph 7.4.7. However, the establishment or firing lines/points directed into Impact Area G-10 appears to be a dynamic situation and continually is under revision. Thus, the Reader should review the *Range Identification/Preliminary Range Assessment* for detailed range information on each of these modern ranges.

**TABLE 7-4
 1970-Present "G" RANGES**

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
G-2	Infiltration Range	Latitude: 34° 36' 38" N Longitude: 77° 17' 05" W Military Grid: 905 323	Small Arms and Demolitions
G-3	Infantry Weapons Range	Latitude: 34° 37' 46" N Longitude: 77° 17' 35" W Military Grid: 898 344	Small Arms, 25mm TP-T, 35mm M73, 40mm Grenade, 66mm M72 LAW, 83mm SMAW, 84mm AT-4, 81mm Mortar (all types), 60mm Mortar (all types), TOW Missile, DRAGON Missile, .50 Caliber Sniper Rifle

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G-3A	M257 Smoke Grenade Launcher System Range	Latitude: 34° 38' 08" N Longitude: 77° 17' 47" W to Latitude: 34° 38' 28" N Longitude: 77° 17' 59" W Military Grid: Along road from 895 351 to 892 357	M257 Smoke Grenade Launcher
G-4	Close Quarter Battle Range	Latitude: 34° 36' 53" N Longitude: 77° 15' 43" W Military Grid: 926 327	Small Arms, Smoke Grenades, and Pyrotechnics (Located on Former G-4 Demolition Range).
G-4A	EOD Range	Latitude: 34° 37' 19" N Longitude: 77° 15' 16" W Military Grid: 933 335	Demolitions and Unserviceable Ammunition
G-5	Anti-Tank Range (a.k.a. Mechanized Anti-Tank Range G-5, Mechanized Anti-Tank Range G-5, Mechanized Tank and LAV Gunnery Range)	Latitude: 34° 36' 46" N Longitude: 77° 14' 44" W Military Grid: 942 321 (1986 Reg.), various positions historically, with of fire between 135°-146°; primary direction 141° Grid	Small Arms up to .50 Caliber, 20mm, 37mm, 40mm, 90mm, 105mm, 120mm, 155mm, Recoilless Rifles, TOW, M58 Line Charge, Anti-Tank Rockets, and Grenades
G-5A	Mechanized Anti-Tank Range	Military Grid: 944 325 to 945 325 (refer reports for details) fire direction Azimuth from right flank 162° Grid and from the left flank 172	Small Arms, 90mm, 105mm, 120mm Tank Guns, All Artillery Except HOWTAR, 106mm Recoilless Rifle, 3.5" Rocket
G-6	Tank Gunnery Range	Latitude: 34° 37' 23" N Longitude: 77° 14' 41" W Military Grid: 942 336, with direction of fire from 160° to 165°.	105mm Tank Main Gun, Artillery (Direct Fire), Machine Guns (Including Vehicle Mounted), M16, 25mm Cannon, and TOW Missiles (1986) .50 Caliber, 5.56mm, 7.62mm, 20mm (Ball, Inert, or TP), 30mm (Inert or TP), 25mm TP-T or APDS-T, 105mm, 155mm, 120mm, 40mm Grenade (Practice or Multiple Projectile Round) (1994)
G-7	Direct Fire Artillery Range (a.k.a. G-7 Artillery Range G-7 Field Firing Range)	Latitude: 34° 37' 42" N Longitude: 77° 13' 22" W Military Grid: 962 341 Firing line at 959 342 with a primary direction of fire of 146° (1986)	.50 Caliber, 5.56mm, 7.62mm, 25mm TP-T, 105mm, 155mm, 120mm, 40mm practice (MK 19 and M203)

G-8	Grenade Launcher Range (a.k.a. G-8, M203 Grenade Launcher Range G-8, M79 Grenade Firing Range)	Latitude: 34° 39' 20" N Longitude: 77° 17' 25" W Military Grid: 901 373; direction of fire various from 153° to 164°	40mm Grenades HE & Practice
G-9	Light Anti-armor Weapons and Shoulder-Launched Multipurpose Assault Weapon Range. (a.k.a. G-9, LAAW and SMAW Range G-9, 3.5" Rocket and Rifle Grenade Range)	Latitude: 34° 39' 24" N Longitude: 77° 17' 18" W Military Grid: 903 374, direction of fire various from 155° to 171°	Rifle Grenades and 3.5" Rocket Launchers Firing HE and WP Munitions; M72 LAW, M73 Sub-Caliber, AT-4, And SMAW
G-10	Impact Area	See previous text and Plates	See Reports
G-10A	EOD Disposal Area	Military Grid: Grid Square 9135 (within the G-10 Impact Area)	Demolitions and Unserviceable Ammunition
EOD-1 Area "G"	Explosive Ordnance Disposal Range (Mainside)	Latitude: 34° 37' 12" N Longitude: 77° 15' 55" W Military Grid: 932 333	Variety of U. S. and Foreign Munitions; Operations-Rendering Ordnance Safe, Training with Live Ordnance Items, Destruction of Small Arms Ammunition (.50 Caliber And Smaller), Inerting and/or Disassembly of Ordnance Items and Demolition of Class V Materials

7.5.7 Area "I"

Within the Area "I" sector, the I-2 Demolition Range remained in existence until 1988. Later documents gave the position as Grid Square 8327 (1970), and Latitude 34° 34' 21" N, Longitude 77° 20' 57" W, or Grid Square 845 282 (1986). Demolitions, Land Mines not to exceed 50 pounds net TNT equivalent per shot, and M68A1 (inert) were authorized by these Base Orders. The only other range evident in the area was the I-1 50 foot Bore Range, which from about 1970 was located at Latitude 34° 33' 58" N, Longitude 77° 21' 08" W, or Military Grid 842 275. The fire direction for this Small Arms Range varied from about 107° to 112° Grid (**Plates 13, 16, 18, and 20**).

7.5.8 Area "J"

Only one range existed in Area "J" in recent years, the J-2 1000-Inch Range described above in paragraph 7.4.10. The 1986 Base indicated J-2 this range was identified for use with M16 firing .22 Caliber rimfire, Brewster device for 105mm tank gun, and sub-caliber devices for LAVs/AAVs (**Plates 13 and 16**). Fire direction was to the northwest over the New River towards the "K-2" Impact Range.

7.5.9 Area "K"

The Area "K" Impact Area and Training Site was established early in base history, and continues in use through the present. As mentioned in paragraph 7.4.11, Howitzer rounds (75mm, 105mm, and 155mm), Aircraft Ordnance not to exceed 250 lbs TNT equivalent, and all types of artillery, Mortars and ground weapons were authorized for use in the K-2 Impact Area. For the time frame of interest (1970 through Present) the designation and feature description of the many ranges historically positioned in the "K" sector are detailed on **Plates 13, 17, 18, 19, and 20**. The following system of ranges are shown on maps and described in training orders from about 1970 through about 1994: K-206, Unknown Range; K-211, M203 and MK 19 Grenade Launcher Range; K-212, Infiltration and Individual Movement Range; K-301, Light Anti-armor Weapons and Shoulder-Launched Multipurpose Assault Weapon; K-302, Field Firing and Battlesight Range; K-303, Basic Technique of Fire and Mortar Field Firing Range; K-304, Helicopter Door Gunnery Range (1986); K-304, Infantry Weapons Range (1994); K-305, Infantry Weapons Demonstration Range; K-309, Machine Gun and Light Anti-armor Range; K-312, Gas Chamber; K-315, Night and Combat Field Firing Range; K-317, Close Combat Range; K-319, Field Firing Range; K-321 Transition Range; K-322, Moving Realistic Target Range; K-323, Grenade Launcher Range; K-325, M72 Light Anti-armor Weapon and M203 Grenade Launcher Range; K-326, EOD Disposal Site; K-402, Fire and Movement Range; K-402A, Search and Kill Range; K-405, Combat Pistol Marksmanship Range; K-405, Hand Grenade Range; K-405G, Unknown Range; K-406, Machine Gun Range; K-406A, Cover and Clear Range; K-406B, Friend/Foe Reaction Range; K-407, Individual Quick Reaction Range; and K-408, Urban Obstacle Course. **Table 7-5** present's summary data for each of the 1970-Present era Area "K" ranges. The Reader is directed to the *Range Identification/Preliminary Range Assessment* for detailed data on the "K-2" Impact Area (paragraph 2.209), and the numerous surrounding ranges established to prepare Marines for combat.

**TABLE 7-5
 1970-Present "K" RANGES**

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
K-206	Unknown Range	Latitude: 34° 39' 28" N Longitude: 77° 25' 42" W Military Grid: 7745 3785	Unknown
K-211	M203 and MK 19 Grenade Launcher Range (a.k.a. K-211, M79 Grenade Launcher Range	Latitude: 34° 38' 06" N Longitude: 77° 25' 07" W Military Grid: 783 353	40mm Grenade, HE, and Practice from M79 Grenade Launchers, M203 and MK 19 Grenade Launchers, M60 Machine Guns, M249 Squad Automatic Weapons, M16 Rifles, and MP5's

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K-212	Infiltration and Individual Movement Range (a.k.a. Machine Gun Field Firing and Techniques of Night Fire Range)	Latitude: 34° 38' 06" N Longitude: 77° 25' 14" W Military Grid: 781 353	Firing of Service Ammunition from Small Arms (Machine Guns, Rifles, and Automatic Rifles .30 Caliber, 7.62mm, 5.56mm, and .50 Caliber Spotting Rifle (M48)).
K-301	Light Anti-armor Weapons and Shoulder-Launched Multipurpose Assault Weapon Range (a.k.a. K-301, LAAW and SMAW Range K-301, Rocket Launcher Field Firing Range)	Latitude: 34° 38' 26" N Longitude: 77° 24' 48" W Military Grid: 788 359	9mm Sub-Caliber, 35mm Sub-Caliber, 60mm Mortar (Illumination and Practice only), 66mm M72 LAW, 66mm M74 Incendiary Round, 81mm Mortar (Illumination and Practice only), 83mm SMAW, and 84mm AT-4
K-302	Field Firing and Battlesight Range	Latitude: 34° 38' 27" N Longitude: 77° 24' 28" W Military Grid: 793 359	Small Arms-Rifles and Auto-Rifles
K-303	Basic Technique of Fire and Mortar Field Firing Range	Latitude: 34° 38' 27" N Longitude: 77° 24' 16" W Military Grid: 796 359	Small Arms (.30 Caliber, .38 Caliber, .45 Caliber, 5.56mm, 7.62mm, 9mm, and 12 Gauge), 40mm Grenades, WP Hand Grenades, 60mm and 81mm Mortar (HE, WP, and Illumination), and Demolitions (1/2 lb Blocks, 1/4 lb TNT Blocks)
K-304	Helicopter Door Gunnery Range (1986)	Latitude: 34° 38' 27" N Longitude: 77° 24' 08" W Military Grid: 798 359	Small Arms
K-304	Infantry Weapons Range (1994)	Latitude: 34° 38' 27" N Longitude: 77° 24' 08" W Military Grid: 798 359	Small Arms, 40mm (HE & HEDP), 35mm M73 Sub-Caliber, 66mm M72 LAW, 83mm SMAW, 84mm AT-4, 60mm (all), and 81mm (all), DRAGON Missile
K-305	Infantry Weapons Demonstration Range	Latitude: 34° 38' 27" N Longitude: 77° 24' 04" W Military Grid: 799 359	Various Weapons Using Service Ammunition (1970); 9mm, .38, .45, M16, M60, SAW, MK19, M203, SMAW, M72, M73, 60mm & 81mm, & DRAGON (1986); 9mm, .38 Caliber, .45 Caliber, 5.56mm, 7.62mm, 40mm, 35mm Sub-Caliber, 66mm LAW, DRAGON Missile, 83mm SMAW, 84mm AT-4, 60mm & 81mm Mortar, 1/4 lb TNT, 12 Gauge (1994)

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K-309	Machine Gun and Light Anti-armor Range (a.k.a. K-309, Machine Gun and LAAW Range K-309, Fire and Movement Range)	Latitude: 34° 38' 28" N Longitude: 77° 23' 41" W Military Grid: 805 359	Small Arms, 35mm M73 Sub-Caliber, 60mm & 81mm Illumination, AT-4 Sub-Caliber, 3.5" Practice Rocket
K-312	Gas Chamber (K-312)	Military Grid: Grid Square 8036	Unknown
K-315	Night and Combat Field Firing Range (a.k.a. K-315, Combat Field Firing Range)	Latitude: 34° 38' 28" N Longitude: 77° 23' 25" W Military Grid: 809 359	Small Arms
K-317	Close Combat Range	Latitude: 34° 38' 25" N Longitude: 77° 23' 17" W Military Grid: 811 358	Small Arms
K-319	Field Firing Range	Latitude: 34° 38' 25" N Longitude: 77° 23' 09" W Military Grid: 813 358	Small arms, 60mm Illumination and Practice, 81mm Illumination and Practice
K-321	Transition Range	Latitude: 34° 38' 09" N Longitude: 77° 22' 49" W Military Grid: 818 353	Small Arms, 40mm Grenade (Illumination), 60mm Mortar (Illumination), and 81mm Mortar (Illumination)
K-322	Moving Realistic Target Range	Latitude: 34° 38' 22" N Longitude: 77° 22' 46" W Military Grid: 819 357	Small Arms
K-323	Grenade Launcher Range (a.k.a. K323, M79 Grenade Firing Range)	Latitude: 34° 38' 22" N Longitude: 77° 22' 46" W Military Grid: 819 357	Small Arms and 40mm Grenades (all types)
K-325	M72 Light Anti-armor Weapon and M203 Grenade Launcher Range (a.k.a. K-325, M72 LAAW Range K-325, Rocket Launcher Field Firing Range)	Latitude: 34° 38' 16" N Longitude: 77° 22' 30" W Military Grid: 823 355	35mm Sub-Caliber M73, 40mm Grenade, 66mm M72 LAW, 83mm SMAW, 84mm AT-4, and 3.5" Rocket (HE & WP)
K-326	EOD Disposal Site (a.k.a. EOD-2, Explosive Ordnance Disposal Range (Verona Loop))	Latitude: 34° 38' 48" N Longitude: 77° 22' 54" W Military Grid: 817 365	Demolitions and Unserviceable Ammunition Up To 25 Pounds Net TNT Equivalent Per Shot
K-402	Fire and Movement Range (a.k.a. K-402, Search and Kill Range (Michelin City) also, see K-402A, Search and Kill Range)	Latitude: 34° 37' 53" N Longitude: 77° 25' 30" W Military Grid: 777 349	Small Arms, Hand Grenades (HE and Practice), 40mm Grenade (Illumination only), 3.5" Rocket (Practice only), HE Hand Grenades Are only to be Used on the Michelin City Part of the Range
K-402A	Search and Kill Range	Located within Range K-4	Small Arms and Hand Grenades (HE and Practice)

K-405	Combat Pistol Marksmanship Range	Latitude: 34° 37' 50" N Longitude: 77° 25' 38" W Military Grid: Grid Square 775 348; (right flank at 775349 with Azimuth of 246° Grid, and left flank at 775347 with Azimuth of 240° Grid)	Small Arms (Service Pistols)
K-405	Hand Grenade Range	Latitude: 34° 37' 50" N Longitude: 77° 25' 38" W Military Grid: 775 348	Hand Grenades (HE ,WP, and Practice)
K-405G	Unknown Range	Adjacent to K-405	Unknown
K-406	Machine Gun Range	Latitude: 34° 37' 37" N Longitude: 77° 25' 29" W Military Grid: Grid Square 777 344	Small Arms and Demolitions (1/2 lb)
K-406A,	Cover and Clear Range (a.k.a. K-406A 1000-Inch Immovable Target Range (Battlesight Range))	Latitude: 34° 43' 04" N Longitude: 77° 25' 55" W (1994); Military Grids: 777 345 (11 Oct 85) 77345 (1 Dec 86) 773 445 (2 Jun 94)	Small Arms
K-406B	Friend/Foe Reaction Range	Uncertain, believed near K-406	Small Arms
K-407	Individual Quick Reaction Range	Latitude: 34° 37' 30" N Longitude: 77° 25' 29" W Military Grid: 777 342	Small Arms and 1/2 lb Demolition Charges
K-408	Urban Obstacle Course (a.k.a. K-408, Close Combat Range)	Latitude: 34° 37' 20" N Longitude: 77° 25' 37" W Military Grid: 775 339	Small Arms

7.5.10 Area "L"

Area "L" has been adequately covered in previous paragraphs 7.3.5 and 7.4.12. Still in use from 1970 through the present are the Rifle Range Complex (**Plate 22**) and the L-5 Multi-Purpose Machine Gun Range (**Plates 13, 16, 18, and 20**). For details on either training facility see the *Range Identification/Preliminary Range Assessment*.

7.5.11 Area "M"

The north part of sector "M", situated to the northeast of town of Verona and south-southwest of the New River Marine Corps Air Station, continued in use as a training/maneuver area during the 1970's. As shown of **Plates 13, 15, and 16**, there were six "range rule" eligible facilities determined through Archives Research. These were the M-104, Demolition Range; M-109, Infiltration Range; M-110, Demolitions and Booby Trap Range; M113, Hand Grenade Range (Practice) Demonstrator; M-115, Hand Grenade Range; and M-122, Flame Thrower Range. **Table 7-6** presents brief summary data on these 1970's era training/maneuver ranges.

TABLE 7-6
1970's Era "M" RANGES

RANGE	DESCRIPTION	LOCATION	MUNTION TYPES
M-104	Demolition Range	Latitude: 34° 41' 02" N Longitude: 77° 27' 45" W Military Grid: 744 408	Demolition Charges Not Exceeding Five Pound Net TNT Equivalent Per Shot
M-109	Infiltration Range	Latitude: 34° 41' 02" N Longitude: 77° 27' 17" W Military Grid: 751 408	Small Arms and Demolitions
M-110	Demolitions and Booby Trap Range	Military Grid: Grid Square 7441	Demolitions (Not to Exceed 20 Pounds Net TNT Equivalent), All Types of Land Mines and Booby Trap Simulators, Practice Hand Grenades
M113	Hand Grenade Range (Practice) Demonstrator	Latitude: 34° 41' 03" N Longitude: 77° 27' 06" W Military Grid: Grid Square 754 408	Hand Grenade: Incendiary M14, Illumination Mk 1, Smoke M18, WP M15 (for Demonstration Only), and Hand Grenade (Practice)
M-115	Hand Grenade Range	Latitude: 34° 41' 13" N Longitude: 77° 26' 54" W Military Grid: Grid Square 757 411	HE Hand Grenades
M-122	Flame Thrower Range	Military Grid: Grid Square 7541	None, only Flame Fuels used in Flame Throwers

7.5.12 Area "N"

Historical firing activities into the Impact Area "N" were summarized, in part, by paragraphs 7.3.11 and 7.4.14. It should be mentioned that one recent Base Order (1985) stated that Bombing Target 3 (BT-3) and the "N-1" Impact Area were the same area (**Plates 18 and 20**). BT-3 was authorized for aircraft ordnance less than 250 lbs of TNT equivalency, all types of artillery, all types of mortars, all ground weapons authorized for Ranges G-7/6/5 and TOW Missiles fired from rotary-wing aircraft. The 1994 Base Order authorized the firing of the following ammunition into BT-3/N-1: .50 Caliber, 5.56mm, 7.62mm, 20mm TP-T, 25mm TP-T/APDS-T, 30mm TP-T, 2.75 in rockets, 105mm, 120mm, 155mm, MK 76 Practice Bombs, MK 80 series inert filled bombs, 40mm practice grenades. The Reader is directed to the *Range Identification/Preliminary Range Assessment* for historical data on the N-1/BT-3 Impact Area.

7.5.13 Miscellaneous "Range Rule" Eligible Facilities

7.5.13.1 Live Minefield Site

Archival research found that in 1964, the Marine Corps Engineer School prepared plans for preparation activities and the conducting of a test to determine the service life of mines and demolitions under sandy, saline conditions. This test involved placement of various anti-personnel and anti-mines, and after a period of time, these mines would be tested for functioning, and the dud mines further examined. **Plate 20** shows the position of the Live Minefield Site at Latitude 34° 35' 58" N, Longitude 77° 15' 02" W, or Military Grid 936 310. The 1970 and 1986 Base Order stated that portion of the area enclosed by a line connecting grid coordinates 936310 to 939306 to 943309 to 943313 is a hazardous area, with no one allowed to enter the confines of the outer fence without escort. The time frame of use is 1964 to approximately 1979. A December 1978 document was recovered that estimated time and cost for the clearance operation. It remains uncertain as to the status of any clearing activity at the Live Minefield Site, but the area remains restricted. Munitions in general use included AP Mine, M16A1 AP Mine, M18A1 AP Mine, M15 AT Mine, M19 AT Mine, M21 AT Mine, M1 Pull Type Firing Device, M1 Release Type Firing Device, M1A1 Pressure Type Firing Device, and M3 Pull Release Type Firing Device

7.5.13.2 Base CS Chamber and NBC Training Trail

Plate 22 shows the location of the Base CS Chamber and NBC Training Trail Base that, as noted in various Base Orders, consisted of Buildings 934 and 935, and the CBT training area/trails behind Building 935. Training at the facility would have been from 1985 to at least 1987. Training would have used CS Chemical Agent, plus any of the following standard available simulants and munitions: Simulants Chemical Agent PEG 200; Training Set, Chemical Agent M72A1/A2; Blister Agent Simulant, Molasses Residuum; Training Ammunitions (i.e. Tear Gas Grenades, etc.); Atomic Explosion Simulator, DVC 39-1; Atomic Simulator (locally fabricated IAW FM 30-101); and Artillery Simulator, M110

7.5.13.3 Combat Town

From 1976 through the present, a Combat Town has existed at Latitude 34° 36' 24" N, Longitude 77° 18' 08" W, or Military Grid 889 319 (**Plate 20**). The 1985 Base Order authorized the use of blank small arms, practice and smoke hand grenades, practice land mines, various signals, pyrotechnics, and simulators, and Boobytrap devices at this site. The more recent 1994 Base Order authorized the use of practice anti-personnel mines, practice hand grenades, smoke grenades, pyrotechnics, flares, and blank ammunition.

7.5.13.4 Engineering Training Areas (MCES)

As shown on **Plate 20**, Five Engineering Training Areas (ETA-) were authorized by the 1994 Base Order, and were positioned at different sites throughout **MCB Camp Lejeune**. All are presently in use. ETA-1, Engineering Training Area (MCES) is located at Latitude 34° 34' 21" N, Longitude 77° 20' 57" W, or Military Grid 845 282. According to the Base Order at ETA-1, "Charges are not to exceed 50 lbs net TNT equivalency per

shot. Live land mines authorized only for demonstration purposes. Must be controlled fired. Bangalore Torpedoes require a 500M safety fan for personnel in the open." ETA-1 is in the general area of the former I-2 Demolition Area. ETA-2, Engineering Training Area (Mechanized Assault Course) is located at Latitude 34° 33' 47" N, Longitude 77° 19' 37" W, or Military Grid 865 271. According to the Base Order at ETA-2, "Charge not to exceed 27 lbs net TNT equivalency per shot. Only M68A1 inert line charge authorized. Live land mines authorized only for demonstration purposes. Must be controlled fired. Bangalore torpedoes require a 500M safety fan for personnel in the open." ETA-2 is located in Area "I" in the vicinity of sites previously used for fire and maneuver training. ETA-3, Engineering Training Area was authorized by the 1994 Base Order for a maximum demolition charge of 15 lbs net TNT equivalency per shot; live land mines authorized only for demonstration purposes; and Bangalore torpedoes require a 500M safety fan for personnel in the open. ETA-3 is positioned within Area "F" at Latitude 34° 41' 12" N, Longitude 77° 18' 59" W, or Military Grid 878 408. ETA-4, Engineering Training Area has the same authorized requirements as ETA-1, above. It is located in Area "G" at Latitude 34° 36' 42" N, Longitude 77° 16' 46" W, or Military Grid 910 324. The "G" Area has traditionally been used for ranges, as an impact area, and as a fire and maneuver area. Finally, ETA-5, Engineering Training Area (Verona Loop Complex) is authorized by the 1994 Base Order for "Maximum charge 20 lbs net TNT equivalency per shot. Bangalore torpedoes require a 500M safety fan for personnel in the open." ETA-5 is at Latitude 34° 38' 29" N, Longitude 77° 22' 26" W, or Military Grid 824 359 within Area "K", which has been historically been used for ranges, as an impact area, and as a fire and maneuver area.

7.5.13.5 MOUT Training Facility and Assault Course

The facility is positioned at Latitude 34° 39' 55" N, Longitude 77° 15' 05" W, or Military Grid 937 383, in Area "F" near the location of Field Firing Range F-3 (Plate 15). The MOUT Training Facility site contains 30 cinder block buildings, one administration building, and concrete/gravel roads. The 1994 Base Order authorized "Blank ammunition only. All blank ammunition, practice and smoke grenades (including riot control), pop-up/signal flares, artillery, and booby trap simulators are authorized." The MOUT Assault Course (MAC) has its primary direction of fire at 317°. The range consists of six stations. Station one is "Urban Quick Kill". Station two is "Search and Kill". Station three is an "Obstacle Course". Station four is a "Cover and Clear". Station five is known as "Dodge City". Station six was planned to be a "Grenade House", according to the 1994 Base Order. Grenades may have been used at this location, only if this facility was completed.

7.5.13.6 Rifle Range Buildings

Within the Rifle Range Complex, which has been described previously and is shown on Plate 21, exists an Indoor Pistol Range (Building RR-53), which appears on 1950 through 1996 base maps. Also, between 1950 through 1954, a Gas Chamber once existed in the

complex (Building RR-63). Small arms would have been fired at the Pistol Range, and likely tear gas used at the latter facility.

7.5.13.7 Unnamed Explosive Contaminated Range

First appearing on a 1973 map, and Unnamed Explosive Contaminated Range area is identified in Military Grid Squares 7728 and 7828 (**Plates 18 and 20**). Although the size and shape of the area is on maps from different time frames, the site is consistently found in the same general location. Aerial Photographic analysis indicates that this area may have been used as a dump since 1960. No information is available as to the estimated type or quantity of munitions used on this range.

7.5.13.8 Gas Chamber (2d Mar Div)

The 1970 Base Order lists this Gas Chamber as located in Grid Square 8738 (**Plate 15**) and being scheduled by CG, 2d Mar Div. The assumption is that teargas was used in this facility.

7.5.13.9 Gas Training Area

Research conducted recovered an article in the 11 April 1945 edition of the **Camp Lejeune Globe**, which identified "A wooded point of land on the south shore of Duck Creek pits into New River." The article described training area use as "field impregnation, decontamination, incendiaries and flame throwers, a decontamination center, mustard passages, first aid and meteorological stations. A 6 June 1945 issue of the **Camp Lejeune Globe** showed pictures and described a "mustard walk" where personnel in training encountered an area contaminated by exploding mustard mines. It is assumed that the munitions used consist primarily of Chemical Munitions, which include Smoke, Flame and Toxics. The news articles describing this site show photographs of the filling and detonating of M11 gallon Mustard Mines. The location is at approximately Grid Square 8534 based upon the newspaper articles (**Plate 15**).

7.5.13.10 Sites identified in by Previous Investigations and Environmental Reports

The following locations presently being addressed by ongoing environmental investigations and projects could be of further interest for eventual assessment under a future "range rule". Some sites may be addressed elsewhere in this range summary section. Relative to Maneuver Areas, Ranges and Targets, Ordnance and Explosives storage, and related OE issues, environmental reports have addressed the following:

- a. Camp Geiger Landfill (Site 41): Evidence indicates that limited disposal of some ordnance occurred at Site No. 41, the Camp Geiger Landfill, near the trailer park. On a non-routine, irregular basis, some ordnance was buried and some mortar shells were placed in dumpsters and ultimately taken to the landfill. A 105mm cannon shell apparently blew up while buried at this dump. The present status is that a fence was

erected around site and remedy includes semiannual long-term groundwater and surface water monitoring; deed restrictions, prohibiting development of site; amongst other groundwater and surface water measures.

b. MCAS Curtis Road Site (Site 76): During construction of Air Station housing to the north of Curtis Road, a bulldozer operation discovered glass ampules or vials that smelled an odor of "new-mowed hay". Subsequently, the area was cleared to a depth of 18 inches. These items were believed to be training aids of diluted phosgene. Based upon various soils, groundwater and related testing conducted by Baker, sites are likely considered for No Further Action, according to the *Fiscal Year 1998 Site Management Plan*.

c. Rifle Range Chemical Dump Potential (Site 69): CWM contamination in the form of "gas" burials was identified at Site 69, Rifle Range Chemical Dump. The present status is that fence be erected around site due to possible disposal operations involving drums of "gas" which possibly contain CE or other agents such as mustard gas; originally part of OU 4; and ongoing remedial investigation on groundwater contamination being conducted with ROD expected during 1998.

d. MCAS Basketball Site (Site 75): Potential CWM contamination in the form of "gas" burials was identified at Site 75, the MCAS Basketball Site. Based upon various soils, groundwater and related testing, the site is likely considered for No Further Action, according to the *Fiscal Year 1998 Site Management Plan*.

e. Explosive Ordnance Disposal Site (Site 12): An early 1960's Explosive Ordnance Disposal Site (Site 12) was identified in environmental reports for **MCB Camp Lejeune**. Based upon various soils, groundwater and related testing conducted by Baker, sites are likely considered for No Further Action, according to the *Fiscal Year 1998 Site Management Plan*.

f. An Explosive Ordnance Disposal K-326 Range Site (Site 20) is discussed in various environmental reports. This site has been addressed within the *Archives Search Report* and the *Range Identification/Preliminary Range Assessment*.

g. The Engineers TNT Burn Site (Site 67) was mentioned in engineering reports.

h. Mess Hall Grease Pit Disposal Area (Site 74): Site 74 (OU No. 4) was identified through a statement that mentioned CWM similar to the types documented at Site 69, were also were reportedly taken to Site 74. The results of subsequent investigations were that Site 74 poses no unacceptable risks, with remedy including deed restrictions (potential CWM), prohibiting development of site; restrictions on use of groundwater; and long term groundwater monitoring.

7.6 MCAS NEW RIVER

7.6.1 General

The "about 2,000-acre airbase at Peterfield Point" was commissioned on 19 October 1943, as the New River Outlying Field, and then later established as the Marine Corps Auxiliary Air Field (MCAAF), Camp Lejeune on 26 April 1944. With occupation during April 1944, it became one of several outlying airbases under the command of MCAS Cherry Point. It was closed after WW II until again commissioned in 1951. In 1950, the field had been in use primarily to support training operations on MCB Camp Lejeune, and as a terminus for air transport of personnel. Eventually named Marine Corps Air Station (MCAS), New River, it became a separate 2,772.24-acre command with the first assigned Helicopter Group arriving in July 1954. By the mid-1950's, the airfields at Oak Grove (see ASR for MCAS Cherry Point for training activities) and Camp Davis were assigned to New River as Helicopter Outlying Fields (HOLF). On June 8, 1972, MCAS New River was renamed McCutcheon Field in honor of the late General Keith Barr McCutcheon who had a long distinguished marine career and was instrumental in the development of many aviation concepts and techniques.

7.6.2 Summary of Ordnance and Explosive Activities

Summary descriptions of ranges used in training by aircraft assigned to MCAS New River have been discussed elsewhere in this and also other ASRs. There are no known ranges on the site itself. Arming of aircraft was conducted on the New River Air Station, and ready magazines existed on the airfield. CWM has always been present at MCB Camp Lejeune, and information on training locations has been furnished in these volumes. However, definitive data on quantities and storage were found lacking. From consideration of previous environmental investigations and remediation efforts, the potential for CWM contamination in the form of "gas" burials was identified at sites on the air station. These were Sites Nos. 75 (MCAS Basketball Site) and 76 (MCAS Curtis Road Site). A interviewed staff member stated that in 1958 or 1959, during construction of Air Station housing to the north of Curtis Road, a bulldozer operation discovered glass ampules or vials that smelled an odor of "new-mowed hay". Subsequently, the area was cleared to a depth of 18 inches. These items were believed to be training aids of diluted phosgene. Reports were that with Marines present in protective clothing, 55-gallon and possibly 5-gallon cans were placed in pits. During one incident, supposedly, some drums broke open, releasing a yellow or brown liquid that appeared like fuel oil, but was not fuel oil. Color and appearance suggested various chemical agents, distilled mustard gas, nitrogen mustard, and lewisite. As discussed above, the Pre-Remedial investigations for the MCAS Basketball and MCAS Curtis Road Sites concluded that likely both locations would involve No Further Action. This action was noted in the *Fiscal Year 1998 Site Management Plan*. Radiological activities were not evident from the research performed on MCB Camp Lejeune.

7.7 CAMP GEIGER

Camp Geiger or the "Tent Camp" area is located in "B" sector and all ranges discovered near this location have been summarized previously. From completed environmental projects, of interest for this ASR document, is the report that possibility "relatively small amounts of unexploded ordnance to have been discarded into dumpsters and then disposed of into buried landfills." Evidence seems to indicate that limited disposal of some ordnance occurred at Site 41, the Camp Geiger landfill, near the trailer park. According to the report, "On a non-routine, irregular basis, some ordnance was buried...some mortar shells were placed in dumpsters and ultimately taken to the landfill", and "A 105mm cannon shell apparently blew up while buried at this dump."

7.8 CAMP DAVIS AND CAMP DAVIS AIRFIELD

7.8.1 General

The Camp Davis Airfield was originally an Army Airfield established to support anti-aircraft training. It was closed and then disposed of at the end of WW II. Camp Davis was again commissioned when, on 4 June 1956, the Navy leased 955 acres of the old Camp Davis (the airfield area only) from International Paper Company, and established the area as a subordinate or outlying field for MCAS New River. Marine Corps Outlying Landing Field (MCOLF) Camp Davis was used in a manner similar to HOLF Oak Grove. MCB Camp Lejeune recently permanently acquired the MCOLF Camp Davis and other land as part of the base expansion at the Greater Sandy Run Training (GSRA) Area (Plate 23).

7.8.2 Summary of Ordnance and Explosive Activities

While under control of the army, the Marine Corps had a use permit to conduct training and maneuvers on all of Camp Davis prior to its disposal. Only ordnance activities associated with the Marine Corps activities were those in use during training exercises such as blank ammunition and simulators, and no pyrotechnics. Further review of the records for munitions and range activities indicated that all of the Camp Davis firing ranges were either west of the current GSRA or were located on the beach immediately south of the former camp. No former firing range areas were identified on the tracts recently acquired by the Marine Corps. The firing ranges that once were associated with Camp Davis will be, addressed under the Formerly Utilized Defense Sites (FUDS) program. Findings on Radiological activities were not evident from ASR research on MCB Camp Lejeune. Also the facility came under control of MCAS New River after the period when NBC training material was known to be in use.

7.9 CAMP JOHNSON

Camp Johnson is located nearby Montford Point (Area "A"), and all "range rule" eligible facilities and ranges within this sector have been addressed previously.

7.10 GREATER SANDY RUN TRAINING AREA

7.10.1 General

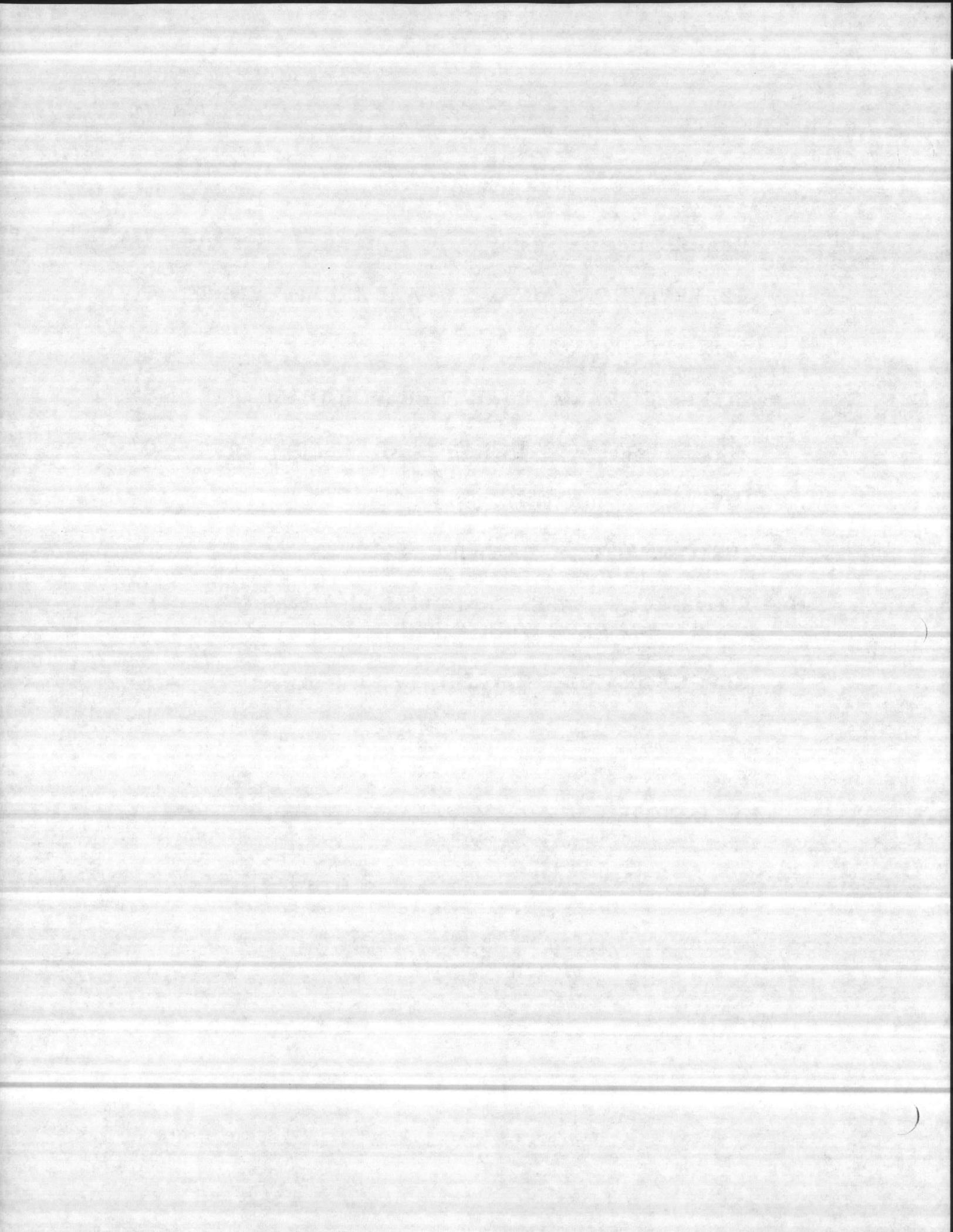
In 1989, a *Final EIS* was completed addressing the expansion and realignment of **MCB Camp Lejeune**. Earlier studies had shown that existing firing ranges were inadequate and that the land remaining for maneuver areas was insufficient at **Camp Lejeune**. The *EIS* concluded the acquisition of the Greater Sandy Run Area (GSRA), realignment of the main Base via relocation of the "F" series of ranges around the G-10 Impact Area, and the opening Starretts Meadows for maneuvers, was a Preferred Alternative Plan. The GSRA parcel (41,000 acres) was then acquired in 1992, and a series of *Master Plans*, the last in 1998, finally proposed 10 ranges (**Plate 23**). These were 2 multi-purpose tank training ranges; 3 multi-purpose machine gun ranges (MPMGs); 3 infantry fire and maneuver ranges (Infantry Platoon Battle Courses or IPBCs); and 2 anti-armor tracking ranges (AATRs). All planned ranges remained orientated to a common impact area. As of 1998, three firing ranges (SR-6, SR-7, and SR-10) with support facilities were nearing completion (**Plate 23**). Camp Davis, the former WW II airfield discussed above, was also acquired as part of the GSRA. This airfield consists of a road network and two runways dating from the early 1940's, and had been used intensively in the past by MCAS New River for training helicopter crews under lease arrangements.

7.10.2 Summary of Ordnance and Explosive Activities

Collected reports note that, "Only non-explosive steel or copper jacketed ordnance would be used on the proposed Multipurpose Range Complex (MPRX) in the southern sector and the Multipurpose Training Range (MPTR) in the northeast quadrant, so that the Surface Danger Zone (SDZ) would not be 'duded', and no long term unexploded ordnance and/or contamination hazards would be created."

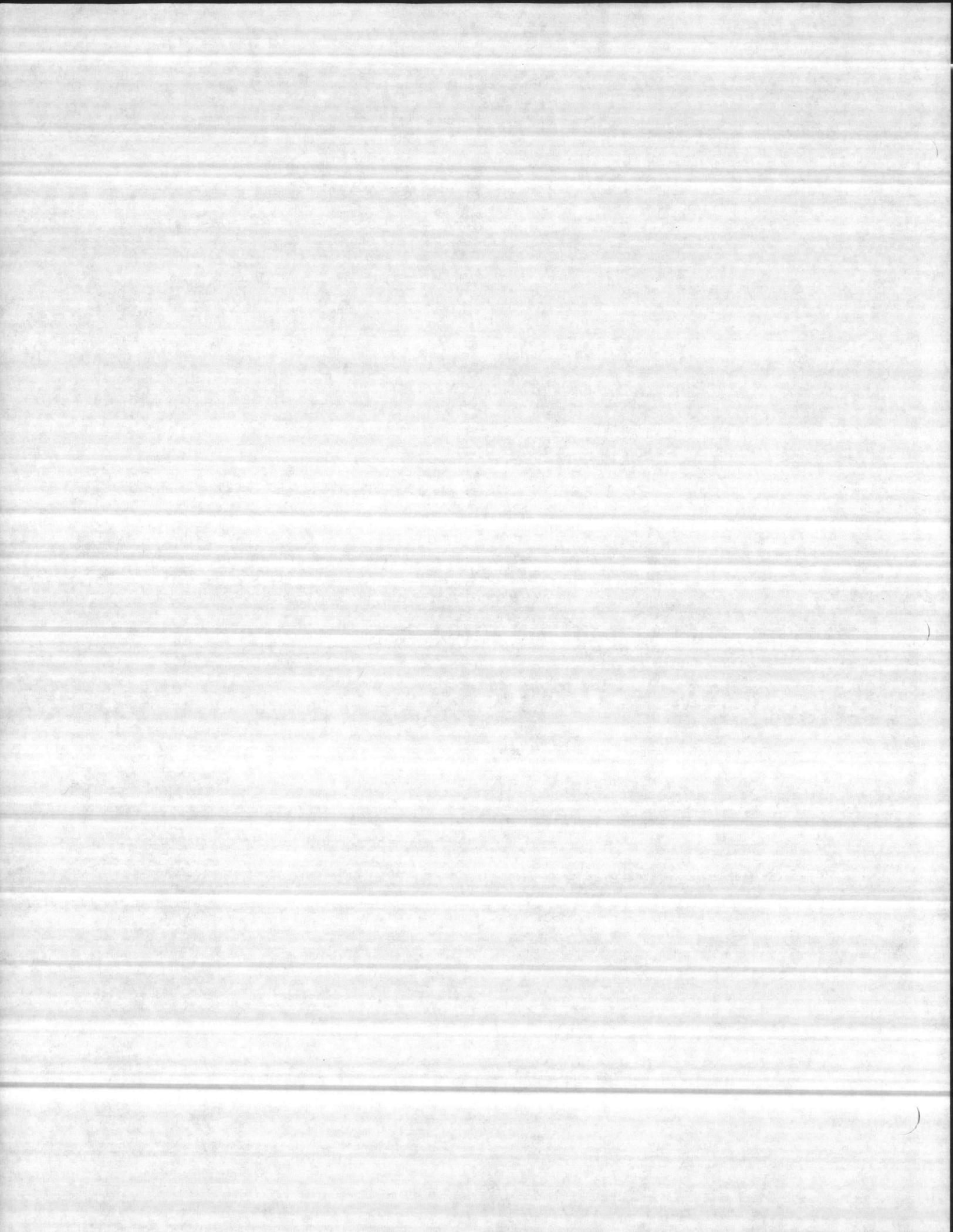
APPENDICES

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APPENDIX A

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APPENDIX A - REFERENCES

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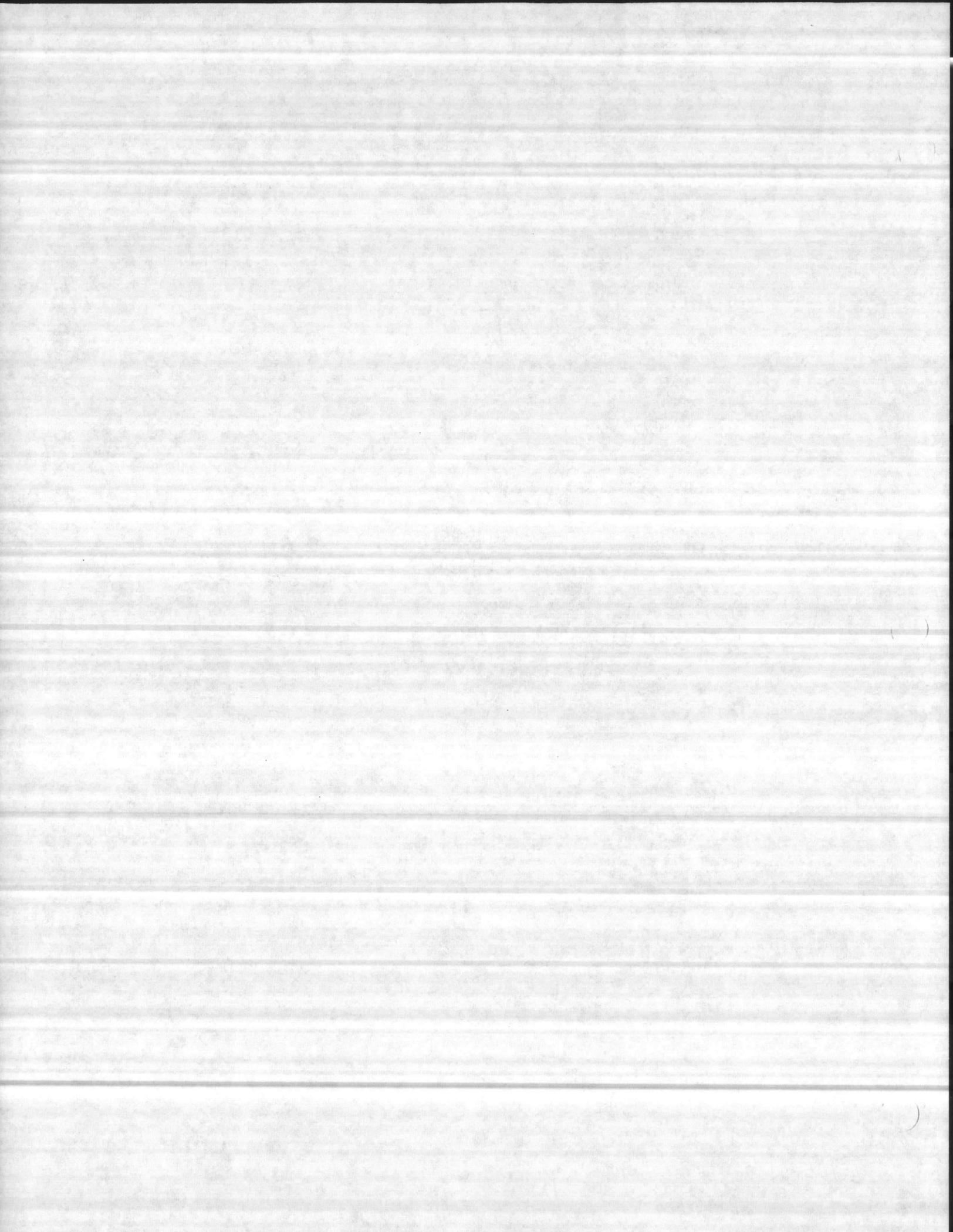
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APPENDIX B

**ABBREVIATIONS, ACRONYMS,
AND BREVITY CODES**

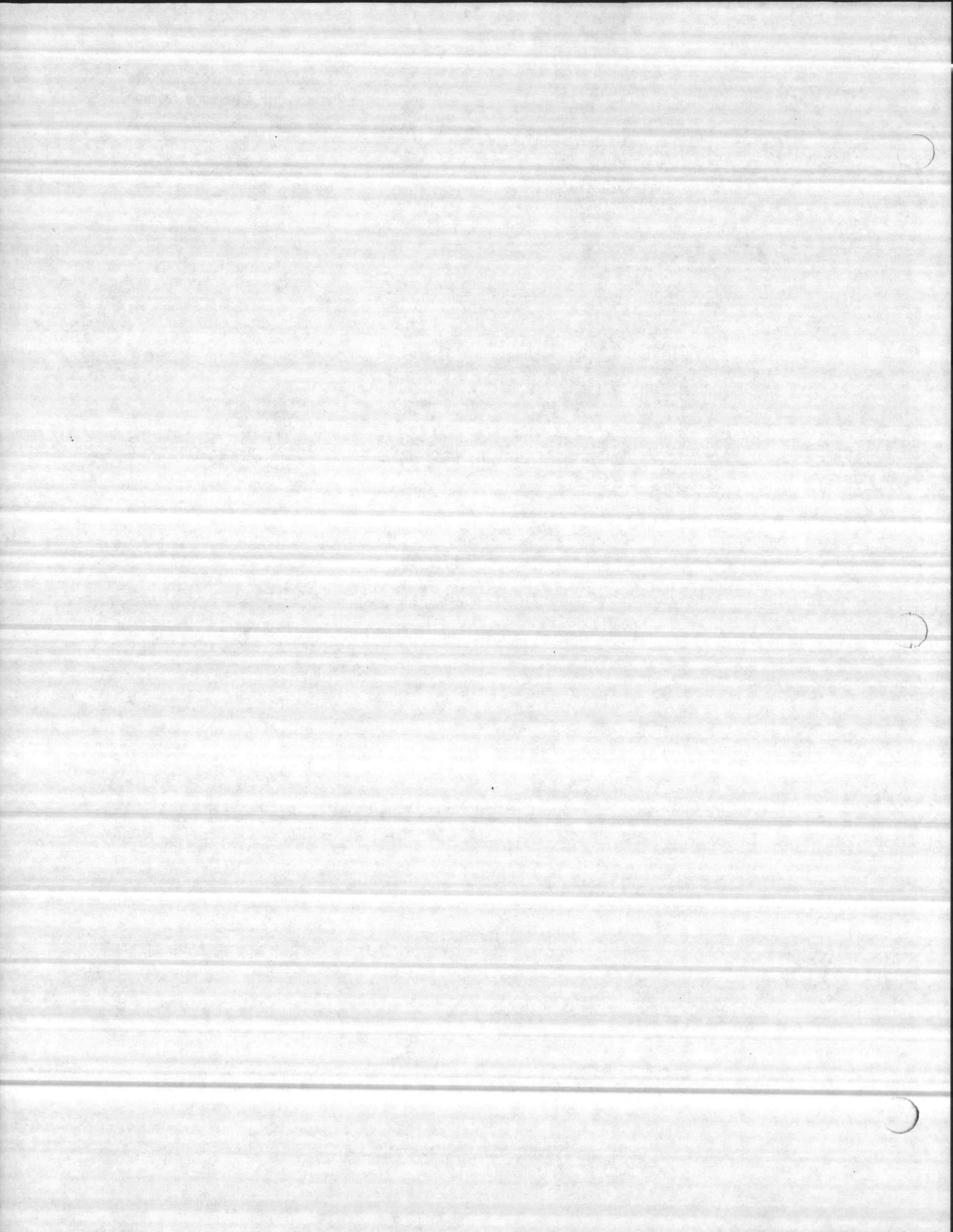


APPENDIX B - ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

AATR	Anti-Armor Tracking Range
AOC	Areas of Concern
ASR	Archives Search Report
BCP	Base Realignment and Closure Cleanup Plan
BNI	Bechtel National, Inc.
BO	Base Order
BRAC	Base Realignment and Closure
CADD	computer-Aided Design and Drafting
CEP	Circular Error of Probability
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term environmental Action Navy
CMI	Corrective Measure Implementation
COMCABWEST	Commander, Marine Corps Air Bases, Western Area
CS	Confirmation Study
CWM	Chemical Warfare Material
CX	Center of Expertise
DDESB	DoD Explosive Safety Board
DMA	Defense Mapping Agency
DoD	Department of Defense
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
FFA	Federal Facility Agreement
FGDC	Federal Geographic Data Committee
FMS	Fleet Marine Force
FS	Feasibility Study
FSSG	Force Service Support Group
FUDS	Formerly Used Defense Site
GPS	Global Positioning System
GSRA	Greater Sandy Run Area
HOLF	Helicopter Outlying Landing Field
IAS	Initial Assessment Study
IM	Interim Measures
IRP	Installation Restoration Program
JMM	J. M. Montgomery consulting Engineers, Inc.
LLRW	Low Level Radioactive Waste
LTA	Lighter-Than-Air
MAG	Marine Air Groups

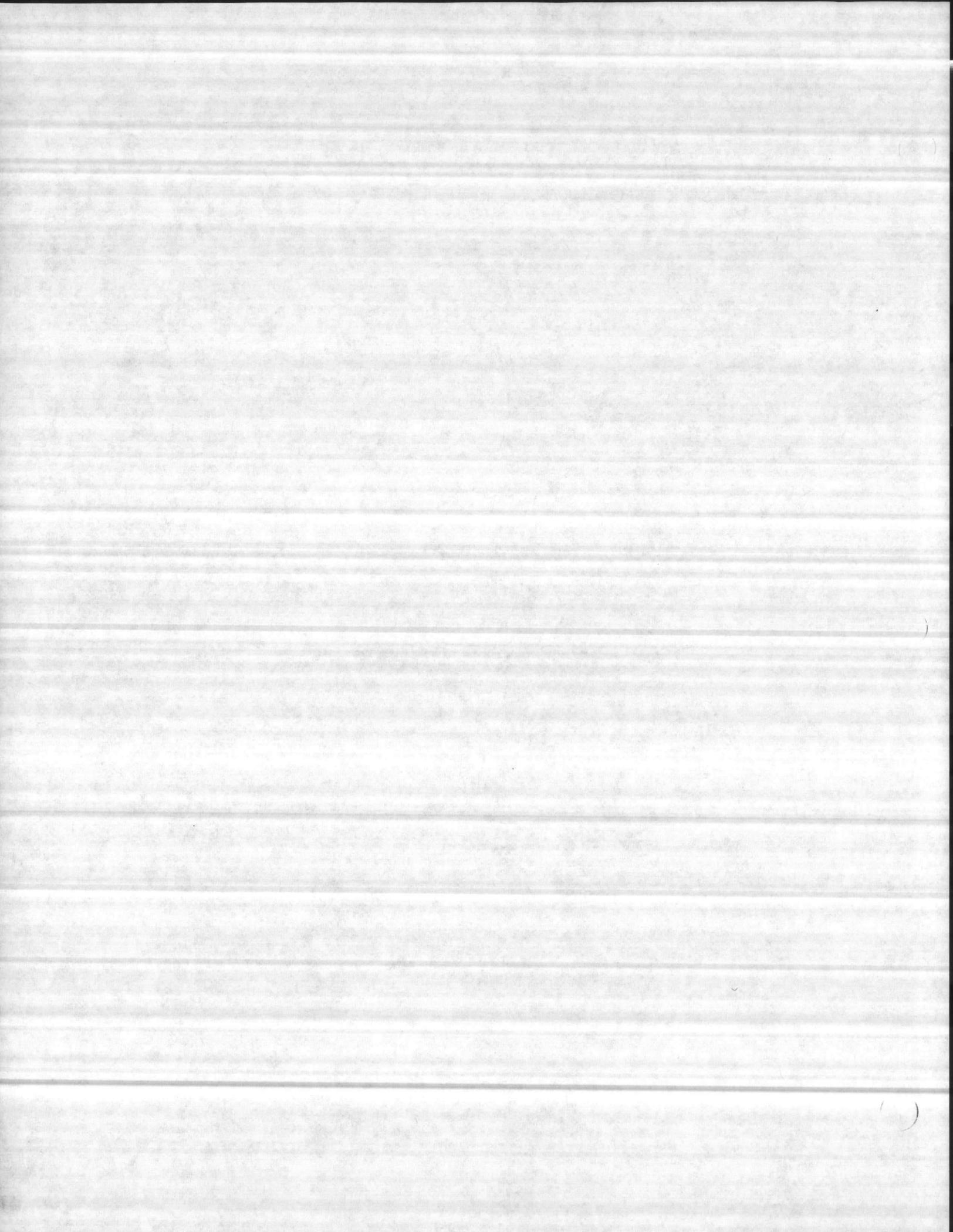
MAGTF	Marine Air Ground Task Force
MAR DIV	Marine Division
MARFORLANT	U.S. Marine Corps Forces Atlantic
MAW	Marine Aircraft Wing
MCAF	Marine Corps Auxiliary Field
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCO	Marine Corps Order
MCOLF	Marine Corps Outlying Field
MEB	Marine Expeditionary Brigade
MEF	Marine Expeditionary Force
MPRX	Multipurpose Range Complex
MPTR	Multipurpose Training Range
NACIP	Navy Assessment and Control of Installation Pollutants
NAVFAC	Naval Facilities Engineering Command
NEPA	National environmental Policy Act
NFA	No Further Action
NIMA	National Imaging and Mapping Agency
OE	Ordnance and Explosives
OU	Operable Unit
PA/SI	Preliminary Assessment/Site Inspection
PR	Preliminary Review
PWD	Public Works Development
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SDZ	Surface Danger Zone
SEP	Spherical Error of Probability
SI	Site Inspection
SJTF	Standing Joint Task Force
SOP	Standard Operating Procedure
SRIG	Surveillance, Reconnaissance and Intelligence Group
SSHPP	Site Safety and Health Plan
SWMU	Solid Waste Management Unit
USAESCH	U.S. Army Engineering and Support Center, Huntsville
USCINCLANT	U.S. Atlantic Command
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VISI	Visual Site Inspection
WAGE	Wide Area Enhancement

WGS	World Geodetic System
WW I	World War I
WW II	World War II



APPENDIX C

CITED REFERENCES



APPENDIX C - CITED REFERENCES

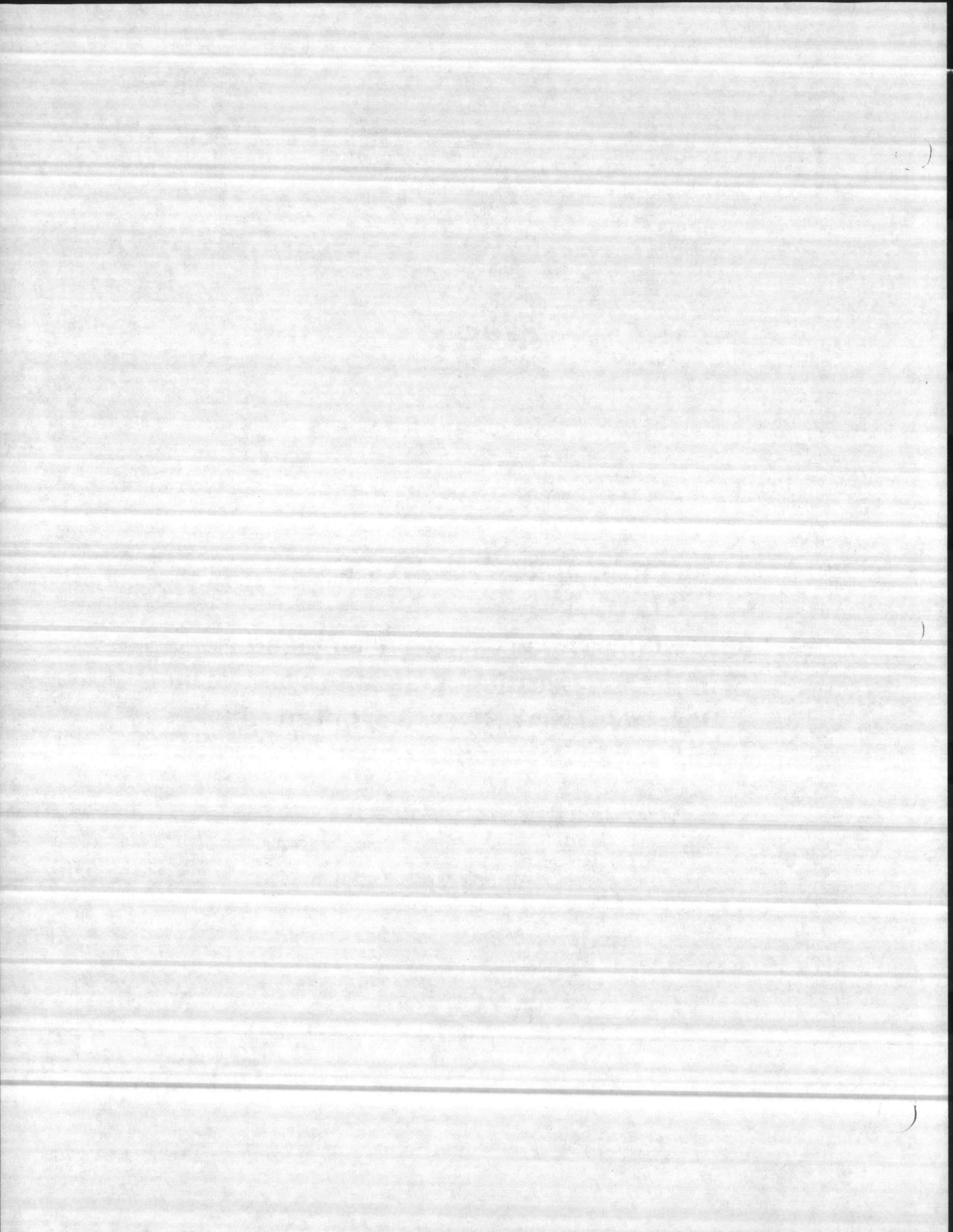
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APPENDIX C-1

Barrett, Charles D., 1941

**Letter to the Major General Commandant,
SUBJECT: Location of Facilities at Marine
Barracks, New River, North Carolina,
20 September 1941**



IN REPLYING
REFER TO No.

AO-283-gjf



HEADQUARTERS U. S. MARINE CORPS

WASHINGTON

9567

20 September 1941.

MEMORANDUM:

From: The Director, Division of Plans & Policies.
To : The Major General Commandant.

Subject: Location of Facilities at Marine Barracks,
New River, North Carolina.

References: (a) Report of Permanent Board to recommend
location of facilities at New River,
dated 5 Aug 1941, w/3 Ends. thereon.
(b) Report of Maj W T Evans to MGC, dated
9 July 1941, w/9 Ends. thereon.
(c) DP&P Pending Study #9590, dated
5 Sept 1941, enclosing report of Lt.
Col. T. J. Cushman, USMC, dated
11 Aug 1941, w/End. of DirAv thereon.

I. DISCUSSION:

1. Reference (a) contains recommendations
covering the location of the following facilities at Marine
Barracks, New River:

Landing Field - Southwest of Tent Camp. Site A.
AA Firing Range - Site M, Hurst Beach.
Barrage Balloon - Courthouse Bay.
Parachute Jumping
Fields - Landing fields and other cleared
areas.
Parachute Tower - Site previously selected east of
Hadnot Point.
Glider Base - Site E, between Ragged Point, Mumford
Point and Paradise Point on New
River Inlet with shore facilities on
same side of inlet as landing field.
5" Gun Firing Area - Same as AA range on Hurst Beach.
Boat Gun Range - Site J, on Onslow Beach.
Amphibian Tractors - Courthouse Bay.
Boat Basin - Courthouse Bay.
Anti-mechanized Range - Site K, near Gillette.

12/15/98 Archives II
RG 727 Marine Corps
Jan 1939 - Jun 1950
1275/70-2815 (8/40-
to 5/42)
1275/70-2270 (4/41-
202 No. 229 9/41)

DECLASSIFIED

Authority: 77510

BY SP-6 J. M. H. / J. M. H. / J. M. H.

2. References (a) and (c) recommend that the landing field be established at Site A, southwest of the tent camp. A topographical survey of this area has been completed and it is understood from conversation with the Liaison Officer at New River that an estimate of the cost of clearing and draining Site A will be available in about one week. Reference (b) recommends the site between route 24 and Northeast Creek, or Site B in the report of the Permanent Board, which that board recommended as an alternate site in the event Site A proved too costly to clear. The Director of Aviation now recommends that Site B be adopted subject to its suitability as determined by a topographical survey. In view of all circumstances, including the fact that a topographical survey has already been made of Site A, and the possible interference of Site B with future activities at the Post, it is believed that Site A should be adopted if the cost can be brought within the limit of \$800,000. originally estimated; otherwise, that site B be given further consideration.

3. The Board recommended the site for the antimechanized range in the vicinity of Courthouse Bay, which involves firing across the New River Inlet. This also would probably involve some adjustment in the location of the Duck Creek - Sneads Ferry. When that road is paved, which may not be practicable because of the nature of the terrain. It is believed that the area between Stone Creek and Stone Bay, considered as Site No. 2 for the location of the rifle range, presents more possibilities as an antimechanized range, and its location there would involve considerably less interference with other activities of the Post.

4. Subject to the above, it is proposed that the report of the Board be approved.

II. ACTION RECOMMENDED:

1. That the facilities mentioned below be established at the sites indicated and that the necessary instructions be issued and arrangements made accordingly:

(a) Landing Field

Site A, southwest of tent camp subject *changed as*
to feasibility with respect to cost; otherwise that a *acc with*
topographical survey be made of Site B, north of Northeast

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Auth: 775120

RV

(C) FOURTH DISTRICT

RECOMMENDATION OF THE QUARTERMASTER CONCERNING THE
ESTABLISHMENT OF THE QUARTERMASTER'S OFFICE AT
STONE BAY ON THE WEST BANK OF STONE CREEK, WISCONSIN
BY THE BOARD OF WHICH COLONEL W. C. JAMES WAS SENIOR MEMBER

(j) Antimechanized Range

Between Stone Creek and Stone Bay on the west bank of the inlet on the site indicated as Rifle Range Site No. 2 by the Board of which Colonel W. C. James was Senior Member. *changes in acc with rt*

(Action - The Quartermaster.)

2. That budgetary estimates be prepared for the establishment of the above facilities not already provided for. (Action - The Quartermaster; Division of Plans and Policies, M-4.)

III. CONCURRENCES:

- 1. The Adjutant and Inspector concurs. *BAO*
- 2. The Quartermaster concurs. *SW*
- 3. The Division of Aviation concurs. *except in Rec. 1a. Ann*

Charles D. Barrett

CHARLES D. BARRETT.

RECOMMENDATION	
APPROVED <i>[Signature]</i>	(1) To D. P. & P. for information (2) To <i>below</i> for action
DISAPPROVED	(1) To D. P. & P. for information (2) _____ for action

Dir:	<i>[Signature]</i>
Exec:	<i>[Signature]</i>
M-3:	<i>[Signature]</i>
M-3A:	<i>[Signature]</i>
M-4:	<i>[Signature]</i>

QUARTERMASTER

ACTION TAKEN *280 47*
COPY

After action is taken return to Division of Plans and Policies

HVS

DECLASSIFIED
Authority: 775120
By: _____

DEPARTMENT OF THE ARMY: DIRECTOR OF
S. THE ARMY ENGINEERING CENTER
(LOCATION - THE ENGINEERING CENTER)
S. 2. THESE ARE THE...
THE ARMY ENGINEERING CENTER
THE ARMY ENGINEERING CENTER

AO-283-gjf

20 September 1941.

MEMORANDUM:

Subject: Location of Facilities at Marine Barracks,
New River, North Carolina.

ACTION SHEET

Division of
Plans and Policies
M-4

ACTION TAKEN *mm* *29 Sept 41* *N B M*
COPY (date) (initials)
After action is taken return to Division of Plans and Policies.

DIVISION OF AVIATION

ACTION TAKEN *mm* *29 Sept 41* (initials)
COPY (date) (initials)
After action is taken return to Division of Plans and Policies.

PREPAREDNESS

ACTION TAKEN *mm* *29 Sept 1941* *ps*
COPY (date) (initials)
After action is taken return to Division of Plans and Policies.

Subject:

Reference:

VO-520-511

REPUBLICAN PARTY
NATIONAL COMMITTEE
WASHINGTON, D. C.

U. S. GOVERNMENT PRINTING OFFICE

Excerpts from

**REPORT OF PERMANENT BOARD TO RECOMMEND
THE LOCATION OF FACILITIES AT MARINE
BARRACKS, NEW RIVER, NORTH CAROLINA, OF
WHICH COLONEL W. G. HAWTHORNE, U.S.M.C.,
IS SENIOR MEMBER.**

UNDER ORDERS DATED

31 JULY 1941.

01 2 10

*M
L*

FORWARDED TO
SEP 3 10 39 AM '41

DECLASSIFIED
Authority 775120

(Copy gjf)

"B"

0413-1
AN-114-ebh

31 July, 1941.

From: The Major General Commandant.
 To : Colonel William G. Hawthorne, Marine Corps,
 First Marine Division, Fleet Marine Force,
 Marine Barracks, Quantico, Virginia.

Via : The Commanding General, Marine Barracks, Quan-
 tico, Virginia.
 The Commanding Officer, Rear Echelon, First
 Marine Division, Fleet Marine Force, Marine
 Barracks, Quantico, Virginia.

Subject: Orders to temporary duty.

1. You will proceed to the Marine Barracks, New River, N.C., in time to arrive at that place on 5 August, 1941, on temporary duty as senior member of the permanent board to recommend location of facilities at the Marine Barracks, New River, N.C., for the purpose of making recommendations as to the location of barrage balloon facilities and antiaircraft firing range, there. On the completion of this temporary duty, you will return to the Marine Barracks, Quantico, Va., and resume your regular duties.

2. The travel herein enjoined is necessary in the public service.

/s/ T. HOLCOMB.

Copy to: The Paymaster - 3,
 Col. Hawthorne -2.

"B"

DECLASSIFIED
 AUTHORITY 775120
 BY

MARINE BARRACKS, NEW RIVER, NORTH CAROLINA:

The Board met at 1700, 5 August 1941. Permanent members present were:

Colonel W. G. Hawthorne, USMC
Lieutenant Colonel W. P. T. Hill, USMC
Lieutenant Colonel W. W. Rogers, USMC
Lieutenant Colonel T. J. Cushman, USMC

Specialist representatives present were:

Lieutenant Colonel R. A. Knapp, USMC -Antiaircraft.
Major B. L. Smith, USMC(R) -Barrage Balloon.

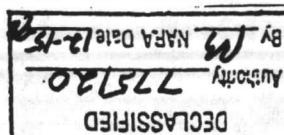
The order appointing the Board, copy prefixed marked "A", and the specific directive for convening the Board at Marine Barracks, New River, copy prefixed marked "B", were read. The Board determined on its procedure.

In addition to the directive contained in prefix "B" to recommend the location of antiaircraft firing ranges and barrage balloon facilities, the Board received oral instructions from the Major General Commandant to consider the locations of the following facilities:

Landing Field.
Parachute Jumping Field.
Site for Glider Operation and Training.
Parachute Tower.
✓ Boat Gun Range.
✓ 5" Firing Range.
✓ Anti-mechanized Range.
✓ Boat Basin.
✓ Amphibian Tractor Base.

The Board first considered the factors governing the location of each activity and adopted as a general guide the following:

- (a) Suitable terrain and water area where appropriate for the activity concerned.
- (b) Accessibility.
- (c) Avoidance of interference with other activities.
- (d) Cost of development.
- (e) Time required for development.
- (f) Convenience to related activities.



As the location of other activities and facilities is contingent to a great extent on the location of the air field, this activity was considered first. The sites considered for an auxiliary air field were as follows:

Site "A" (southwest of tent camp). See Enclosures (A) and (B).

Site "B" (north of Northeast Creek).

Site "C" (north of Coddington Estate on Holmes Point).

Site "D" (northeast of Verona).

All the above sites were visited and the following conclusions were reached:

Site "A" (southwest of tent camp) -

Suitable terrain of sufficient area appears to be available, subject to the results of a topographical survey now in progress. The southern portion of this field is wooded and the whole area may require drainage.

This area is accessible to roads and railroads.

It avoids interference with other camp activities to the maximum extent practicable in the New River area.

The cost of development and the time required for this development is dependent on the results of the survey now in progress.

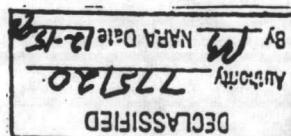
This area is not particularly suitable for operation in conjunction with amphibious glider training due to its distance from New River Inlet, but it appears that access to the west bank of New River Inlet can be improved at moderate cost.

Site "B" (north of Northeast Creek) -

The area available at this site is limited by Northeast Creek on the south and east and by the railroad and highway on the north side.

Less clearing will be necessary at this site than at Site "A" to establish runways of minimum length, but the development of 8000 ft. runways may prove impracticable.

This area is more accessible to other post activities than any other site considered.



The cost and time required for development would probably be less than that required for Site "A".

This site appears to be acceptable from the standpoint of interference with other activities, except for the fact that take-off and landing will normally be over the quarters area and over the proposed housing project north of Route 24.

This area would be suitable for operation in conjunction with amphibious glider training.

Site "C" (on Holmes Point) -

Terrain is limited except in a north-south direction.

It is inaccessible to other camp activities.

Interference with the use of the artillery impact area will probably preclude utilization of this site for an air field.

Site "D" (northeast of Verona) -

The length of runways will probably be limited to a maximum of 5000 ft. due to the existence of streams.

It is relatively inaccessible.

It would interfere to some extent with the utilization of the artillery impact area.

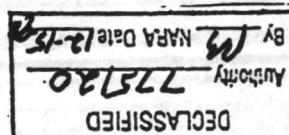
This area is unsuitable for operations in conjunction with water-borne gliders, but it is believed that at a low cost this area could be cleared and made suitable as an alternate landing field, both for planes and gliders.

It is not recommended as the main air field.

Site "A" is considered to be the best landing field site, subject to the acceptability as to cost and time of development, considering the advantages noted above and its suitability for future expansion. Site "B" is recommended as an alternate site.

ANTI-AIRCRAFT FIRING RANGE:

The Board then considered the location for an antiaircraft firing range to seaward. The Board proceeded to Camp Davis,



North Carolina to interview the Army authorities in order that mutually satisfactory firing sectors could be allocated, and visited the site nearest the Marine Base to be used by the Army for AA firing to seaward.

It was found that as a result of previous conferences between Lieutenant Colonel R. A. Knapp, USMC, and Camp Davis authorities, the Army had already located the Marine Corps firing sector for New River, and this sector is shown on the enclosure to Enclosure (C) as Sector No. 1, centered on Hurst Beach.

This firing area appears suitable as firing may be conducted by antiaircraft artillery, 5" artillery, and other anti-aircraft weapons from the center on the beach indicated in the above mentioned enclosure, and the entire beach area from 1000 yards east of the end of Duck Creek Road on the coast to Browns Inlet will be available for firing positions. Use of the beach as a road will be necessary for access to firing positions at the eastern end of the beach. The firing sectors shown are of a 25,000 yard radius, but this extreme limit will not be required with any weapons now available to the Marine Corps or the Army. Coordination will be necessary with the Army, however, in view of the necessity for assigning appropriate airplane towing areas when firing is being conducted in Sectors 1 and 2 simultaneously.

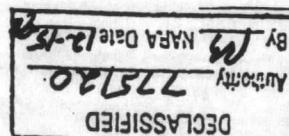
Enclosure (D) forwards a letter from the Wallace Fisheries Company, Morehead City, North Carolina suggesting certain restrictions on the full use of Sector 1. It appears that most of these requests can be met and that therefore no change should be made in Sector 1 as proposed by the Army. A definite survey with instruments will be necessary to locate exact firing positions and base end stations.

PARACHUTE JUMPING FIELD:

Sites suitable for parachute jumping from airplanes are available at Site "A" landing field (southwest of tent camp); Site "B" landing field (north of Northeast Creek); and jumping may be conducted at several sites in the area in connection with tactical problems. The landing field sites shown as "C" and "D" on Enclosure (A) may also be available.

PARACHUTE TOWER:

The Board examined the site previously selected for installation of a parachute tower. This site appears to be suitable, subject to soil bearing tests then in progress to determine whether or not the tower can be safely erected at that point. This site is suitable and readily accessible to the barracks area, which will necessitate the installation of a minimum of facilities.



BARRAGE BALLOON LOCATION:

Three sites were examined:

(a) Site "G", Enclosure (A), in the vicinity of Marines on the southeast side of Courthouse Bay. This site has suitable terrain and water area. It is readily accessible by road and water. It appears that a minimum of interference will be caused with other activities, except for possible interference with aircraft artillery spotting and with glider operations if Stone Bay is adopted as a glider base. The existence of a number of buildings in the vicinity of the town of Marines will permit their utilization as temporary quarters, and certain buildings may, with some repairs and additions, be utilized as temporary shops. The extent of repairs necessary and the capacity of existing buildings cannot be determined with accuracy until this section has been acquired.

Due to their dispersion and general unsuitability as barracks it is not recommended that existing buildings be considered as permanent barracks. Some hangar space and shop facilities should be provided as soon as practicable after installation of barrage balloons, wherever located at New River.

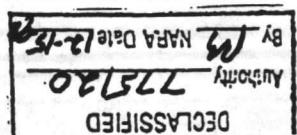
(b) Site "H", in the Gillette Landing-Browns Inlet area. This site would probably cause the minimum of interference with other activities. No facilities or barracks are available.

(c) Site "I" is the main barracks area. This area would be the most convenient from the standpoint of facilities and convenience to barracks. Its proximity to the area of projected aerial activity, the possible interference with other activities in the barracks area, and the fact that it will not be available until sometime in 1942, appears to preclude its adoption as a site for barrage balloon operation.

It appears that Site "G", on Courthouse Bay, offers the best facilities for the initial establishment of barrage balloon activities, provided at least two-thirds of the buildings available in the Marines area are assigned to this unit. In the event that temporary operation of barrage balloons at Courthouse Bay develops interference with aerial activities in that area, permanent facilities could then be located in the vicinity of Gillette Landing at Site "H".

GLIDER BASE:

In view of the fact that Marine Corps employment of transport gliders will probably be by water, the Board attempted to



locate a suitable water area which would be accessible to shore facilities or adaptable to the installation of such facilities. The selected air fields will provide suitable facilities for the operation of gliders as land planes.

Two sites are available in the New River Inlet:

(a) Site "E", Enclosure (A), between Mumford Point, Paradise Point, and Ragged Point. This site offers sufficient water area for take-off and landing, subject to possible minor dredging to clear spoil areas for patrol plane take-offs. The depth of water appears to be adequate. Mooring basins and shore facilities can be established on the west side of the Inlet if the landing field is established at Site "A", or in Northeast Creek if the landing field is established at Site "B". This area is accessible to all activities. A clear pathway should be constructed to the airfield over which large gliders can be towed. Some take-offs will be necessary over the quarters area and slight changes will be necessary in the northwest boundary of the artillery impact area.

(b) Site "F", in Stone Bay. This site contains the largest open water area available. The depth of water appears to be adequate. The mooring area would be located in the mouth of Stone Creek.

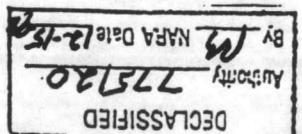
This area is distant from airfields, is inaccessible to the camp area, interferes with the artillery impact area, and would be interfered with by barrage balloons at Courthouse Bay, and those operated by the Army south of Iixon.

The Board recommends Site "E", Ragged Point area, as the base for water-borne glider operations, land glider operations to be conducted from the selected air field. Shore facilities to be established on the side of New River Inlet on which the airfield is established.

Stone Bay should be utilized as an alternate landing site, and the entire inlet will be available for landing when artillery is not firing beyond the east bank of New River. Fields in the vicinity, such as Sites "B", "C", and "D", Enclosure (A), can be utilized for emergency landings and these sites should be cleared of isolated trees to permit such landings.

BOAT GUN RANGE:

Two targets 100 yards by 6 feet and sufficient point targets will require a beach area approximately 300 yards in length. The danger zone inland should be approximately 20 degrees to each side of the beach limits of the range and approximately 5500 yards in depth for .30 caliber machine gun firing.



In order to avoid beach houses two general sites were considered; first, a site to the eastward of the inland waterway ferry; and second, a site to the westward of the ferry, each clear of the built up area. The site to the eastward would interfere with the Duck Creek Crossroads and with the recommended antiaircraft firing positions.

Site "J", Enclosure (A), west of Duck Creek Road, was selected as the most suitable site. The danger zone falls largely into the artillery impact area. It lies to the westward of the Duck Creek Crossroad, and to the eastward of the usable area of Traps Bay. It is desirable to avoid Traps Bay if practicable as this area may be developed into a ship basin.

Boat gun firing may also be conducted on the west bank of New River Inlet opposite the barracks area when the impact area is not being used. This section was not considered as the main site because of the desirability of having surf conditions for such firing.

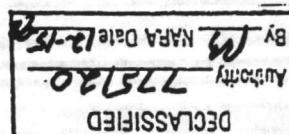
BOAT BASIN:

The necessity for being within a reasonable distance of the coast limited consideration of sites for the boat and amphibian tractor bases to the area east of Sneads Ferry Bridge and the French Creek area.

A reconnaissance of the beach and of the water area of Courthouse Bay shows that it is suitable as a boat and amphibian base. Plans have been prepared by the Resident Officer-in-Charge for the establishment of boat storage facilities on the west bank of Courthouse Bay. See Enclosure (E). The distance of this site from the barracks area will necessitate the construction of barracks in the Courthouse Bay area. This will also be necessary for barrage balloon personnel. A site at the head of Courthouse Bay would require the utilization of the same water, sewerage, and other such facilities for both activities. One-third of the quarters facilities at Marines should be sufficient for housing personnel initially, which would leave two-thirds of these facilities for the barrage balloon personnel.

French Creek offers a convenient location near the barracks area. The water appears to be of sufficient depth, although somewhat restricted. Amphibian tractors would require a minimum of two hours to reach the ocean from this area.

It is recommended that Courthouse Bay be adopted as the main boat and amphibian tractor base, with minor facilities at French Creek for use in connection with training within the inlet.



ANTI-MECHANIZED RANGE:

Subcaliber anti-mechanized ranges may be located in the vicinity of the rifle range and at other points in the area.

A full scale anti-mechanized range requires a firing range of from 250 to 1000 yards for installation of tracks, and a danger area up to five miles when 75mm guns are fired as anti-tank weapons. The area should be such that direct fire at moving targets is practicable without damage to the target carrying cars. Targets should be outside the impact area to avoid damage to the installation, which, it is understood, costs up to \$225,000.

The area marked Site "K", Enclosure (A), east of Gillette, appears to offer the best possibility although some clearing and grading will be necessary. It is convenient to a good road, the targets can be located outside the boundaries of the impact area, and the artillery impact area adjoining is of sufficient extent to permit firing up to 75mm guns.

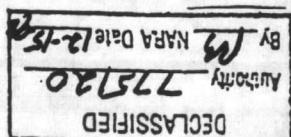
The area south of French Creek, Site "L", was also considered. This area would require more clearing than Site "K", and it can be reached only by a dirt road.

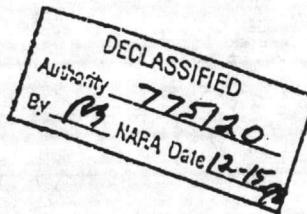
A detailed reconnaissance is recommended for this activity after full data is obtained from the Army as to the specifications for an anti-mechanized range.

FINDINGS:

After full consideration of the factors involved, the Board recommends location of facilities as follows:

- ✓ Landing Field - Site "A" (southwest of tent camp.)
Site "B", alternate.
- no Antiaircraft Firing Range - Site "M", Enclosure (A),
shown as Sector 1, Enclosure (C).
- ✓ Barrage Balloon - Site "G", Courthouse Bay, temporarily,
and permanently if facilities can be
made available and interference with
other essential activities does not
develop.
Site "H", Gillette Landing-Browns
Inlet area, alternate.
- ✓ Parachute Jumping Fields - Landing fields and other
cleared areas.





Parachute Tower - Site previously selected, subject to soil bearing tests.

Glider Base - Site "E", Ragged Point area, for water-borne glider operations.
Landing field for land operations.
Facilities and mooring basin on side of New River Inlet selected for airfield.

5" Firing Area - In antiaircraft firing sector.

Boat Gun Range - Site "J", Onslow Beach. West bank of New River Inlet in Farness Bay.

Boat Basin - Courthouse Bay. French Creek secondary.

Amphibian Tractors - Courthouse Bay. French Creek secondary.

Anti-mechanized Range - Site "K", Gillette, subject to reconnaissance after determining specifications.

[Signature]
WILLIAM G. HAWTHORNE,
Colonel, U. S. Marine Corps.

William P. T. Hill,
WILLIAM P. T. HILL,
Lieutenant Colonel, U.S. Marine Corps.

[Signature]
WILLIAM W. ROGERS,
Lieutenant Colonel, U.S. Marine Corps.

[Signature]
THOMAS J. CUSHMAN,
Lieutenant Colonel, U.S. Marine Corps.

I concur in the above report as far as pertaining to the location of Antiaircraft Firing Ranges.

[Signature]
RAYMOND A. KNAPP,
Lieutenant Colonel, U.S. Marine Corps.

I concur in the above report as far as pertains to the location of Barrage Balloon facilities.

[Signature]
BERNARD L. SMITH,
Lieutenant Colonel, U.S. Marine Corps.

ADDRESS REPLY TO
DISTRICT ENGINEER
U. S. ENGINEER OFFICE
WILMINGTON, NORTH CAROLINA

WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE

308 CUSTOMHOUSE
WILMINGTON, NORTH CAROLINA

REFER TO FILE NO. _____

August 6, 1941 H

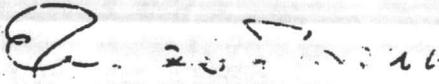
Colonel W. P. T. Hill,
U. S. Marine Base, New River,
c/o Col. Hawthorne's Tent Camp,
Jacksonville, N. C.

My dear Colonel:-

At a public hearing held on July 25, 1941, for the purpose of considering rules and regulations relative to the designation of danger zones for firing ranges for Camp Davis, it was brought out that it would also probably be desirable to establish a similar danger zone for the Marine Base on New River. Accordingly, the revision of the rules and regulations considered at the public hearing was made to include such a danger zone. A copy of the proposed rules and regulations, with accompanying sketch attached to the public notice as revised, was sent to Lt. Col. Raymond E. Knapp, U. S. Marine Corps, Parris Island, South Carolina, under date of July 30, 1941, with the request for his comments. I am in receipt this morning of a telephone call from the Executive Officer at Camp Davis requesting me to furnish the same information to you, which I take pleasure in inclosing herewith.

I am also inclosing copies of certain letters which have been received at this office from navigation and fishing interests making certain suggestions with reference to the proposed Marine Base danger zone which I would request be considered as far as may be practicable in formulating a plan of action for the use of this zone by the Marine Corps.

Yours sincerely,


Earl I. Brown,
Colonel, Corps of Engineers,
District Engineer.

Inclosures -

- ENC*
- Public notice dated 7/8/41
 - Record of public hearing
 - Copy of proposed rules & regulations as amended to include Marine Base
 - Copy of letter from Bft. Fisheries dated 8/1/41
 - Copy of letter from Wallace Fisheries, dated 8/2/41
 - Copy of letter from Dept. of Cons. & Development, dated 8/4/41

DECLASSIFIED

Authority 775120

By.

NOTICE OF PUBLIC HEARING

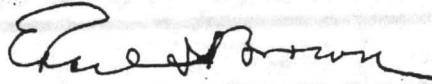
WAR DEPARTMENT
UNITED STATES ENGINEER OFFICE
Wilmington, N. C. - July 8, 1941 G

The designation of two DANGER ZONES, for firing ranges, along the Atlantic Coast between New River Inlet and Cape Fear, N. C., for use of the troops at Camp Davis, N. C., and the promulgation of rules and regulations for the protection of navigation, will be considered at a Public Hearing to be held by the undersigned in the U. S. Court Room in the Customhouse, Wilmington, N. C., at 11:00 A. M., Friday, July 25, 1941.

All interested parties are invited to be present or to be represented at the above time and place, particularly navigation interests and the officials of any county, city, town, or local association, whose interests may be affected by the establishment of these danger zones. They will be given an opportunity to express their views upon the locations in reference to navigation and to suggest changes desirable in the interests of navigation.

Oral statements will be heard, but for accuracy of record all important facts and arguments should be submitted in writing, as the records of the hearing will be forwarded for consideration by the War Department. Written statements may be handed to the undersigned at the hearing, or mailed to him beforehand.

Copy of the proposed rules and regulations is attached hereto.


Earl I. Brown,
Colonel, Corps of Engineers,
District Engineer.

Inclosure:
Rules and Regulations

DECLASSIFIED

Authority 775720

By -

REPRODUCED AT THE NATIONAL ARCHIVES

RULES AND REGULATIONS TO GOVERN THE USE,
ADMINISTRATION AND NAVIGATION OF THE
WATERS OF THE ATLANTIC OCEAN NEAR
MARINE BASE AND ANTI-AIRCRAFT FIRING POINTS ON
THE COAST OF NORTH CAROLINA.

THE LAW

Section 7 of the River and Harbor Act of August 8, 1917, provides as follows:

"That it shall be the duty of the Secretary of War to prescribe such regulations for the use, administration, and navigation of the navigable waters of the United States as in his judgment the public necessity may require for the protection of life and property, or of operations of the United States in channel improvement, covering all matters not specifically delegated by law to some other executive department. Such regulations shall be posted in conspicuous and appropriate places, for the information of the public; and every person and every corporation which shall violate such regulations shall be deemed guilty of a misdemeanor and, on conviction thereof in any district court of the United States within whose territorial jurisdiction such offense may have been committed, shall be punished by a fine not exceeding \$500, or by imprisonment (in the case of a natural person) not exceeding six months, in the discretion of the court."

THE REGULATIONS

In pursuance of the foregoing law, the following regulations are hereby prescribed to govern the use, administration and navigation of certain danger zones within the Atlantic Ocean on the coast of North Carolina.

Waters of Atlantic Ocean near the U. S. Marines' Firing Point and the Anti-Aircraft Firing Points on the coast of North Carolina. (a) The firing ranges include the waters within three sectors, located as follows:

Sector 1. The center of the sector is located on Hurst Beach, Onslow County, N. C., at Lat. 34°-34'-15" north and Long. 77°-16'-10" west. This

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Authority 775120

By

sector extends over a width of 135° and is bounded by two limiting lines bearing N. 85° E. and S. 40° W. from said center, both lines having a length of 25,000 yards.

Sector 2. The center of the sector is located on the outer banks opposite Sears Landing near Beacon No. 70 of the U. S. Intracoastal Waterway between Beaufort Harbor and Cape Fear River, N. C., at Lat. $34^{\circ}-25'-40''$ north and Long. $77^{\circ}-32'-30''$ west. This sector extends over a width of 136° and is bounded by two limiting lines bearing N. 84° E. and S. 40° W. from said center, both lines having a length of 25,000 yards.

Sector 3. The center of this sector is located near the center of old Fort Fisher, near Federal Point, N. C., at Lat. $33^{\circ}-58'-08''$ north and Long. $77^{\circ}-55'-10''$ west. This sector extends over a width of 160° and is bounded by two limiting lines bearing N. 30° E. and S. 10° W., both lines having a length of 25,000 yards.

(b) Sailing vessels or any water craft having a speed of less than 5 miles per hour will keep clear of these sectors at all times after notices of firing have been given. Any vessel or other water craft propelled by mechanical power at a speed greater than 5 miles per hour may enter the firing sectors without restriction except when the signals enumerated in paragraphs (e) and (f) are being displayed. When the above signals are displayed, all vessels in the sectors will clear immediately and no vessel will enter the sectors until the signals indicate that firing has ceased.

(c) Firing over the range will take place during both daylight and night-time hours, at irregular periods throughout the year.

(d) Two days in advance of the day when firing in either sector is scheduled to begin the Commanding General, Camp Davis, N. C., and/or the

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Authority 775120

By

Commanding Officer of the Marine Base, Jacksonville, N. C., will warn the public of the contemplated firing through the public press, the Coast Guard, the Cape Fear Pilots Association at Southport, N. C., and the Pilots Association at Morehead City, N. C.

(e) A tower shall be erected near the shore in each sector, at least 50 feet in height. On days when there is firing in a sector, a red flag will be displayed on the respective tower. This flag will be displayed not later than 8:00 A. M. and will be removed when firing ceases for the day.

(f) During night firing red lights will be displayed on the respective tower and searchlights will be employed as barrier lights to enable safety observers to detect vessels which may attempt to enter the danger zone.

(g) These regulations shall be enforced by the Commanding General, Camp Davis, N. C., and/or the Commanding Officer, Marine Base, Jacksonville, N. C., or such responsible agent or agents as they may designate.

TRANSCRIPT OF PUBLIC HEARING
REGARDING
DESIGNATION OF DANGER ZONES
ON
NORTH CAROLINA COAST

U. S. ENGINEER OFFICE

WILMINGTON, N. C.

DECLASSIFIED

Authority 775120

By

Transcript of a public hearing held in the Federal Court Room, Customhouse, Wilmington, N. C., on July 25, 1941, at 11:00 A. M., to consider the designation of danger zones for firing ranges along the Atlantic Coast between New River Inlet and Cape Fear, N. C., for use of the troops at Camp Davis, N. C., and the promulgation of rules and regulations for the protection of navigation.

A list of those persons present at the hearing is attached hereto.

Colonel Earl I. Brown, Corps of Engineers, U. S. Army District Engineer, conducted the hearing.

Colonel Brown:

This hearing is called for the purpose of considering the designation of certain danger zones for firing ranges. The authority of law under which we are holding this hearing is contained in Section 7 of the River and Harbor Act of August 8, 1917, which provides as follows:

"That it shall be the duty of the Secretary of War to prescribe such regulations for the use, administration, and navigation of the navigable waters of the United States as in his judgment the public necessity may require for the protection of life and property, or of operations of the United States in channel improvement, covering all matters not specifically delegated by law to some other executive department. Such regulations shall be posted in conspicuous and appropriate places, for the information of the public; and every person and every corporation which shall violate such regulations shall be deemed guilty of a misdemeanor and, on conviction thereof in any district court of the United States within whose territorial jurisdiction such offense may have been committed, shall be punished by a fine not exceeding \$500, or by imprisonment (in the case of a natural person) not exceeding six months, in the discretion of the court."

(Reads Notice of Public Hearing dated July 25, 1941.)

(Reads copy of proposed regulations attached to Notice of Public Hearing.)

The maps which are displayed indicate graphically the proposed sectors and their locations with respect to the coast line and the adjacent waters.

Captain Yost, do you desire to make any statement in regard to the suitability of these regulations with respect to the use of your camp?

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Captain Yost: These regulations are regarded as being suitable for the use of Camp Davis.

Colonel Brown: Colonel Knapp, do you desire to make any statement for the record?

Colonel Knapp: From a conference with officers at Camp Davis yesterday, it was decided that a certain portion of the sector would be moved to the south to permit firing by the Marine Corps from the vicinity of our reservation. For the record I would like to state that the Marine Corps desires to cooperate fully with the Army in this matter of adjusting the firing area.

Colonel Brown: Is it the desire of the Marine Corps that a danger zone in front of their reservation also be established which would be under the same rules and regulations?

Colonel Knapp: It is my opinion that such is the case.

Colonel Brown: Would it be suitable that they be established in conjunction with these so that they would be under one issue?

Colonel Knapp: I believe it might.

Colonel Brown: One set of rules to include both. I think that is a very good suggestion. Would the same general range and location of sectors be suitable for the Marine Corps, with of course an understanding that a certain overlapping might be permissible, so far as our rules and regulations are concerned, which you would only get by a mutual division of the sectors to suit yourselves?

Colonel Knapp: Yes. We require a distance of around 25 miles to the seaward for our transport area. Our firing safety precautions are the same as Camp Davis, and if it is a matter of using the same sectors as we discussed yesterday, we can see no reason why we couldn't cooperate in the use of this whole area.

Colonel Brown: Even though on the map the two sectors might overlap there would be no reason why you couldn't adjust the sectors yourselves, each using what he desires?

Colonel Knapp: That is right.

Colonel Brown: Mr. Plaxco represents the menhaden fishing interests. Have you anything to submit, Mr. Plaxco?

Mr. Plaxco: I have a brief here which the company attorney prepared, and I will read it. (Reads brief - See Exhibit B.)

Colonel Brown: You heard our conversation with Colonel Knapp in regard to the possibility of establishing another sector between New River and Bogue Inlet?

Mr. Plaxco: We would not be interested in that. The fish would be between New River and Beaufort and that would affect the fishing industry at Beaufort.

Colonel Brown: Do either of you gentlemen have anything to submit?

Mr. Herrin: I am here not only on my own initiative but at the request of some of our folks at Wrightsville. Not having a map with latitude and longitude marked on it, we don't know whether we want anything or not. We have quite a fleet, about 20 boats, that go on the outside of Masonboro Inlet and take private fishing parties. We also have a number of privately owned boats that navigate the same area. Our engineer tells us that Masonboro Inlet is exactly 25,000 yards from the proposed firing center, which of course would in no way affect Wrightsville Beach. It is not presumed that they would fire up the coast anyway. But these boatmen tell me that they would navigate south as far as Frying Pan Shoal and then possibly turn to the right or to the left on occasion, and while they don't want to enter any objection to this proposal, they would like to make this suggestion - that, if the Army authorities will notify Captain Robinson and furnish him with a red flag and a red light for night (because many of them go out at 4 o'clock in the morning), Captain Robinson tells me he would be glad to put them up and take them down without any pay. He is partially in the Government service anyway. He is a buoy tender there and is interested in taking out parties in addition. If we have any request to make, it is this - that the boats be notified by displaying a red flag at Masonboro Inlet in the daytime and a red light at night so that they will not go in those areas on days when firing is taking place. I didn't prepare any brief, but if it is thought necessary, I will be glad to prepare one.

Colonel Brown: Your oral statement is entirely adequate.

Mr. Horrin: We would like to have Captain Yost's reaction to that request. Could you telephone Captain Robinson the days and hours when firing is to be done and furnish him with a red flag and light?

Captain Yost: What is his full address, please?

Mr. Horrin: It didn't occur to me that perhaps you would like to have it. I don't have the information here.

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Authority 775120

We have parties from Asheville, Raleigh and Greensboro. They engage boats ahead, and if Captain Robinson were informed, the boat people would always know of the firing days so that they could notify those parties not to come if the best fishing grounds happened to be within the firing area.

Colonel Brown: Do those fishing grounds vary? Do they have a preference as to direction after moving out of the inlet?

Mr. Horrins: I think they are governed by what they learn from other fishermen. They try to keep informed. They have a place they call the "trout bank", and if a fisherman has good luck in one place, he reports it and everyone goes to that point.

Colonel Brown: They try around, in other words.

Mr. Horrins: There are times when they turn practically east after they get about four miles out. Other times they go as far as ten miles south southwest which, I believe, would be within this area.

Colonel Brown: That would be within the area.

Mr. Flaxco: Those fish feed on menhaden. Their movements are largely governed by where the schools of menhaden are.

Colonel Brown: The two might ordinarily be considered as being together.

Considering the two sectors as laid out - the northern limit of Sector No. 3 is about opposite Masonboro Inlet. Between that and Sector 2 is the entire coast up to Rich Inlet which is the southern limit of the upper sector. I understand that Rich Inlet is fairly deep, but it may be that between those two inlets there may be considerable navigation; but the area between those two inlets is without either sector so that boats could range there at all times without interfering with firing.

Captain Yost, could you give us some idea as to the nature of any firing? Will it be confined to one direction or will it be more or less general?

Captain Yost: The firing will be at a tow target by airplane and it will be within the limit of the sector as laid out on the map in any direction in that sector.

Colonel Brown: So the whole sector can be considered as a danger zone whenever any firing is in progress. How far off shore would this tow target be used?

Captain Yost: It will vary from the minimum range to the outer radius, 25,000 yards.

Colonel Brown: Fragments will fall anywhere within the sectors at any time.

Mr. Herrin: How near does that area come to Masonboro Inlet?

Colonel Brown: (Points out area on map.) Within about two miles. Not nearer than two miles.

Mr. Plaxco, I want to ask you whether you consider the precautionary measures prescribed in these regulations to be sufficient.

Mr. Plaxco: Yes sir, they are sufficient.

Colonel Brown: The flags and the lights will not necessarily be visible throughout the entire range of the sector and that is what I wanted to get your opinion on.

Mr. Plaxco: Our boats are equipped with radio telephones. We have Coast Guard frequencies and two ship frequencies.

Colonel Brown: The Coast Guard can send out notices that anyone equipped as you are can receive.

Mr. Plaxco: The frequencies are very close together. We can hear their calls and they can hear us. But if a big raft of fish come over there, I will have to have some handcuffs as those people who live there are going to try to get those fish.

Colonel Brown: Is there any other discussion on this matter? Any other opinions to be expressed?

Mr. Herrin: Since the area comes within two miles of Masonboro Inlet, it is very necessary that we have this flag and light displayed there because the signals at the firing point will not be visible at Masonboro Inlet.

Colonel Brown: If there is nothing further, we will consider the meeting adjourned.

(The meeting adjourned at 11:35 A. M.)

List of persons present at public hearing held in Federal Court Room, Customhouse, Wilmington, N. C., on July 25, 1941, at 11:00 A. M., to consider the designation of danger zones for firing ranges, along the Atlantic Coast between New River Inlet and Cape Fear, N. C., for use of the troops at Camp Davis, N. C., and the promulgation of rules and regulations for the protection of navigation.

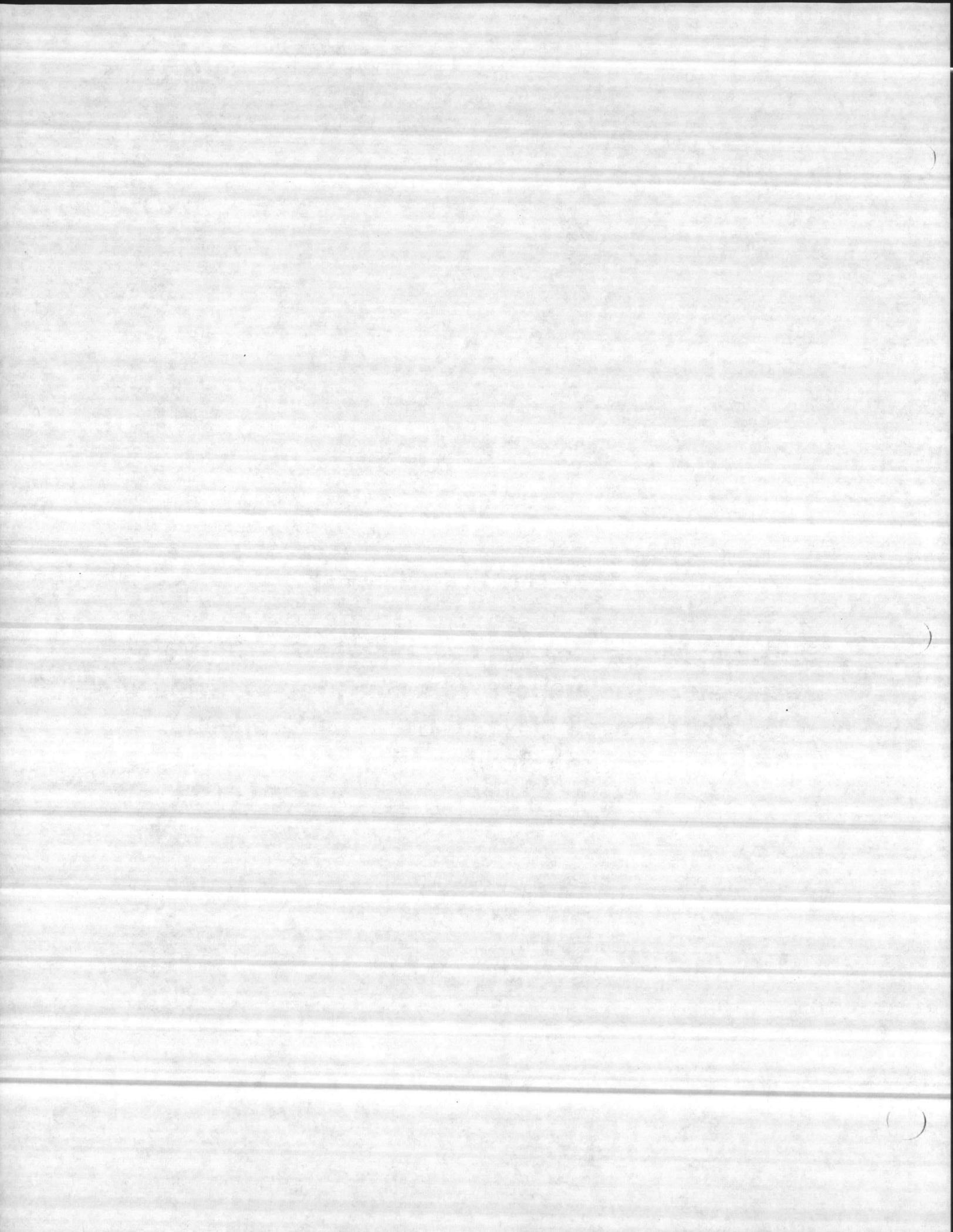
Colonel Earl I. Brown, Corps of Engineers, District Engineer, Wilmington, N.C.
Mr. T. J. Hewitt, Senior Civil Engineer, U. S. Engineer Office, Wilmington, N.C.
Miss Helen E. Gaida, Clerk-Stenographer, U. S. Engineer Office, Wilmington, N.C.

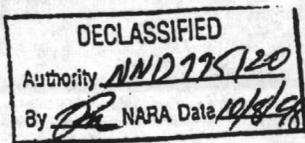
Lt. Colonel Raymond E. Knapp, U. S. Marine Corps, Parris Island, S. C.
Captain J. B. Yost, 18th Coast Artillery Training Group, Camp Davis, N. C.
Mr. Dan J. Herrin, Mayor, Wrightsville Beach, N. C.
Mr. Robert Frank Plaxco, Brunswick Navigation Company, Southport, N. C.
Mr. A. C. Low, Atlantic Coast Line Railroad Company, Wilmington, N. C.
Mr. Steward McDaniel Doss, Wilmington Star-News, Wilmington, N. C.

APPENDIX C-2

Brewster, D. L. S., 1941

**Letter to Major General Commandant, SUBJECT:
Target and Fire Support Areas for practice firing of
ships engaged in Naval Gun Fire Support,
31 October 1941**





1275-65
 AO-283-pjd
 1275/7-400
 2400-10

~~RESTRICTED~~

RESTRICTED

5 November 1941.

From: The Major General Commandant.
 To : The Commanding General, Atlantic Amphibious
 Force, Marine Barracks, Quantico, Virginia.

Subject: Shore Bombardment Practice.

References: (a) Ltr CG AAF, Serial 08/115, dated 27 Oct
 1941, re - subject.
 (b) Ltr CO MB New River to MGC, dated 31 Oct
 1941, re - subject.

Enclosure: (A) Copy of reference (b).

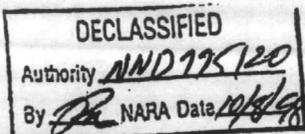
1. In connection with reference (a), attention is invited to reference (b) which indicates the action being taken with respect to preparation of an area for shore bombardment practice at New River.

2. A Board of officers of which Colonel D. L. S. Brewster is Senior Member, is now meeting at Marine Barracks, New River, North Carolina, for the purpose of making recommendations concerning the location of impact areas for both artillery and shore bombardment and requirements for control towers and protected observation posts. You will be advised of the action taken on the report of the above Board.

 Copy to: CinClant
 ComTrainLant

ARCH II
 RG 127
 ENTRY 18A
 Box 1981
 FILE 2400-10

~~RESTRICTED~~

ENCLOSURE (A)

Office of the Commanding Officer
Marine Barracks,
New River, N.C.

~~RESTRICTED~~

31 October 1941.

From: The Commanding Officer.
To : The Major General Commandant.

Subject: Target and Fire Support Areas for practice firing of ships engaged in Naval Gun Fire Support.

Reference: (a) Informal Memo, Atlantic Amphibious Force (Col. Linscott) to Headquarters, M-3(A), dated 28 October, 1941.
(b) Ltr MGC to CO MB New River, N.C. No. 1275-65 over AO-267-tjp, dated 27 October, 1941.

1. In reply to reference (b), the Major General Commandant is informed that the area in which it is proposed to conduct ship gun fire is now clear of personnel.

2. Prior instructions to the Liaison Officer did not include the removal of cemeteries except in the Combat-Impact Area, Artillery Range and building area.

3. In view of reference (b), the processes of removing cemeteries has commenced, effective this date, and it is anticipated that all graves in Area G will have been removed by 15 December, 1941, at which time the proposed firing may be executed.

4. Attention is invited to possible damage to the Inland Waterway from shorts and overs and the necessity for repair facilities which should be immediately available to restore the Waterway.

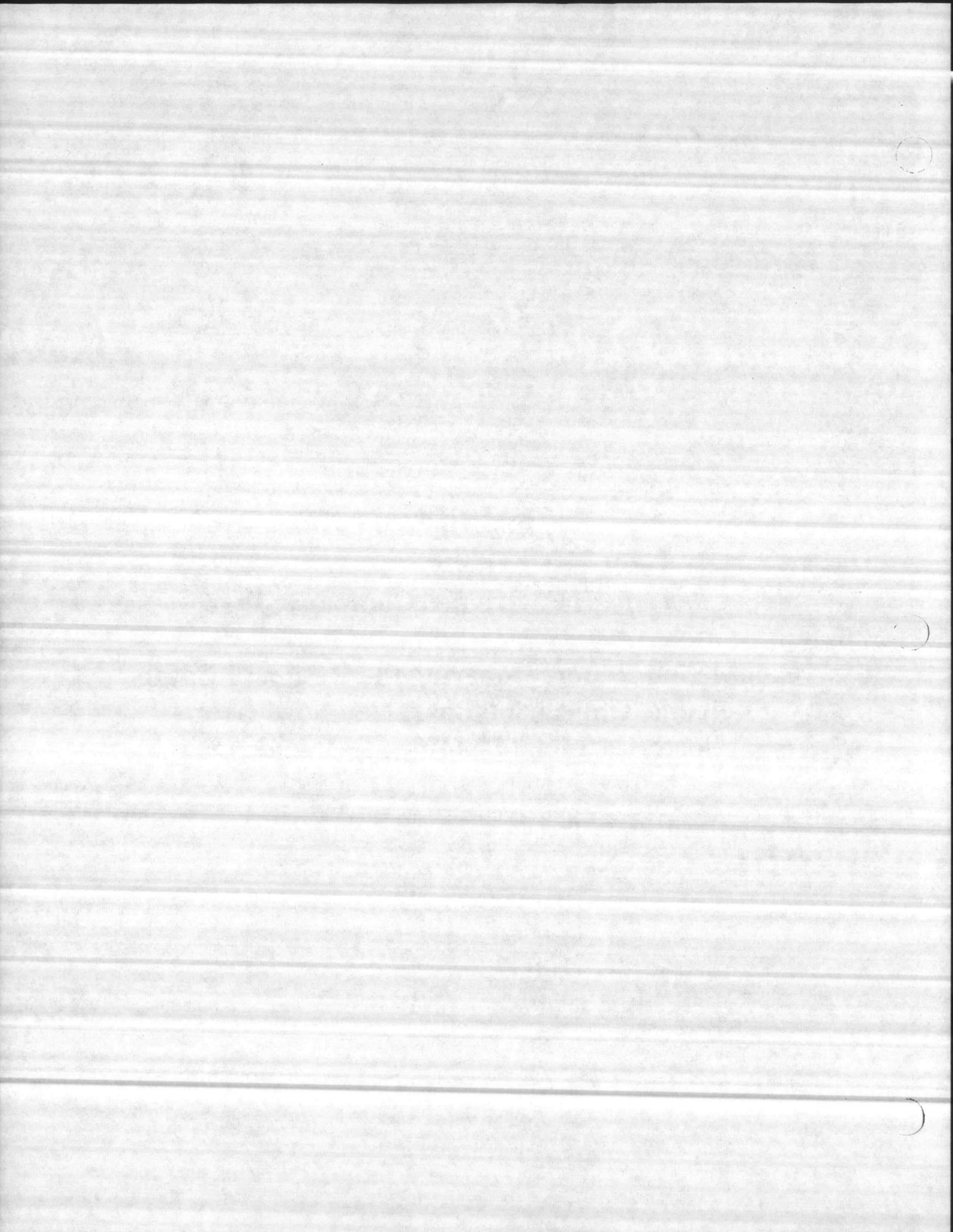
/s/
D. L. S. BREWSTER.

~~RESTRICTED~~ENCLOSURE (A)

APPENDIX C-3

Carr and J. E. Greiner Company, 1942

**Completion Report Covering the Design of Camp
Lejeune, US Marine Barracks, New River,
North Carolina, Volumes I, II, and III**



COMPLETION REPORT

COVERING THE DESIGN OF

CAMP LEJEUNE

U. S. MARINE BARRACKS

NEW RIVER, NORTH CAROLINA

FOR THE

U. S. NAVY

Bureau of Yards and Docks

CONTRACT NO. 4751

APRIL 15, 1941 - SEPTEMBER 30, 1942

PREPARED BY

GARR AND J. E. GREINER COMPANY

PROJECT

ENGINEERS

J. E. GREINER COMPANY
BALTIMORE, MARYLAND

COPY No. 17

CHAPTER C . PART I

REPORT OF U. S. MARINE BOARD

C-1. Inasmuch as the design of the entire project was based fundamentally on the studies made by the U. S. Marine Board, appointed to submit preliminary plans for the establishment of a Division Training Center, New River, N. C., it has been considered advisable to reproduce the record and report of the board in order that the same may be available for future reference.

C-2. On February 24, 1941, the Major General Commandant wrote the following letter outlining the scope of the project.

COPY

HEADQUARTERS U. S. MARINE CORPS
WASHINGTON

1975-30
AE-277-gjf

24 February 1941

From: The Major General Commandant
To: The President of the Board to submit plans for establishment of Division Training Center, New River, North Carolina.

Subject: Units and activities contemplated for the Division Training Center, vicinity of New River, North Carolina.

Enclosures: (A) Table of Organization-Marine Division.
(B) Table of Organization-Defense Battalion.
(C) Table of Organization-Amphibian Battalion.

1. It is contemplated that the following units will be stationed at the Division Training Center, New River, North Carolina. Tentative Tables of Organization of these units are enclosed herewith:

- (a) One Marine Division.
- (b) Four Defense Battalions.
- (c) One Amphibian Battalion
- (d) Post Troops and Specialists Training Center.

2. It is expected that the following activities will be conducted within the Division Training Center by the various units stationed at:

- (a) Rifle range firing.
- (b) Long range and antiaircraft machine gun firing.
- (c) Combat practice firing.
- (d) Antiaircraft artillery firing.
- (e) Light artillery firing.
- (f) Medium artillery firing.
- (g) 5" firing at towed targets.
- (h) Boat gun firing at beach targets.
- (i) Anti-boat gun firing at beach targets.
- (j) Troop Landing operations thru surf, etc.
- (k) Maneuvering and training in rubber boats.
- (l) Land and water training with amphibians.
- (m) Maneuvering and training in use of artillery and tank lighters.
- (n) Maneuvering and training landing boat crews.
- (o) Ship and boat loading.
- (p) Tank and antitank training.
- (q) Training of parachute troops.
- (r) Balloon barrage training.
- (s) Training in tactics and maneuvers on land.
- (t) Training in beach defense.
- (u) Training of hospital units.

/s/

A. A. VANDERGRIFT
Acting

Copy for: The Quartermaster

The Board had organized on February 21, 1941, and on April 10, 1941, submitted the following report:

COPY

A-36-ptl

21 February 1941

Board to submit plans for establishment of Division Training Center, New River Area, North Carolina.

The Board met at 0900, February 21, 1941, pursuant to orders of Major General Commandant, original prefixed marked "A". A letter of instruction from the Major General Commandant to the Board is prefixed "B".

Present: Colonel Julian C. Smith
Colonel Earl C. Long
Colonel Pedro A. del Valle

(Colonel del Valle was detached 8 March 1941)

It was decided that no formal meetings would be held but that each

member would proceed on duties assigned in connection with map and ground studies of the area under consideration and report the results of his work at meetings called from time to time by the Senior Member. After a careful study of all available maps and ground reconnaissance, the Board submits the following facts and recommendations regarding the location, boundaries and various contemplated training, housing and supply facilities to be constructed with the Training Center. (See attached map marked Exhibit "1").

1. LOCATION, BOUNDARIES AND DESCRIPTIONS:

(a) The East Coast Training Center is located on both banks of the New River in Onslow County, North Carolina. It is adjacent to Jacksonville, North Carolina, which is on U. S. Highway No. 17. The nearest large towns are Wilmington, 50 miles to the southwest and New Bern on the Neuse River, 37 miles to the northeast, both on Route 17. The nearest seaports are Wilmington and Morehead City, the latter of which is 46 miles from Jacksonville on N. C. Route No. 24. Both of these ports have thirty foot dredged channels and docking facilities. Both are connected with Jacksonville by railroad. There is a branch of the Atlantic Coast Line Railroad running through a part of the reservation which joins the main line of the Atlantic Coast Line Railroad at Wilmington and the Norfolk Southern Railroad at New Bern. The Atlantic and North Carolina Railroad connects New Bern with Morehead City.

(b) The contemplated air base on the Neuse River is approximately 30 miles or about 10 minutes flight time distant. This will permit of close cooperation and combined training of air and ground troops.

(c) The terrain is generally flat. The area is trapezoidal in shape and extends about 15 miles from the beach inland with about 10 miles of ocean front. It contains approximately 83,000 acres of land area and 20,000 acres of water area. The inland waterway parallels the ocean beach. The New River divides the area with approximately one-fourth of the land area on the right bank and three-fourths on the left bank. There is a 10-foot dredged channel from the sea to Jacksonville. The terrain is essentially flat pine land with some clearing, consisting of low, well-drained ridges about 30 feet above sea level and gulleys drained by creeks into the New River (with improvements they will furnish drainage for the housing areas). There is some swampy land along the creeks but not sufficient in extent to interfere materially with the housing and training facilities.

(d) The boundaries in general are natural terrain features, - the ocean, inlets, creeks and public highways. The dredged channel at the mouth of New River was selected as a boundary and a number of small islands included in the reservation in order that they be kept under Government control in case it should be considered advisable at some future date to widen and deepen the New River Channel as well as to give access to the channel. The area north of North East Creek was included for future development of officers' Quarters, a possible temporary camp ground after the emergency landing field is in operation and in order to prevent the establishment of residences or other installations on its banks with consequent pollution of the water. It furnishes a suitable location for an emergency landing field during occupation of the temporary camp and a permanent secondary landing

field as well as a site for a C.C.C. Camp.

3. ARTILLERY TRAINING AREA:

The location and extent of the artillery impact and firing areas were determined as furnishing ample maneuver and firing facilities and causing the least possible interference with training and movements of troops and supplies. They permit traverse of 500 miles at a maximum range of approximately 20,000 yards. Guns may be landed through the surf, -- open fire, displace forward as much as 5,000 yards from the initial firing position and re-open fire. As all firing points are to the west of the main highway through the Training Center and fire is generally in a northwesterly direction, no interference with other activities will be encountered, -- except that the artillery firing will have to be coordinated with boat gun and anti-boat gun practice. In order to give variation in problems, firing may also be conducted in a general southerly direction from the vicinity of the emergency flying field.

4. INFANTRY, INCLUDING TANK AND ANTI-TANK, COMBAT TRAINING:

The infantry combat training area and infantry weapons impact area lie east of the central highway, railway, power line and warehouses. It covers an area approximately 7,500 yards square and is conveniently located with respect to other training and maintenance activities. Troops will be able to reach it with a minimum of marching and all infantry weapons may be used simultaneously without interference with the normal operations of the post maintenance and supply facilities or with the training of other troops. For instance, with proper safety precautions, .30 caliber and .50 caliber machine gunnery at ground targets, tank and anti-tank gunnery practice, infantry combat practice and rifle range firing can be conducted at the same time. Anti-aircraft practice at towed sleeves can be conducted with .30 and .50 caliber weapons or any weapon with a maximum range not exceeding 7,500 yards but the use of the infantry combat area by other troops will be restricted during such firing. The guns can be so located however as not to interfere with the use of the rifle range.

5. RIFLE RANGE:

The rifle range area was selected so that the direction of fire will be approximately due north, which permits the best use of the range during all daylight hours. As there are no hills on the reservation to form backstops, it will be advisable to mark out a danger zone corresponding to the extreme range of the M2 ammunition, approximately 4,000 yards. (2,900 yards is the safety limit set in Army regulations for this ammunition and 3,900 yards for the M1 ammunition as it is considered that only an accidental shot will be fired with the rifle held at an elevation giving a greater range). By locating the rifle range so that the greater part of its danger zone lies within the impact area of the infantry combat range, the combined areas of the danger zones are reduced to a minimum.

6. BOAT GUN AND ANTI-BOAT GUN RANGES:

(a) The New River furnishes boat gun and anti-boat gun ranges. Troops may embark in boats immediately adjacent to their barracks, proceed across

the river to points in the artillery impact area and conduct boat gun firing followed by landings with advances inland. All infantry weapons may be fired in these practices without restriction except as to direction.

(b) Anti-boat gun practice may be held with guns set up in the barracks area and targets towed up or down the westerly side of the river firing into the artillery impact area.

7. ANTI-AIRCRAFT PRACTICE:

Long range antiaircraft fire and machine gun antiaircraft fire may be conducted from the vicinity of the ocean beach subject only to the customary safety precautions. The sea lanes are 25 miles out and the only interference would be from small fishing boats, or if the guns were set up inland of the inland waterway, from boats using the waterway.

8. FIVE-INCH GUN PRACTICE:

Five-inch gun practice at towed targets can be fired from the vicinity of the beach with the same facility and subject only to the same restrictions as apply to antiaircraft practice. Destroyers, tugs or other towing craft will find limited harbor at Morehead City about 25 miles distant.

9. BOATS AND BOAT CREW TRAINING:

(a) The main boat basin should be located as near as practicable to the mouth of the river in order to shorten the run to the open sea. Court House Bay, which is sheltered and within easy access of main roads and located northeast of Marines, seems to offer the best location, although some dredging will be required. It is about 3 miles from the mouth of the river and of ample size to accommodate all the boats, tank lighters, etc., of a division. There are some buildings and deep wells in the vicinity of Marines that could be used.

(b) A secondary boat basin can be constructed in Frenchs Creek in the vicinity of the barracks area --where boats could be kept for such training as may be conducted in the river. Amphibian boats can operate from this location or others along the river or sea coast.

(c) Rubber boats can be used for elementary training in the river and for more advanced training in the ocean with landing practice through the surf.

(d) All conditions of water, swamp and land are to be found in the Training Center for any type of training with landing boats, amphibians, tank lighters or rubber boats.

10. BALLOON BARRAGE:

A balloon barrage may be operated along the main road through the Training Center without interfering with firing or other training activities.

11. PARACHUTE TROOPS:

Parachute troops may be trained in their particular specialty on the emergency landing fields, the parade ground or any other open space of cleared land in the Training Area. All the facilities of the Training Center will be available to them for their active combat training.

12. TACTICS AND MANEUVERS ON LAND:

The whole area is well suited to training in tactics of land warfare, lacking only hills and rolling terrain. The highest point is some 30 feet above sea level. There is room for extensive land maneuvers including attack and defense of a river line; attack, defense, limited pursuits and withdrawals, with displacement of artillery and supply units; extended marches with bivouac, outpost problems, etc., can be undertaken by regiments or combat teams, or even with the whole division. It is well suited for instruction in small wars and jungle warfare.

13. LANDING OPERATIONS:

For training in landing operations, the conditions are ideal. Both banks of the New River for about 13 miles are within the limits of the Training Center. It varies in width from one mile to two miles, is shallow with about one foot rise and fall of tide and very slight current. Opposite the barracks area is the artillery impact area with a beach about five miles in extent where landing operations may be practiced supported by the fire of infantry weapons and boat guns. Advances of from two to five miles inland may be made depending on the point of landing. The technique of landings without firing may be practiced at other points along the river with no interference or conflict with the firing of any weapons or the training of other units. There is an ocean beach approximately 10 miles in extent which may be utilized for landings from transports lying off the coast. A landing on a $4\frac{1}{2}$ mile front may be made by all elements of a Marine Division with an advance inland of 3 miles. A great variety of tactical landing and beach defense problems may easily be worked out within the limits of the Training Center.

14. BEACH DEFENSE:

For beach defense operations there is ample frontage and depth for the deployment of an entire division in defense of the 10 miles of ocean frontage, while the 20 or more miles of New River shore line offer terrain suitable to an almost infinite number of defensive problems for smaller units.

15. HOSPITAL UNITS:

The terrain is as suitable in every way for the training of medical units in tactics and technique as it is for the other elements of a Marine Division.

16. EMERGENCY LANDING FIELD:

The area selected for the emergency landing field lies between the highway No. 17 and the right-of-way of the Atlantic Coast Line Railroad. It is approximately 2 miles long by 1 mile wide, with its length in the general direction of the prevailing winds which are southeast or northwest. It is partly cleared. An alternate field is suggested just to the northwest of the bridge over North East Creek. As this is nearer the Training Area than the

previously mentioned field, it may eventually prove more desirable for permanent use.

17. TEMPORARY CAMP SITE:

The site of the emergency landing field was also chosen for the temporary camp. It has ample space to tent 10,000 men, is partly cleared, well drained and is close to both railroad and highway. It can be occupied without interference with the construction of the main base. All clearing for the temporary camp will be utilized for the landing field. For the requirements of tentage, warehousing, mess halls, sewage disposal, see Exhibit "2". Wells will be required for water supply. The Board was directed by the Major General Commandant to lay out the camp in 600 men plots, each to contain tentage, mess halls, sanitary and storage facilities. The tentative location of the camp is shown on Exhibit "1".

AREAS OTHER THAN THOSE FOR TRAINING

18. BARRACKS -- BATTALION HEADQUARTERS, MESS HALLS, ORGANIZATION STOREROOMS:

(a) The site chosen for barracks is on the East bank of the New River between Wallace Creek and Fronchs Creek. The advantages of this location are accessibility to training areas, high ground, best orientation as regards summer breezes, reasonable first costs, small amount of low ground, drainage, attractiveness and comparative freedom from mosquitos.

(b) Construction utilizing the rectangular scheme is considered the most desirable, - sketch appended marked "3". The advantages of this scheme are comparative compactness, reasonable installation costs, ease of communication, simplifies the road net, provides ready access for power, sewer and water lines, convenient parking area for motor vehicles and allows space for future additional building. It is not necessarily intended this scheme should be adopted as presented but after further study, particularly involving costs that generally the rectangular layout be utilized. After consideration of various building materials for temporary barracks and other buildings, it is considered that strip steel prefabrication offers such advantages over wood frame structures that the Board recommends such construction. Advantages are: comparative favorable first cost, less time to build, termite proof, ease of erection, reduced painting costs, less maintenance expense, longer life, better sound insulation (assuming concrete floors) and more pleasing appearance. Also the Board considers that a modified standard B-1 Navy Type layout having a 58-man squadroom (single bunks) as shown by Exhibit "4" is the one most suited to Marine Corps needs. It offers sufficient space for emergency requirements and, by the installation of movable steel partitions, various interior arrangements may be made to provide a recreation room, a sergeants' room, offices, etc. Generally a 58-man squadroom conforms to peacetime organization training allowances without undesirable mixing of units. The Board believes aquamedias (projecting approximately 36 inches) over dormitory or squadroom windows, such as are in practice by the U. S. Army, to be most essential, and also recommends consideration be given them for use over buildings devoted principally to offices. (Aquamedia is a term adopted by the U. S. Army for a skirt or canopy on buildings allowing open windows during rainfall, -- particularly desirable in warm weather.

(c) The schematic layout indicates locations for certain organization

storehouses, mess halls and battalion headquarters. It is recommended that the same building materials, - prefabricated strip steel be used in these buildings for reasons stated above. The standard Marine Corps mess hall ("family service") with kitchen equipment for a minimum of 600 men is considered the most satisfactory. A floor plan is appended marked "6". As it is believed urgent in the interests of economy, it is recommended that barracks be constructed for the present in lieu of battalion headquarters, buildings and storerooms, - that those activities be housed in barracks until funds are available to provide for them in locations as shown by the rectangular layout.

(d) Recommendation for large storehouses for special equipment such as artillery, antiaircraft, motor vehicles, etc., is not made part of this report.

19. DIVISION HEADQUARTERS

This area was selected according to usual practice, - that it be centrally located in regard to other headquarters and generally for all activities. If usual Army plans are followed, hostess houses, assembly halls (pictures and other gatherings) will be located in this area.

20. GENERAL PARADE GROUND

This area is centrally located and selected so that it may be enlarged from time to time as funds are available. To secure a satisfactory parade ground requires a composition having sufficient rock to provide an armored surface to prevent breaking-up tractors, tanks and other motorized equipment.

21. HOSPITAL

Hadnot Point logically suggests itself since it is centrally located, yet providing privacy and quiet. It is unusually well situated to secure the greatest degree of relief from summer heat. This location, as well as all areas along the river bank affords an opportunity for beautification by simple landscaping. There is ample space allowed for any future expansion either as regards buildings or grounds. If a tent camp for 6,000 troops is to be immediately established, thought should be given to attendant required hospitalization which suggests early construction on Hadnot Point.

22. RECREATION FOR ENLISTED MEN

Because of the isolation of the New River Training Area, special attention should be paid to providing for every reasonable field sport, - football, baseball, cinder path, tennis, basketball, handball, etc. Tentatively, areas adjacent to the parade ground have been selected for these forms of exercise. A further study on the ground may suggest combining these areas. However, should the strength of the post approximate 20,000 enlisted, it is considered very desirable to have several recreation areas in order to encourage various forms of athletics by providing facilities nearby the barracks, - possibly in each regimental area. Both the river and the ocean beach provide splendid opportunity for swimming. It may be desirable to locate a hostess house, - assembly hall (moving pictures) in each

regimental area.

23. RECREATION FOR OFFICERS, WARRANT OFFICERS AND NONCOMMISSIONED OFFICERS (FAMILIES)

Because of the isolation of this station, it is considered that more than usual attention need be paid to some provision for athletics for all interested persons residing in the post. Accordingly, tentative areas have been selected (as indicated on the enclosed map) in each quarters group, officers, warrant officers and noncommissioned officers.

24. UTILITIES - SUPPLY

Adequate railroad, highway and power facilities are not now in the Training Area. As all will be urgently needed on beginning construction, steps to initiate them should be taken immediately, particularly as regards the railroad and power line. A later study should be made in connection with providing docking facilities on the river for ocean-going vessels. However, a tentative location has been selected in the vicinity of Marines. Also, attention should be given at a later date to docking facilities at Morehead City, - particularly if it appears that wharfage at Wilmington will prove inadequate in an emergency. Barging between the Training Area and Morehead City does not appear to offer satisfactory transportation possibilities, but should be kept in mind.

25. WIRE COMMUNICATIONS

As neither telephonic or telegraphic communications are sufficient to cover proposed installations, a determination of requirements should be made, and the utility companies concerned informed accordingly.

26. RAILROAD-HIGHWAY--HIGH TENSION LINE

A proposed general location for a railroad, a main highway and pole lines (entering the reservation) are indicated on the attached map.

27. SANITATION

(a) As it is very undesirable to have raw sewage discharged into the river, adequate sewage disposal plants will need to be installed.

(b) Because of the presence of sluggish creeks and marshy areas, and the report of the presence of malaria and the anopheles mosquito, it is considered urgent that surveys be made without delay in order that mosquito control may be established.

28. WATER SUPPLY

A deep-well water supply is being explored by sinking test wells.

29. QUARTERMASTER

A general area for such quartermaster supply activities as shops,

bakery, laundry, commissary, cold storage, fuel, lumber, clothing, and equipment material storage is indicated on the accompanying layout, leaving details of construction as a matter for future study. Since a bakery, laundry, cold storage and commissary will be early requisites of the more permanent construction, they should be provided among the first buildings as their facilities can well be utilized in the very near future by the temporary tent camp.

30. C. C. C. CAMP:

A suggested site for a C. C. C. Camp is indicated on the accompanying map. It would be necessary to provide water at their camp.

31. LABOR CAMP:

Should a labor camp be necessary or desirable, it could be on the reservation at any location convenient to construction activities, and near water.

32. OFFICERS' WARRANT OFFICERS' AND NONCOMMISSIONED OFFICERS' QUARTERS:

These areas were selected after locating the barracks areas. Thought for these locations was mainly directed by accessibility to all activities, installation costs, reasonable privacy and utilization of river scenery which is most attractive as the water is clear, little current or tide, and with stretches of clean sandy beaches. The areas are located with officers' and warrant officers' quarters to the northward as this allows of shorter distances for commissioned officers to travel to their duties. Because of the cost limit placed by law on these quarters, it is probable that resort will be necessary to modified Navy Low Cost Defense Housing. In this connection, the Federal Housing Activity has interesting layouts, including small towns. They are worthy of study and consideration. The layout for officers' quarters and noncommissioned officers' quarters contemplates approximately 200-foot frontage for general officers, 100-foot for commissioned officers, 60-foot for warrant officers and 50-foot for noncommissioned officers' quarters. It is believed a pleasing landscape effect will be secured by laying out a river drive, and locating quarters with this as the controlling theme but following, in a modified way, the usual city plan of streets at right angles. It should be noted that the plan contemplates quarters only in each alternate block. This allows all quarters to face upon a small park already planted with native trees and shrubs. These unoccupied blocks can be built upon at a later date if found necessary but it is believed it will prove very desirable to keep them for their landscape value, -- a place where tennis courts, etc., may be installed and providing readily accessible playgrounds for children. Also retention of as many trees and shrubs as practicable will have a tendency to moderate hot summer days.

33. LANDSCAPING:

It is considered desirable that where practicable all existing trees, shrubs, etc., be carefully preserved, not only for their landscape value, but to minimize blowing sand, to reduce summer temperature and to retain ground moisture. As previously mentioned, a riverside drive is contemplated for the fine scenery it will unfold and its usefulness as a

communicating highway to post activities and housing areas. Barracks and quarters are located on turnouts from the river road since this adds to general attractiveness and decreases traffic hazards. When clearing areas for any purpose, the value of trees and shrubs now growing should be kept in mind and every reasonable attempt made for their preservation. Contractors and others interested in construction alone give little thought to the destruction of plant life.

34. COMMENT:

(a) In planning utilization of the base, consideration was given in the order name to training and combat areas, convenient location of barracks thereto, -- quarters, and services. Careful study has been given each installation in order that any future systematic expansion will logically follow the general plan, and, prove to be desirable and satisfactory. This statement also is intended to include provision for areas not mentioned herein, and engineer park, tank park, amphibian park, or other required space.

(b) Because of greatly increased travel over public highways on the perimeter of the area, and to the river and ocean beaches through the area, the danger from forest and brush fires is increasing to such an extent as to become a matter of concern with the approach of dry summer weather. Accordingly, it is suggested that as soon as the Government has title to the area that an adequate fire patrol be organized, -- observation towers constructed and telephonic communication installed, -- the towers later to be utilized for artillery fire control, and safety measures.

The following maps, sketches, etc., are appended and marked as indicated below: (Note: It was found impracticable to reproduce these exhibits in the completion report of the Architect-Engineers.)

General Map of the Area.....	"1"
Memo to Chief of Bureau of Yards & Docks.....	"2"
Re material, storehouses, etc., for a tent camp to accommodate 6,000 men	
Regimental Layout (Typical).....	"3"
Barracks Floor Plan.....	"4"
First and second floors and estimates	
Barracks.....	"5"
Sections through Dormitory and connecting Wing showing "Aquamedias"	
Mess Hall - Floor Plan.....	"6"
Street Layout (Typical).....	"7"
Commissioned Officers' Quarters	
Block Layout (Typical).....	"8"
Commissioned Officers' Quarters	
Suggested School Building (Children).....	"9"
Alternate Mess Hall (Seating 1000).....	"10"

CHAPTER D PART I

CHANGES OF SITES FOR VARIOUS ACTIVITIES

D-1. Tent Camps #1 and #2. The Marine Board report contemplated locating the tent camps just east of the Atlantic Coast line Railroad and about a mile south of Brinson Creek, with emergency landing fields #2 and #3 located on the east side of U. S. Route 17, one North and one South of an existing earth road. Careful examination disclosed the fact that the proposed tent camp site was so poorly drained that it was not suitable for housing troops and the location therefore was changed to the site formerly considered for Emergency Landing Field No. 2. Very thorough study was given the proposed site for Emergency Landing Field No. 3 and it was found to require such expensive drainage and other construction that a new site was selected on New River between Peterfield Point and South West Creek. This field later was developed into a glider training base.

D-2. Residential Area. Generally speaking, the quarters for officers were provided in the locality shown on the general area map prepared by the U. S. Marine Board with the exception that the warrant officers and non-commissioned officers' quarters are being provided in Midway Park.

D-3. Rifle Range. The Rifle Range originally was planned for the area between French's Creek and Bear Creek. It was felt that firing on the range would conflict with regular use of the combat area and the location therefore was changed to the west side of Stone Bay between Stone Creek and Everett's Creek.

D-4. Balloon Barrage Area. The location originally suggested for this area was along the Main Access Road into the Division Training Area. After the date of the Marine Board report, water-borne balloon barrage training became necessary and the location therefore was shifted to Courthouse Bay. The new location possessed also the advantage of remoteness from flying fields, main roads, power lines, radio stations, and combat areas.

D-5. Additional Areas. Additional areas provided were:

- (1) An area for parachute training and jumping towers along the main access road to the Division Training Area.
- (2) A small camp for a Tank Battalion on U. S. 17 about 2 miles south of Tent Camps 1 and 2.
- (3) A small camp for temporary housing of Amphibian Troops on the west side of New River at Peterfield Point.
- (4) A small camp for the housing and training of about 1500 colored troops at Mumford Point.

D-6. With the exception of the tent camps, landing field, rifle range and balloon barrage area, the final layout of the area conforms very well with the layout prepared by the U. S. Marine Board. This is most remarkable inasmuch as no topographic map ever had been made of the area at the time the Marine Board report was drawn.

D-7. Sites for the various activities are discussed in detail in Chapter D, Part II, "Site Planning".

CHAPTER E - PART I

DESIGN CONSIDERATIONS AND RESTRICTIONS

In the design of all structures, utilities, etc. as well as in the planning of building sites, the following criteria were established:

- (1) Fire zones with a minimum width of 300 feet were established between all regimental areas. Officers' homes in Residential Area were of necessity grouped into isolated sections because of the numerous natural drainage features that indent the New River shore line.
- (2) All buildings were spaced not less than 60 feet apart.
- (3) In regimental areas buildings were grouped according to battalions providing housing, administrative, storage and subsistence facilities.
- (4) Limits of roadways were set at 70 feet for two lane roads and 130 feet for divided highway construction, with center parkway. This provided flat slopes for side ditches and allowed easy maintenance with road patrol machinery.
- (5) Soil bearing foundations were fixed at not less than 1'-4" below grade not only to eliminate any trouble from frost but to reach soil capable of sustaining loads. A maximum depth was set at three feet in order to stay above a plastic clay stratum peculiar to this locality and that in some locations came within eight feet of grade. Pile foundations varied as discussed in Chapter F of Part II.
- (6) Soil bearing pressures were held to a maximum of 2,000 pounds per square foot.
- (7) Drawoff of wells was limited to a maximum of 600,000 gallons per square mile per day.
- (8) Type of architecture was modified early American except in Industrial and Supply Area where industrial architecture prevailed. Permanent masonry construction was adopted as directed by the Officer in Charge.
- (9) The height of structures had to be considered carefully in locating the same in order to preserve the necessary gliding angle for landing fields.
- (10) Careful attention had to be given to the location of buildings and utilities to avoid infringement upon combat and impact areas.
- (11) Rifle ranges had to be located so as that the beaten zone did not create a hazard to life and property.

(12) The climate is warm and humid in the summertime, therefore water-front locations and careful attention to prevailing winds help to secure a more favorable layout.

(13) Accessibility to roads and railroads was an important item in the location of some of the activities.

(14) For purposes of camouflage and to enhance the beauty of the base, a great deal of study was given to each projected site to avoid unnecessary damage to existing trees and shrubs.

Most of the drafting, computing, and office equipment and furniture were secured through the Officer in Charge.

The relations with the Contractors, Contract NOy-4750, and with the Liaison Officer, U. S. Marine Corps, and his staff were most cordial and every courtesy was extended us by these groups.

We feel that the Contractor carried out a very successful scheme for the construction of the project. Railroad and access roads were installed at the earliest possible moment to insure easy and economical access of material and men to all parts of the job. Water and sewer line construction was pushed through in order that building construction could be carried on without being hampered by the presence of numerous and deep excavations. The buildings as constructed have a very pleasing appearance and are a credit to the U. S. Marine Corps.

The Project Manager relied upon the several department heads and exercised general supervision over their work without interfering in the routine technical work for which they were well fitted as specialists in their respective lines. Appropriate standards of design were followed. In some cases, design assumptions, loads, and stresses were made the subject of directives rather than being arrived at by independent investigation on the part of this company.

The approval of shop drawings constituted an important part of the work although many of the drawings were handled directly by the Officer in Charge.

The Project Manager participated in the discussions leading up to the preparation of site plans and used these plans as a guide for coordinating the work of the various departments concerned with outside utilities.

Generally speaking, the architectural floor plans were used as a basis for coordinating the work of the departments interested in mechanical and electrical installations within the buildings. Most of the detailed coordination was accomplished by direct contact between the several departments with the Project Manager helping to perfect such cooperation.

The progress of the work was checked carefully at all times and continual effort made to obtain necessary design data and to expedite the work by issuing plans and specifications according to priorities set up by the Officer in Charge and according to needs reported at progress meetings. The Contractor always had a back-log of work for which the plans and specifications were ready.

A-7. Narrative. In order that a clear picture may be had of the time involved from the conception of the project to the termination of Carr & J. E. Greiner Company's contract, a brief outline, arranged in chronological order, is given below:

February 21, 1941

The United States Marine Board convened to begin study of the proposed base.

February 24, 1941 The Major General Commandant outlined for the U.S. Marine Board the activities to be conducted and the units to be housed at the new Marine Base.

April 10, 1941 U. S. Marine Board submitted report for the establishment of the Marine Base.

April 14, 1941 The Major General Commandant approved the report of the board subject to certain comments.

April 15, 1941 Architect-Engineers' contract executed.

April 18, 1941 Parties began topographic surveys of Tent Camp Area.

April 21, 1941 Contract NOy-4750 was signed for the construction of the project.

April 30, 1941 Construction started on Tent Camp No. 1.

May 15, 1941 First preliminary site plan of Division Training Area prepared.

May 22, 1941 Received from Navy Department a list of buildings required in the Division Training Area.

May 26, 1941 Plans for hospital at Hadnot Point requested by the Officer in Charge.

May 26, 1941 Preliminary plans for barracks building submitted to the Officer in Charge for approval.

June 6, 1941 Received from the Officer in Charge an authorized list of buildings to be located in the Division Training Area.

June 13, 1941 First preliminary site plan for Hadnot Point Hospital submitted.

June 18, 1941 Received directive to proceed with detail design of main buildings in Division Training Area.

June 2, 1941 Directed to proceed with design of a 200-bed hospital for Division Training Area.

July 11, 1941 Directed to prepare preliminary maps for housing project between Northeast Creek and Piney Green on northerly side of North Carolina State Highway # 24.

July 21, 1941 Preliminary site plan for housing project approved.

July 31, 1941 Industrial and Supply Area site plan approved.

August 1, 1941 Started re-study of housing project site plans to provide for 700 houses instead of 1200 as originally requested.

August 5, 1941	Site plan for entire Division Training Area was approved.
August 7, 1941	Preliminary site plan submitted for Amphibian Base.
September 3, 1941	Officers' Quarters site plan approved.
September 24, 1941	Site plan of housing project as approved by Federal Works Agency signed by Officer in Charge.
October 24, 1941	Hospital site plan approved.
November 2, 1941	Notified by Officer in Charge that hospital will be designed for 700 beds.
November 5, 1941	Bachelor Officers' Quarters site plan approved.
November 11, 1941	New site plan for hospital approved.
December 8, 1941	Directed to prepare plans for Tent Camp No. 2.
December 9, 1941	Site for Rifle Range near Dixon approved.
December 16, 1941	Regimental Area No. 5 site plan approved.
December 16, 1941	Landing Field site plan approved.
December 21, 1941	Tent Camp No. 2 site plan approved.
January 3, 1942	Parachute Training Area site plan approved.
January 9, 1942	Directed to prepare site plan for a magazine area.
January 13, 1942	Rifle Range site plan approved.
January 30, 1942	Hospital Area site plan approved.
February 15, 1942	First Balloon Barrage Area site plan approved.
March 2, 1942	Amphibian Base site plan approved.
March 10, 1942	Magazine Area site plan approved.
April 20, 1942	Mumford Point Tent Camp site plan approved.
April 24, 1942	Directed to prepare plans for Boat Basin in Wallace Creek.
May 27, 1942	Seaplane Base site plan approved.
June 19, 1942	Notified to proceed with utility plans for Parachute Training Area.
June 22, 1942	Separate department set up for record drawings.

July 10, 1942

W. C. Munroe succeeded W. C. Roberts as project manager for Carr and J. E. Greiner Company.

July 20, 1942

Boat Basin site plan approved.

July 28, 1942

Directed to proceed with detail plans for Glider Base facilities at Landing Field.

August 5, 1942

Lieutenant Commander R. A. Williams succeeded Lt. Commander M. Nichols as Officer-in-Charge.

September 30, 1942

Carr and J. E. Greiner Company contract terminated.

CHAPTER B - PART II

OFFICE ENGINEER

B-1. General. For the majority of the work, the standards of design, types of construction, and the fundamental data were controlled by Standard Navy Specifications, cost estimates, directives from the Officer in Charge, directives from other governmental bureaus, and towards the latter stages of the work, by availability of materials.

The work done by this office consisted of:

- (a) Coordinating and expediting the efforts of the individual departments towards the common goal of issuing working drawings and specifications at the proper intervals so that the construction forces would not be delayed and that materials could be purchased well in advance of their installation.
- (b) The arrangement and charge of drawing and specification numbering systems and the filing of the drawings and specifications for all departments.
- (c) The routing of all shop drawings to the various departments and expediting their approval.
- (d) Maintaining adequate blue printing and mimeographing departments.
- (e) Securing information for all departments to aid them plan their respective work.
- (f) Making recommendations for types of foundations for various structures.
- (g) The preparation of a weekly index, mimeographed in pamphlet form, of all plans, revisions to plans, specifications and addenda to specifications, that had been issued to date for the Navy and Contractors' use.
- (h) Handling many of the matters pertaining to personnel difficulties after their employment, and
- (i) Maintaining janitor service.

B-2. Drawing and Specification Numbers.

B-2.01. Drawings; Division Training Area. Drawing numbers were assigned consecutively by departments as follows; 1 to 100, 101 to 199, 1100 to 1199, 2100 to 2199, etc., General and Preliminary.

200 to 299, 1200 to 1299, 2200 to 2299, 3200 to 3299, etc.
Roads, Railroads, Walks, Runways, Drainage, and Bridges.

300 to 399, etc., Site Plan.

400 to 499, 1400 to 1499, etc., Sewers and Sewage Disposal.

500 to 599, 1500 to 1599, etc., Water Supply, Storage, Treatment and Distribution.

600 to 699, 1600 to 1699, 2600 to 2699, 3600 to 3699, etc. Mechanical, Heating, Plumbing, Ventilation and Refrigeration.

700 to 799, 1700 to 1799, 2700 to 2799, 3700 to 3799, etc. Electrical and Communications.

800 to 1099, 1800 to 1899, 2800 to 2899, 3800 to 3899, etc. Architectural and Structural.

B-2.02. Drawings: Tent Camps 1 and 2. Drawing numbers were assigned consecutively but were not segregated by Departments and were prefixed by T. C. as follows:

TC 1 to TC 199, Tent Camp No. 1.
TC 200 to TC 499, Tent Camp No. 2.

B-2.03. Drawings: Outlying Tent Camps. Drawing numbers were assigned consecutively and prefixed by letters designating the location, but were not segregated by Departments as follows:

TB 1 to TB 99, Tank Battalion.
CCC 1 to CCC 99, CCC Camp.
MP 1 to MP 99, Mumford Point Tent Camp.

B-2.04. Drawings: Low Cost Housing Development. Drawing numbers were assigned consecutively but were not segregated by Departments and were prefixed by L.C.H. as follows:

LCH 1 to LCH 99, Low Cost Housing.

B-2.05. When a drawing number was assigned to a department, an index card was prepared with the same number, and title of drawing and project number was inserted if known.

When a drawing was issued as evidenced by copy of transmittal letter routed to clerk assigned, entry was made as to date of drawing, date of approval and date of issue.

When a drawing was revised, as evidenced by copy of transmittal letter routed to clerk assigned, entry was made as to revision letter, date of revision and date of issue.

At the time of recording issue of drawings and revisions entry was also made on a weekly check sheet, from which the weekly list of drawings and revisions was prepared.

B-2.05 (Cont'd)

Master sheets were provided for each department, each sheet bearing 100 numbers, with columns provided for recording, after each drawing number, the project number, Y. & D. drawing number, specification number, title of drawing, date of drawing, approval date, issue date, and revision dates and issue. Master sheets were kept posted from the index cards daily. (See P.W. Drawings Nos. 26 to 69 incl., and No. 84).

Linon tracings of each master sheet were brought up to date periodically so that prints could be had as necessary.

B-2.06. Specifications: Specification numbers were assigned consecutively by departments but with no segregation by areas except as follows;

- 100 to 199, Tent Camp Areas.
- 200 to 299, Roads, Railroads, Walks, Runways, Drainage, and Bridges.
- 300 to 399, Site Plan.
- 400 to 499, Sewers and Sewage Disposal.
- 500 to 599, Water Supply, Storage, Treatment and Distribution.
- 600 to 699, Mechanical, Heating, Plumbing, Ventilation, Refrigeration.
- 700 to 799, Electrical and Communications.
- 800 to 979, Architectural.
- 980 to 1000, Miscellaneous.

If Mechanical, Heating, Plumbing, Ventilation, Refrigeration, Electrical Specifications were issued as Sections, the same specification number was used as for the corresponding architectural specification. Table of Contents tabulated the sections by number and title and was kept up to date as sections and addenda were issued.

B-2.07. Specification Number Index: When a specification number was assigned to a department, an index card was prepared with the same number, and title of project and project number was inserted if known.

When a specification was issued, as evidenced by copy of transmittal letter routed to a clerk assigned, entry was made as to date of specification and date of issue.

As additional sections and addenda were anticipated, numbers were assigned and recorded on the index card, and, when issued, dates were recorded the same as for the original specification.

At the time of recording issue of specifications, additional sections and addenda, entry was also made on a weekly check sheet, from which the weekly list of specifications and addenda was prepared.

B-2.08. Weekly List of Drawings and Specifications. Weekly check sheet was compared with similar sheets kept by each department and discrepancies adjusted. Then issue of plans and specifications was posted

the previous weekly list, dates changed on each page, new projects added as they occurred, and stencils cut for mimeographing a complete new book weekly. When plan and specification issue was reduced to a minimum at the closing stages of the contract, only supplementary lists were prepared weekly, tabulating only the weekly issue of plans and specifications, and complete weekly list was not issued until a final book could be published after all plans and specifications were issued.

B-2.09. Tracings. Tracings were filed in flat, shallow drawers by building name, utility, roads, site plans, preliminary sketches and miscellaneous drawings; files all being located at one central point.

When a tracing was removed from the file an "Out" slip was placed in the drawer, designating the drawing number, project number and title and to whom the drawing was charged.

When a tracing was removed from the file for blue printing, "Out" slip was prepared in duplicate, one (1) placed in the file and one (1) accompanying the tracing or group of tracings as an order for prints to the blue print room.

As tracings were returned, "Out" slips were destroyed.

Some file drawers contained more than one project, in which case folders were provided to separate the project.

Frequent checks were made with the drawing schedule book to be sure all tracings were filed or accounted for.

B-2.10. Y. & D. Numbers. During the progress of the project very few Y. & D. numbers were used. After the rush of the work was over, the tracings were re-grouped by building and utility types and consecutive Yards and Docks numbers assigned, thus it is possible in most cases to find all working drawings pertaining to any one building filed as a group. It is recommended that henceforth all these drawings be filed in numerical order with the Y. & D. numbers. Chapter Q, Part II, furnishes a convenient list of the drawings prepared. P. W. drawings numbers P. W. 26 to P. W. 69, inclusive, and P. W. 84 show the drawings prepared, their Y. & D. numbers, revisions, approval dates, and other pertinent information. A list of specifications prepared is shown in Chapter R, Part II.

B-3. Foundation Recommendations. The soils are very spotty and consist of top soil, peaty soils, silts, sands of various types, clay, mixtures of sand and clay in widely different proportions, and a gumbo-like mud of varying plasticity.

It was assumed that the gumbo-like mud would sustain a load of 500 lbs. per square foot and that the pressures through the over-lying strata would spread on 1/2 to 1 slopes. An allowable soil pressure of 1000 lbs. per square foot was recommended where there was a minimum of 5 ft. of good material over-lying the gumbo. Where this overburden amounted to a minimum of 8 ft. an allowable soil pressure of 2000 lbs. per square foot was recommended; by direction, this was considered a maximum.

(Cont'd).

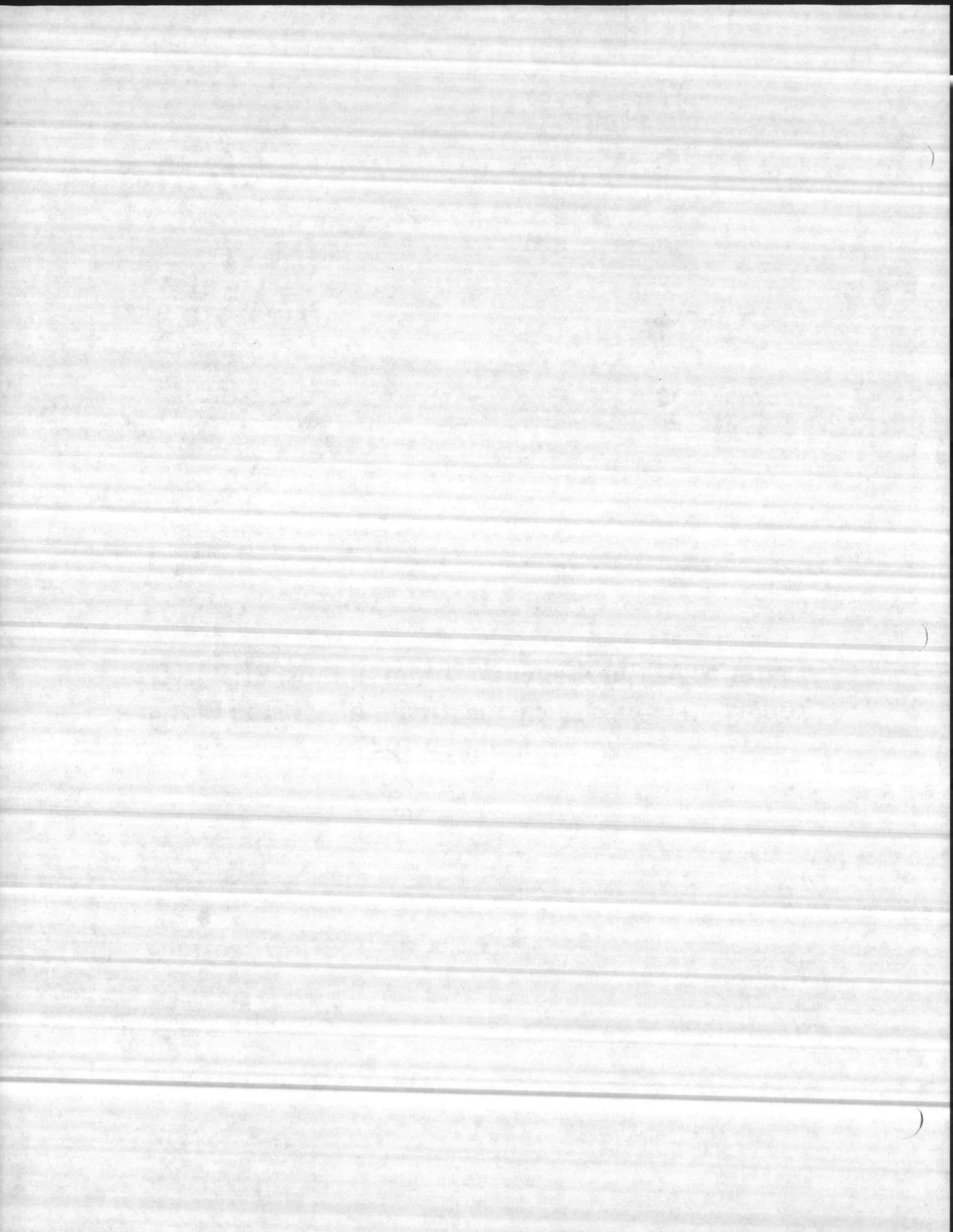
To determine the allowable soil bearing, hand auger borings were taken at the site of each building. The size and type of the structure determined the number of borings, which were usually taken to a depth of 10 feet. After visual inspection of the samples, recommendations were made to the Officer in Charge for his approval. The Officer in Charge would satisfy himself as to recommendations made and in cases where agreements could not be reached load bearing tests were taken by the Navy. Field notes covering soil borings are listed in Chapter O, Part II.

The majority of the structures had spread footing foundations, the allowable soil values of which were determined as noted above. Where the soil conditions did not permit spread footings, piling (timber, composite, and cast-in-place concrete) was used. By direction of the Officer in Charge, an allowable pile load of 20 tons was used for the timber and composite piling, and 40 tons for the cast-in-place concrete piles.

APPENDIX C-4

Cresswell, L. B., 1942

**Letter to Major General Commandant, SUBJECT:
Report on combat practice firing of Mortar Platoon,
21 January 1942**



DECLASSIFIED
Authority *NND 775720*
By *DR* NARA Date *10/1/98*

2400-75
076/243
First Marine Division, 4th Endorsement 21 January 1942
Fleet Marine Force, MB, New River, N.C.

From: The Commanding General.
To : The Major General Commandant.

Subject: Report on combat practice firing of Mortar
Platoon.

- 1. Forwarded.

L. B. Gresswell
L. B. GRESSWELL,
By direction.

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AGCH II
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20. 1951
FILE 2400-75

DECLASSIFIED

Authority *AND 175120*By *Dr* NARA Date *10/19/91*IN REPLYING
REFER TO No.

UNITED STATES MARINE CORPS
COMPANY "H", SECOND BATTALION,
FIFTH MARINES, FIRST MARINE DIVISION,
FLEET MARINE FORGE, MB, NEW RIVER, N. C.

January 13, 1942.

Simm

From: The Officer in Charge, Mortar Platoon.
To : The Major General Commandant.
Via : (1) The Commanding Officer, Company H.
(2) The Commanding Officer, 2nd Bn, 5th Marines.
(3) The Commanding Officer, 5th Marines.
(4) The Commanding General, First Marine Division.

Subject: Report on combat practice firing of Mortar Platoon.

Reference: MGC ltr 2400-10 over AO-267-fmf, dated 29Dec41.

1. The following information is supplied concerning the combat fire problem of the *Simm* Mortar Platoon on the Onslow Beach area December 16, 1941.

Tactical Designation of Target	Size of Target	Initial Range used & how obtained	Position Used	No Rounds and Type of Ammunition			Total Time Required
				Adjustment	Effective	(Hits)	
Tar No.1 MG	Point Target	1800 yds obtained from map	Could not be seen from tar- get	1 Light	1 Light	(1) Light	2 Light 3 Min.
Tar No.2 Enemy Skirmish Line	200 yds in trav- erse	1800 yds obtained from est- imation by eye	Could not be seen from tar- get	0	6 Light	(6) Light	6 Light 3 Min.
Tar No.3 Troop Concent- ration Area	100 yds in range 200 yds in traverse	1900 to 2000 yds obtained from est- imation of preceding fire	Could not be seen from tar- get	0	12 Light	(12) Light	12 Light 3 Min.

DECLASSIFIED

Authority *AND 125120*

By *[Signature]* NARA Date *10/18/98*

Go "H", 2nd Bn, 5th Marines, First Mar Div, FMF, MB, New River, N.C.
 Report on combat practice firing of Mortar Platoon. (Continued)

Tactical Designation of Target	Size of Target	Initial Range used & how obtained	Position Used	No Rounds and Type of Ammunition Adjust- Effective (Hits)			Total Time Required
Tar No. 4 Enemy Mortar	Point Target	2000 yds obtained from est- imation by eye	Could not be seen from tar- get	3 Light	5 Light	(3) Light	8 Light 6 Min.
Tar No. 5 Enemy in Brush.	100 yds in range 200 yds in traverse	2000 to 2100 yds obtained from est- imation by eye	Could not be seen from tar- get	0	18 Light	(15) Light	18 Light 5 Min.
Tar No. 6 Enemy Observa- tion post	Point Target	1600 yds obtained from est- imation by eye	Could not be seen from tar- get	1 Light	1 Light	(1) Light	2 Light 2 Min.
(Battery Displaced Forward)							
Tar No. 1 Enemy Ammuni- tion Dump	Point Target	1100 yds obtained from est- imation by eye (direct alignment)	Could not be seen from tar- get	2 Heavy	10 Heavy	(7) Heavy	12 Heavy 10 Min.

Total number of rounds expended 60

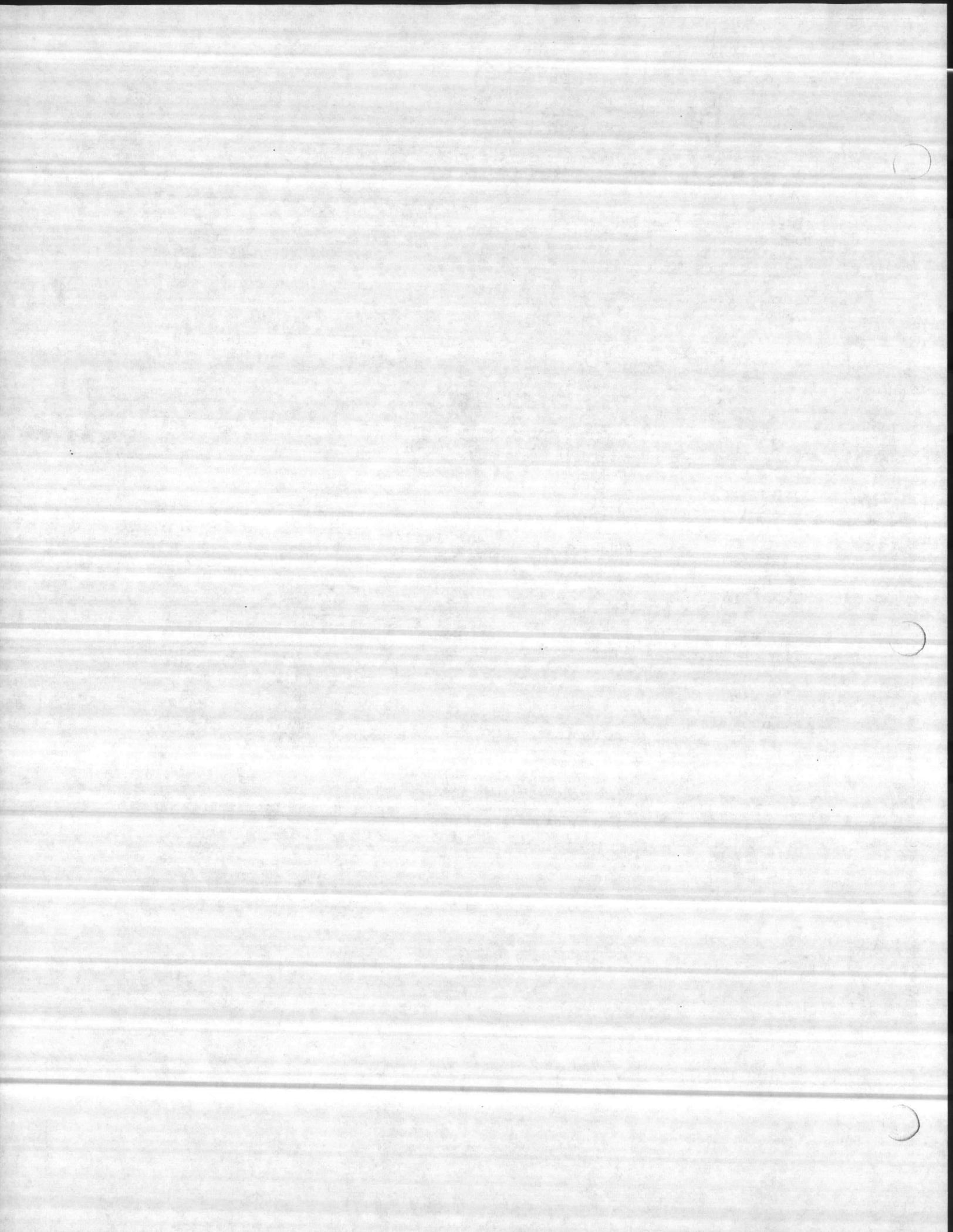
Victor S. Malinovsky
 VICTOR S. MALINOVSKI

RES/hrb
 Go "H", 2nd Bn, 5th Marines, First Mar Div, FMF, MB, New River, N.C.
 First Endorsement
 January 13, 1942.

From: The Commanding Officer.
 To : The Major General Commandant.
 Via : (1) The Commanding Officer, 2nd Bn, 5th Marines.
 (2) The Commanding Officer, 5th Marines.
 (3) The Commanding General, First Marine Division.

1. Forwarded.

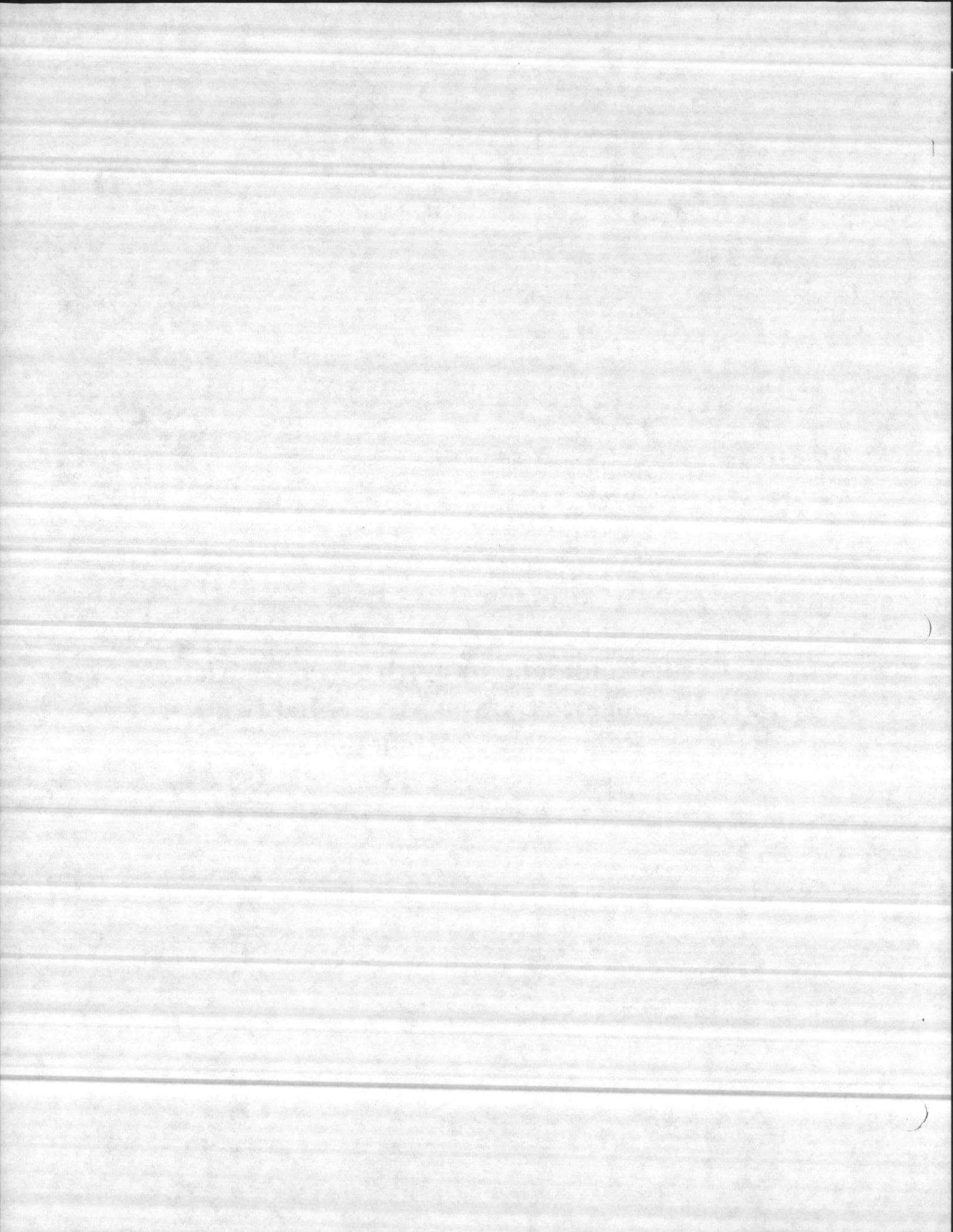
R. E. Stannah
 R. E. STANNAH



APPENDIX C-5

Cushman, T. J., 1945

**Letter to Commandant Fifth Naval District,
SUBJECT: Surface Danger Areas, Modification of,
Request for, 21 June 1945**



106

SERIAL NO. 1522

NL2/A16-3

JUN 21 1945

From: The Commanding General.
To: The Commandant, Fifth Naval District,
Norfolk, Virginia.

Subject: Surface Danger Areas, Modification of,
request for.

Reference: (a) ComFive ltr NDS(10)/A16-3(6-2) to Comdt USCG, dtd
28May45.
(b) U.S. Eng. Office, Wilmington, NC, ltr SADWX 304.4
to Comdt USCG, dtd 28May45.

Enclosures: (A) Photostat Section of Chart 1233 showing BT-1.
(B) Photostat Section of Chart 1234 showing BT-2.
(C) Photostat Section of Chart 857 showing BT-3.
(D) Photostat Section of Chart 1234 showing BT-5.
(E) Photostat Section of Chart 1234 showing BT-6.

1. Reference (b) listed objections to surface danger areas for targets BT-1, BT-2, BT-5, BT-6 and BT-8 as indicated by reference (a).

2. This command has contacted the U. S. Engineer Office, Wilmington, North Carolina. To eliminate objections listed in reference (b), it is requested that reference (a) be modified as follows:

AREAS: BT-1 - The waters of Pamlico and Core Sound which are encompassed by a circle of 2,000 yards radius centered at $36^{\circ}55'50''$ N, $76^{\circ}14'25''$ W, said central point being approximately 1785 yards 45° true from Hog Island Point Light. Enclosure (A).

BT-2 - The waters of Beaufort Sound and the Atlantic Ocean which are encompassed by a circle of 2,000 yards radius centered at $36^{\circ}41'00''$ N, $76^{\circ}57'00''$ W, said central point being the approximate center of Cat Island. Enclosure (B).

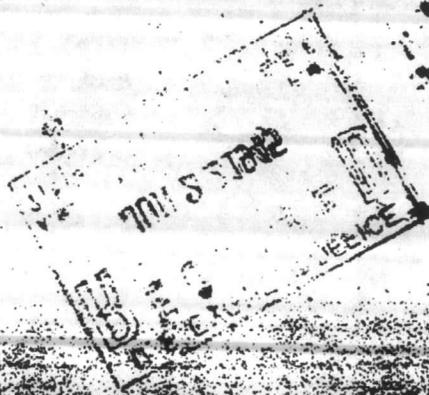
BT-8 - The waters of Pamlico River which are encompassed by a circle of 750 yards radius centered at $35^{\circ} 30'00''$ N, $77^{\circ}01'28''$ W, said central point being approximately 1,000 yards 197° true from McWilliam Point Light. Enclosure (C). Note: Bombing runs will be made on course of 140° true and 520° true.

3. Enclosure (D) shows the exact location of BT-5 (Rocket target and strafing targets). Enclosure (E) shows the exact location of BT-6 and the surface danger area. The U. S. Engineer Office, Wilmington, North Carolina, has no objections to the surface danger areas for these targets.

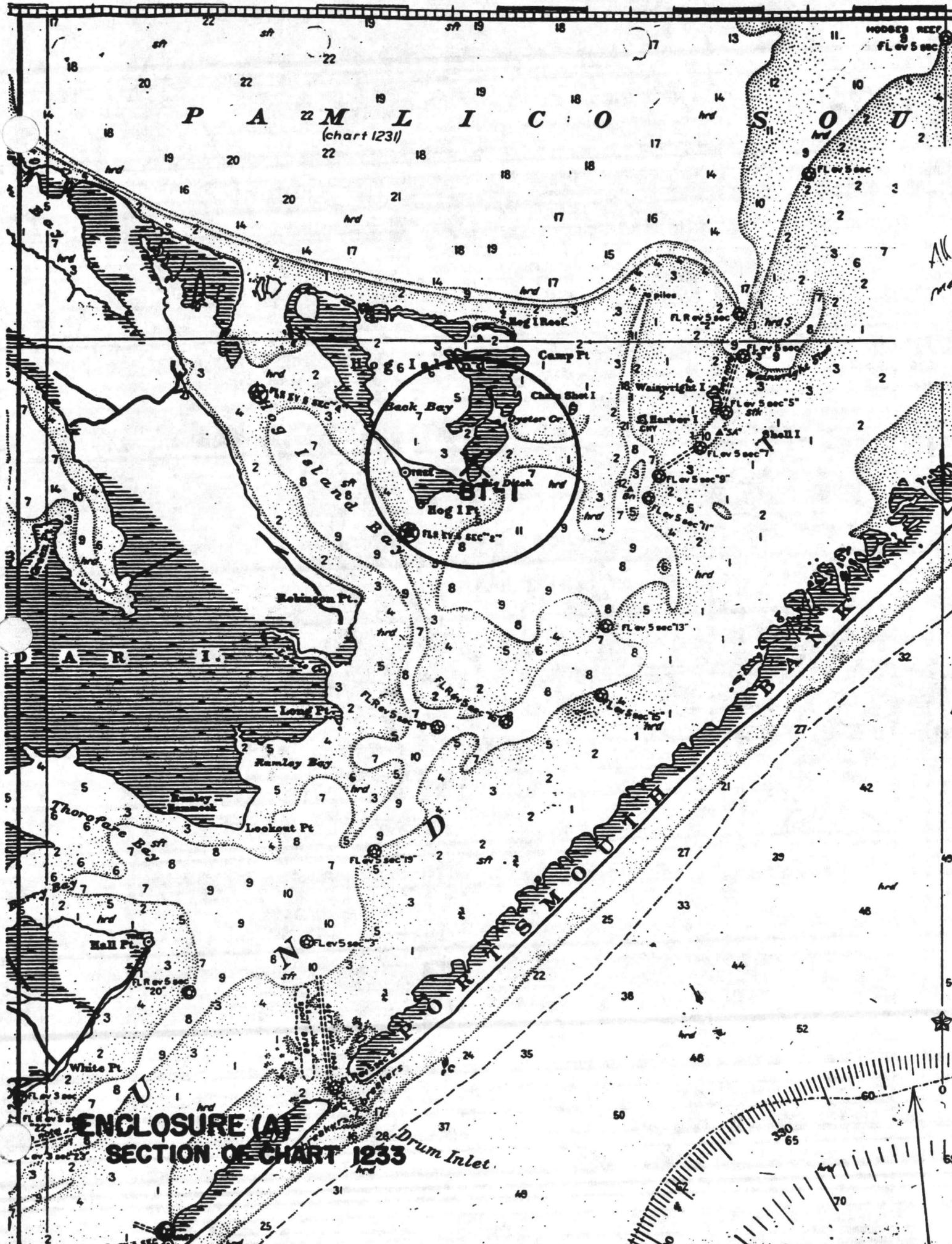
4. The modifications listed in paragraph No. 2 will eliminate all objections outlined in reference (b).

T. J. CUSHMAN

cc: U.S. Engineer Office, Wilmington, N. C. (with enclosures)

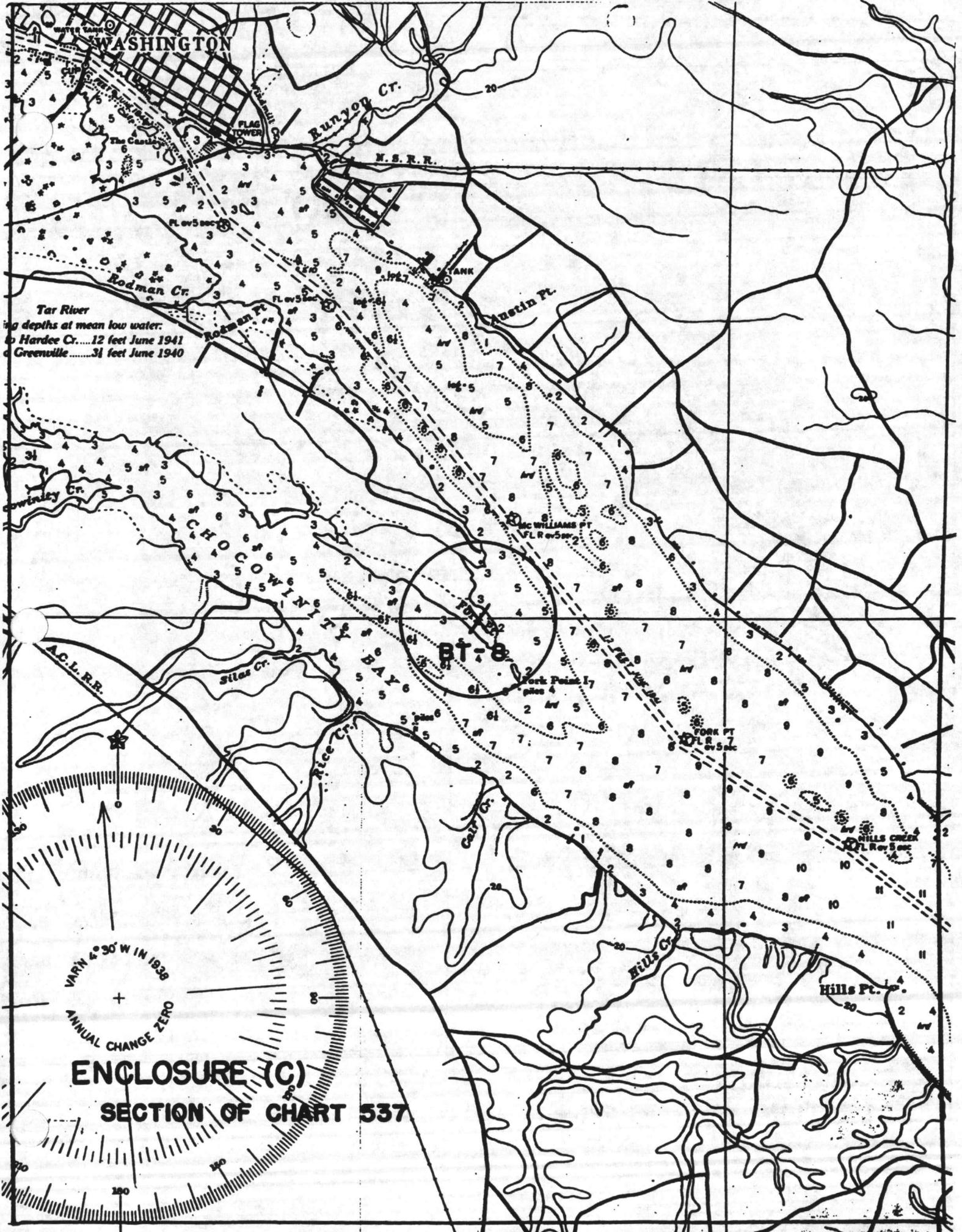


P A M L I C O
(chart 1231)



ENCLOSURE (A)
SECTION OF CHART 1233

Drum Inlet



Tar River
 depths at mean low water:
 to Hardee Cr. 12 feet June 1941
 to Greenville 31 feet June 1940

ENCLOSURE (C)
SECTION OF CHART 537

Nautical Miles

Yards

5000

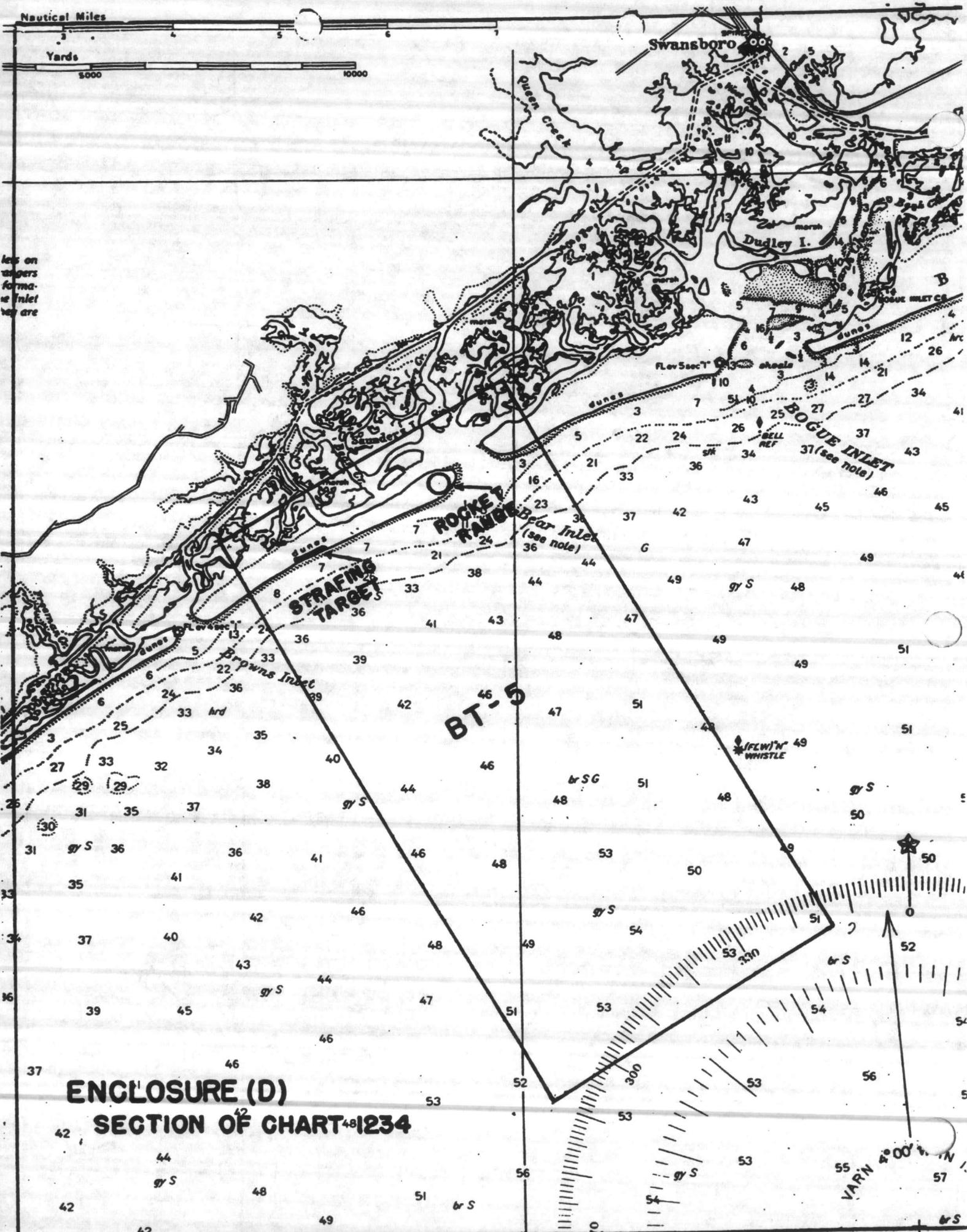
10000

Swansboro

Queen Creek

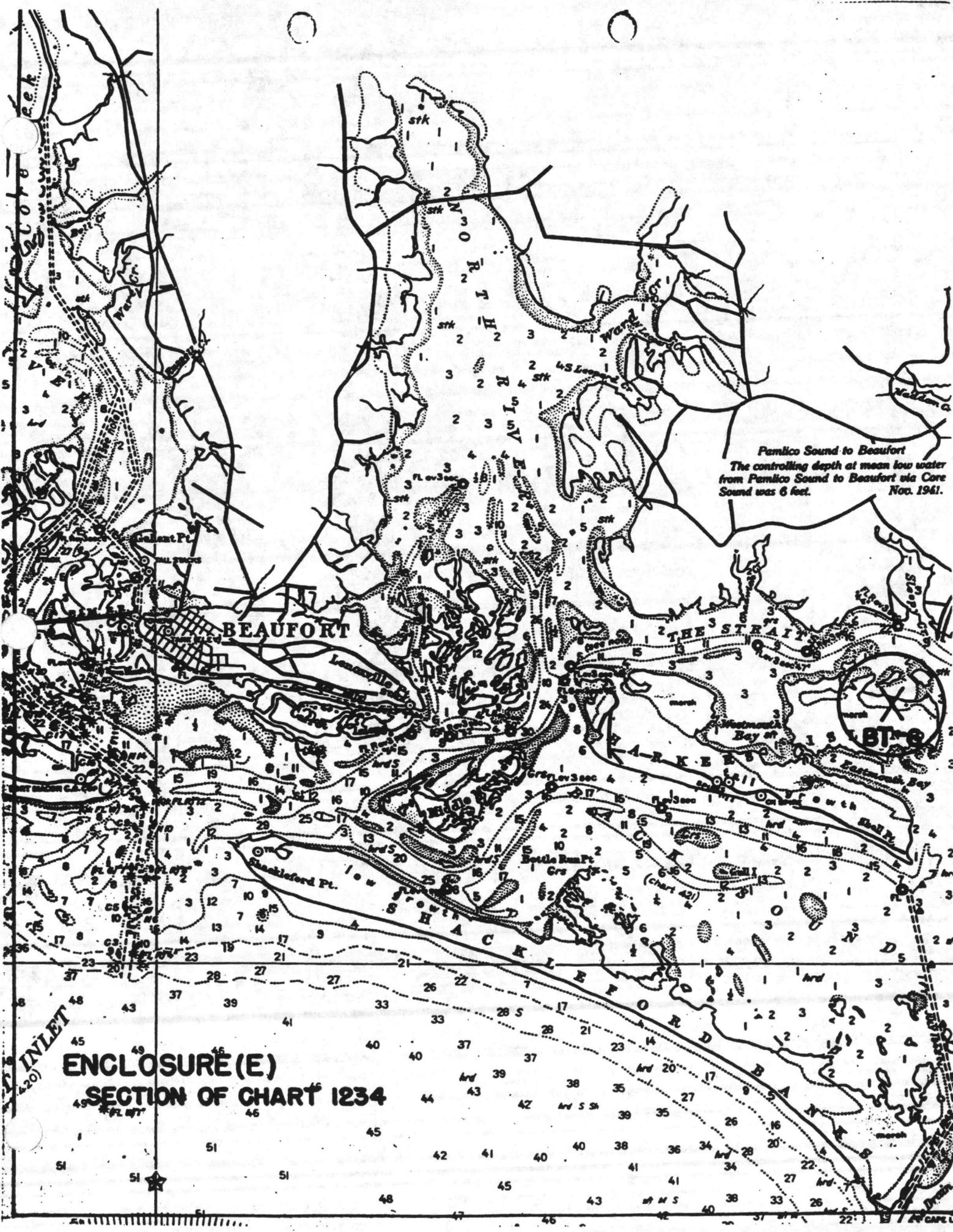
Dudley I.

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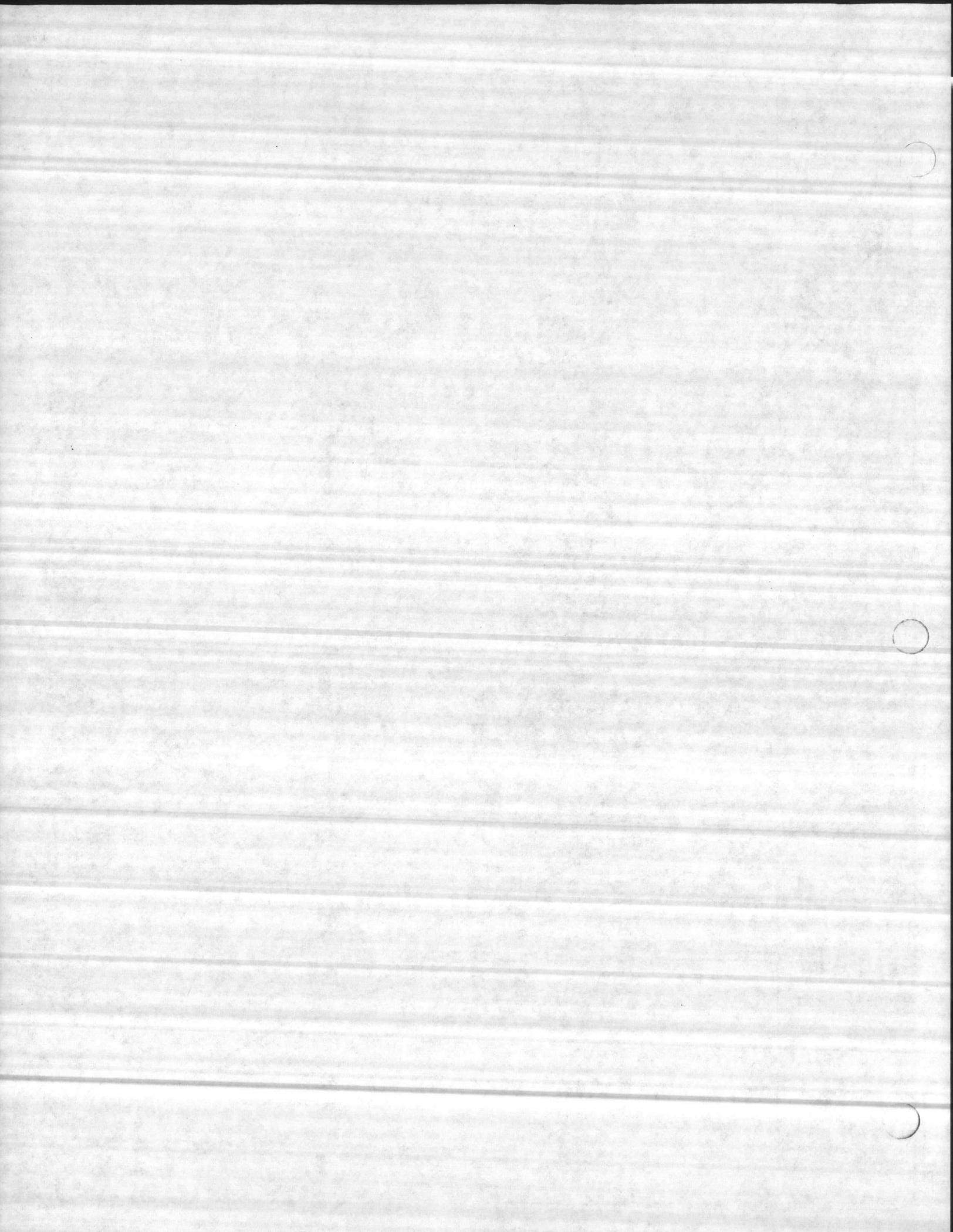
ENCLOSURE (D)
SECTION OF CHART #1234

VARN 2° 00' N



Pamlico Sound to Beaufort
 The controlling depth at mean low water
 from Pamlico Sound to Beaufort via Core
 Sound was 6 feet. Nov. 1961.

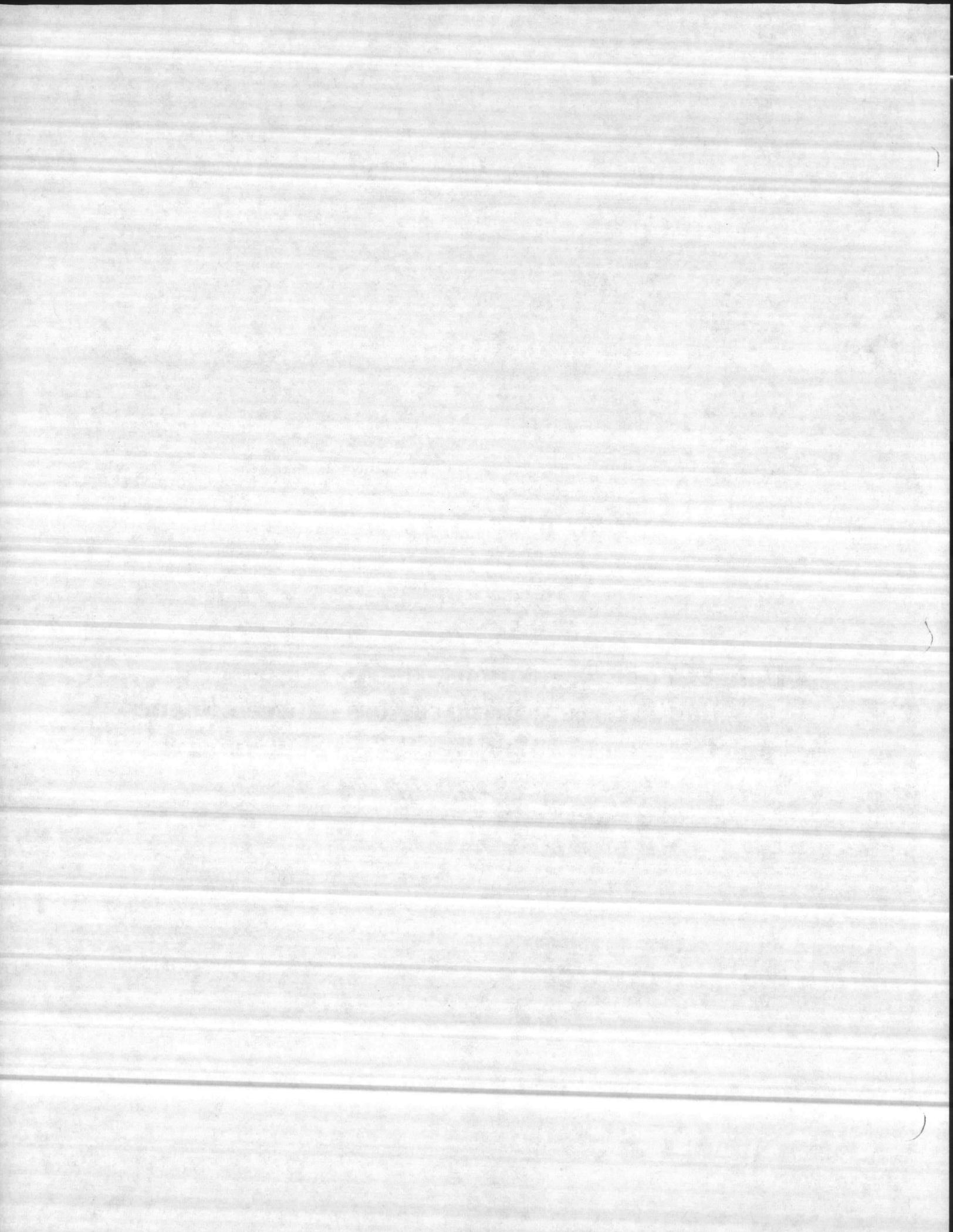
ENCLOSURE (E)
SECTION OF CHART 1234



APPENDIX C-6

Lewis, H. B., 1943

**Danger Zone Regulations, 204.55 Waters of the
Atlantic Ocean; firing sectors between Bogue
Inlet, NC and Little River, SC, 9 September 1943**



DANGER ZONE REGULATIONS

Pursuant to the provisions of section 7 of the River and Harbor Act approved August 8, 1917 (40 Stat. 266; 33 U.S.C. 1), the danger zone defined in paragraph 204.55, comprising firing ranges of the Anti-Aircraft Artillery Training Center, Camp Davis, North Carolina, and the Marine Base, New River, North Carolina, is hereby redefined to include an additional sector, and the title and regulations are hereby amended as follows:

204.55 Waters of the Atlantic Ocean; firing sectors between Bogue Inlet, N. C., and Little River, S. C.

THE DANGER ZONES

(a) The firing ranges include the waters within five sectors, described as follows:

Sector No. 1. The center of this sector is located on Hurst Beach, Onslow County, North Carolina, at latitude $34^{\circ}-34'-15''$ North, Longitude $77^{\circ}-16'-10''$ West. The sector extends over an arc of 135° , with a radius of 25,000 yards, bounded by limiting lines bearing North 85° East and South 40° West, respectively, from the center.

Sector No. 2. The center of this sector is located on the outer bank opposite Sears Landing near Beacon No. 70 of the Intracoastal Waterway at Latitude $34^{\circ}-25'-40''$ North, Longitude $77^{\circ}-32'-30''$ West. The sector extends over an arc of 136° , with a radius of 25,000 yards, bounded by limiting lines bearing North 84° East and South 40° West, respectively, from the center.

Sector No. 3. The center of this sector is located near the center of old Fort Fisher, near Federal Point, North Carolina, at Latitude $33^{\circ}-58'-08''$ North, Longitude $77^{\circ}-55'-10''$ West. The sector extends over an arc of 160° , with a radius of 25,000 yards, bounded by limiting lines bearing North 30° East and South 10° West, respectively, from the center.

Sector No. 4. This sector includes the area between Sectors Nos. 2 and 3, and is bounded on the seaward side by a line tangent to the arcs of the adjacent sectors.

Sectors No. 5. This sector is bounded on the north by the shore line, on the east by a line bearing South 15° East, 25,000 yards, from a point on the shore line one-half mile west of Fort Caswell, on the west by a line bearing South 55° West, 25,000 yards, from the west end of Holdens Island at latitude $32^{\circ}-54'-00''$ North, Longitude $78^{\circ}-22'-30''$ West, and on the south by the arc of a circle, having a radius of 60,000 yards and a center at approximately Latitude $34^{\circ}-10'-20''$ North, Longitude $78^{\circ}-11'-45''$ West, connecting the southern extremities of the east and west limits.

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DANGER ZONE FILES

THE REGULATIONS

(b) (1) Sailing vessels or any watercraft having a speed of less than 5 miles per hour shall keep clear of the danger zones at all times after notices of firing have been given. Any vessel or other water craft propelled by mechanical power at a speed greater than 5 miles per hour may enter the danger zones without restriction except when the signals enumerated in subparagraphs (4) and (5) below are being displayed. When these signals are displayed all vessels in the danger zones shall clear immediately and no vessel shall enter the danger zones until the signals indicate that firing has ceased.

(2) Firing over the ranges will take place during both daylight and night-time hours, at irregular periods throughout the year.

(3) Two days in advance of the day when firing in any sector is scheduled to begin the Commanding General at Camp Davis or the Commanding General of the Marine Base at New River will warn the public of the contemplated firing through the public press, the Coast Guard, the Cape Fear Pilots Association at Southport, North Carolina, and the Pilots Association at Morehead City, North Carolina.

(4) A tower will be erected near the shore in each sector, at least 50 feet in height. On days when there is firing in a sector, a red flag will be displayed on the respective tower. This flag will be displayed before 8:00 a.m. and will be removed when firing ceases for the day.

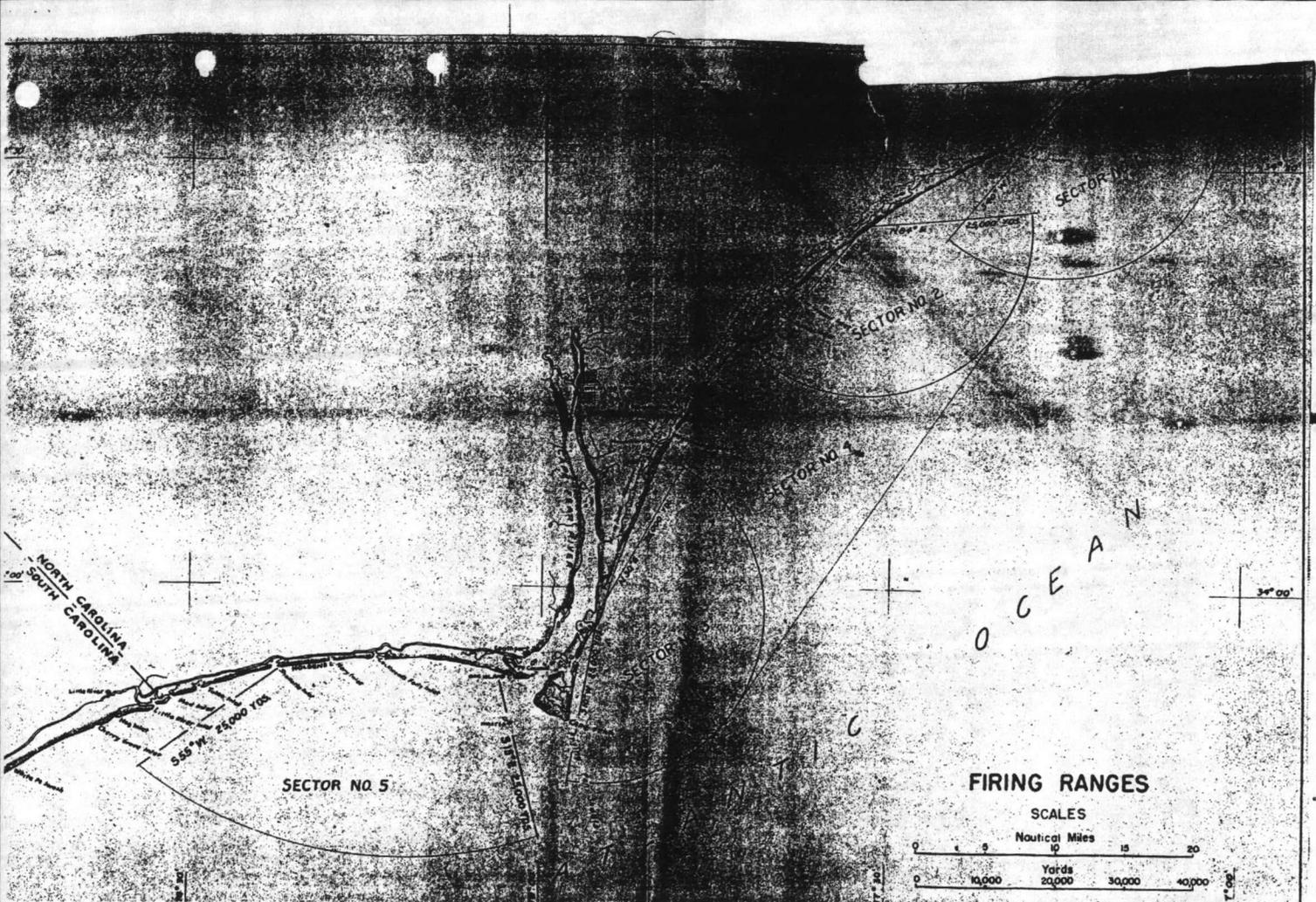
(5) During night firing red lights will be displayed on the respective tower and searchlights will be employed as barrier lights to enable safety observers to detect vessels which may attempt to enter the danger zones.

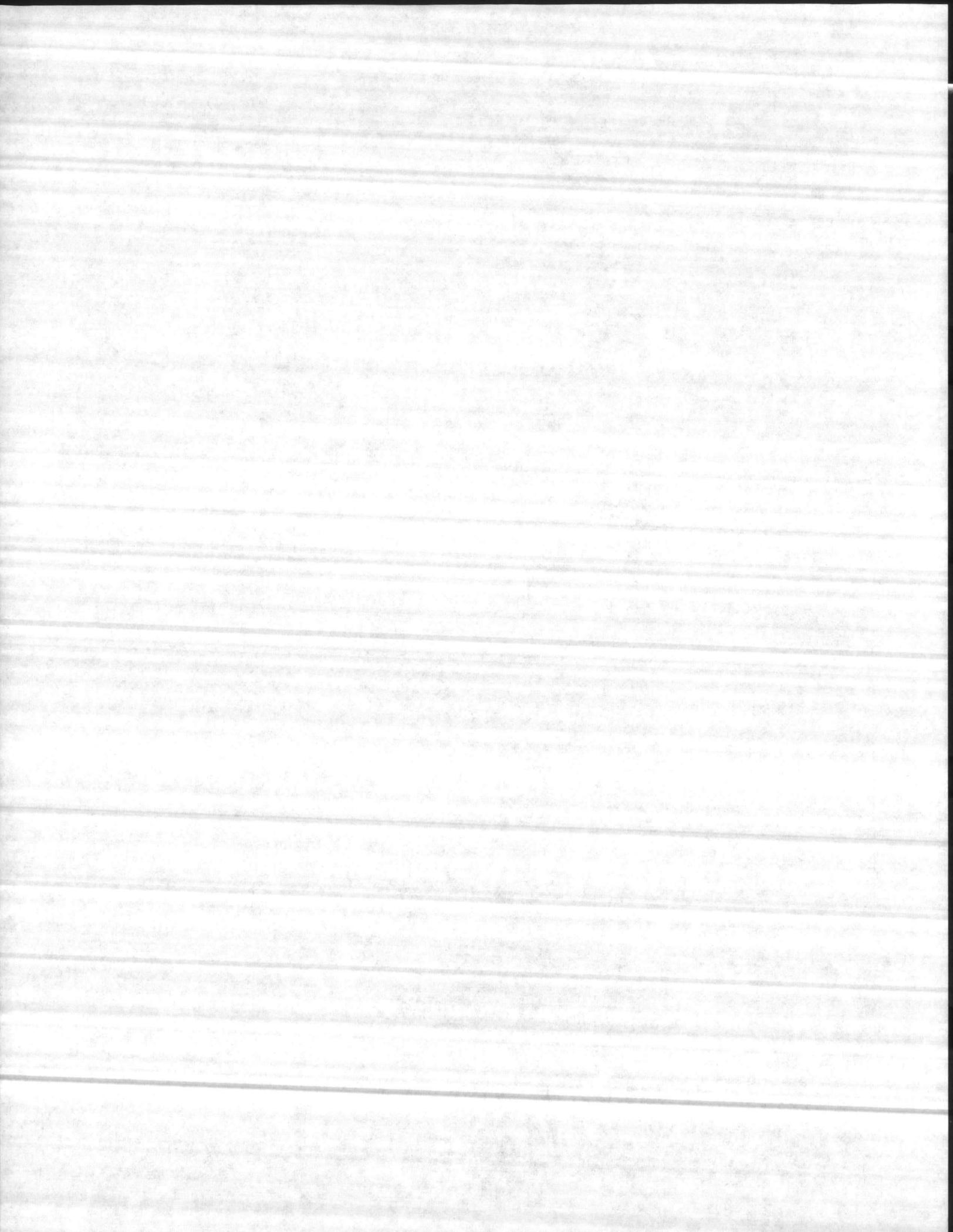
(6) These regulations will be enforced by the Commanding General, Anti-Aircraft Artillery Training Center, Camp Davis, North Carolina, the Commanding General, Marine Base, New River, North Carolina, and such responsible agent or agents as they may designate.

Approved 9 September 1943.

H. B. Lewis
Brigadier General
Acting The Adjutant General

Note: These rules and regulations, when published, have the force of law. They were published in the Federal Register on 10 September 1943; public notices of their approval were sent to all known interested parties on 15 September 1943; they have been posted at the Post Offices in Wilmington, Southport, Wrightsville, Holly Pidge, Smeads Ferry, Jacksonville, Morehead City and Beaufort, North Carolina.

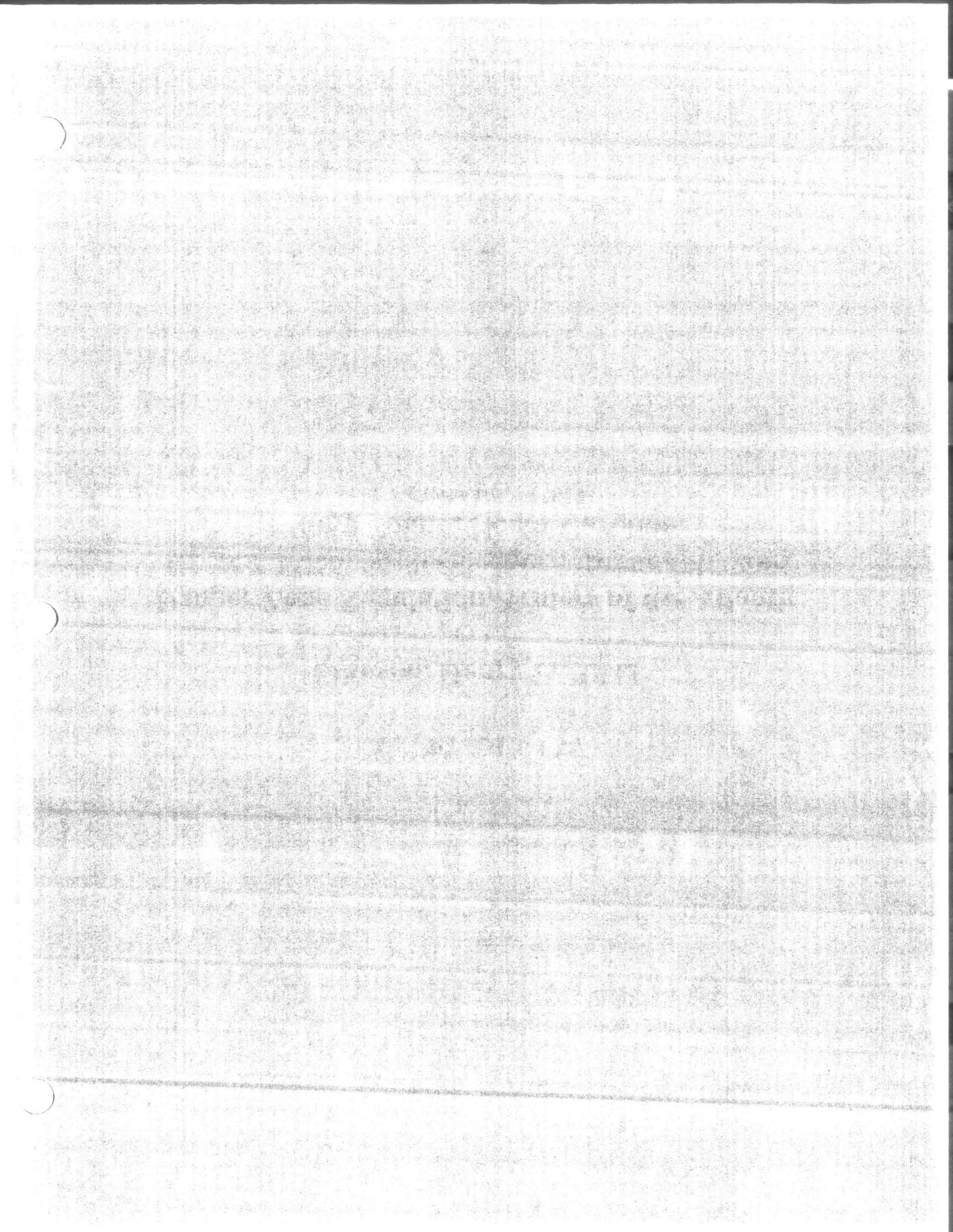




APPENDIX C-7

Stimson, Henry L., 1943

**Danger Zone Regulation, Waters of the Atlantic
Ocean: Firing sector between Bogue Inlet and
Stump Sound, North Carolina,
27 October 1943**



DANGER ZONE REGULATIONS

Pursuant to the provisions of Section 7 of the River and Harbor Act of August 8, 1917 (40 Stat. 266; 33 U. S. C. 1), the danger zones defined in Section 204.55, comprising firing ranges of the Anti-Aircraft Artillery Training Center, Camp Davis, North Carolina, and the Marine Base, New River, North Carolina, are hereby modified by the elimination of Sector No. 3, and the title is hereby amended to read as follows:

2, 3 & 4, and all references to AAATC, Camp Davis NC.

204.55 Waters of the Atlantic Ocean; Firing sector between Bogue Inlet and Cape Fear, North Carolina.

Stump Sound

Approved October 27, 1943.

Henry L. Stimson

Secretary of War.

U. S. Engineer Office,
Wilmington, N. C.
9 November 1943

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DANGER ZONE FILES

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DANGER ZONE REGULATIONS

Pursuant to the provisions of Section 7 of the River and Harbor Act of August 8, 1917, (40 Stat. 266; 33 U.S.C. 1), the following regulations are hereby prescribed to govern the use and navigation of the waters of the Atlantic Ocean between Stump Sound and Cape Fear, North Carolina, comprising Air-to-Air and an Air-to-Ground Gunnery Ranges.

Waters of the Atlantic Ocean; Aerial Gunnery Ranges between Stump Sound and Cape Fear North Carolina.

THE DANGER AREAS

(a) (1) The Air-to-Air Gunnery Range includes the waters in an area 15 miles wide by 55 miles long, bounded by lines as follows:

Beginning at a point on the North Carolina shoreline at Longitude $78^{\circ} 00'$; thence south to a point at Longitude $78^{\circ} 00'$ Latitude $33^{\circ} 42'$; thence east to a point at Longitude $77^{\circ} 45'$ Latitude $33^{\circ} 42'$; thence in a curved line parallel to the shoreline and distant 15 miles off shore therefrom to a point at Longitude $77^{\circ} 21'$, Latitude $34^{\circ} 16.5'$; thence northwesterly to a point on the North Carolina shoreline Longitude $77^{\circ} 28.8'$ Latitude $34^{\circ} 28'$; thence along the North Carolina shoreline southerly to the point and place of beginning.

(2) The Air-to-Ground Gunnery Range includes the waters in an area 3,000 yards wide by 8,000 yards long, between Rich and Mason Inlets, bounded by lines as follows:

Beginning at Rich Inlet, running thence southeastwardly off shore 3,000 yards, thence southwestwardly along a line parallel to and 3,000 yards off shore to a point opposite Mason

Inlet, thence northwestwardly 3,000 yards to Mason Inlet, thence along the shoreline northeastwardly to Rich Inlet.

THE REGULATIONS

(b) (1) All vessels and other water craft shall keep clear of the Air-to-Ground Range Area at all times until further notice.

(2) Water craft of every kind shall keep clear of the Air-to-Air Gunnery Range Area at all times during its use for target practice.

(3) In view of the large extent of Air-to-Air Gunnery range, vessels and other craft will not be restricted from the Air-to-Air Gunnery range unless specific notice is given ^{through} in the usual media of the dissemination of such information. Prior to the conducting each gunnery mission the air will be patrolled by Army Air Craft, to insure that no water craft ~~is~~ in the area that will be endangered by falling missiles. Any such water craft in the vicinity will be warned by means of signals that target practice is to take place. The patrolling airplane will use the method of warning known as "buzzing", which consists of low flight by the airplane and repeated opening and closing of the throttle. Immediately after the warning signal is given by the patrolling air craft, any water craft within the range area shall immediately leave the area at the maximum speed ~~of~~ which it is capable and no water craft shall re-enter the area until target practice has ceased.

(4) Inasmuch as ~~target~~ target practice will take place in the area at frequent and irregular intervals throughout the year, regardless of season, the only advance notice that is practicable to give is the date on which the first of such activities will begin. At intervals of not more than 3 months thereafter, notice will be sent out that ~~target~~ target practice is continuing. Such notices will appear in the local newspapers.

The notices will also be sent to the office of the Cape Fear Pilots Association, Southport, N. C., and to the headquarters of all known concerns engaged in menhaden fishing in this vicinity.

(5) These regulations will be enforced by the Commanding Officer, Blumenthal Field, Wilmington, North Carolina, and such agencies as he may designate.

Approved

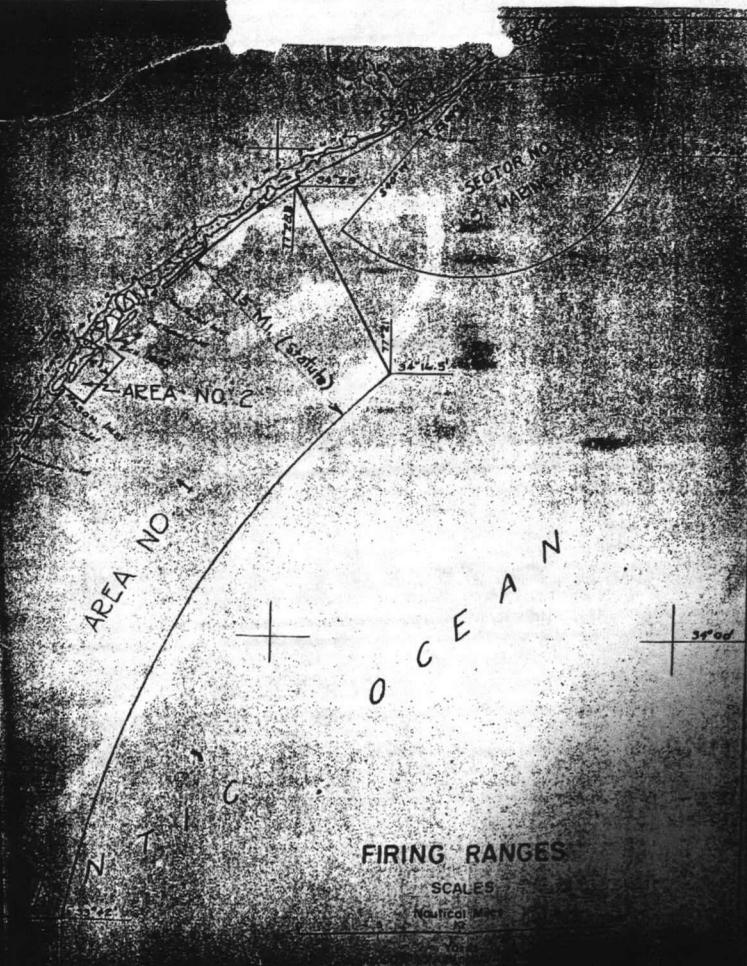
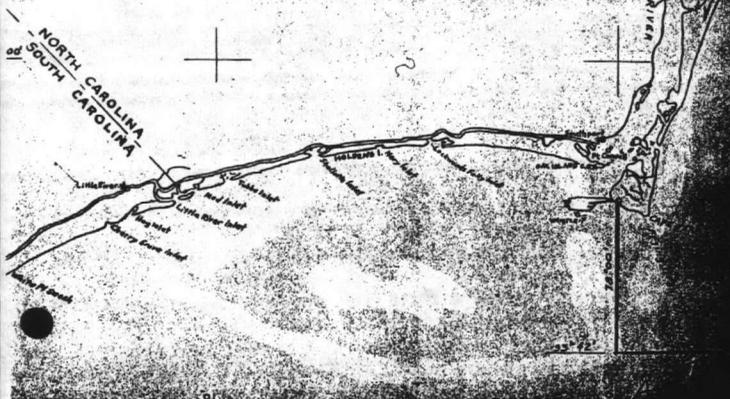
Secretary of War

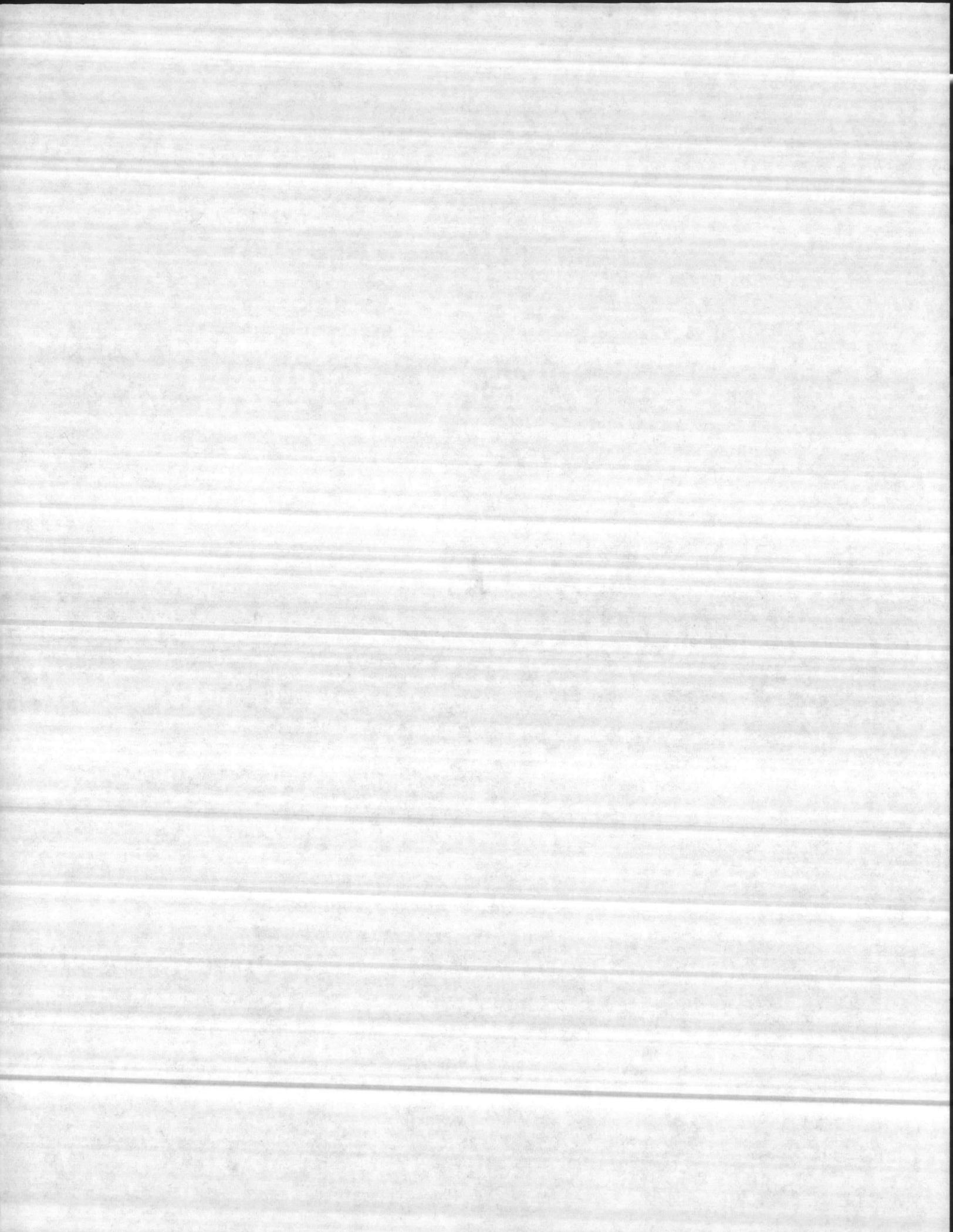
DESCRIPTION OF AREA NO. 1

Beginning at a point on the North Carolina shoreline at Longitude 78° 00', thence south to a point at Longitude 78° 00' Latitude 35° 45', thence east to a point at Longitude 77° 45' Latitude 35° 45', thence in a curved line parallel to the shoreline and distant 15 miles offshore thence to a point at Longitude 77° 21' Latitude 34° 19.5', thence northwesterly to a point on the North Carolina shoreline Longitude 77° 26.8' Latitude 34° 28', thence along the North Carolina shoreline southerly to the point and place of beginning.

DESCRIPTION OF AREA NO. 2

Beginning at Rich Inlet, running thence southeasterly offshore 3,000 yards, thence southwesterly along a line parallel to and 3,000 yards offshore to a point opposite Mason Inlet, thence northwesterly 3,000 yards to Mason Inlet, thence along the shoreline northeasterly to Rich Inlet.

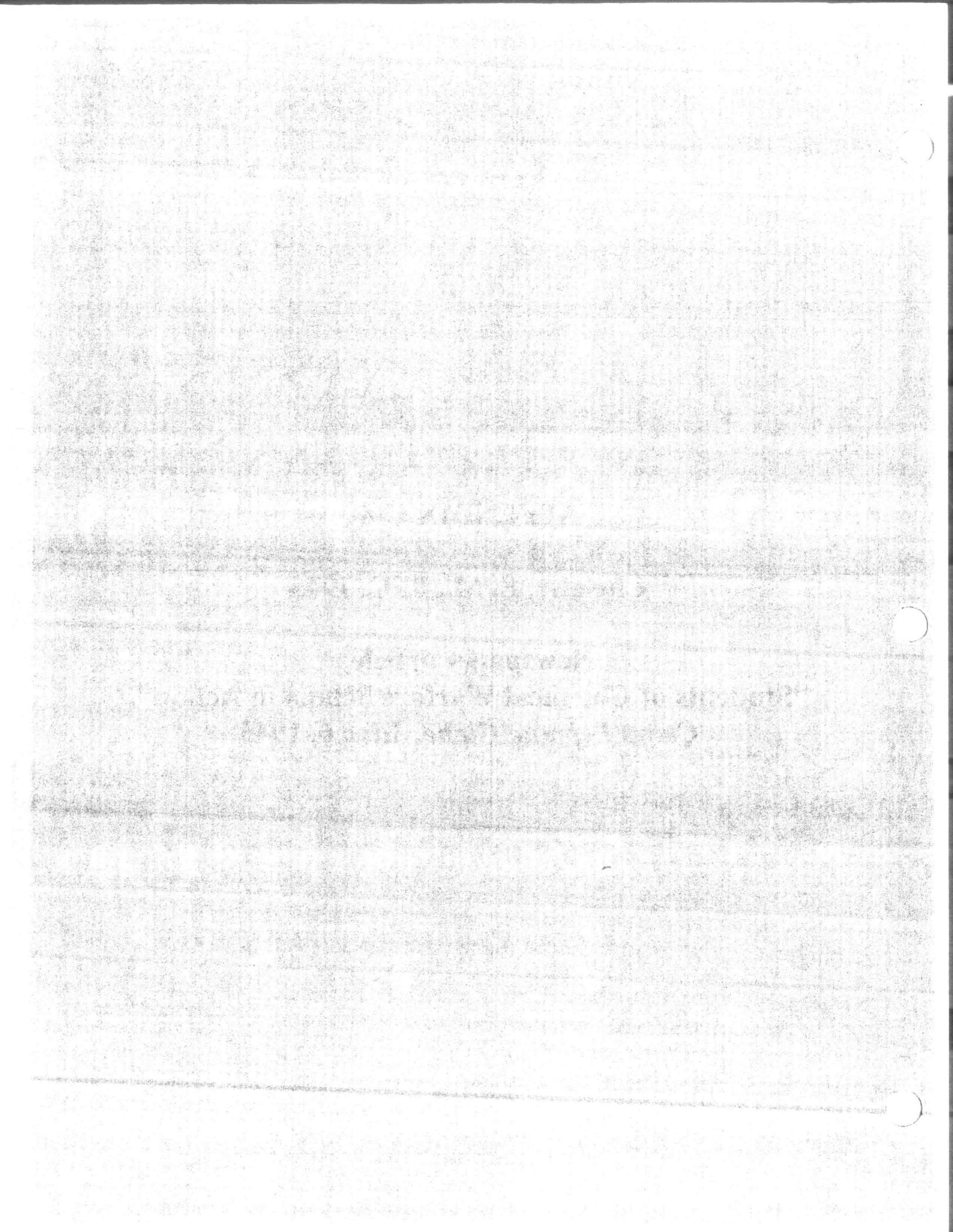




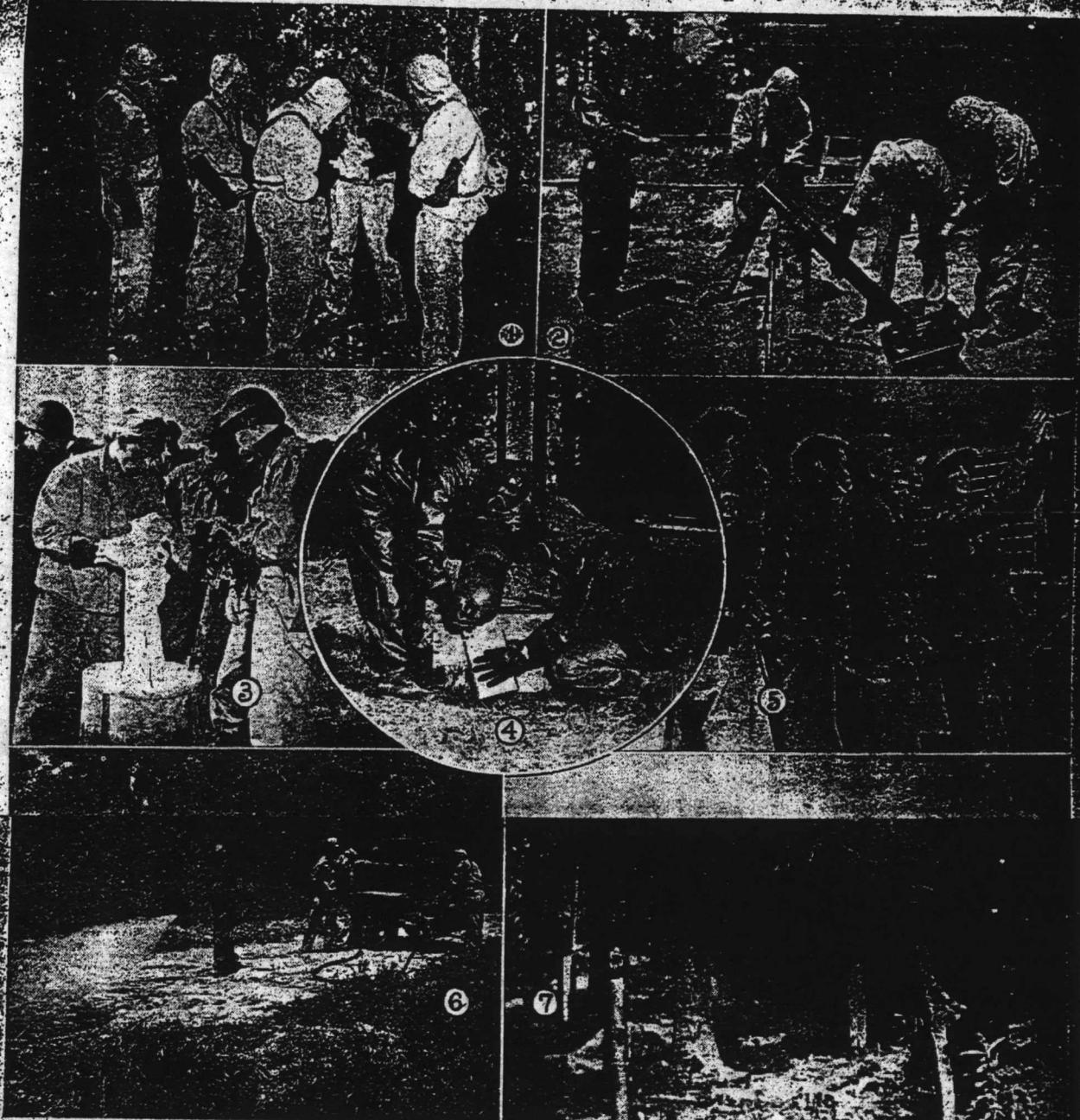
APPENDIX C-8

Chelette, E. M., PFC, 1945

**Newspaper article,
"Students of Chemical Warfare School in Action",
Camp Lejeune Globe, June 6, 1945**



Students Of Chemical Warfare School In Action



Subjected to a week's intensive maneuvers in the new chemical warfare training area, students are here shown in some of the phases which highlighted the completion of their course. (1) Under the direction of the squad leader, this group of men is shown obtaining a test of gas in an area exposed to "enemy" chemical attack. (2) Squad leader, left, directing the decontamination of an 81 MM mortar which has been subjected to gas attack. (3) Students under the direction of an instructor impregnate clothing with chemicals to make them gas resistant. (4) Two instructors from the Chemical Warfare School fill a chemical land mine. They

are clothed in special garments from head to foot for protection from the deadly vapors. (5) Lt. Calovich, right, officer in charge of the Chemical Warfare School, is explaining the operation of a hand anemometer to a group of students at the school's Meteorology Station. (6) Squad decontaminates a road which has been sprayed with gas by "enemy" aircraft. They are using a Diesel powered decontaminator containing a special mixture of chemicals. (7) Students penetrate barbed wire obstacles under gunfire in a heavy concentration of smoke and gas.

Photos by S/Sgt. F. X. Cadden, Photo Lab.

Week-Long Intensive Maneuvers Prove Rugged

By PFC. E. M. CHELETTE
Three weeks of intensive training are given by the classes of the Chemical Warfare School as the graduates are put through a week's maneuver in the camp's new Chemical Warfare Area, in use for the first time.
The students are subjected, in the new chemical warfare training area, to a rigorous simulation of actual battle conditions plus employment of all types of chemical warfare. The course is directed by the officer in charge of the Chemical Warfare School, 2nd Lt. F. X. Calovich, S/Sgt. F. X. Cadden, and other instructors. It is made up of the following branches:

Meteorology and Military Chemistry, Lt. Emery R. Calovich; Intelligence, Sgt. Rod Cunningham; Decontamination and Tactics, Platoon Sgt. James L. Neill; Agents and Individual Protection, Cpl. Joseph Turpen; Materiel, Platoon Sgt. Wallace Moore and Pfc. Charles Dwyer; and Collective Protection, Platoon Sgt. William Lenk.
PREVIOUS INSTRUCTION
Before starting on the maneuvers, the students are given two weeks of classroom instruction covering every phase of chemical warfare from gas mask drill to chemical intelligence.
The new Chemical Warfare Area here at Lejeune is the latest in-

novation in battle training and is considered the finest of its kind. Upon completion of this course each man is qualified to handle any chemical situation he might encounter in the field.
COMPLETE ACTION
A detailed account of the complete graduation action employed by this group is here outlined:
The students, clad in complete battle equipment, including gas masks and rifles, leave from the Area 4 dock at Hadnot Point in rubber boats. They then proceeded to a pre-arranged point near the Chemical Warfare Area, two miles from the base, to make their landing. Before reaching the beach, a

heavy smoke screen is laid to cover the landing. On shore "enemy" resistance consisting of machine-gun and rifle fire plus a severe gas attack is overcome.
After securing the beach and having reached the objective, the trainees are then taken through a Squad Reaction Course. Here each squad leader takes his squad through numerous stations and obstacles such as the Gas Detection Area, Impact Area, Gas Proof Shelter Area, Obstacle Areas, and others. Throughout this course a complete intelligence report is filled by the squad leader, which is later handed in to the instructors' staff and graded.

As the squad moves into the course, one of the first stations they encounter is the gas detection area. Here gases of all types are encountered, and the task of testing for the type, degree of concentration, and obtaining a sample of earth or vegetation, falls upon each squad leader.
Moving on to the next station, an impact area, containing gas shells with Japanese markings, the squad has to fill out a report telling the type, size, and filling of the shells.
Next the troops were confronted by an obstacle course. Here each

Continued on page 12

Chemical Warfare Maneuvers

The direction of the gas was determined by the wind speed and direction. The troops, wearing gas masks, were marching in the open, plus high concentrations of gas and smoke. Rapidity of movement while wearing masks under all these conditions, prove similar to combat experience.

Pressing on to the next station, a captured enemy, non-ventilated gas shelter is reconnoitered for booby traps. After this was done, the squad then began the task of determining its capacity and finally putting it to use.

Further on, a ventilated shelter, equipped with an air-purification unit was put into use by the squads. Here the squad determines the capacity of the shelter as well as keeping the air-purification unit in operation.

MUSTARD WALK

Nearing the end of the course the Mustard Walk is encountered. The troops, dressed in chemically treated clothes and shoes, plus a gas mask and specially designed gloves, are taken through an area where deadly mustard chemical land mines are exploded. When this is completed the troops decontaminated the area before proceeding.

Immediately following the station comes the Chemical First Aid Area. It consists of a large station for treatment of all injuries sustained in the Chemical Field Area. Around this main station are several substations where the students treat several type of chemical casualties, putting into practice instructions obtained in the classroom.

Finally, the men go to the Meteorology Station where, by the means of special instruments, they determine the wind speed and direction. They also record humidity, precipitation, and sky conditions. They are later graded on the accuracy of the report they make.

Following this a complete summary of the operations is reviewed.

NIGHT GAS ATTACK

Troops are secured in a bivouac area for the night with gas sentries posted. Throughout the nights gas attacks are launched against the men by simulated artillery, thereby bringing into play all types of protective and security measures against gas attacks.

The mornings are occupied in the Decontaminating Area. The class is broken down into decontaminating squads, where all phases of decontamination of materiel such as rifles, mortars, shell holes, simulated buildings and roads were carried out. This is followed by the impregnation of clothing with chemicals to make them gas resistant.

The students go through the last phases of the maneuver, the 20 station Reaction Course. Here the men encounter twenty different chemical situations over a half mile course. Each man upon reaching a station is acquainted with a situation. He then has to make a decision in two minutes, and carry out the proper action to combat the problem with the material available at the station. He is graded on the promptness and correctness of his movements by the instructors.

The completion of these maneuvers prove the capabilities of the men subjected to the aforementioned battle tests. No longer may casualties be attributed to

ignorance of the Chemical Warfare class, acquaints students with the subject of "Gas," so thoroughly that the proper treatment of chemical casualties, in addition to the defensive and offensive employment of chemicals becomes almost second nature.

Chief Of Staff

Continued from page 2

detachments aboard the USS Pennsylvania, and the USS Colorado. Then, as a battery commander, he spent 30 months with the 10th Marine Regiment, including an expedition to China, and subsequently was assigned as a commanding officer of the Marine Barracks at Olongapo, Philippine Islands, where he served twenty months.

ATTENDS QUANTICO SCHOOLS

Back in the United States, Wilson was stationed at various Marine Corps and Navy Yards for three years, spent another year at sea, and then, in 1934-35, attended Marine Corps Schools at Quantico. During the following two years he was public relations officer for the Marine Department of the Pacific, with headquarters in San Francisco, Calif.

After a refresher course in field artillery at the Army's Fort Sill, Okla., Wilson served for five years as executive officer and then commanding officer of a battalion of the 10th Marine Regiment, spending ten months with that unit in Iceland after the United States entered the present war.

He has held the rank of colonel since July 24, 1942.

Other medals and awards which he holds include the Marine Expeditionary Medal with Bronze Star (Cuba, 1917; North China, 1927), the Yangtze Service Medal (China, 1927); the European Theater Medal (1942), and Asiatic-Pacific Theater Medal.

His wife is Beatrice Lamoureux Wilson of 2343 Goldsmith St., San Diego, Calif. Their home remains in Corvallis. They have two sons, Marine Capt. James P. Wilson, 25, and Marine 2nd Lt. John B. Wilson Jr., 23.

'Haba, Haba, Joe' Is New Okinawa Greeting

By CPL. FRED E. TRAVIS
TAIRA, Okinawa — (Delayed)—Okinawa children now greet Marines with "Haba, haba, Joe."

The "haba, haba" was brought here by Marines who used this greeting for South Pacific island natives. The exact origin and meaning of "haba" is a subject of much debate, "experts" claiming it was originated as an American football cry as was first used by street carnival barkers.

Widely traveled Marines of Major Gen. Lemuel C. Shepherd Jr.'s Sixth Division say they have heard "Haba, haba" used by natives throughout the Pacific.

The words definitely were not a part of the Okinawa vocabulary when Marines arrived, but almost every child old enough to talk now uses them. Older people have not taken it up.

SERVICEMAN'S DOCTOR

Hollywood-Felix Bressart, who once planned to be a doctor, has studied and received his degrees in physiotherapy and naturopathy since Pearl Harbor, will minister to returned service men.

WILKINSON POINT

THURSDAY, JUNE 7

Gene Tierney-Dana Andrews

FRIDAY, JUNE 8

Twice Blessed

Lee & Lyn Wilde-James Craig

SATURDAY, JUNE 9

Crime Inc.

Leo Carrillo-Tom Neal

SUNDAY, JUNE 10

Bells of Rosarita

Roy Rogers-Gabby Hayes

MONDAY, JUNE 11

Wathering Heights

Merle Oberon-Lawrence Oliver

TUESDAY, JUNE 12

Colonel Blimp

Anton Wallbrook-Roger Livesey

Area 5 Theatre:

WEDNESDAY, JUNE 6

Nob Hill

Joan Bennett-George Raft

THURSDAY, JUNE 7

Don Juan Quilligan

William Bendix-Joan Blondell

FRIDAY, JUNE 8

Laura

Gene Tierney-Dana Andrews

SATURDAY, JUNE 9

Twice Blessed

Lee & Lyn Wilde-James Craig

SUNDAY, JUNE 10

Crime Inc.

Leo Carrillo-Tom Neal

MONDAY, JUNE 11

Bells of Rosarita

Roy Rogers-Gabby Hayes

TUESDAY, JUNE 12

Wathering Heights

Merle Oberon-Lawrence Oliver

MONTFORD POINT

MPC Theatre:

WEDNESDAY, JUNE 6

That's the Spirit

Jack Oakie-Peggy Ryan

THURSDAY, JUNE 7

Nob Hill

Joan Bennett-George Raft

FRIDAY, JUNE 8

Don Juan Quilligan

William Bendix-Joan Blondell

SATURDAY, JUNE 9

Laura

Gene Tierney-Dana Andrews

SUNDAY, JUNE 10

Twice Blessed

Lee & Lyn Wilde-James Craig

MONDAY, JUNE 11

Crime Inc.

Leo Carrillo-Tom Neal

TUESDAY, JUNE 12

Bells of Rosarita

Roy Rogers-Gabby Hayes

Recruit Theatre:

WEDNESDAY, JUNE 6

Rhythm Roundup

Ken Curtis-Cheryl Walker

THURSDAY, JUNE 7

That's the Spirit

Jack Oakie-Peggy Ryan

FRIDAY, JUNE 8

Nob Hill

Joan Bennett-George Raft

SATURDAY, JUNE 9

Don Juan Quilligan

William Bendix-Joan Blondell

SUNDAY, JUNE 10

Laura

Gene Tierney-Dana Andrews

MONDAY, JUNE 11

Twice Blessed

Lee & Lyn Wilde-James Craig

TUESDAY, JUNE 12

Crime Inc.

Leo Carrillo-Tom Neal

TENT CITY

No. 1 Theatre:

WEDNESDAY, JUNE 6

Blonde From Brooklyn

Robert Stanton-Lynn Merrick

THURSDAY, JUNE 7

Rhythm Roundup

Ken Curtis-Cheryl Walker

FRIDAY, JUNE 8

That's the Spirit

Jack Oakie-Peggy Ryan

SATURDAY, JUNE 10

Nob Hill

Joan Bennett-George Raft

SUNDAY, JUNE 11

Don Juan Quilligan

William Bendix-Joan Blondell

MONDAY, JUNE 12

Laura

Gene Tierney-Dana Andrews

TUESDAY, JUNE 13

Twice Blessed

Lee & Lyn Wilde-James Craig

Theatre No. 2

WEDNESDAY, JUNE 6

Man Who Walked Alone

Kay Aldridge-Dave O'Brien

THURSDAY, JUNE 7

Blonde from Brooklyn

Robert Stanton-Lynn Merrick

FRIDAY, JUNE 8

Rhythm Roundup

Ken Curtis-Cheryl Walker

SATURDAY, JUNE 9

That's the Spirit

Jack Oakie-Peggy Ryan

SUNDAY, JUNE 10

Nob Hill

Joan Bennett-George Raft

MONDAY, JUNE 11

Don Juan Quilligan

William Bendix-Joan Blondell

TUESDAY, JUNE 12

Laura

Gene Tierney-Dana Andrews

Rifle Range Theatre:

WEDNESDAY, JUNE 6

See My Lawyer

Olsen & Johnson-Grace McDonald

THURSDAY, JUNE 7

Man Who Walked Alone

Kay Aldridge-Dave O'Brien

FRIDAY, JUNE 8

Blonde from Brooklyn

Robert Stanton-Lynn Merrick

SATURDAY, JUNE 9

Rhythm Roundup

Ken Curtis-Cheryl Walker

SUNDAY, JUNE 10

That's the Spirit

Jack Oakie-Peggy Ryan

MONDAY, JUNE 11

Nob Hill

Joan Bennett-George Raft

The Gunny...

DON'T YOU THINK

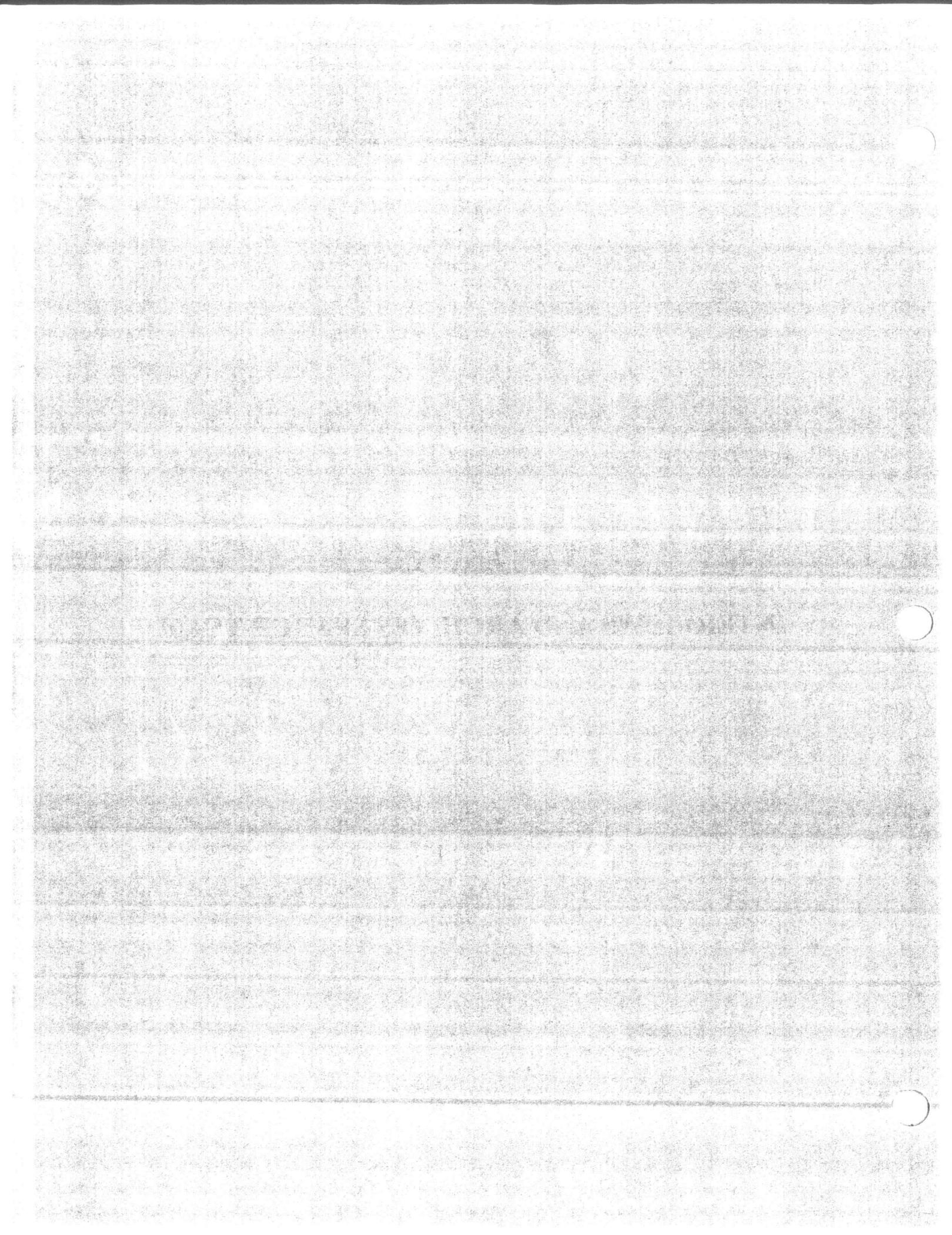
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APPENDIX D

INTERVIEWS AND ARCHIVES SEARCH TEAM



APPENDIX D - INTERVIEWS AND ARCHIVES SEARCH TEAM

The following individuals provided pertinent information through interviews concerning **Marine Corps Base Camp Lejeune**. A summary of these cited conversations is included in Section 4.3

Individual Contacted	Date Interviewed	Position/Organization	Phone Number
SGM Dlugosh	1/27/99	NCOIC, EOD Platoon H&S Co, 8th Engr SPT BN	910 451-5803
SGM (Ret) Ray Humphreys	1/25/99	514 BREJNN MARR, Jackson, NC 28546	910 353-4120
LTC (Ret) Norman A. Chandler	1/25/99	100 Radcliffe Circle Jackson, NC 28546	910 455-3834
SMG (Ret) John Carson	1/25/99	195 Audubon Drive Jackson, NC 28546	910 347-1931
Mr. John Jordan	1/25/99-1/29/99	Public Works, Building 1005	(910) 451- 2818
Ms. Peggy Briley	1/25/99-1/29/99	Training, Education, and Operations Office, Building 1	(910) 451-5326
Mr. Don Hashagen	1/25/99-1/29/99	Range Control Office, Building 54	(910) 451-5803
Mr. Neal Paul	1/25/99-1/29/99	Installation Restoration Division, Environmental Management Department	(910) 451-5068
Mr. Mick Senus	1/25/99-1/29/99	Installation Restoration Division, Environmental Management Department	(910) 451- 5068/9609
Mr. Jeff Wyrick	1/25/99-1/29/99	Installation Restoration Division, Environmental Management Department	(910) 451- 5068/9609
Mrs. Kelly Dreyer	FY 1999	Installation Restoration Program Office, Headquarters, U.S. Marine Corps, Washington, DC	
MAJ Martin	1/25/99-1/29/99	EOD Platoon, H & S Company, 8 th Engineer Support Battalion, 2 nd Force Service Support Group (FSSG)	(910) 451-5803
MSG Ray	1/25/99-1/29/99	EOD Platoon, H & S Company, 8 th Engineer Support Battalion, 2 nd Force Service Support Group (FSSG)	

Individual Contacted	Date Interviewed	Position/Organization	Phone Number
Sergeant Middleton	1/25/99-1/29/99	EOD Platoon, H & S Company, 8 th Engineer Support Battalion, 2 nd Force Service Support Group (FSSG)	
MSG Carnal	1/25/99-1/29/99	EOD Platoon, H & S Company, 8 th Engineer Support Battalion, 2 nd Force Service Support Group (FSSG)	
SSG Husband	1/25/99-1/29/99	EOD Platoon, H & S Company, 8 th Engineer Support Battalion, 2 nd Force Service Support Group (FSSG)	
SSG Kapp	1/25/99-1/29/99	NCOIC, EOD, Camp Geiger	
CPT Sara Fullwood	1/25/99-1/29/99	Acting Historian, MCAS New River	

The archive search team also contacted the following individuals in preparation of this ASR. Conversation with these people yielded information of three general sorts:

- background data contained in written documents
- negative information (i.e., no pertinent knowledge of the site)
- coordination of efforts for various interested parties

While valuable, conversations with these individuals did not yield information cited in this report and hence Telephone Conversation Records have not been included.

INDIVIDUAL CONTACTED	TELEPHONE NUMBER	POSITION/ORGANIZATION
MS J. Renee Hawthorne	910 451-5326	Deputy Asst Chief of Staff Training, Education & Ops HQ, Camp Lejeune
MAJ Scott B. Jack	910 451-2751	PAO, Camp Lejeune
COL (Ret) Chuck Van Horn	E-Mail FOOCATS@GIBRALTER.NET	Executive Secretary 2nd Marine Div Association

ARCHIVES SEARCH REPORT
Marine Corps Base Camp Lejeune
Onslow, NC

INDIVIDUAL CONTACTED	TELEPHONE NUMBER	POSITION/ORGANIZATION
Mr. Jim Swartzenberg	(910) 347-7240	J & B AquaFood, 16 Bayshore Blvd., Jacksonville, NC 28540
LTC Tony Fazio		Adjutant, Camp Lejeune
Mr. Glen Pappas		Historian, Camp Lejeune Base Library
MAJ Scott Fazekas		Consolidated Public Affairs Office, Camp Lejeune
LTC Flowers		G-3 Section, Camp Lejeune
LTC Rollandini		G-3 Section, Camp Lejeune
Mr. Jack Hernandez		President, 2 nd Marine Division Association, P.O. Box 8180, Camp Lejeune
CPT Jones		Acting OIC, Chemical & Biological Incident Response Force (CBIRF), Camp Lejeune

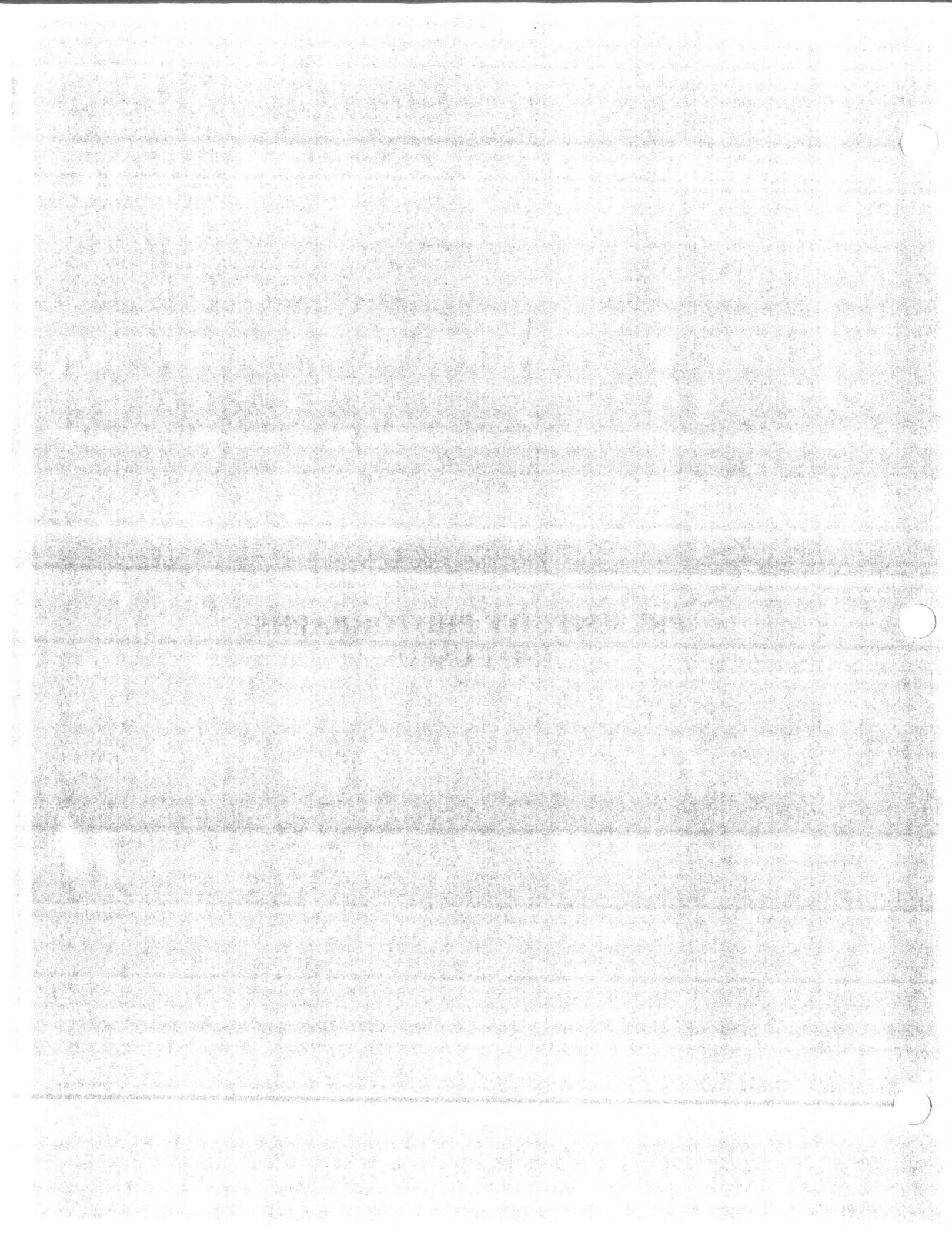
The following organization and individuals comprised the archive search team:

U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT (CEMVS)
 Engineering Division - Ordnance and Technical Services Branch
 1222 Spruce Street
 St. Louis, MO 63103-2833

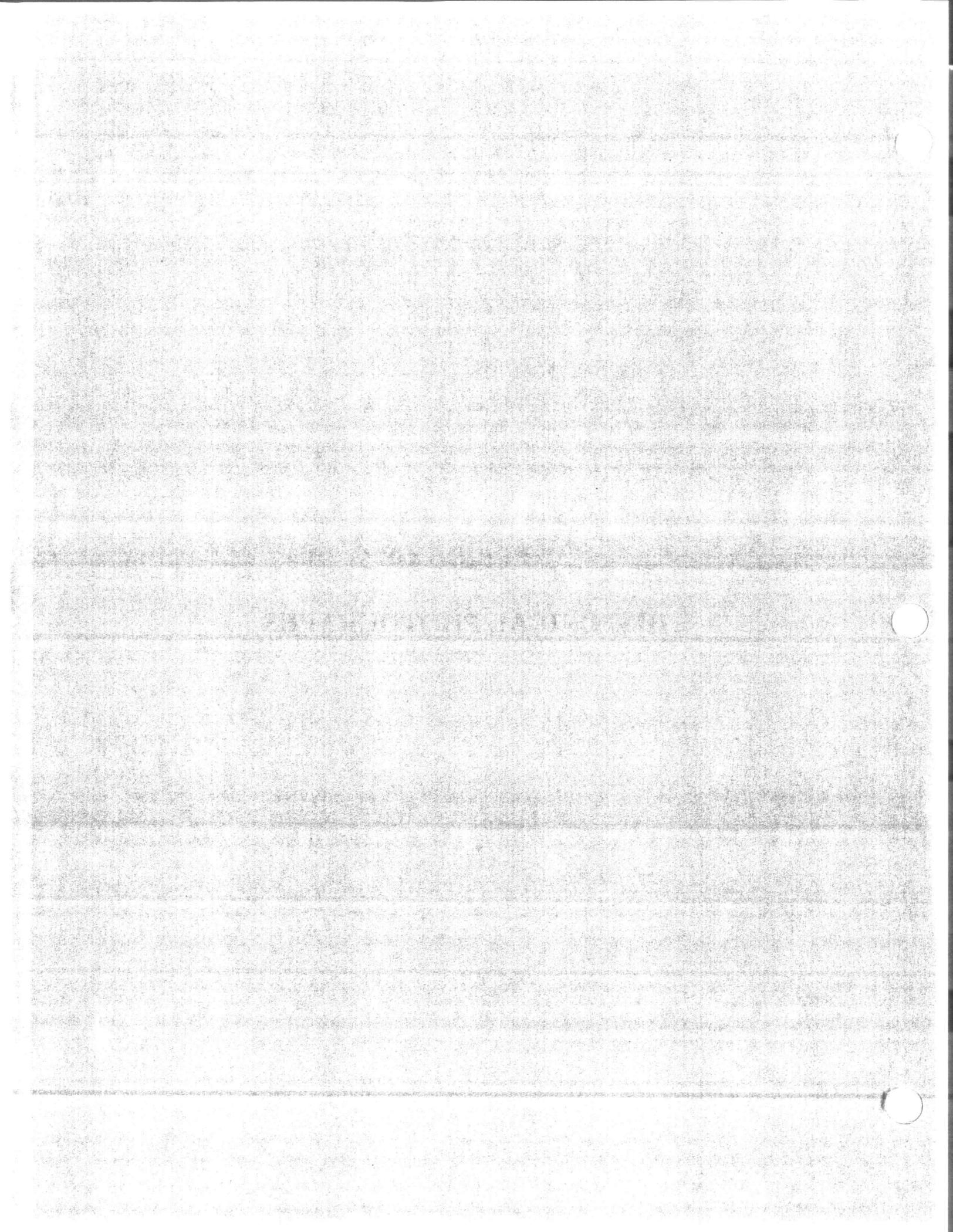
Individual	Telephone Number	CEMVS Position
Michael Dace	(314) 331-8036	ED-P, Chief of Ordnance and Technical Service Branch
Gerald Schwalbe	(314) 331-8788	ED-P, ASR Project Manager
George Sloan	(314) 331-8796	ED-P, Safety Specialist
Fred Miller	(314) 331-8792	ED-P, Historian
Ida Morris	(314) 331-8040	ED-P, Project Assistant
Dave Kreighbaum	(314) 331-8116	ED-SG, Aerial Photography Interpretation
Ray McCollum	(314) 331-8868	ED-SG, CADD Specialist

APPENDIX E

**PRESENT SITE PHOTOGRAPHS
(NOT USED)**



APPENDIX F
HISTORICAL PHOTOGRAPHS



APPENDIX F - HISTORICAL PHOTOGRAPHS

F-1 MCAS Cherry Point

1943 Aerial of barracks and hospital area, New River, N. C., 14 June 1943. RG 80G, File 384633, Still Picture Section, National Archives - College Park, College Park, MD.

F-2 MCAS Cherry Point

1943 Aerial of MCAS New River, N. C., 27 May 1943. RG 80G, File 384627, Still Picture Section, National Archives - College Park, College Park, MD.

F-3 MCAS Cherry Point

1943 Aerial of MCAS New River, N. C., 9 Mar 1943. RG 80G, File 384602, Still Picture Section, National Archives - College Park, College Park, MD.

APPENDIX - HISTORICAL PHOTOGRAPHS

- 4-1. MORGAN CHERRY POINT
1943. Aerial of barracks and mess hall, New River, N.C., June 1943.
File # 18463. Still Photo Section, National Archives, College Park, MD.
- 4-2. MORGAN CHERRY POINT
1943. Aerial of MORGAN CHERRY POINT, New River, N.C., May 1943. File # 18463. Still
Photo Section, National Archives, College Park, MD.
- 4-3. MORGAN CHERRY POINT
1943. Aerial of MORGAN CHERRY POINT, New River, N.C., May 1943. File # 18463. Still
Photo Section, National Archives, College Park, MD.

384733

NUMBER

DATE

ORPT 2215

14 June 1943

TAKEN BY:

MCS OBSERV POINT

LOCATION:

SUBJECT:

Aerial of barracks and hospital area, New River, N.C.

RELEASED FOR PUBLICATION:

DATE:

ISSUED TO:





NUMBER | DATE

CHPT 2014 | 27 May 1943

TAKEN BY:

U.S. SHIPMENT

LOCATION:

SUBJECT:

Aerial of U.S. Navy, U.S.

RELEASED FOR PUBLICATION:

DATE:

ISSUED TO:



384702

NAVAER-41

NUMBER

DATE

CHPT 935

9 Mar. 1943

TAKEN BY:

US NAVY PHOTO

LOCATION:

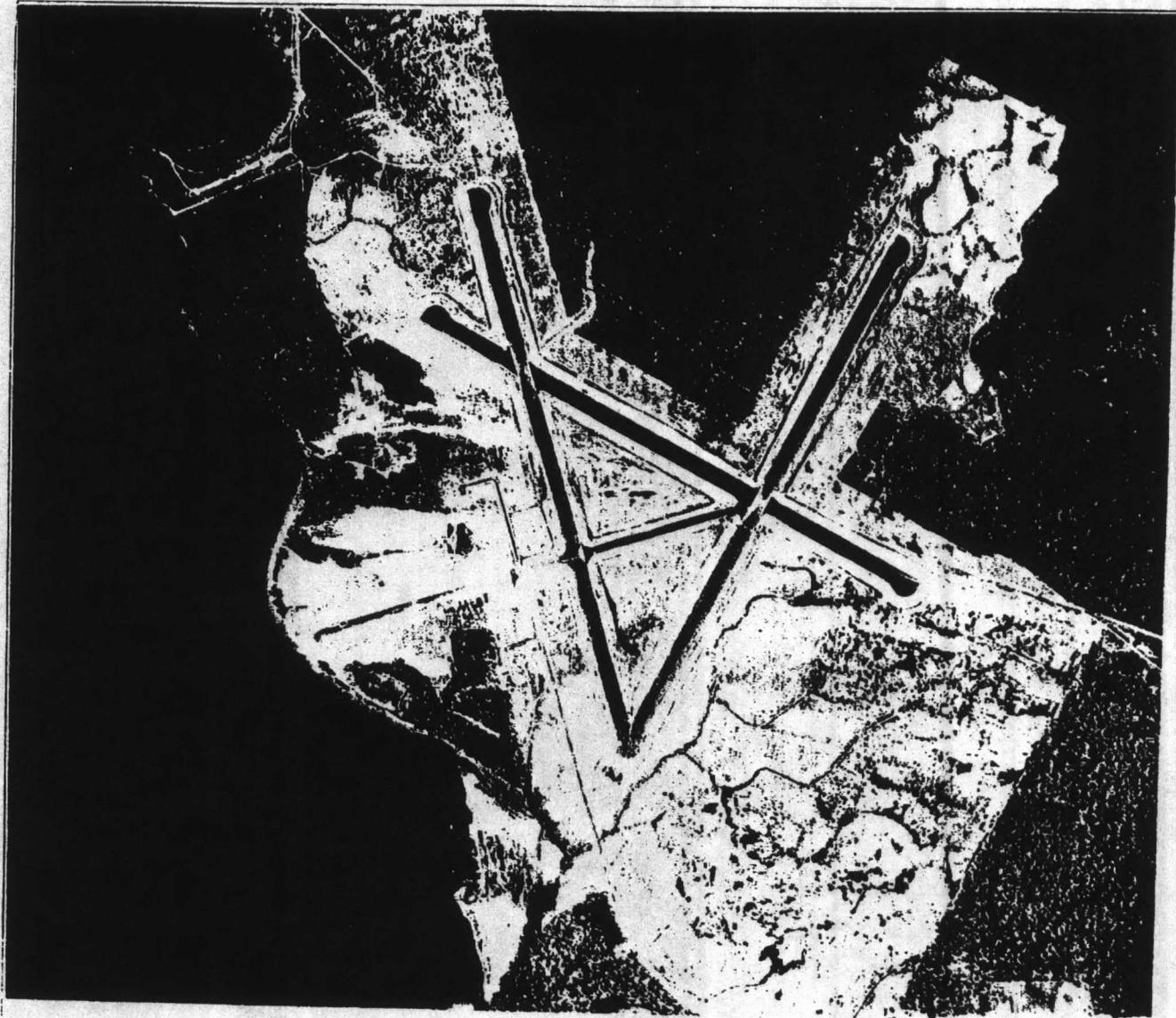
SUBJECT:

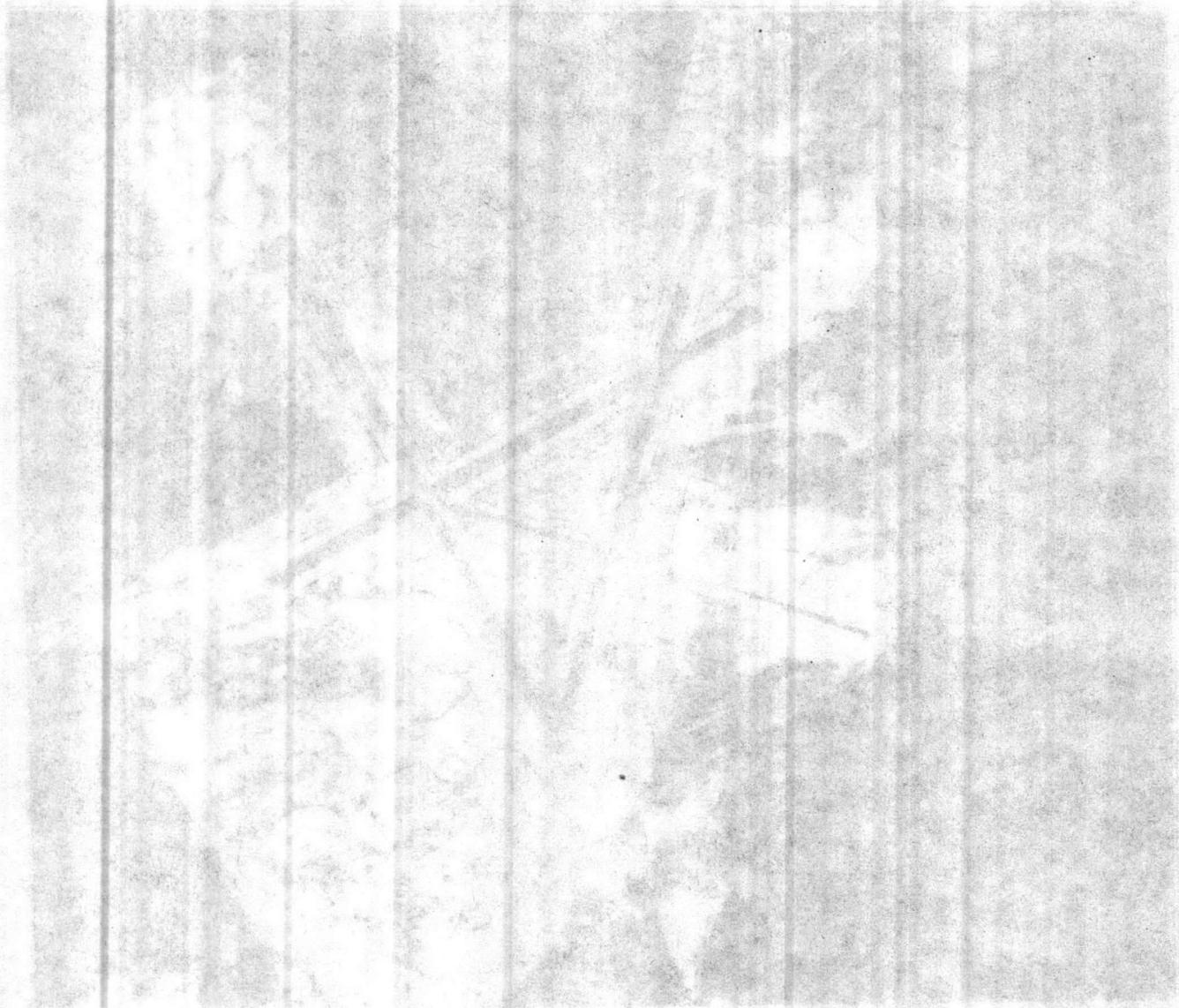
Remains of US New River, N.C.

RELEASED FOR PUBLICATION:

DATE:

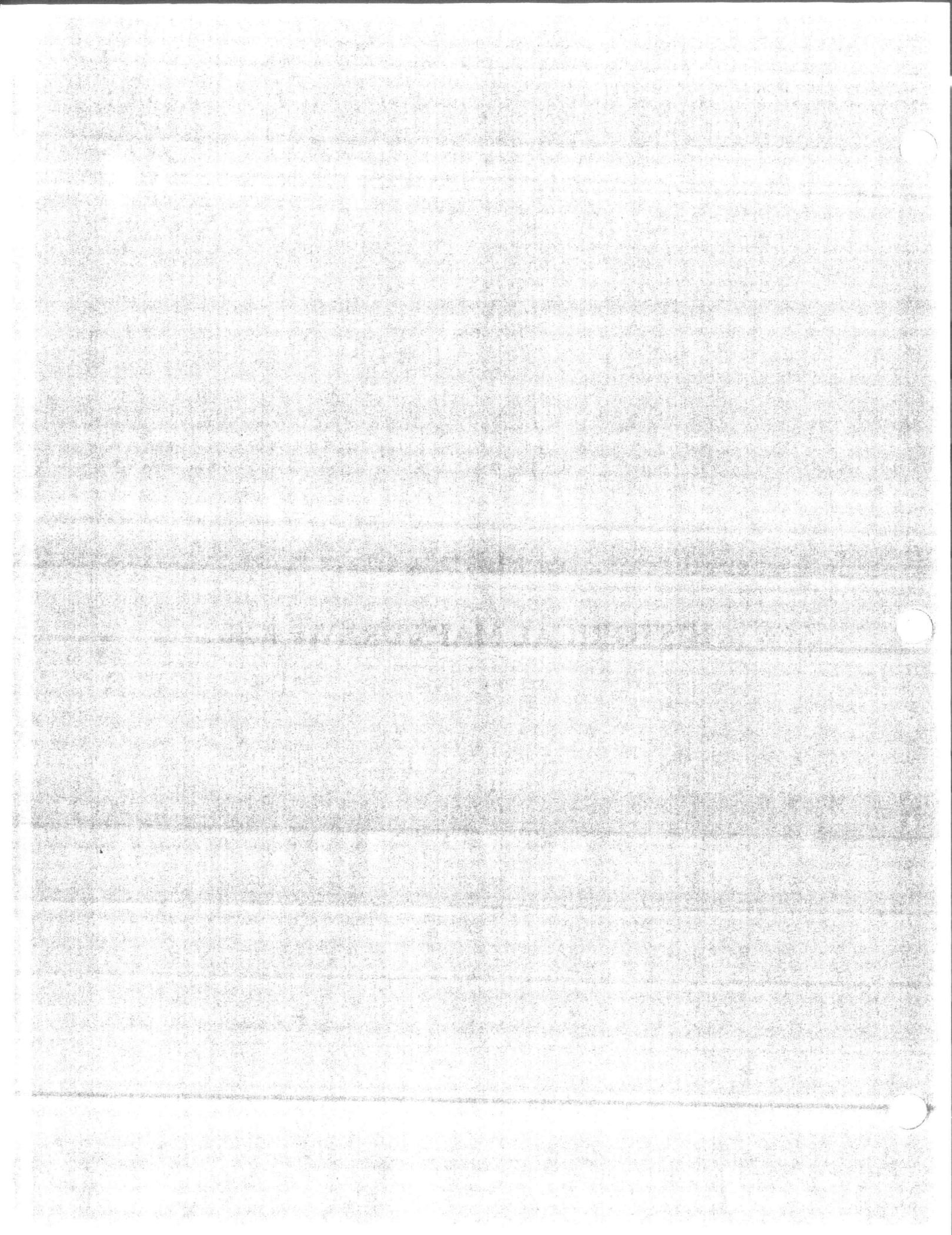
ISSUED TO:





APPENDIX G

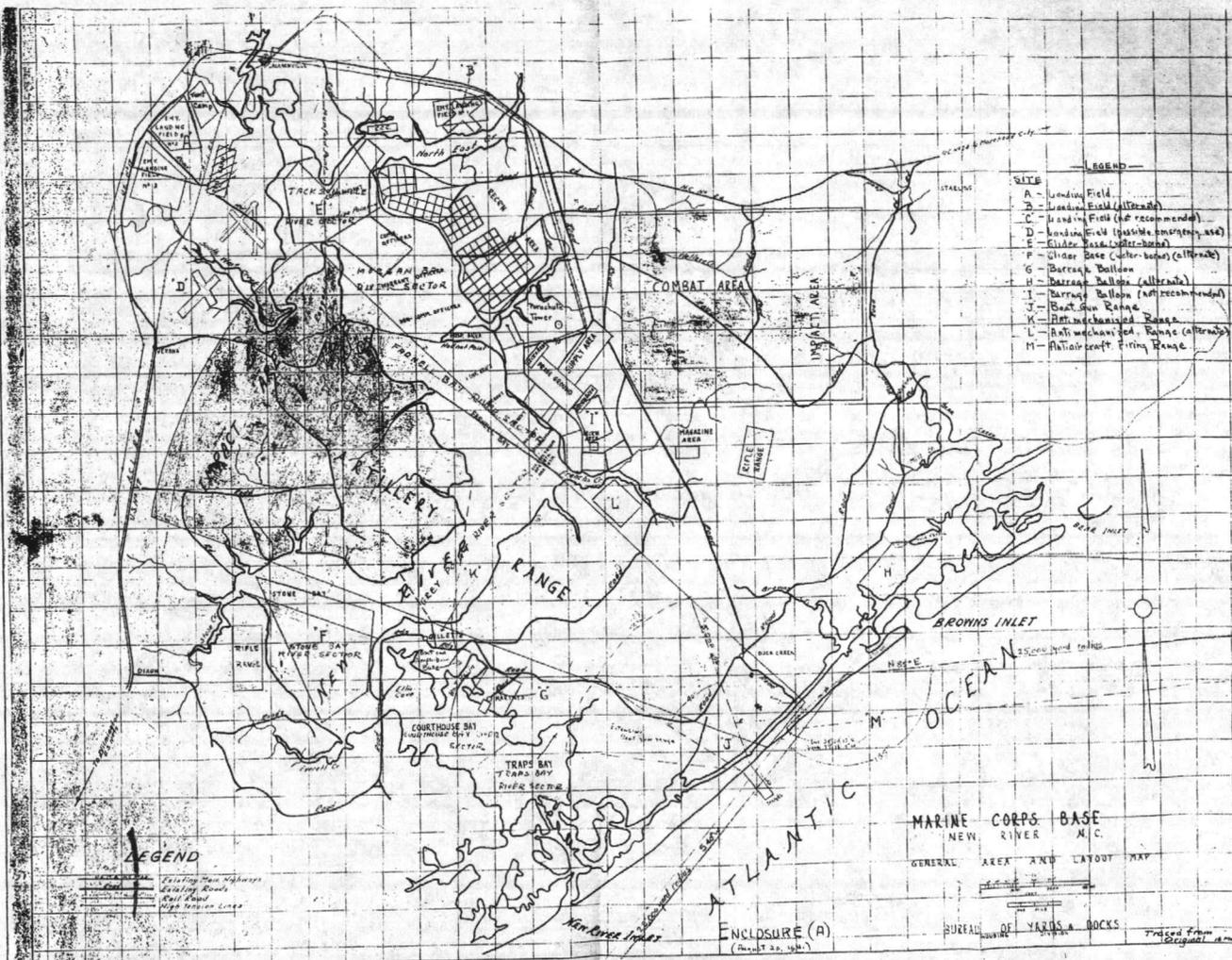
HISTORICAL MAPS/DRAWINGS

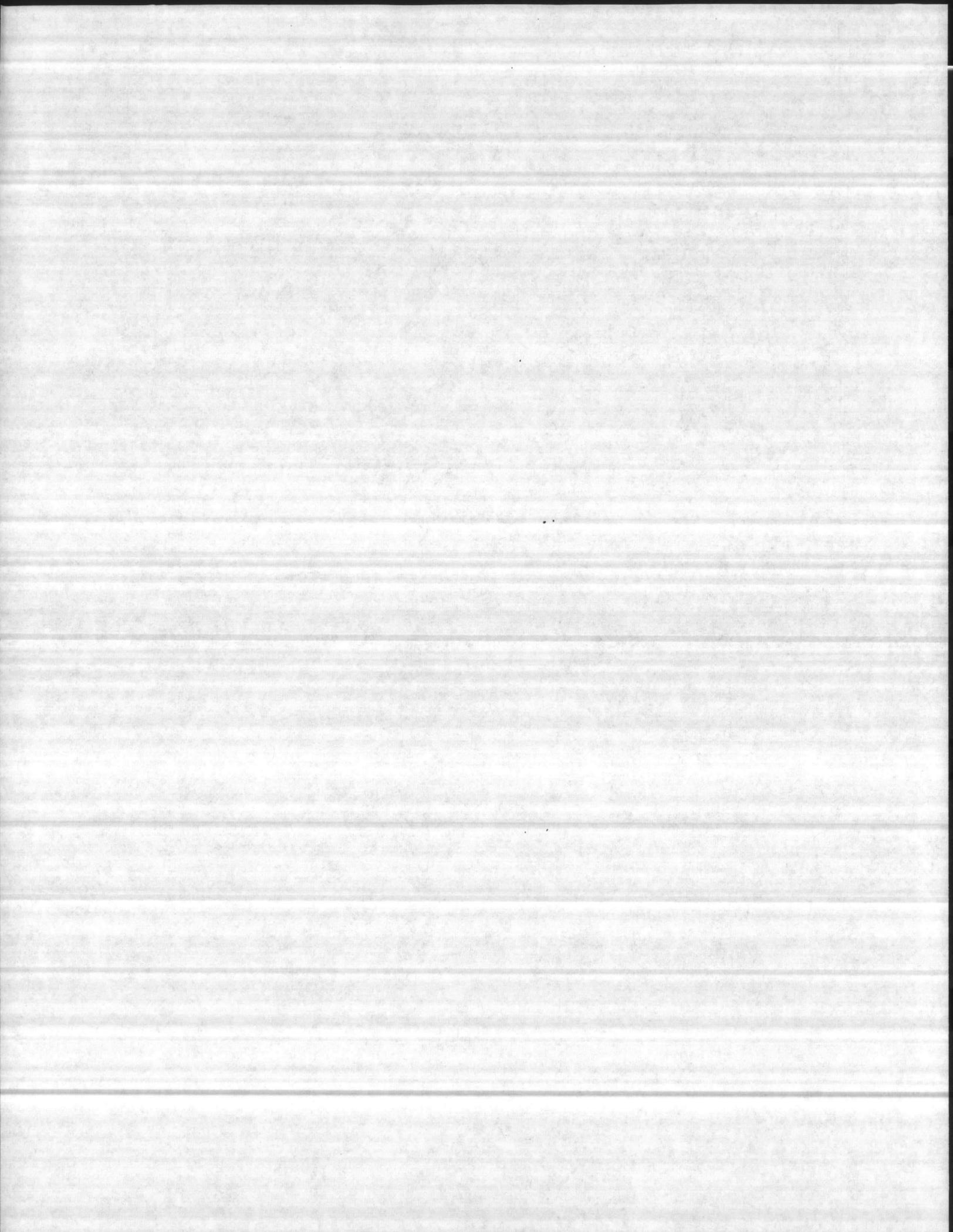


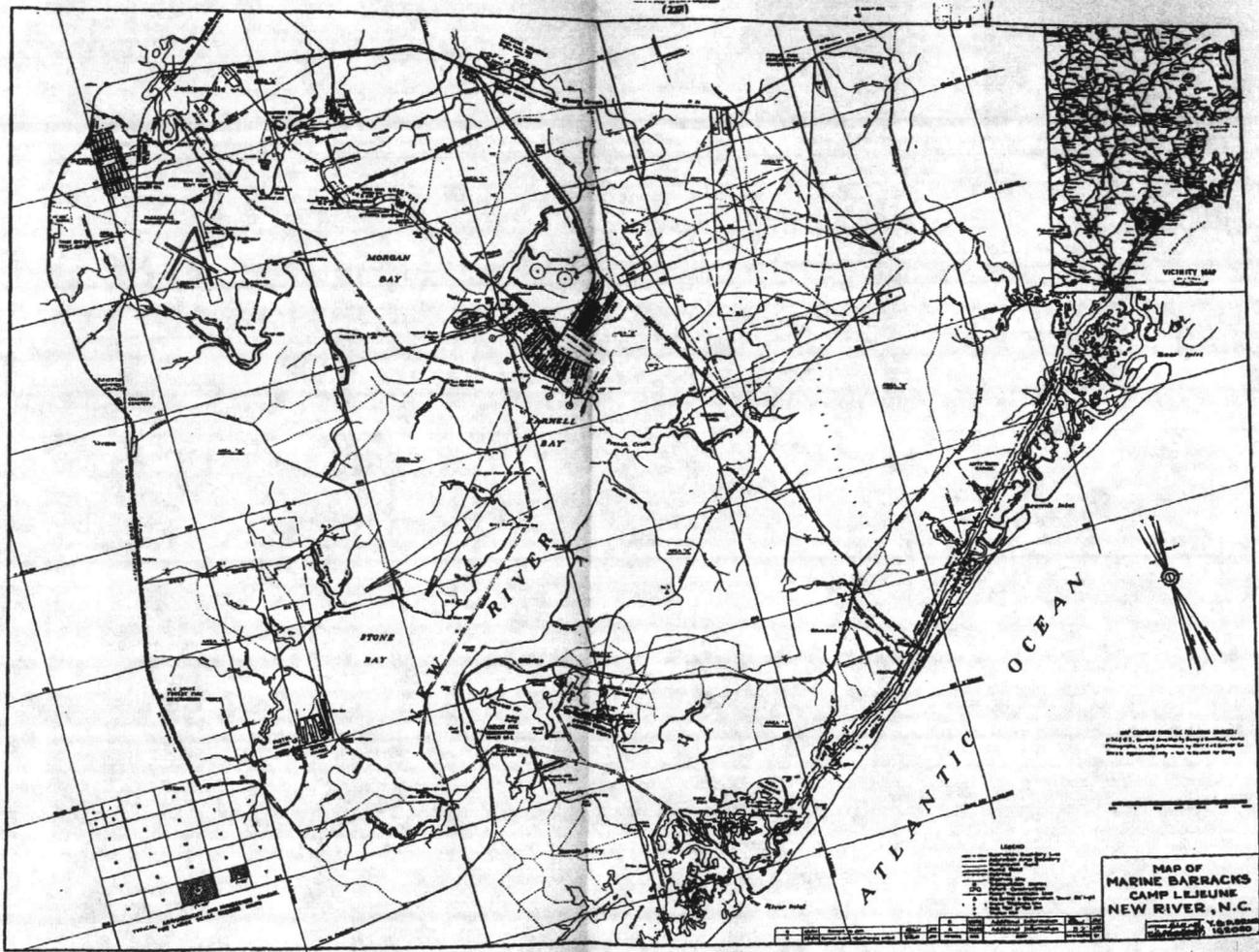
APPENDIX G - HISTORICAL MAPS/DRAWINGS

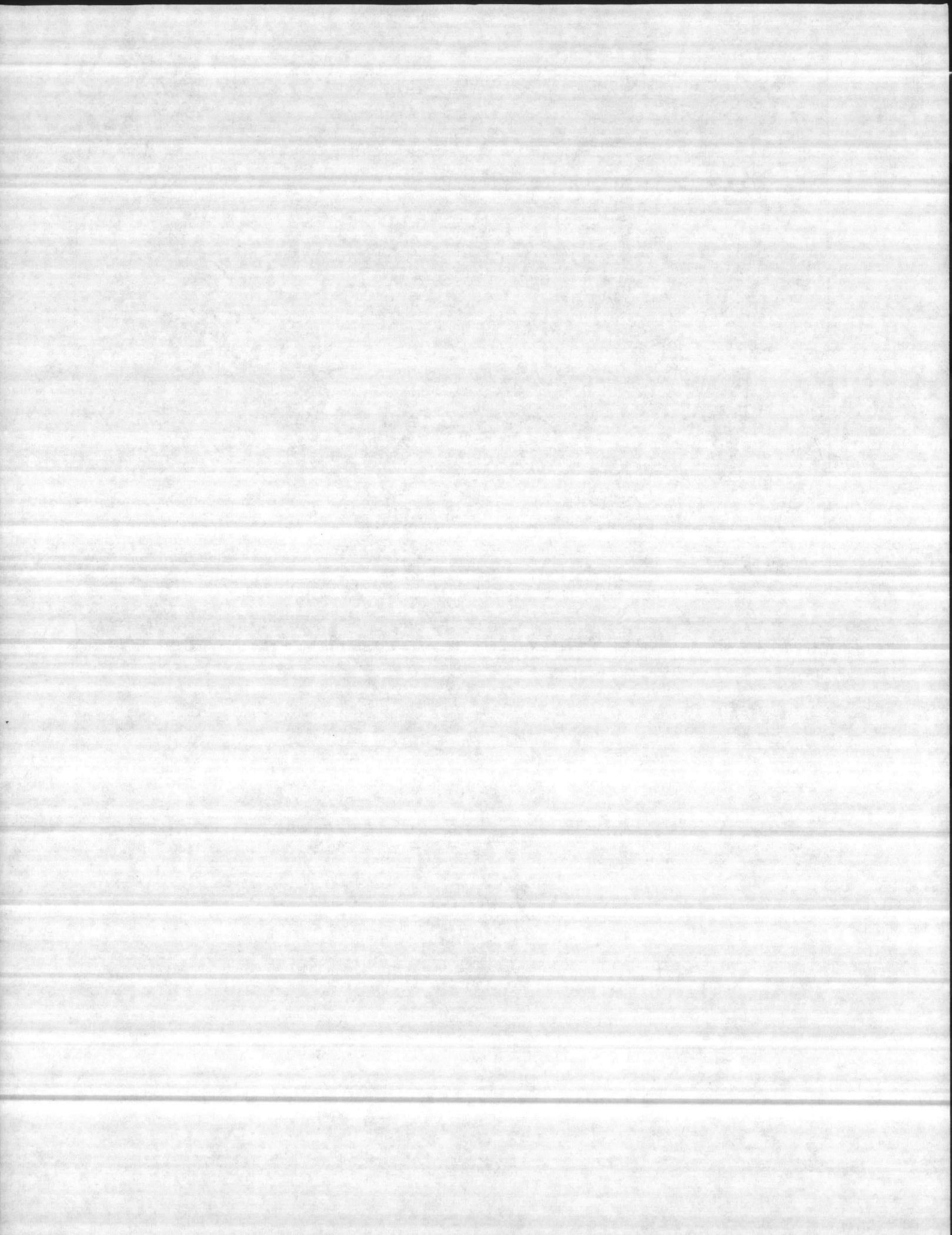
- G-1 Bureau of Yards and Docks
1941 Marine Corps Base, New River, NC General Area and Layout Map (Proposed use), 16 May 1941. National Archives – College Park, Cartographic Section, College Park, MD.
- G-2 Bureau of Yards and Docks
1942 Map of Marine Barracks, Camp Lejeune, New River, NC, 12 February 1942, revised 6 February 1943. Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-3 Unknown
1945 New River Marine Corps Base, Onslow County, North Carolina, 20 March 1945, revised 11 June 1945. RG 71, Entry 1001, Box 934, File: New River, National Archives – College Park, College Park, MD.
- G-4 Carr & J. E. Greiner Co
1943 Attachment to Construction Completion Report with information added from range regulations from 1946 and 1947. Training, Education, and Operations Department, MCB Camp Lejeune, NC.
- G-5 Public Works Officer
1951 Map of Rifle Range Area, Camp Lejeune, North Carolina, as of 30 June 1951. Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-6 MCB Camp Lejeune
1951 H. C. Misc. 15,042-50-1A, MCB Camp Lejeune Range Map, August 1951. Marine Corps History Center, Washington Navy Yard, Washington, DC.
- G-7 Mackey, J.
1953 H. O. 15,042-50-1A, Overprint Training Areas & Facilities, 16 February 1953. Map Room, Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-8 Marine Barracks, Camp Lejeune
1954 Master Shore Station Development Plan, Training Facilities, 30 June 1954. Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-9 Public Works Officer, MCB Camp Lejeune
1958 Training Area Covered by Amber Airway #9, 3 April 1958. Map Room, Facilities Engineering, Camp Lejeune, Jacksonville, NC.

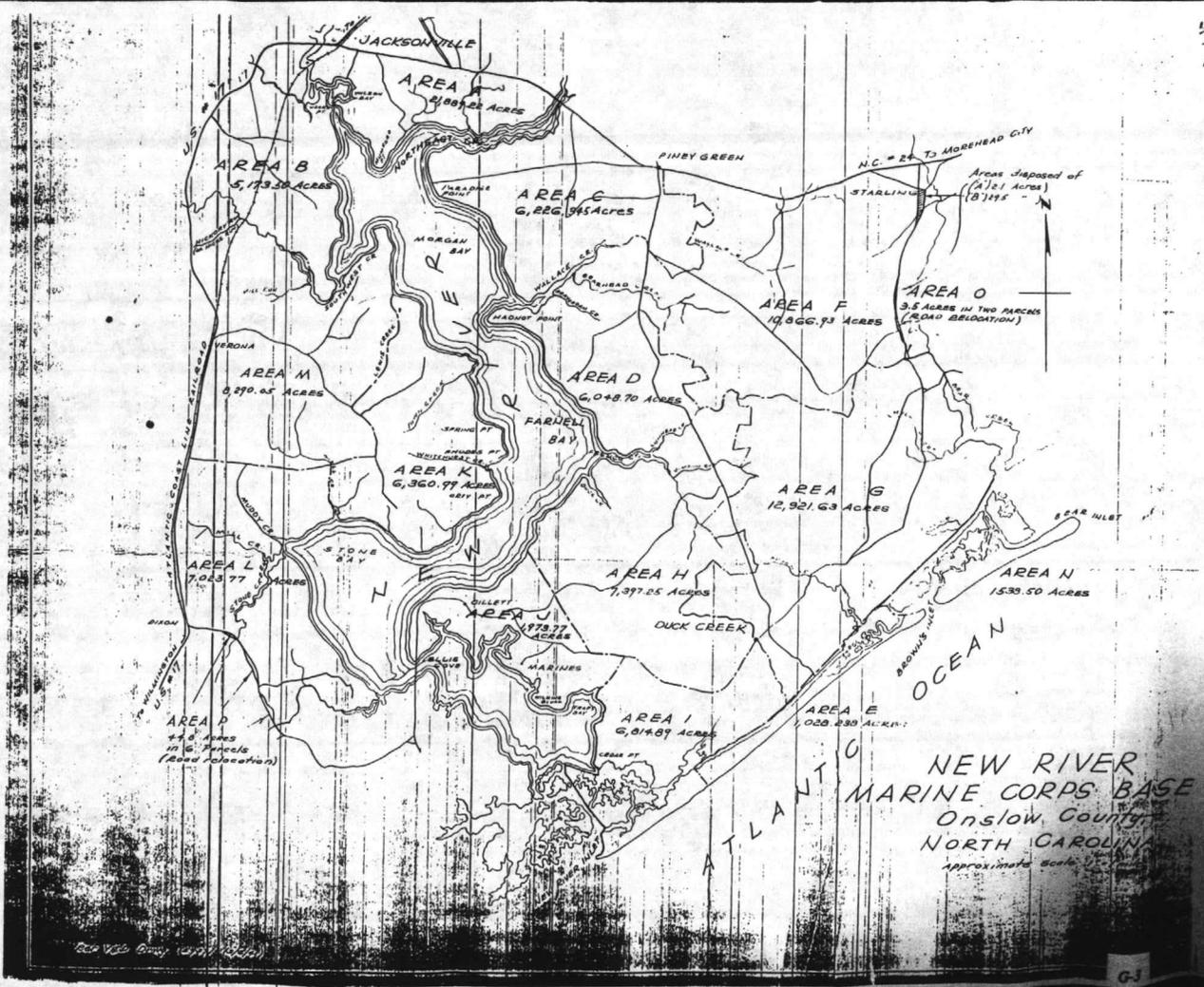
- G-10 MCB Camp Lejeune
1970 Appendix I-1 to BO 11102.1G, Overlay of Maneuver, Danger, Impact Areas and Ranges, Combat Training Chart 15,042-50-1. Danger Zone Files, Environmental Office, Wilmington District, USACE, Wilmington, NC.
- G-11 MCB Camp Lejeune
c1973 Appendix I? to BO 11102.1H, Overlay of Artillery Positions, Combat Training Chart 15,042-50-1. Installation Restoration Program Office, Headquarters, US Marine Corps, Washington, DC.
- G-12 Defense Mapping Agency
1976 Camp Lejeune Special Map, 25 September 1976. Map Room, Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-13 Facilities Engineering
1985 Real Estate Summary Map, updated 11 January 1985, Drawing No. 4096456. Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-14 Facilities Engineering
1985 Real Estate Summary Map, 11 January 1985, Drawing No. 4096457. Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-15 Facilities Engineering
1985 Real Estate Summary Map, 11 January 1985, Drawing No. 4096458. Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-16 Facilities Engineering
1985 Real Estate Summary Map, updated 26 March 1985, Drawing No. 4096472. Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-17 Facilities Engineering
1985 Real Estate Summary Map, 28 March 1985, Drawing No. 4096791. Facilities Engineering, Camp Lejeune, Jacksonville, NC.



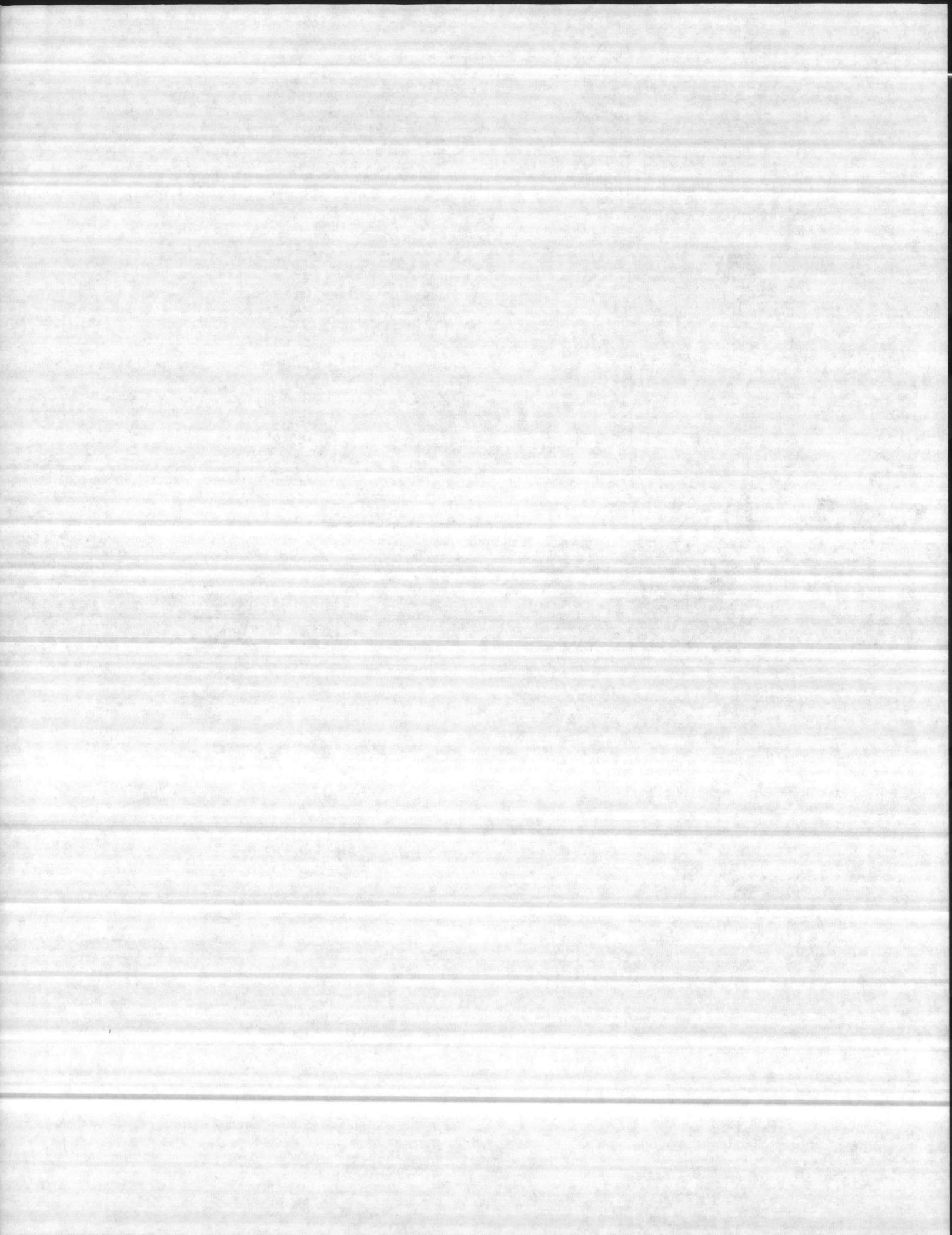


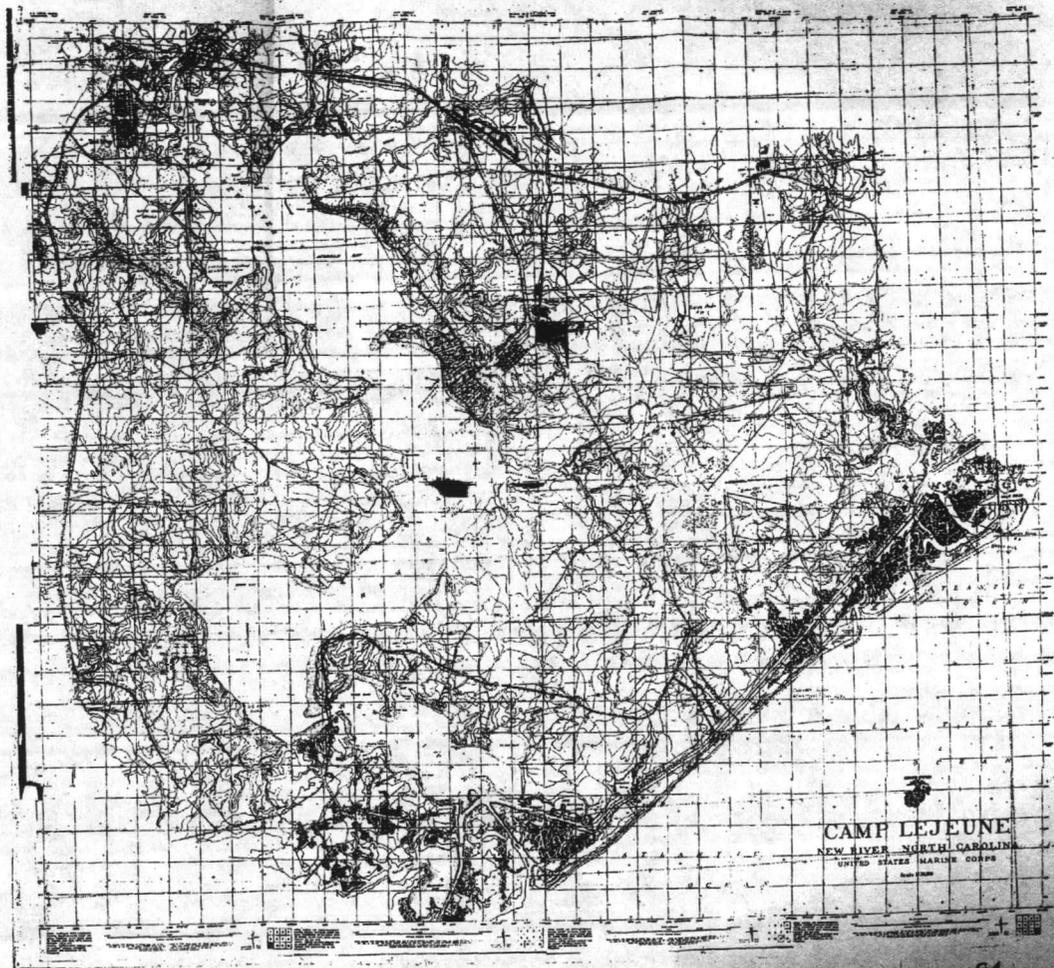


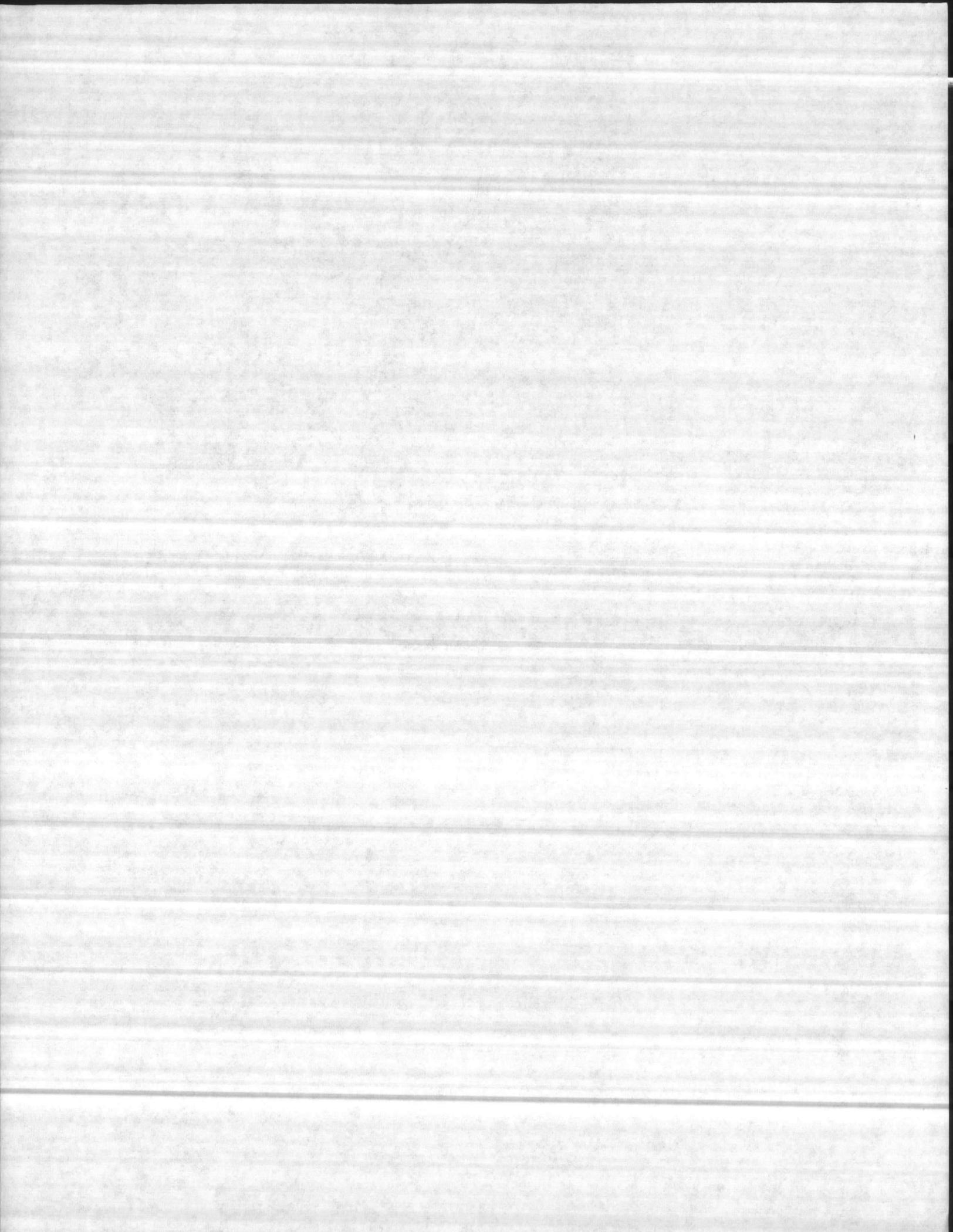


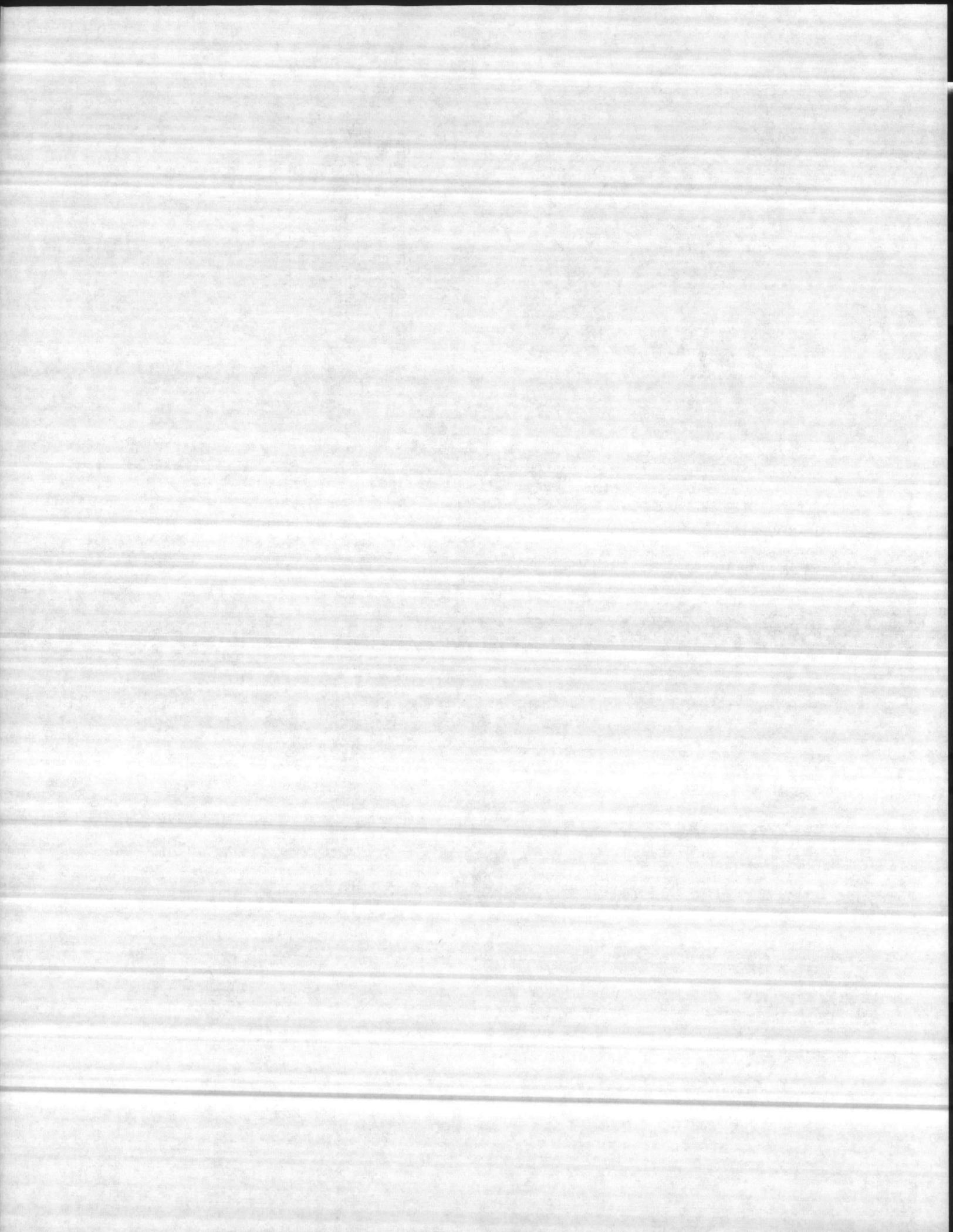


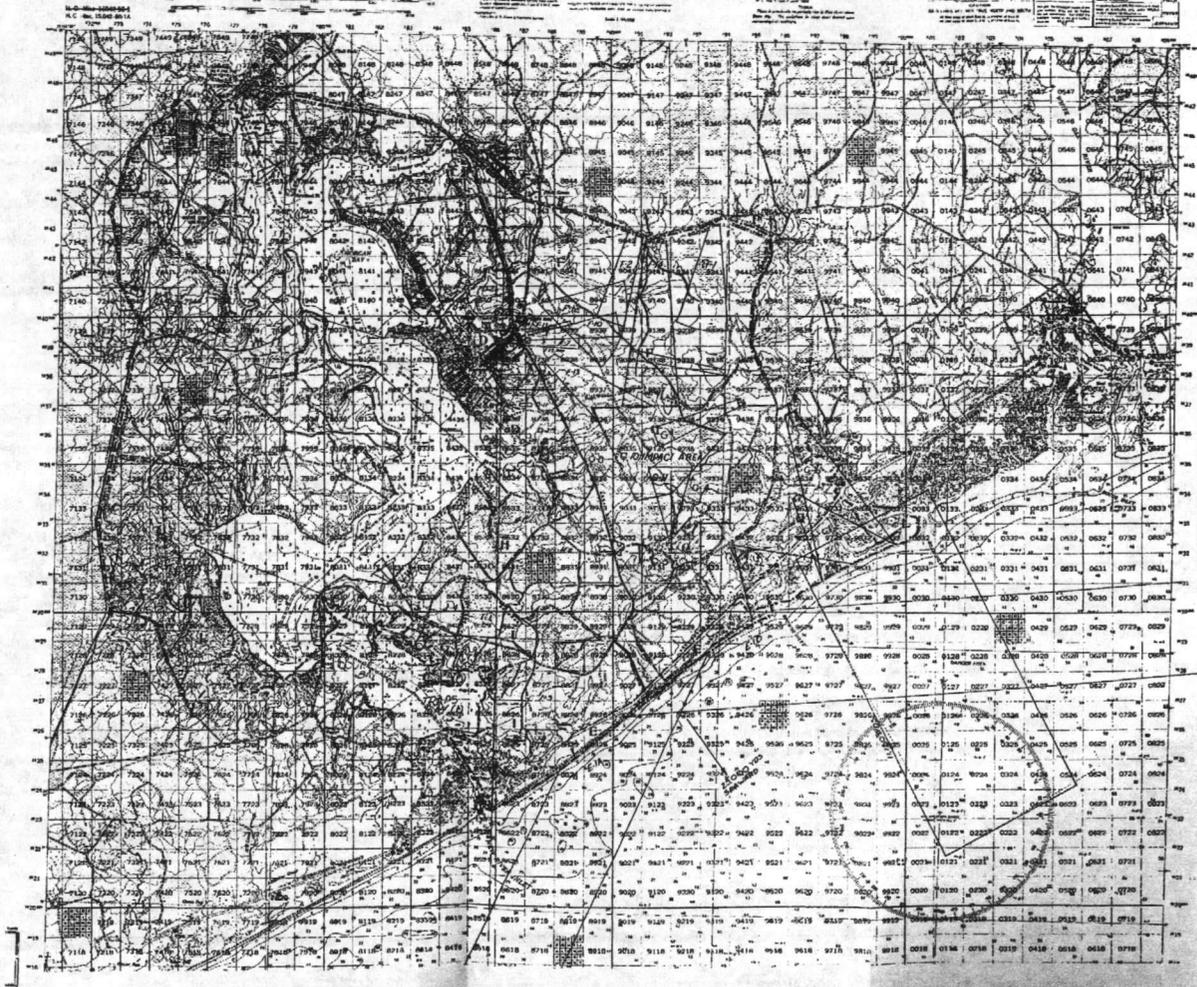
200 VLS Base 1071 (1971)

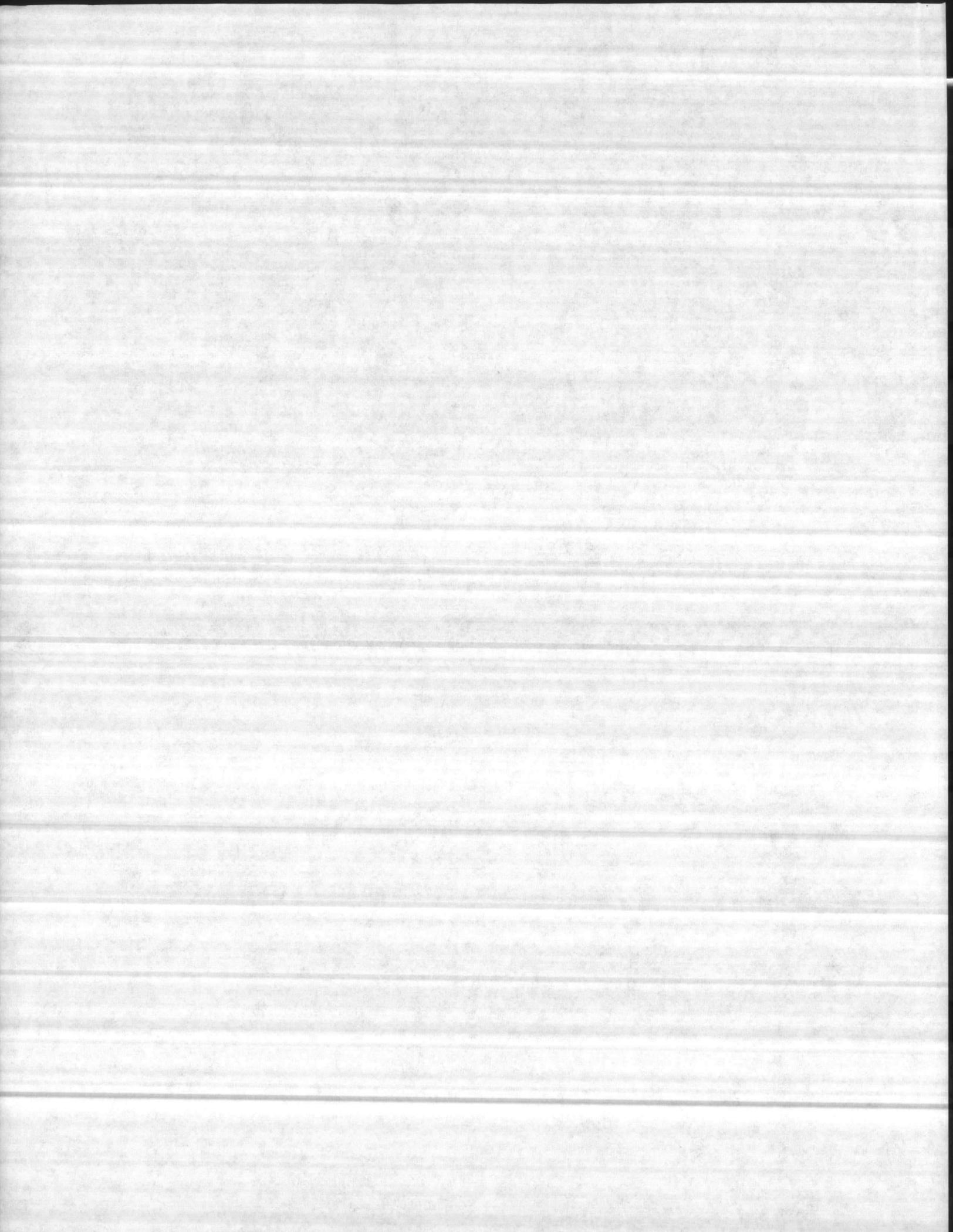




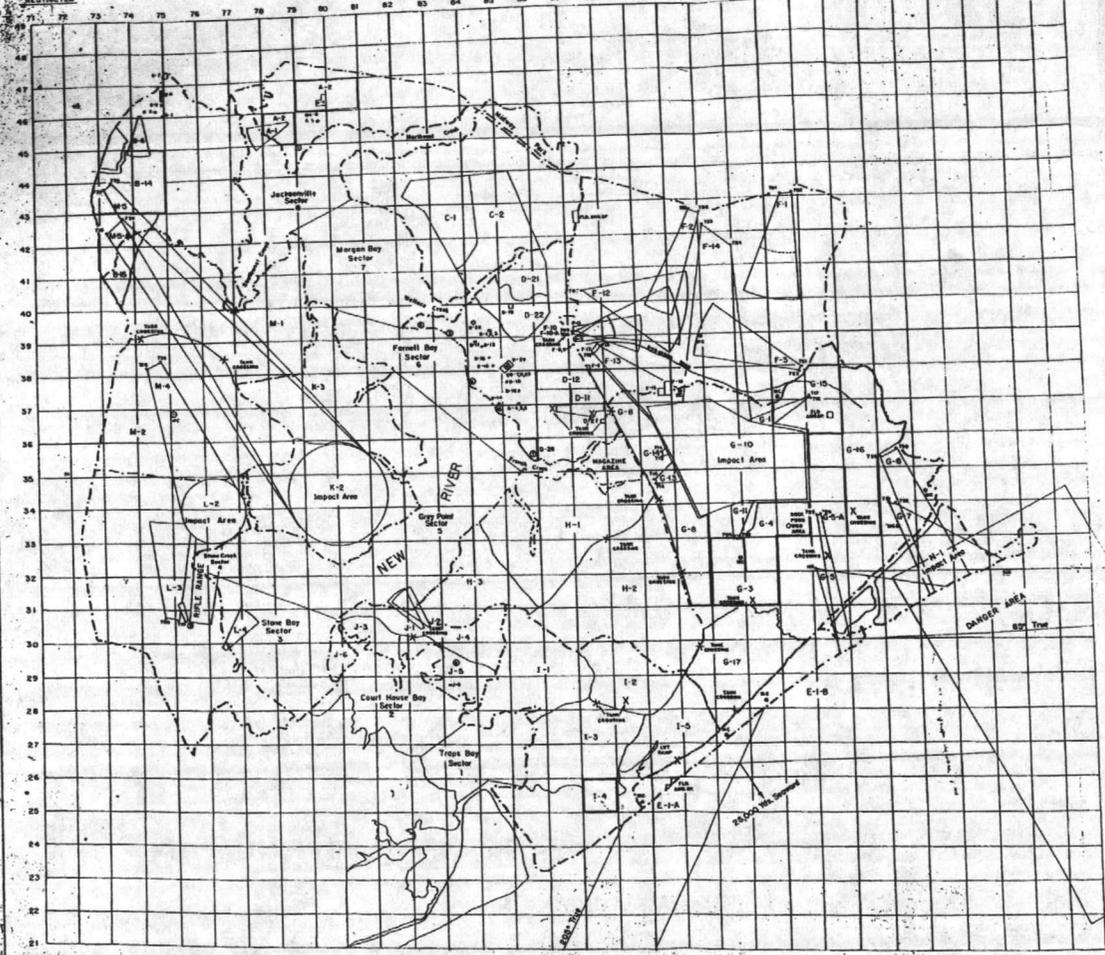








RESTRICTED



Impact Areas Contain HE Duds. These Areas Will Not Be Entered Without Prior Clearance With Camp G-3 Range Office. **DANGER** - Impacts With G-3 Aircraft To Reserve Unexploded Ordnance
 © USMC Observation Towers
 © Group B Helicopter Landing Zones

FIRING AREAS

- F-1 Field Training Range
- F-2 Field Training Range
- F-3 Field Training Range
- F-4 Field Training Range
- F-5 Field Training Range
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- F-100 Field Training Range

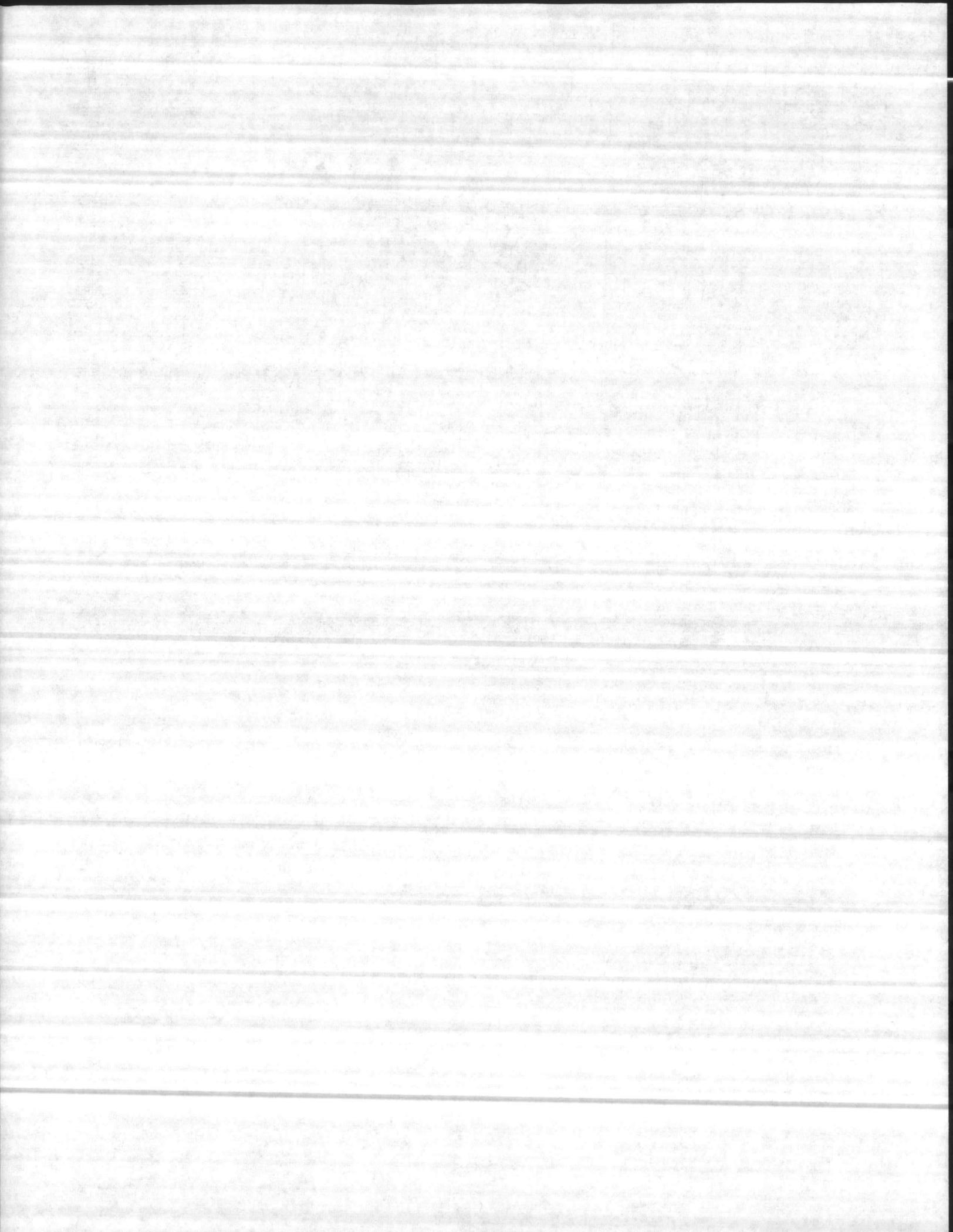
NON FIRING AREAS

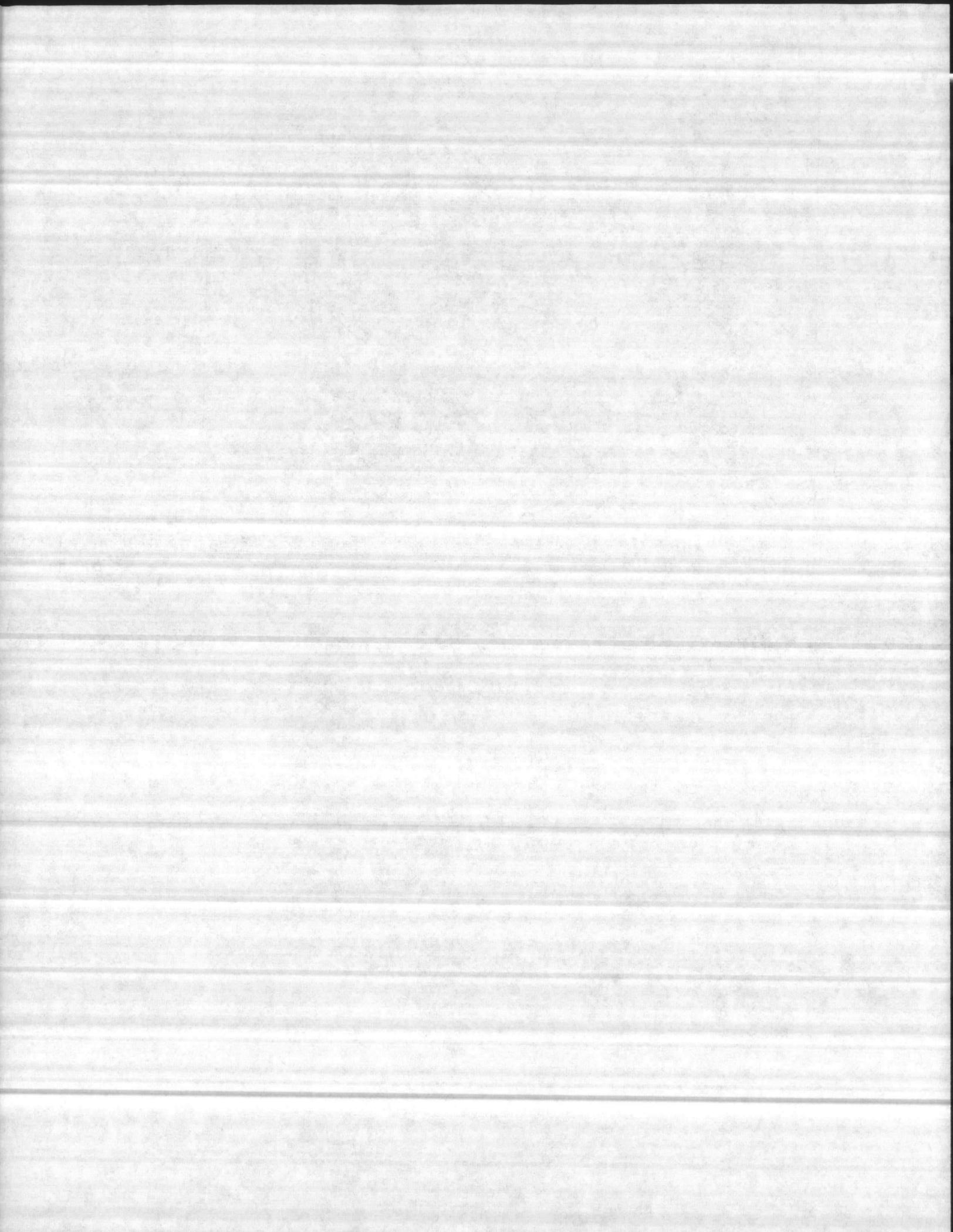
- A-1 Non-Firing Area
- A-2 Non-Firing Area
- A-3 Non-Firing Area
- A-4 Non-Firing Area
- A-5 Non-Firing Area
- A-6 Non-Firing Area
- A-7 Non-Firing Area
- A-8 Non-Firing Area
- A-9 Non-Firing Area
- A-10 Non-Firing Area
- A-11 Non-Firing Area
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- A-15 Non-Firing Area
- A-16 Non-Firing Area
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- A-20 Non-Firing Area
- A-21 Non-Firing Area
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- A-25 Non-Firing Area
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- A-27 Non-Firing Area
- A-28 Non-Firing Area
- A-29 Non-Firing Area
- A-30 Non-Firing Area
- A-31 Non-Firing Area
- A-32 Non-Firing Area
- A-33 Non-Firing Area
- A-34 Non-Firing Area
- A-35 Non-Firing Area
- A-36 Non-Firing Area
- A-37 Non-Firing Area
- A-38 Non-Firing Area
- A-39 Non-Firing Area
- A-40 Non-Firing Area
- A-41 Non-Firing Area
- A-42 Non-Firing Area
- A-43 Non-Firing Area
- A-44 Non-Firing Area
- A-45 Non-Firing Area
- A-46 Non-Firing Area
- A-47 Non-Firing Area
- A-48 Non-Firing Area
- A-49 Non-Firing Area
- A-50 Non-Firing Area
- A-51 Non-Firing Area
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- A-55 Non-Firing Area
- A-56 Non-Firing Area
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- A-91 Non-Firing Area
- A-92 Non-Firing Area
- A-93 Non-Firing Area
- A-94 Non-Firing Area
- A-95 Non-Firing Area
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- A-97 Non-Firing Area
- A-98 Non-Firing Area
- A-99 Non-Firing Area
- A-100 Non-Firing Area

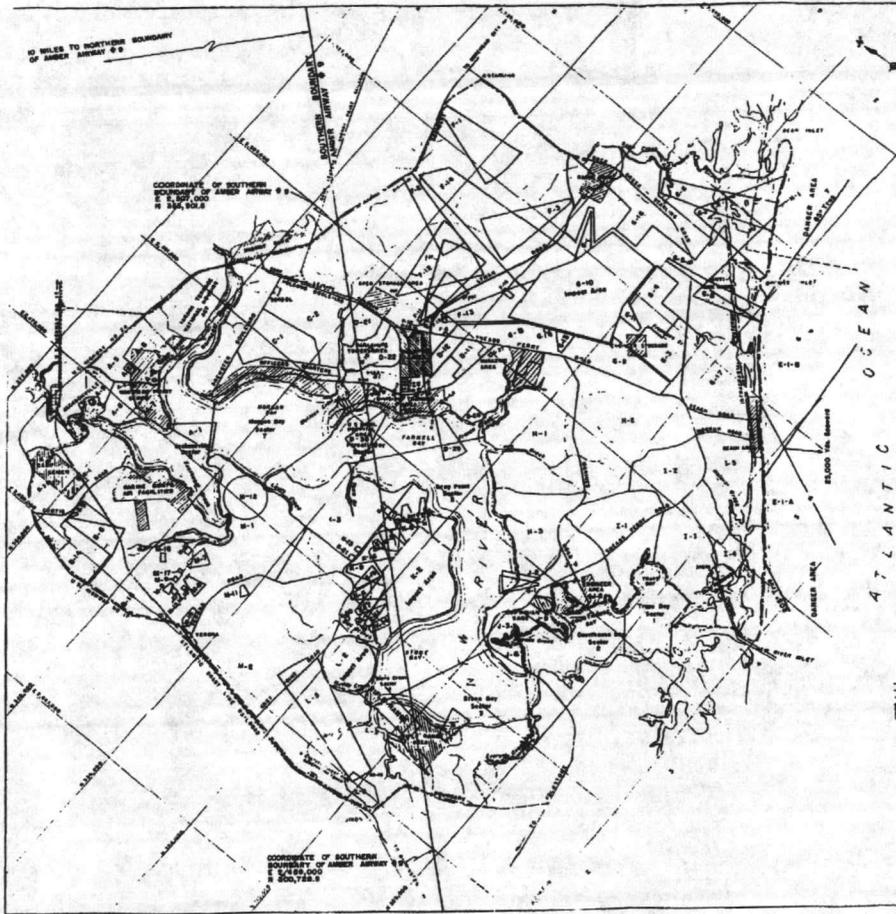
INDOOR INSTRUCTION AREAS

- I-1 Indoor Instruction Area
- I-2 Indoor Instruction Area
- I-3 Indoor Instruction Area
- I-4 Indoor Instruction Area
- I-5 Indoor Instruction Area
- I-6 Indoor Instruction Area
- I-7 Indoor Instruction Area
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- I-45 Indoor Instruction Area
- I-46 Indoor Instruction Area
- I-47 Indoor Instruction Area
- I-48 Indoor Instruction Area
- I-49 Indoor Instruction Area
- I-50 Indoor Instruction Area

OVERPRINT TRAINING AREAS & FACILITIES
 IN ACCORDANCE WITH
 HQ Misc 15,045-50-1A
 Drawn By: J. Mackey Cpl. Approved By: Major General T. C. Mackey
 G-3 Range Office
 15 Feb 1953
 Enclosure (2) To Camp General Order No. 914







INDEX OF EXISTING STRUCTURES

NO.	DESCRIPTION	DATE	STATUS
101
102
103
104
105
106
107
108
109
110

INDEX OF EXISTING TRAINING FACILITIES

NO.	DESCRIPTION	DATE	STATUS
111
112
113
114
115
116
117
118
119
120

LEGEND

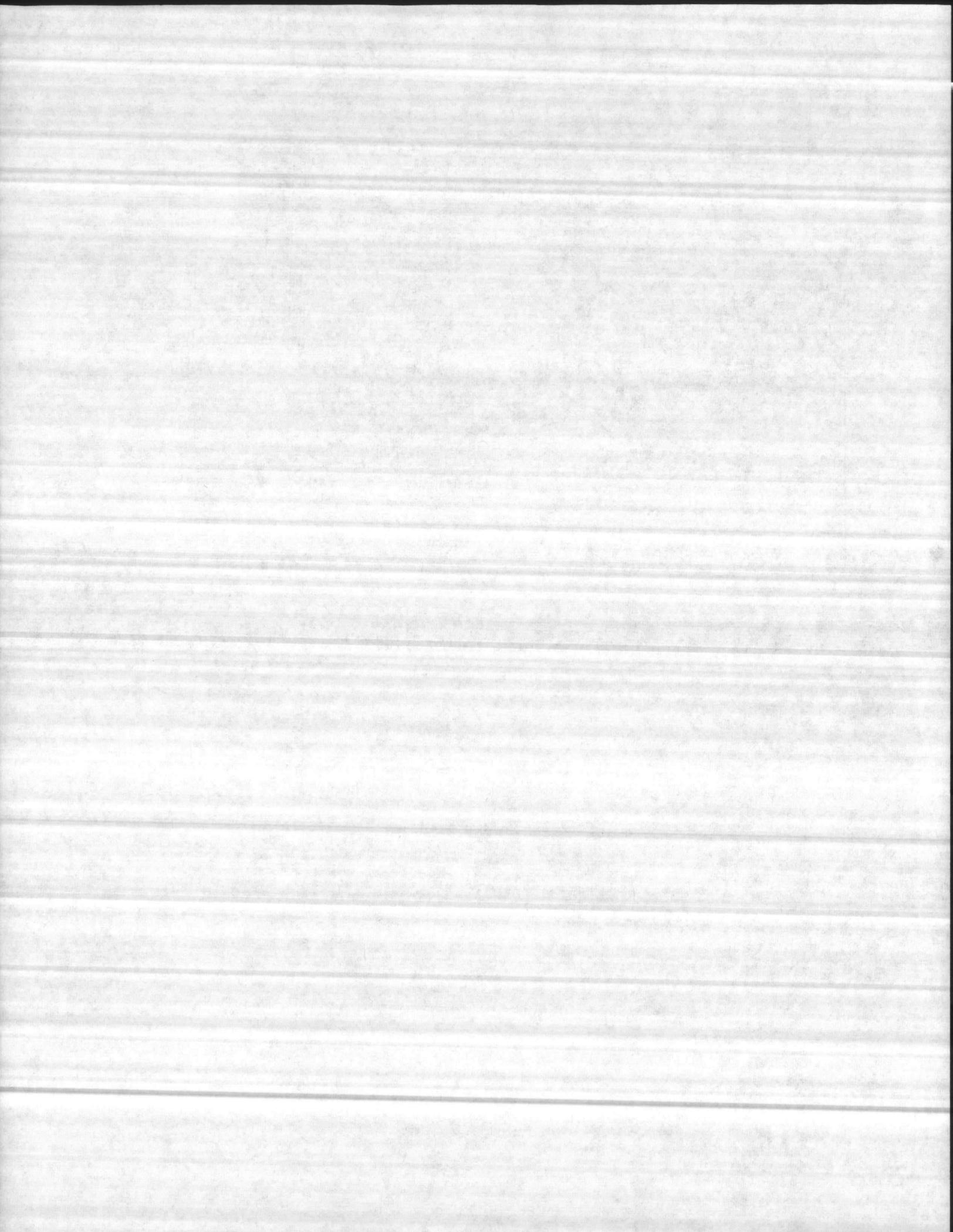
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 EXISTING BUILDING
 EXISTING FENCE

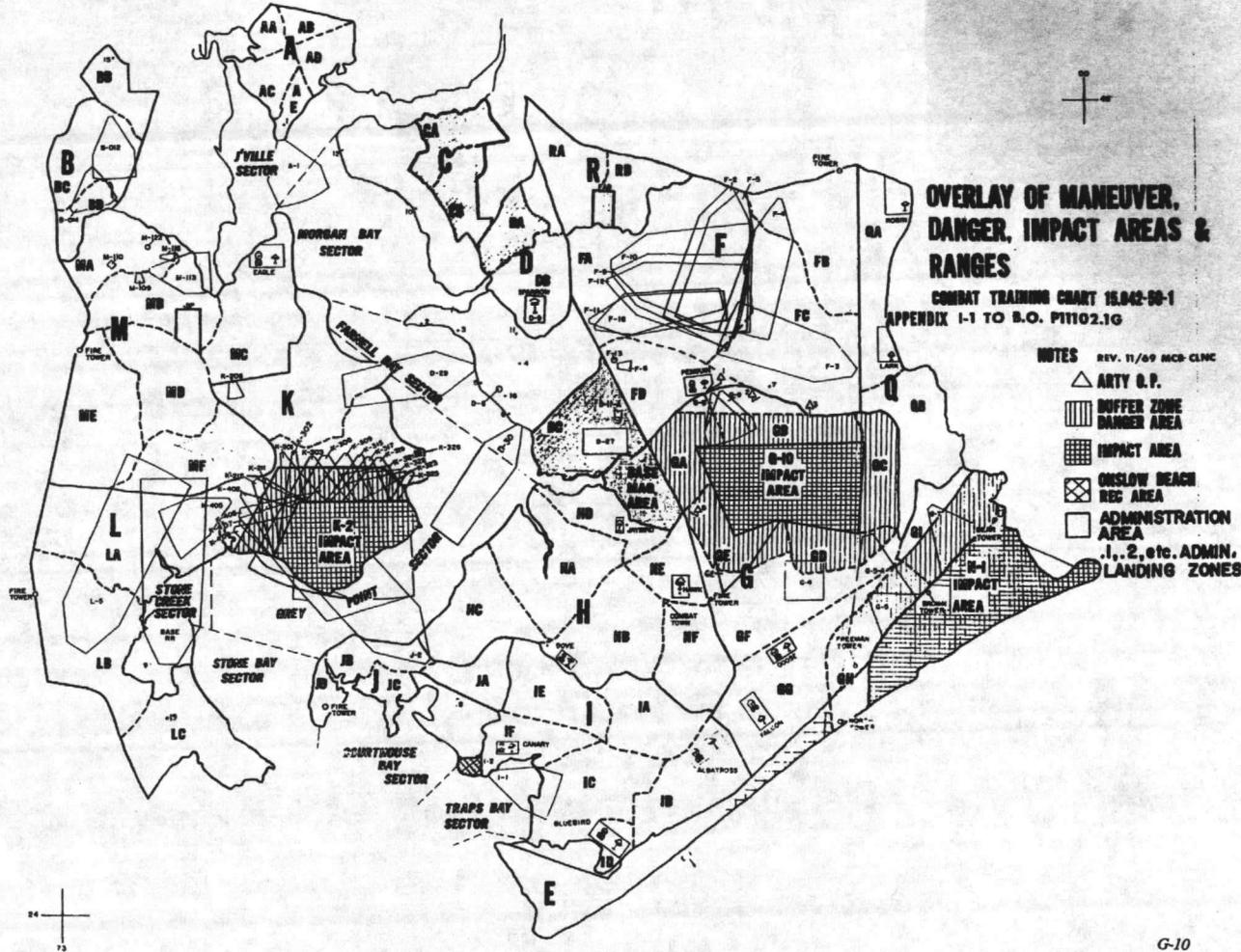


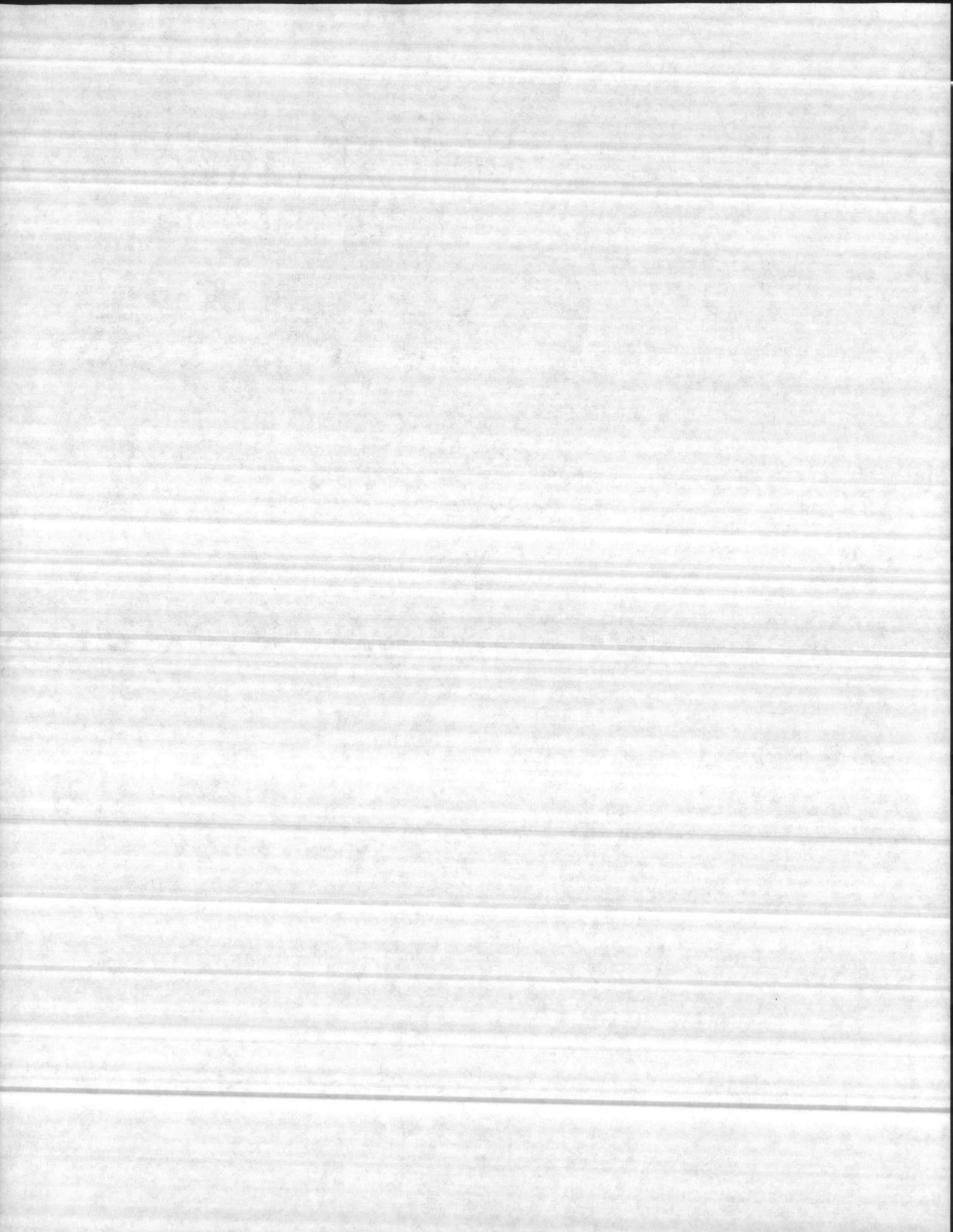
MARINE CORPS BASE
 CAMP LEAKE, N.C.

TRAINING AREA
 AREA COVERED BY
 AMBER AIRWAY #9

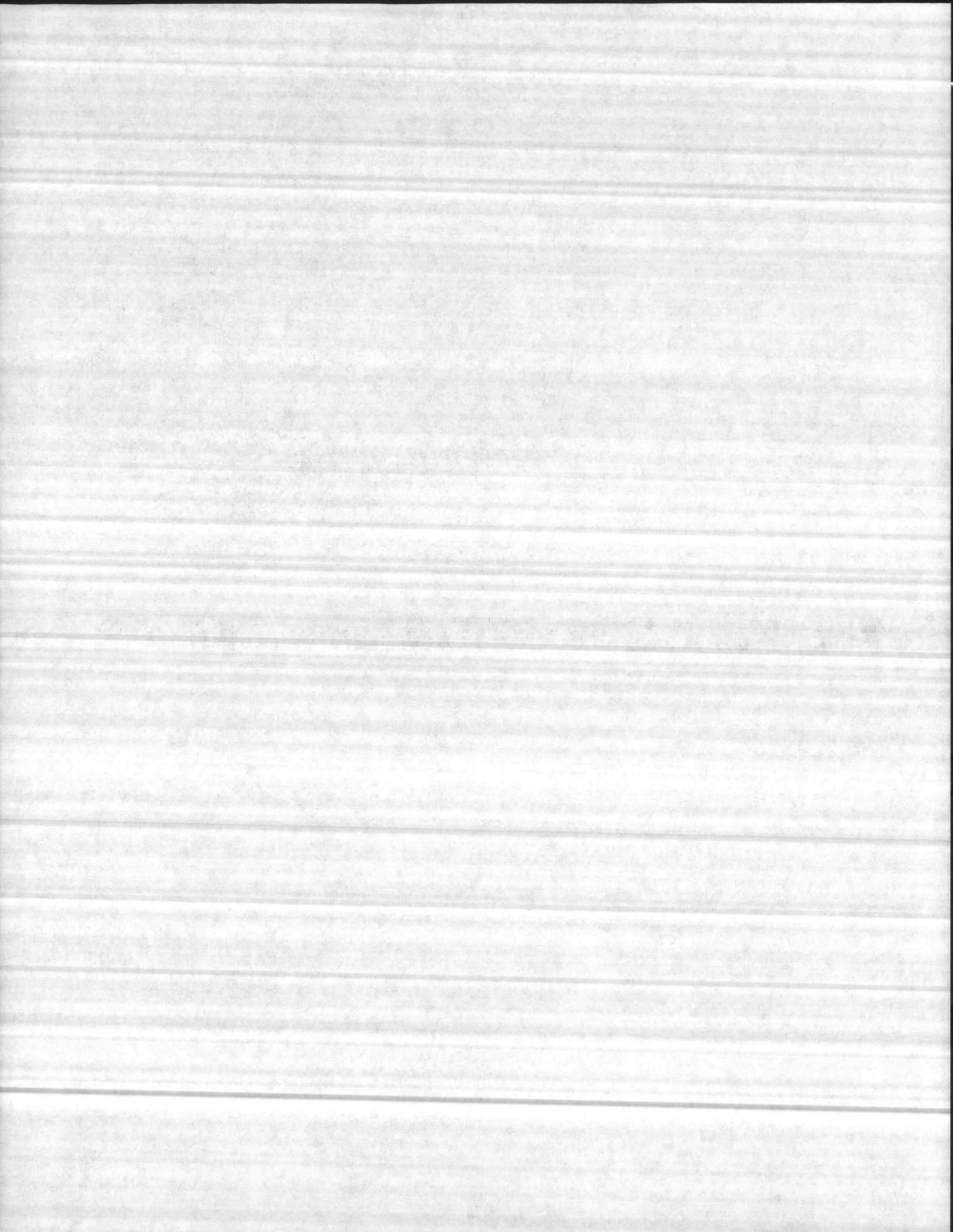
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 CHECKED BY: [Name]

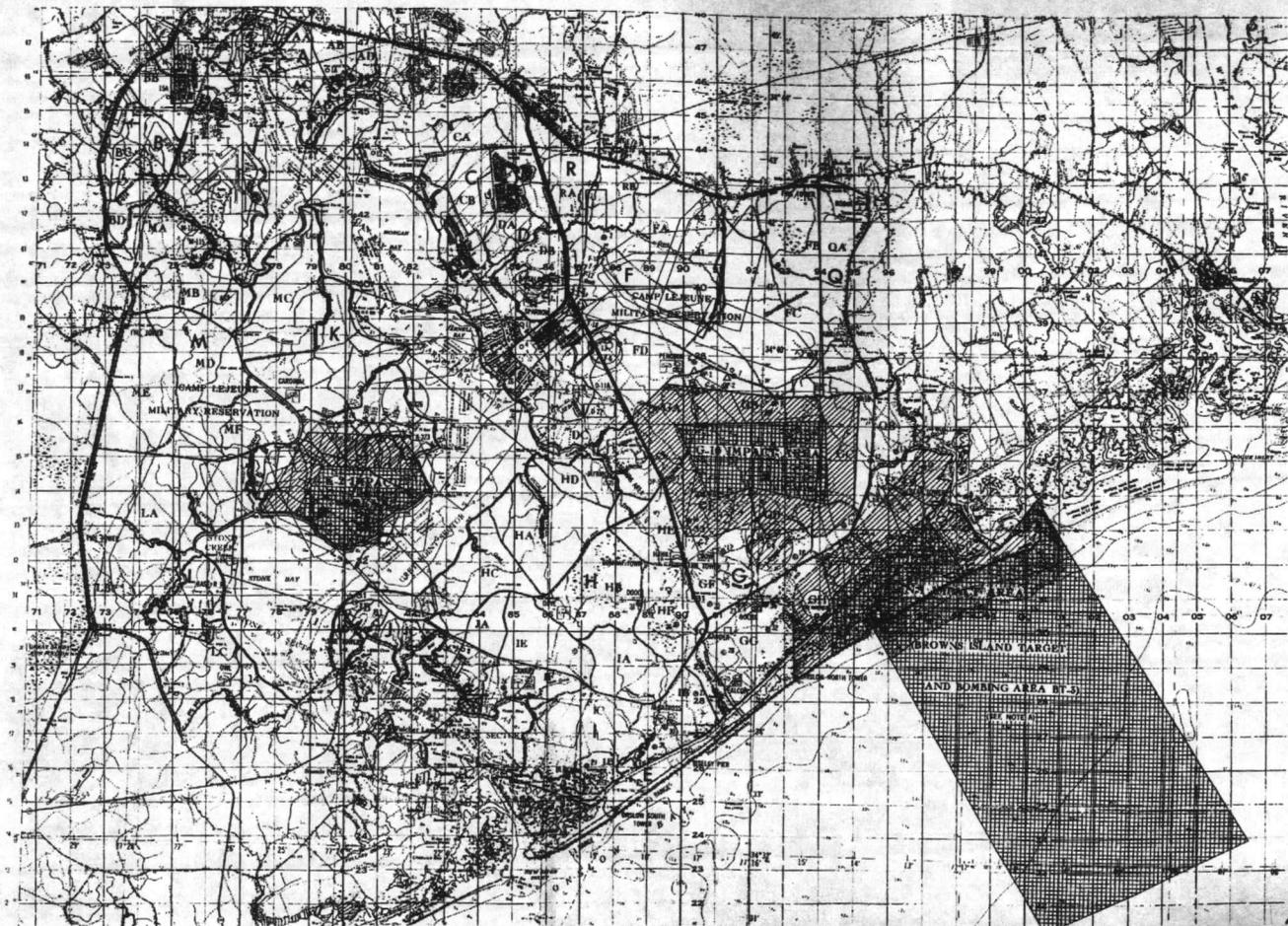


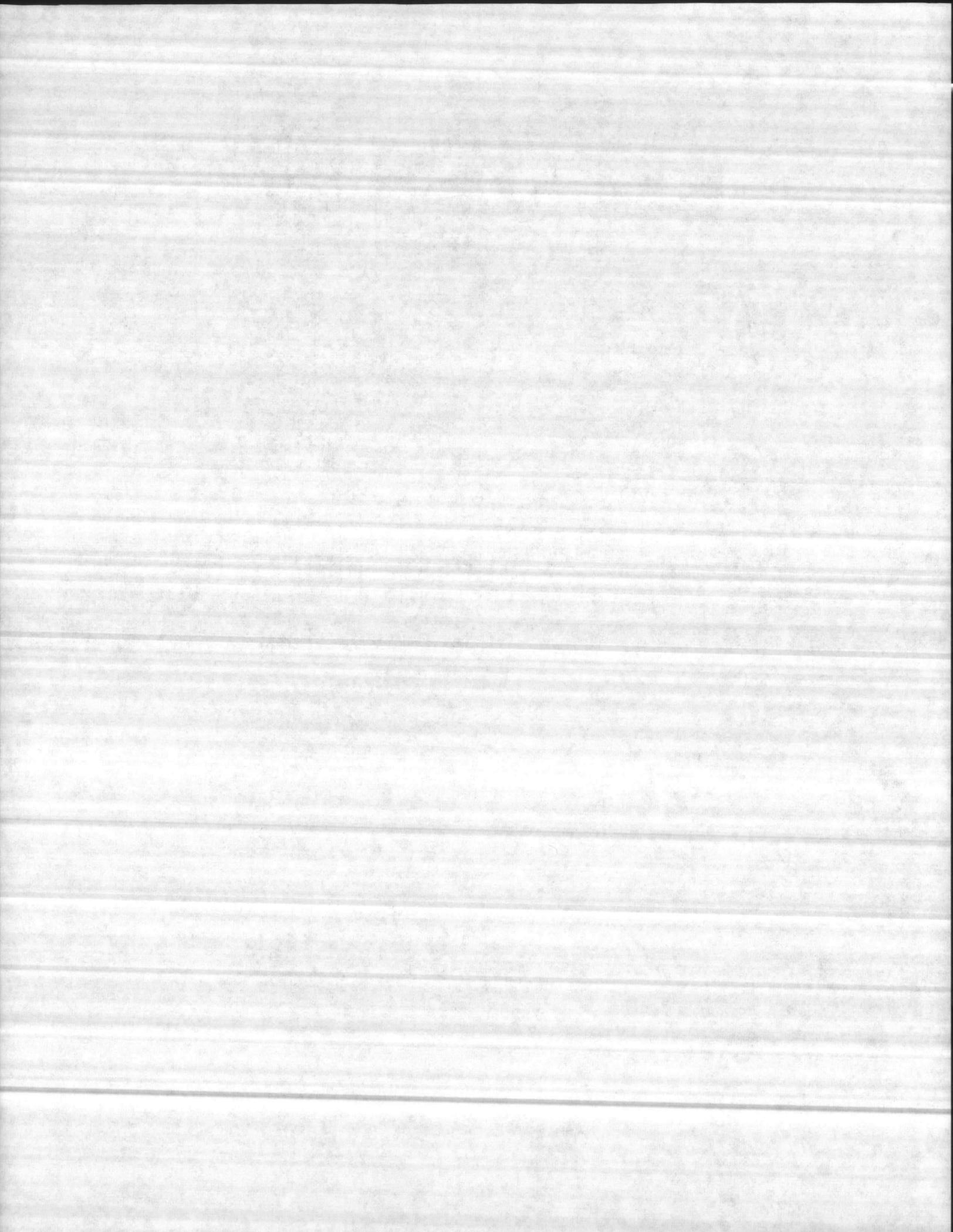


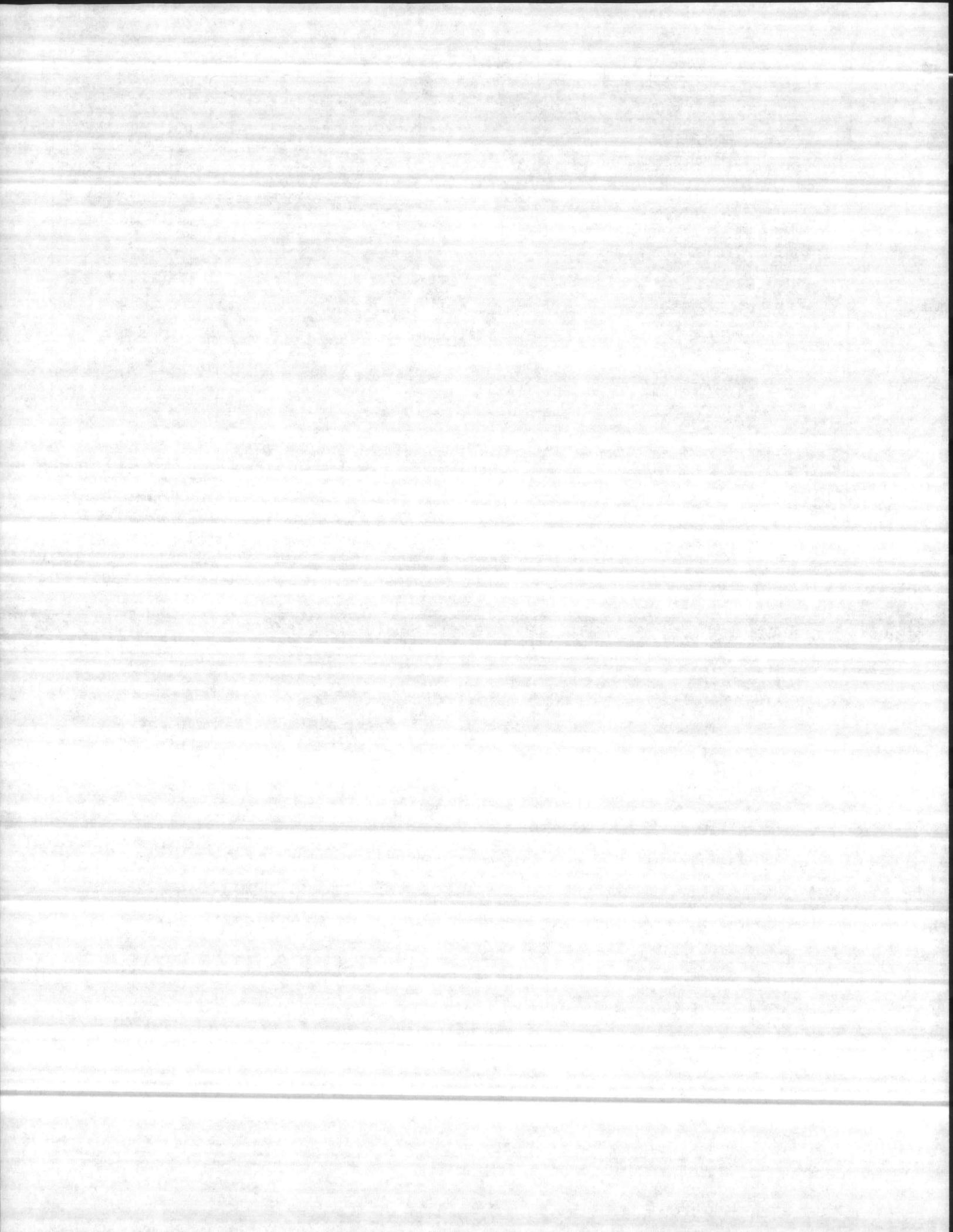


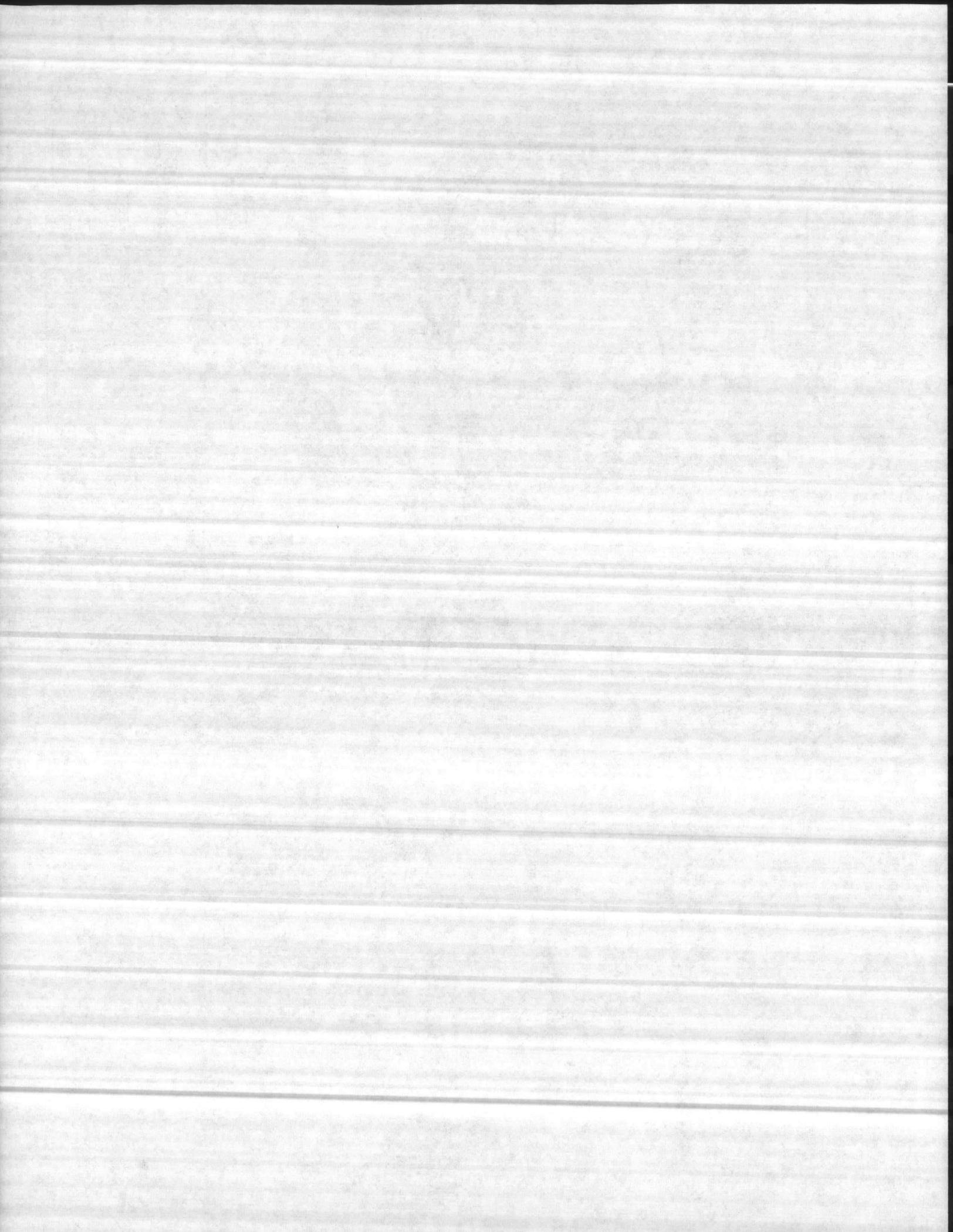


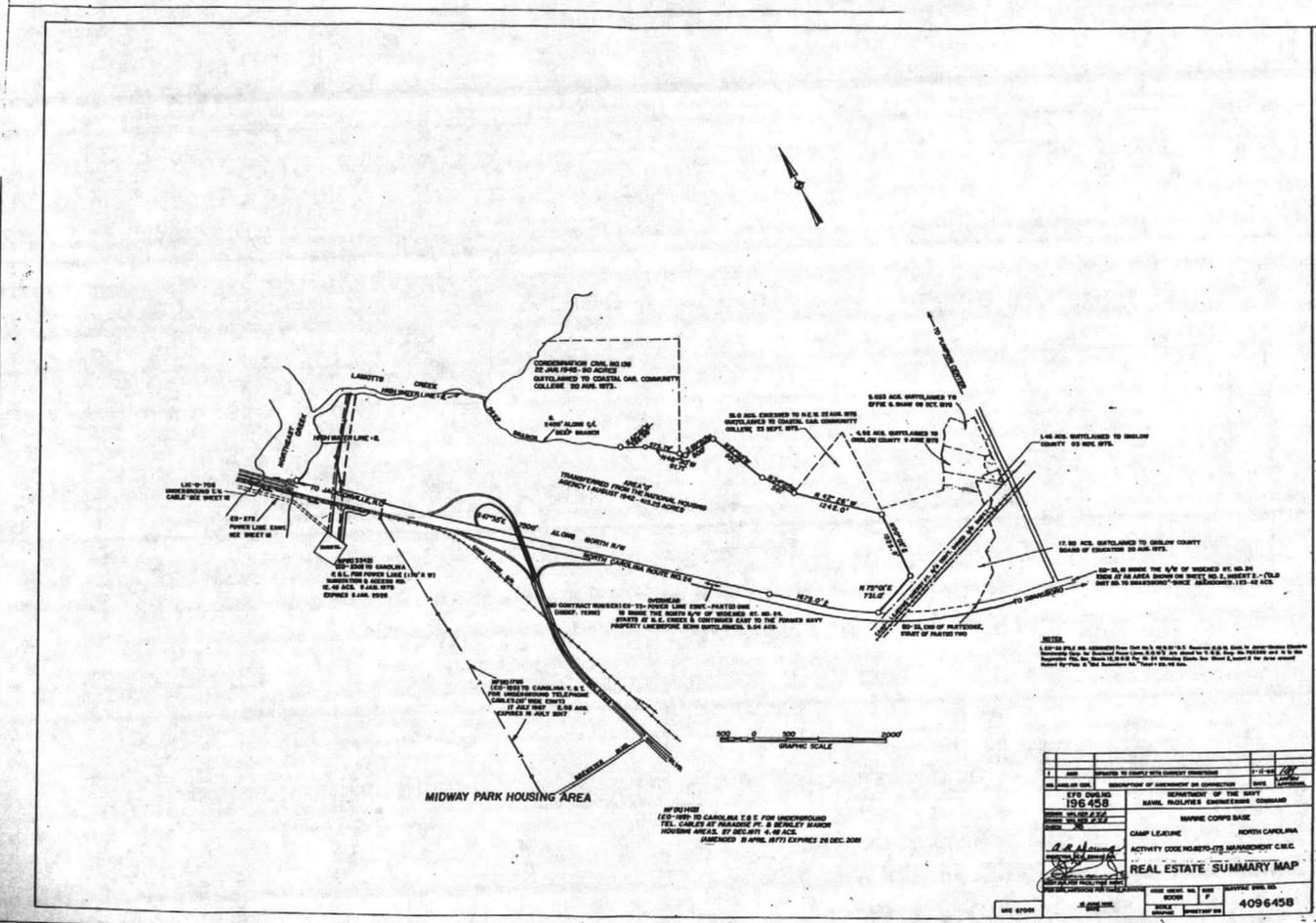






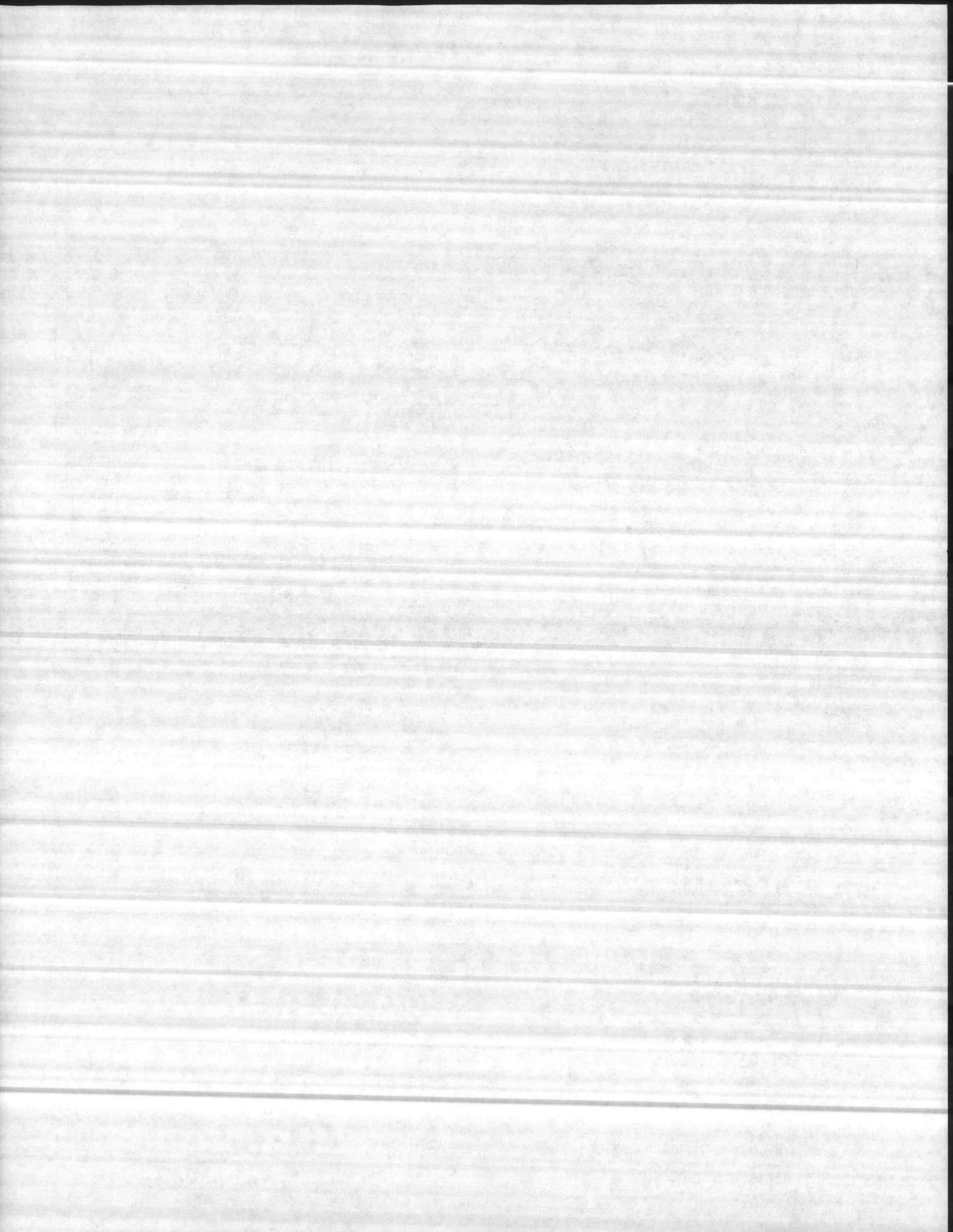


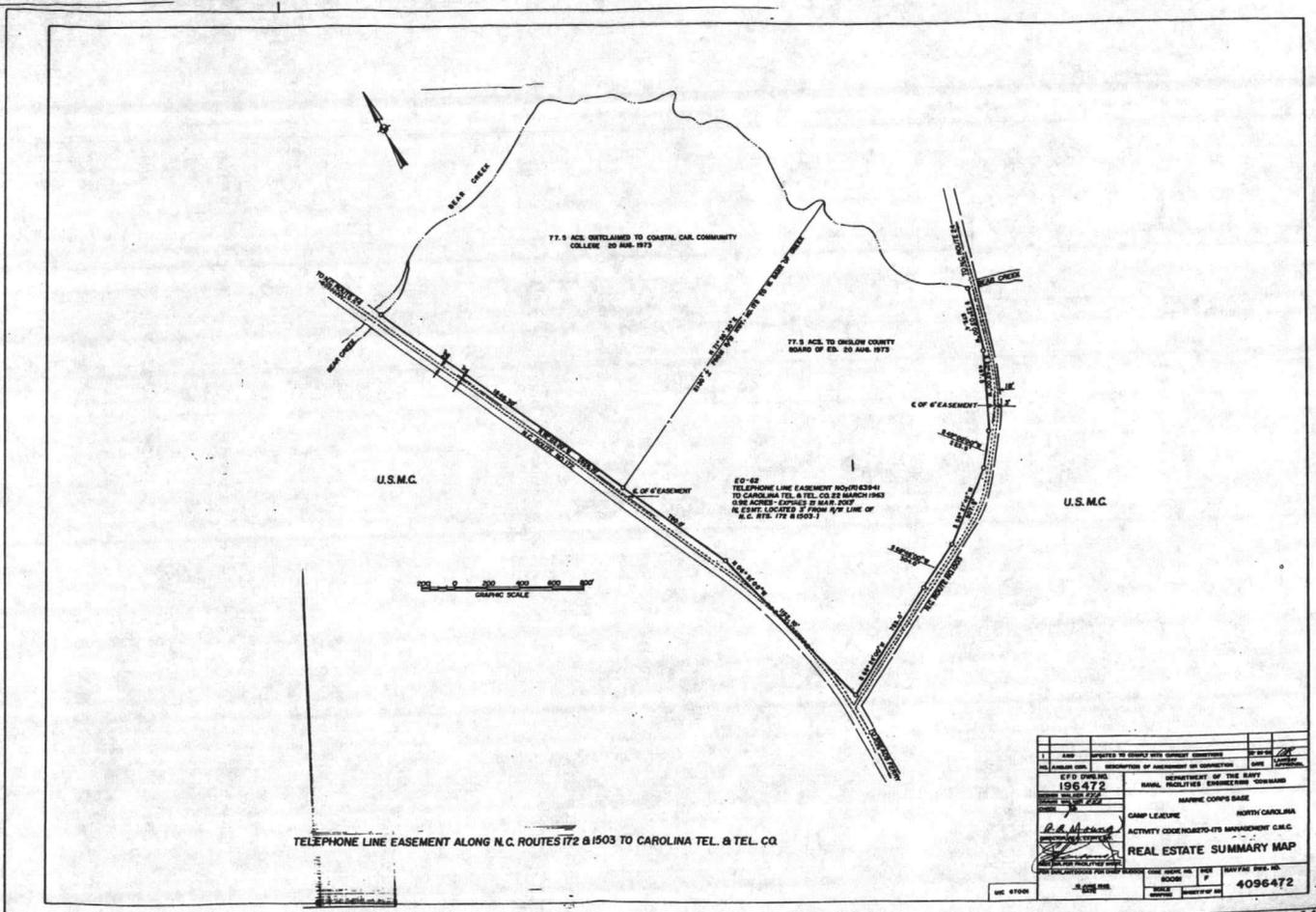




1	DATE	12-11-74
2	PROJECT OR COMPLETION NUMBER	196458
3	DESCRIPTION OF AGREEMENT OR CONTRACT	SUBSIDIARY ENGINEERING CONTRACT
4	DATE	12-11-74
5	ACTIVITY CODE	CAMP LEASURE
6	ACTIVITY CODE	NORTH CAROLINA
7	ACTIVITY CODE	ACTIVITY CODE MANAGEMENT C.M.C.
8	ACTIVITY CODE	REAL ESTATE SUMMARY MAP
9	ACTIVITY CODE	4096458

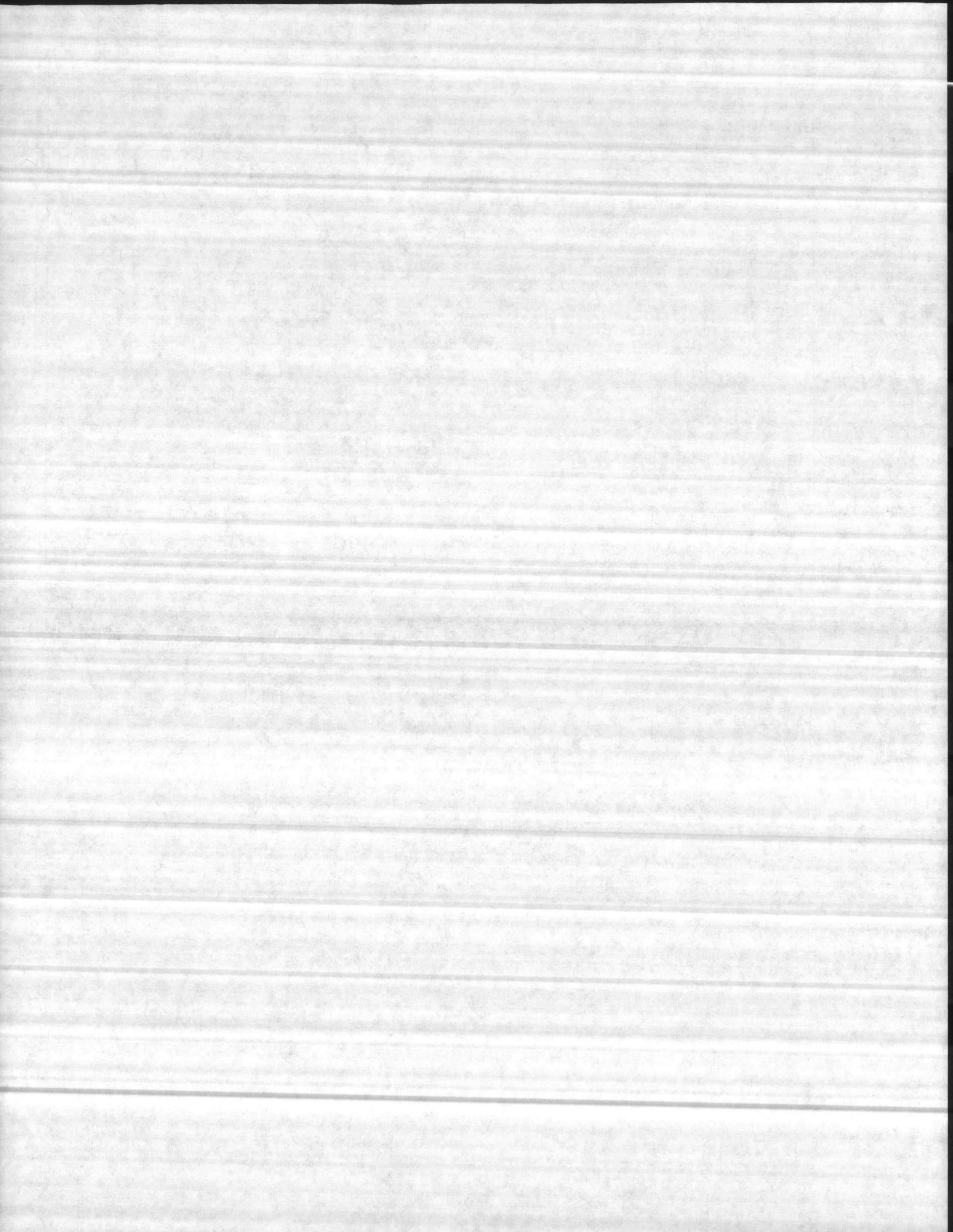
NOTES:
 (1) - 196458 IS A SUMMARY MAP FOR UNDERGROUND
 TEL. CABLES AT PLACES #1 & BENTLEY BRANCH
 HOUSING AREA, BY DELETY 4-28-74.
 PAGES 1 & 2 APRIL 1977 EXPIRES 29 DEC. 2001

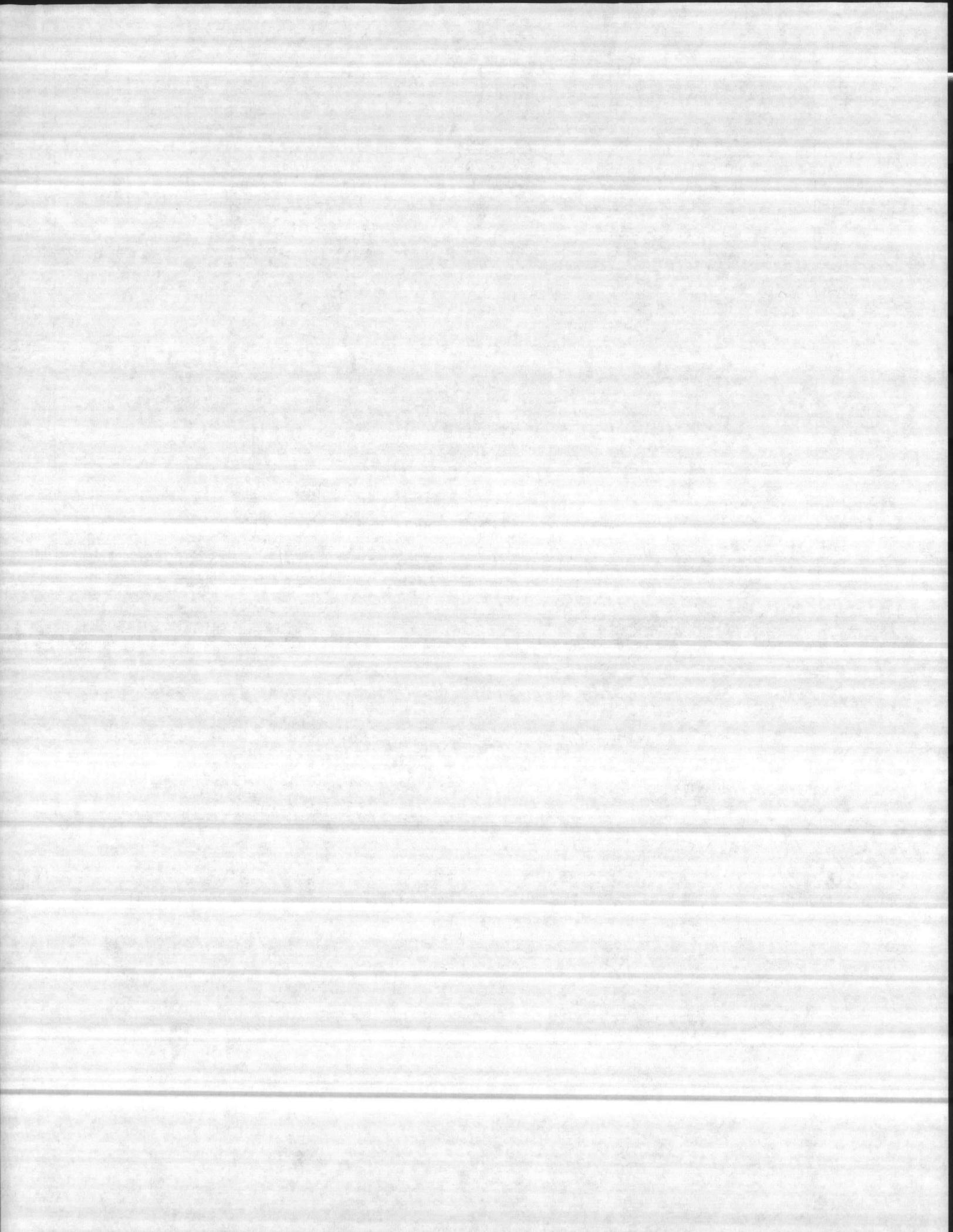




TELEPHONE LINE EASEMENT ALONG N.C. ROUTES 172 & 1503 TO CAROLINA TEL. & TEL. CO.

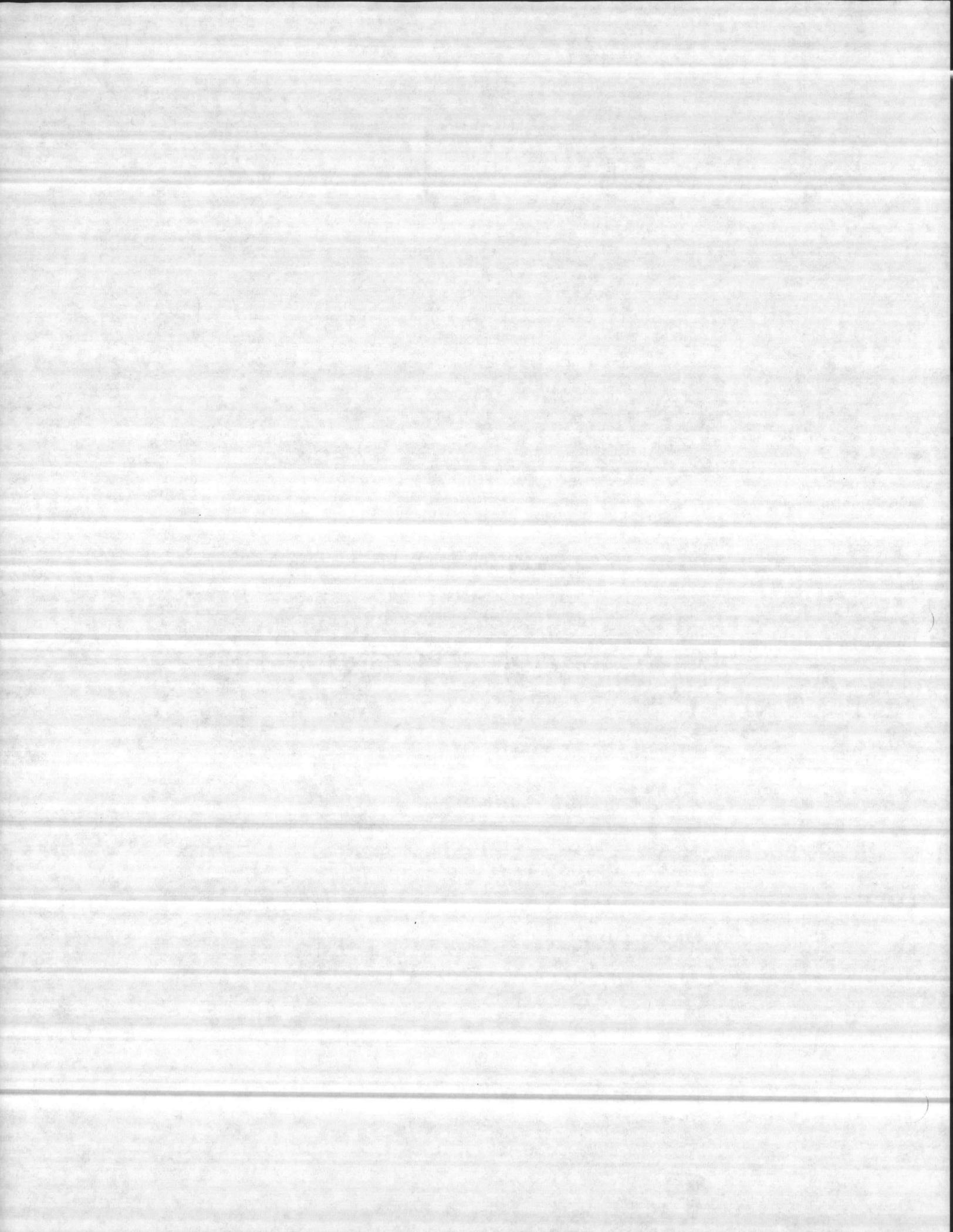
1	2	3	4
DATE	ISSUED	BY	FOR WHAT PURPOSE
196472			
ENGINEER		DEPARTMENT OF THE ARMY	
NAVAL FACILITIES ENGINEERING COMMAND		MARINE CORPS BASE	
CAMP LEELINE		NORTH CAROLINA	
ACTIVITY CODE		HOUSING-ITS IMPROVEMENT C.M.C.	
REAL ESTATE SUMMARY MAP			
SCALE	DATE	BY	NO.
1:5000			4096472



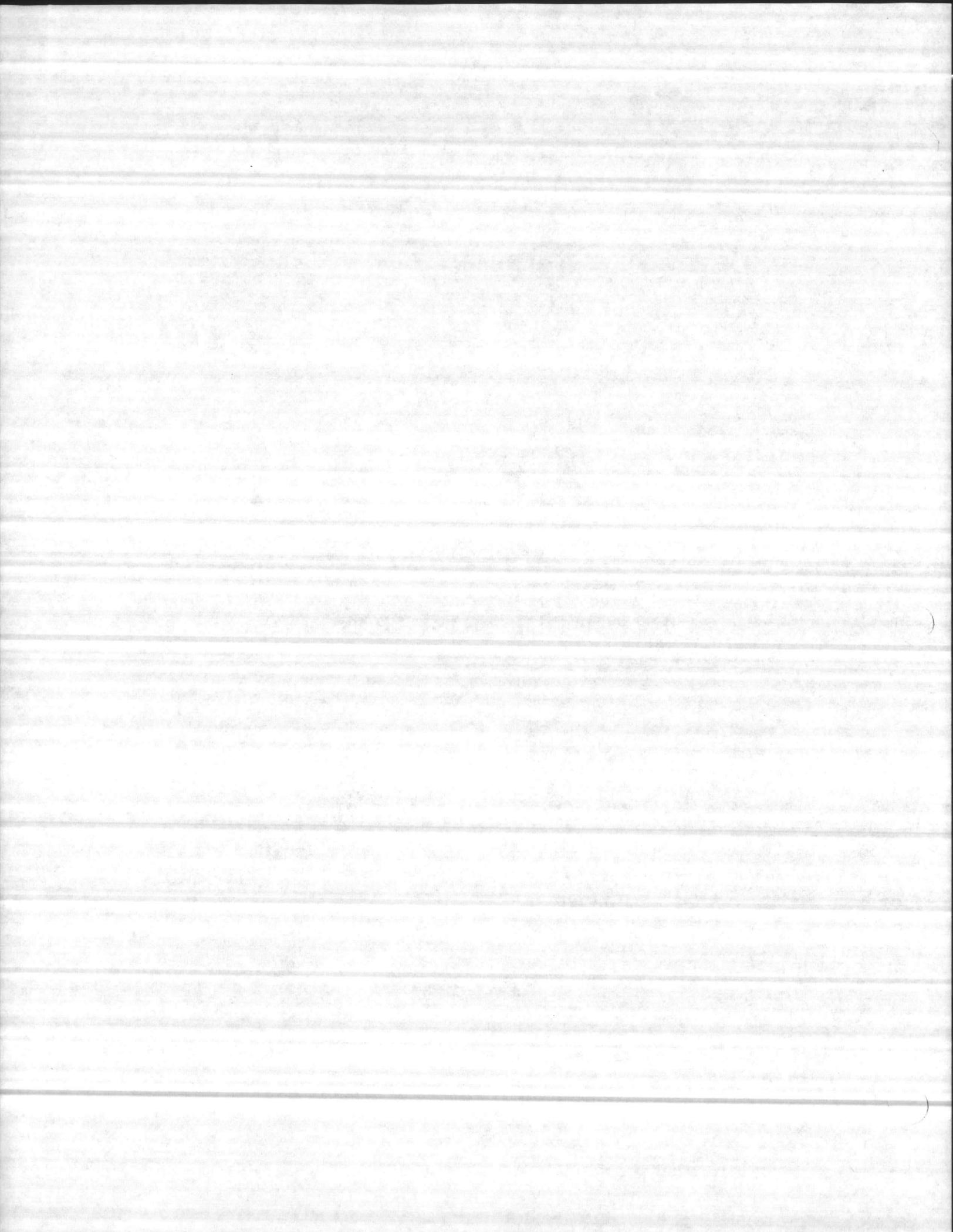


APPENDIX H

**SITE SPECIFIC SAFETY AND HEALTH PLAN/
SITE INSPECTION REPORT (NOT USED)**



APPENDIX I
REPORT DISTRIBUTION LIST

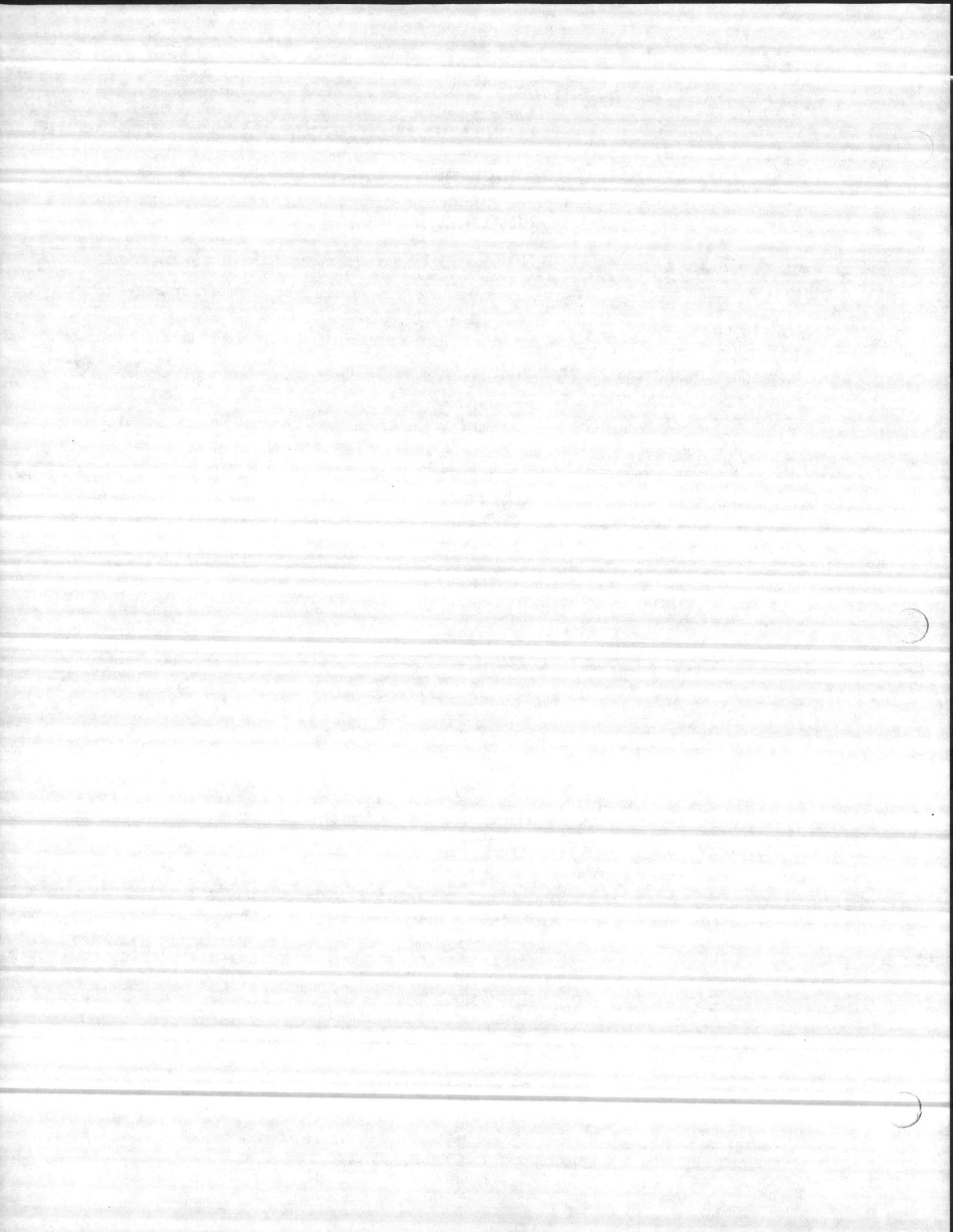


APPENDIX I

REPORT DISTRIBUTION LIST

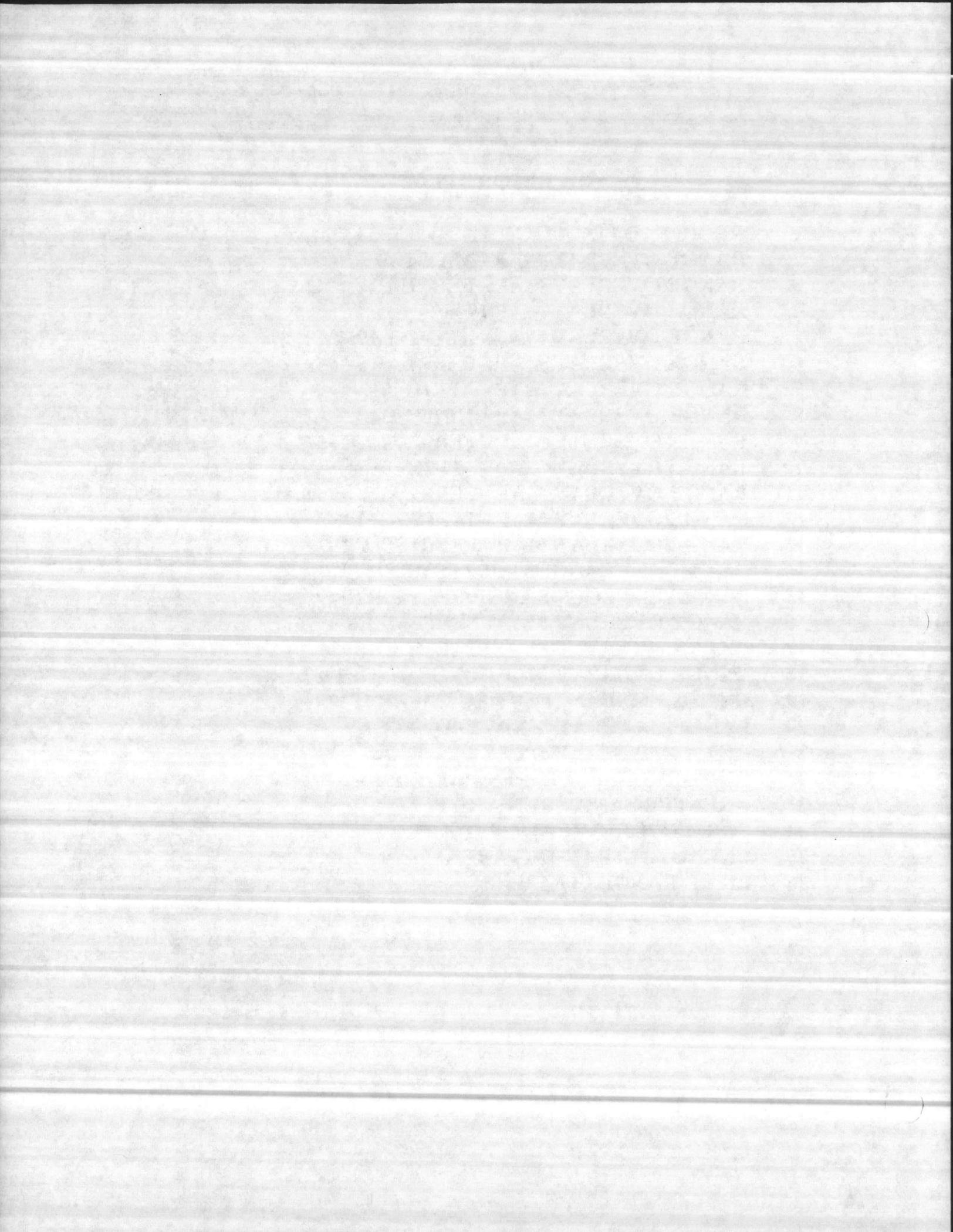
FINAL REPORT

Addressee	No. of Copies
Commander, HQ Marine Corps CMC (LFL) (Ms. Deborah Morefield) 2 Navy Annex, Room 3109 Washington, DC 20380-1775	10
Commanding General ATTN: AC/S EMD (IRD), Neal Paul Marine Corps Base PSC Box 20004 Camp Lejeune, NC 28542-0004	



REPORT PLATES

- 1 REGIONAL LOCATION AND VICINITY MAP
- 2 RANGE OVERLAY MAP - MAY 1941
- 3 RANGE OVERLAY MAP - FEBRUARY 1942
- 4 RANGE OVERLAY MAP 1946
- 5 RANGE OVERLAY MAP - AUGUST 1951
- 6 RANGE OVERLAY MAP - FEBRUARY 1953
- 7 RANGE OVERLAY MAP - APRIL 1953
- 8 RANGE OVERLAY MAP - JUNE 1954
- 9 RANGE OVERLAY MAP - FEBRUARY 1957
- 10 RANGE OVERLAY MAP - APRIL 1958
- 11 RANGE OVERLAY MAP - FEBRUARY 1959
- 12 RANGE OVERLAY MAP - JANURAY 1962
- 13 RANGE OVERLAY MAP - FEBRUARY 1970
- 14 DETAIL "K" RANGES - SEPTEMBER 1970
- 15 MISCELLANEOUS RANGE FEATURES
- 16 RANGE OVERLAY MAP - SEPTEMBER 1976
- 17 DETAIL "K" RANGES - SEPTEMBER 1976
- 18 RANGE OVERLAY MAP - DECEMBER 1987
- 19 DETAIL "K" RANGES - DECEMBER 1987
- 20 RANGE OVERLAY MAP - 1993
- 21 RIFLE RANGE COMPLEX
- 22 HISTORICAL FEATURES - JUNE 1954
- 23 GREATER SANDY RUN AREA
- 24 FORMER CHEMICAL TEST AREA
- 25 UNKNOWN TRAINING AREA
- 26 RIFLE RANGE COMPLEX



METADATA FOR THEMATIC COMPUTER AIDED DESIGN AND DRAFTING (CADD)
FILES – CAMP LEJEUNE

Contents

- I Introduction
- II File Naming Conventions
- III Reference Maps
- IV Historic Maps
- V Aerial Photos
- VI Mosaicked Aerial Photos
- VII Plates

I Introduction

Thematic Computer-Aided Design and Drafting (CADD) map files completed in association with this Archives Search Report are based on historic cartographic, aerial and site visit data collected during this investigation. The thematic maps were created using Intergraph's Microstation software. Microstation *.dgn files can be imported directly into an Arc/Info system, as geospatially located entities. Geospatial data derived by this report will directly overlay on current GIS (Geographic Information System) data residing on the Camp Lejeune database by using the "**Import Microstation *.dgn**" function. After import, the data can be viewed and manipulated using the software that runs Camp Lejeune's GIS database. Raster files have been saved with Georeferenced Tiff (Tiff World) files having a .tfw extension. These files are Arc/Info-compatible.

The thematic maps were created by scanning and warping selected historic data to reference points collected from non-stable selected base maps such as U.S. Geological Survey (USGS) 7.5 minute, quadrangle sheets or National Imaging and Mapping Agency (NIMA) maps. The horizontal scale and horizontal datum of the base maps is generally known. In this case the datum used was 1927 North Atlantic Datum/World Geodetic System (WGS) 1984. Attempts have been made to rectify the data to the referenced base maps. However, distortions in scale and contortions of the features are present. These distortions are a result of inaccuracies in the source data, as well as the processes of scanning and rectifying the data. Much of the data on the maps lack sufficient information to support a determination of accuracy.

Many of the historic maps used were hand-drawn or built on locations that were inaccurate by modern standards. In general, historic map inaccuracies are unknown and not quantifiable. The georeferencing process may then magnify the unknown inaccuracies. Therefore, thematic maps generated from historic maps and drawings will have accuracy no greater than the least accurate source.

The historical aerial photography has been semi-rectified (georeferenced) to the base map; however, the photos have not been corrected for photogrammetric displacements such as those due to topography or the altitude of the aircraft at the time of imaging. They are not orthorectified images. Locations of features noted on aerial photography are not exact due to the rectifying of both the image and the base map.

The horizontal and vertical locations of selected features noted in the ASR and located on the thematic maps have been established utilizing Global Positioning System (GPS) technology. These coordinates were acquired using the Federal Version PLGR96+ GPS receiver. Features located utilizing GPS techniques are so noted in the ASR. The PLGR+96 uses the Precise Positioning Service (16 m SEP) and Wide Area GPS Enhancement (WAGE) 4 m CEP.

Copies of the thematic maps are included on the companion CD diskette to this report. The lineage and source of the historic data used to generate the thematic maps is unknown. The majority of Federal Geographic Data Committee (FGDC) Metadata fields are therefore unknown. A metadata file that gives all available pertinent information has been provided with this product. The statements above are inclusive of all available information regarding the historic data sources and the thematic maps generated. The thematic maps are not original digital mapping data; are scanned and warped data with selected unique feature annotation. The intended purpose of the mapping data is for photo-interpretation and not design. The vector data and associated symbology is unique to the intended purpose. The majority of the digitized features are not part of the current Tri-Service CADD Standards list of features and associated line types and symbology (i.e. range fans, pits, disturbed land). The mapping data produced does comply with applicable Tri-Service Standards.

II File Naming Conventions

There are five basic types of CADD files created for this project:

Reference Maps – generally U.S.G.S maps used for horizontal control

Historic Maps – a map from other sources of generally unknown accuracy

Aerial Photos – individual aerial photo, typically 9” by 9” format

Mosaicked Aerial Photos – mosaic of aerial photo images

Plates – composite of annotated or interpreted vectors and notations over map and photo images

The file extensions naming convention is:

- *.CIT – initial image scan without modification or warping, readable in Microstation
- *.WRP – horizontally warped image based on reference points, readable in Microstation
- *.MOS – mosaic of scanned and warped aerial photo images, readable in Microstation
- *.EXT – extracted (i.e. smaller) versions of above raster image files, readable in Microstation
- *.DGN – Microstation vector file

- *.JPG – raster image file readable on a variety of platforms
- *.TIF – ARC/INFO compatible image file, readable on a variety of platforms
- *.TFW – georeference information for Tiff files.

III Reference Maps

Reference maps were used for informational purposes only. Data analyzed for this project was referenced to map data resident on Camp Lejeune's GIS database. The data was furnished on CD-Rom for the expressed purpose of referencing data used in analysis of this ASR. Please refer to Camp Lejeune GIS POC for information on these datasets.

IV Historic Maps

Historical Maps used in this report are referenced in the Appendix to this report as follows:

- G-1 Bureau of Yards and Docks
1941 Marine Corps Base, New River, NC General Area and Layout Map (Proposed use), 16 May 1941. National Archives – College Park, Cartographic Section, College Park, MD.
- G-2 Bureau of Yards and Docks
1942 Map of Marine Barracks, Camp Lejeune, New River, N. C., 12 February 1942, revised 6 February 1943. Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-3 Unknown
1945 New River Marine Corps Base, Onslow County, North Carolina, 20 March 1945, revised 11 June 1945. RG 71, Entry 1001, Box 934, File: New River, National Archives – College Park, College Park, MD.
- G-4 Carr & J. E. Greiner Co
1943 Attachment to Construction Completion Report with information added from range regulations from 1946 and 1947. Training, Education, and Operations Department, MCB Camp Lejeune, NC.
- G-5 Public Works Officer
1951 Map of Rifle Range Area, Camp Lejeune, North Carolina, as of 30 June 1951. Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-6 MCB Camp Lejeune
1951 H. C. Misc. 15,042-50-1A, MCB Camp Lejeune Range Map, August 1951. Marine Corps History Center, Washington Navy Yard, Washington, DC.

- G-7 Mackey, J.
1953 H. O. 15,042-50-1A, Overprint Training Areas & Facilities, 16 February 1953
Map Room, Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-8 Marine Barracks, Camp Lejeune
1954 Master Shore Station Development Plan, Training Facilities, 30 June 1954.
Naval Facilities Engineering Command, Historians Office, Port Heuneme, CA.
- G-9 Public Works Officer, MCB Camp Lejeune
1958 Training Area Covered by Amber Airway #9, 3 April 1958. Map Room, Facilities
Engineering, Camp Lejeune, Jacksonville, NC.
- G-10 MCB Camp Lejeune
1970 Appendix I-1 to BO 11102.1G, Overlay of Maneuver, Danger, Impact Areas and
Ranges, Combat Training Chart 15,042-50-1. Danger Zone Files, Environmental
Office, Wilmington District, USACE, Wilmington, NC.
- G-11 MCB Camp Lejeune
c1973 Appendix I? to BO 11102.1H, Overlay of Artillery Positions, Combat Training
Chart 15,042-50-1. Installation Restoration Program Office, Headquarters, US
Marine Corps, Washington, DC.
- G-12 Defense Mapping Agency
1976 Camp Lejeune Special Map, 25 September 1976. Map Room, Facilities
Engineering, Camp Lejeune, Jacksonville, NC.
- G-13 Facilities Engineering
1985 Real Estate Summary Map, updated 11 January 1985, Drawing No. 4096456.
Facilities Engineering, Camp Lejeune, Jacksonville, NC.
- G-14 Facilities Engineering
1985 Real Estate Summary Map, 11 January 1985, Drawing No. 4096457. Facilities
Engineering, Camp Lejeune, Jacksonville, NC.
- G-15 Facilities Engineering
1985 Real Estate Summary Map, 11 January 1985, Drawing No. 4096458. Facilities
Engineering, Camp Lejeune, Jacksonville, NC.
- G-16 Facilities Engineering
1985 Real Estate Summary Map, updated 26 March 1985, Drawing No. 4096472.
Facilities Engineering, Camp Lejeune, Jacksonville, NC.

G-17 Facilities Engineering
 1985 Real Estate Summary Map, 28 March 1985, Drawing No. 4096791. Facilities
 Engineering, Camp Lejeune, Jacksonville, NC.

V Aerial Photos

Two aerial photographs were scanned for inclusion in this report:

DuckRiver.ext – Frame: 16PS-4M751-16V39

Plate 23

Photo Date	Scale	Record Group	
08 NOV 1944	22,000	DIA – Archives II	373

Unknown.ext – Frame: AOR-4N-25

Plate 24

Photo	Scale(1:x)	Record Group	
Date			
04 March 1956	20,000	ASCS – Archives II	145

VI Mosaicked Aerial Photos

An existing data set from Camp Lejeune was used for **Plate 25**. The photography was natural color, flown in 1998. Metadata information for this data set resides at Camp Lejeune. Please contact Camp Lejeune GIS POC for this information.

VII Plates

REPORT PLATES

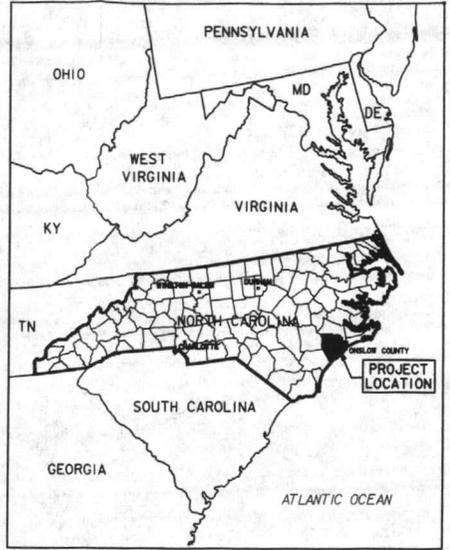
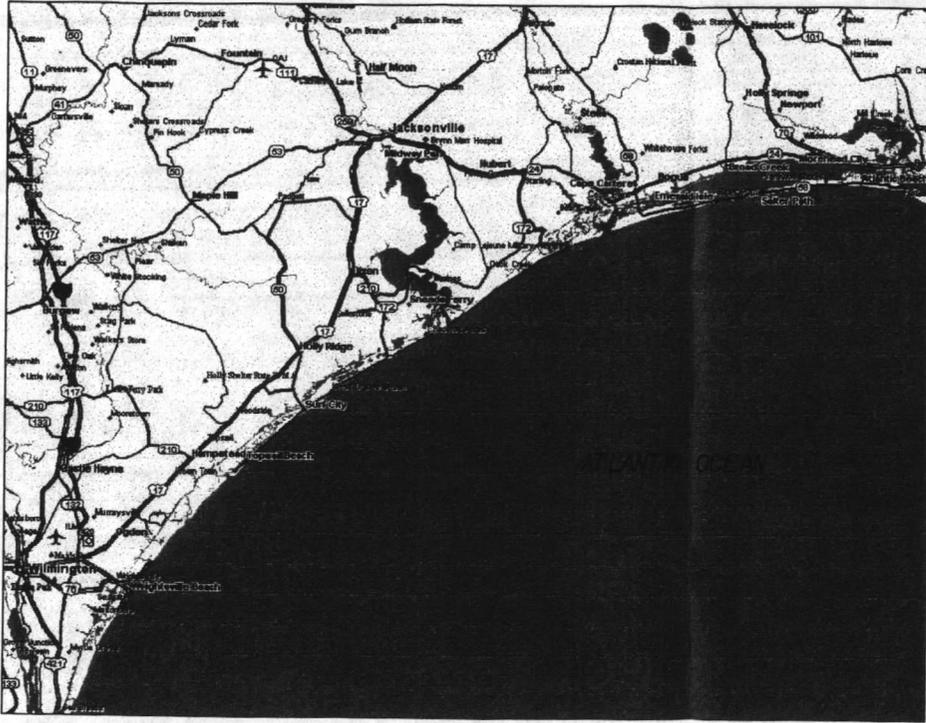
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2	RANGE OVERLAY MAP - MAY 1941	16may41.dgn
3	RANGE OVERLAY MAP - FEBRUARY 1942	12feb42.dgn
4	RANGE OVERLAY MAP 1946	40squadr.dgn
5	RANGE OVERLAY MAP - AUGUST 1951	aug51r.dgn
6	RANGE OVERLAY MAP - FEBRUARY 1953	16feb53.dgn
7	RANGE OVERLAY MAP - APRIL 1953	apr53.dgn
8	RANGE OVERLAY MAP - JUNE 1954	30june54.dgn
9	RANGE OVERLAY MAP - FEBRUARY 1957	9feb57.dgn
10	RANGE OVERLAY MAP - APRIL 1958	3apr58r.dgn
11	RANGE OVERLAY MAP - FEBRUARY 1959	2feb59.dgn
12	RANGE OVERLAY MAP - JANURAY 1962	22jan62.dgn
13	RANGE OVERLAY MAP - FEBRUARY 1970	6feb70.dgn
14	DETAIL "K" RANGES - SEPTEMBER 1970	6 feb70.dgn
15	MISCELLANEOUS RANGE FEATURES	various.dgn

ARCHIVES SEARCH REPORT
Marine Corps Base Camp Lejeune
Onslow, NC

16	RANGE OVERLAY MAP - SEPTEMBER 1976	25sep76.dgn
17	DETAIL "K" RANGES - SEPTEMBER 1976	25sep76b.dgn
18	RANGE OVERLAY MAP - DECEMBER 1987	26dec87.dgn
19	DETAIL "K" RANGES - DECEMBER 1987	26dec87b.dgn
20	RANGE OVERLAY MAP - 1993	1993east.dgn
21	RIFLE RANGE COMPLEX	rifle.dgn
22	HISTORICAL FEATURES - JUNE 1954	plate22.dgn
23	GREATER SANDY RUN AREA	sandyrun.dgn
24	FORMER CHEMICAL TEST AREA	duckph.dgn, .tif, .tfw
25	UNKNOWN TRAINING AREA	trainph.dgn, .tif, .tfw
26	RIFLE RANGE COMPLEX	rifleph.ext

Geographic Information Systems (GIS)
Environmental Management Department
Camp Lejeune
POC: Frances Railey
(910) 451-5876/DSN 751-5876

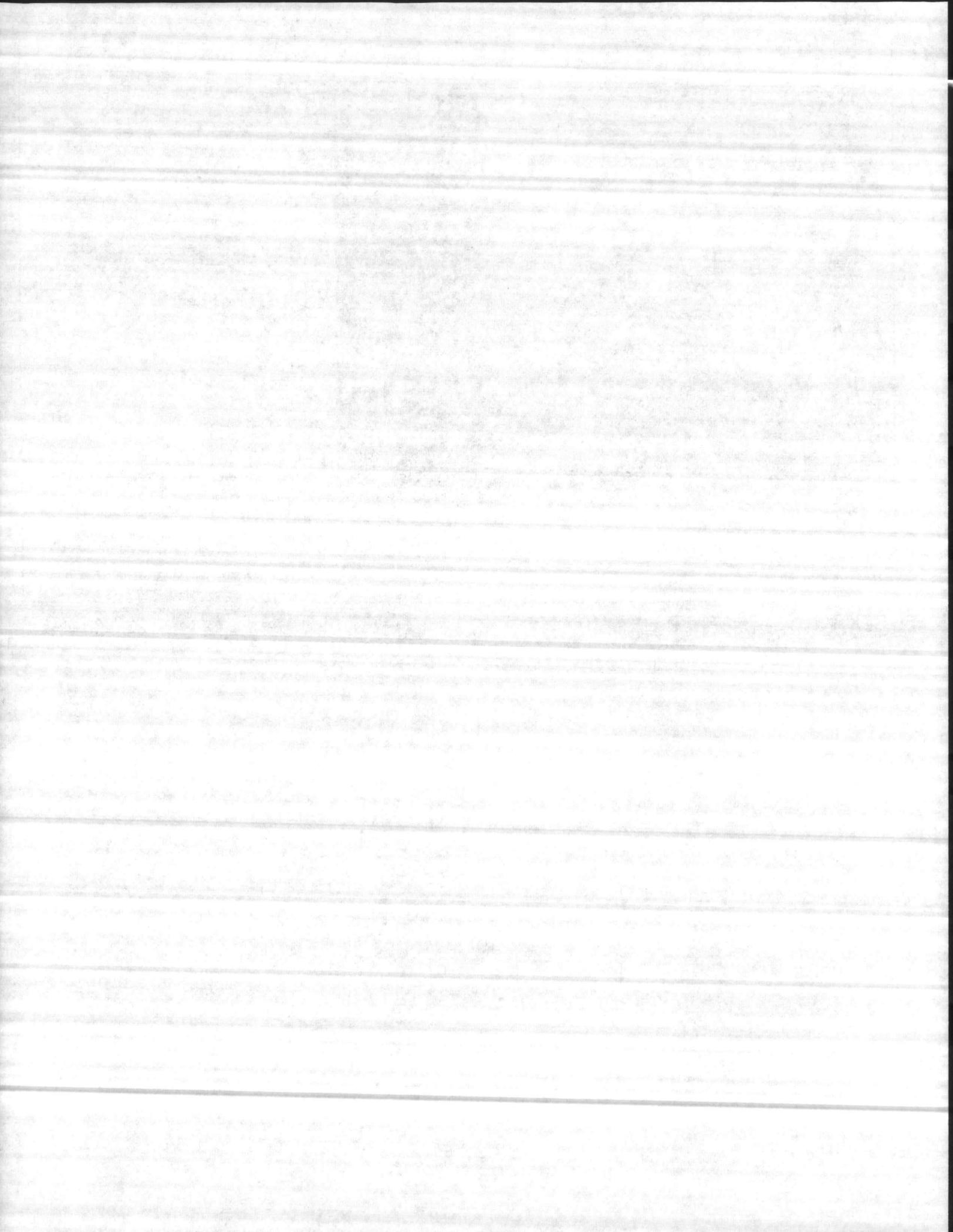


LEGEND

▭ CAMP LEJEUNE

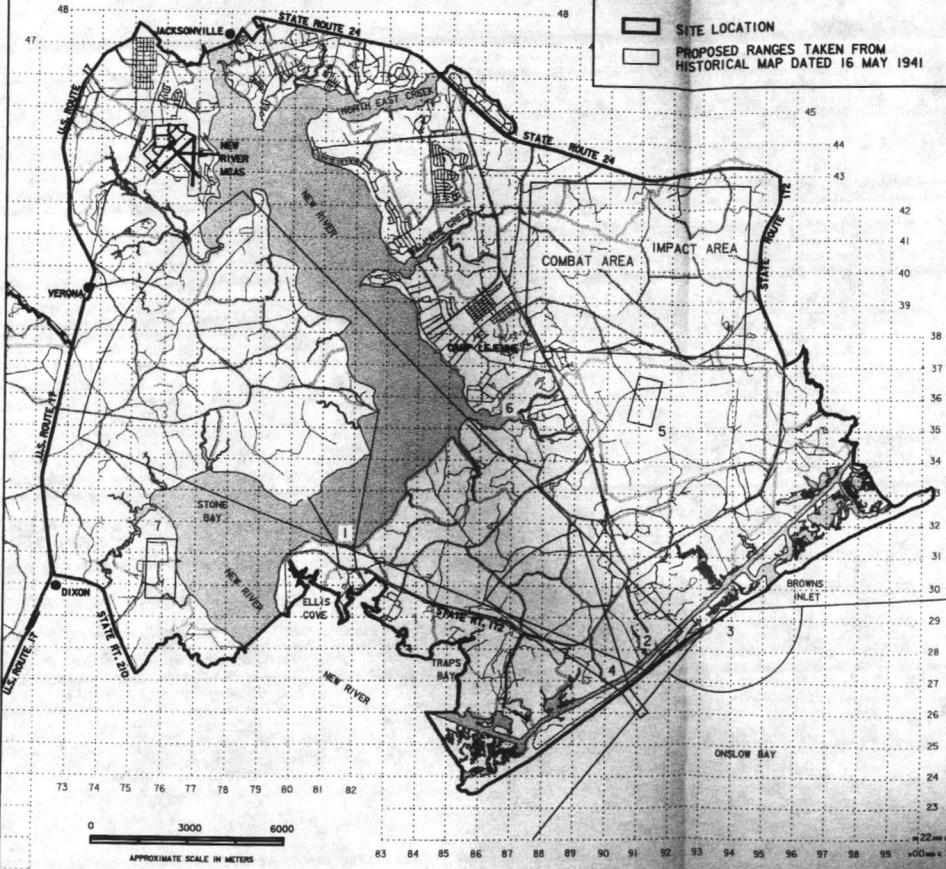


	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY	
REGIONAL LOCATION AND VICINITY MAP		PLATE NO. 1
PROJ. DATA SHEET: 1004 20-SEP-2000 1040	DATE OF MAP: 2001 20-SEP-2000 1040	



LEGEND

-  SITE LOCATION
-  PROPOSED RANGES TAKEN FROM HISTORICAL MAP DATED 16 MAY 1941



KEY TO FEATURES

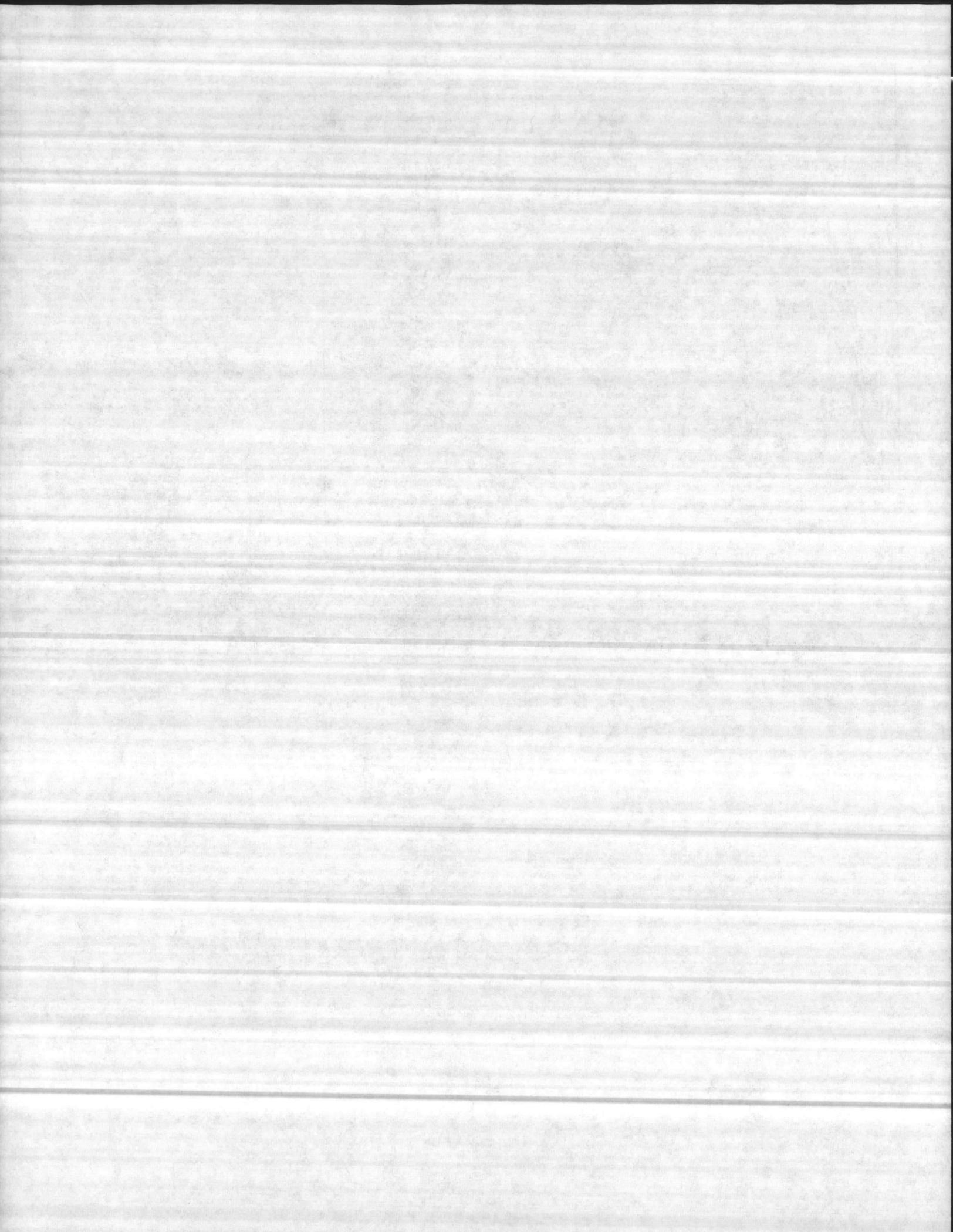
FEATURE NUMBER	FEATURE DESCRIPTION
1.	ANTI-MECHANIZED RANGE
2.	ARTILLERY TRAINING AREA (1941)
3.	ONLOW BEACH / HURST BEACH FIRING AREA
4.	BOAT GUN RANGE "J" LOCATION
5.	RIFLE RANGE
6.	MAGAZINE AREA
7.	RIFLE RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



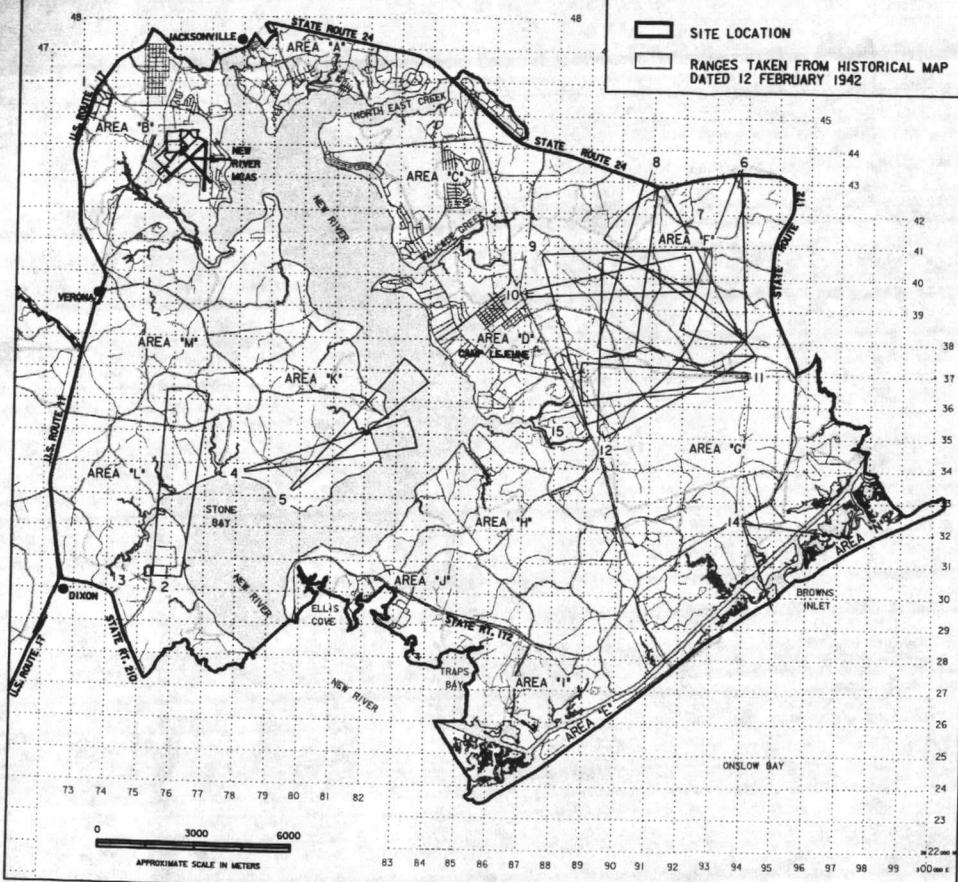
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE NORTH CAROLINA
ONLOW COUNTY
RANGE OVERLAY MAP - MAY 1941



LEGEND

 SITE LOCATION
 RANGES TAKEN FROM HISTORICAL MAP DATED 12 FEBRUARY 1942



KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
1.	MINIATURE ANTI-TANK RANGE (TANK BATTALION TENT CAMP)
2.	RIFLE RANGE
3.	PISTOL RANGE (RIFLE RANGE AREA)
4.	MACHINE GUN RANGE D
5.	COMBAT RANGE - MUSKETRY RANGE D
6.	MACHINE GUN RANGE A
7.	UNNAMED RANGE I
8.	MUSKETRY RANGE A
9.	COMBAT RANGE (MUSKETRY RANGE B)
10.	MACHINE GUN RANGE B
11.	MUSKETRY RANGE C
12.	MINIATURE ANTI-AIRCRAFT RANGE (AREA D & F)
13.	MAGAZINE AREA
14.	ANTI-TANK RANGE
15.	MAGAZINE AREA

NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

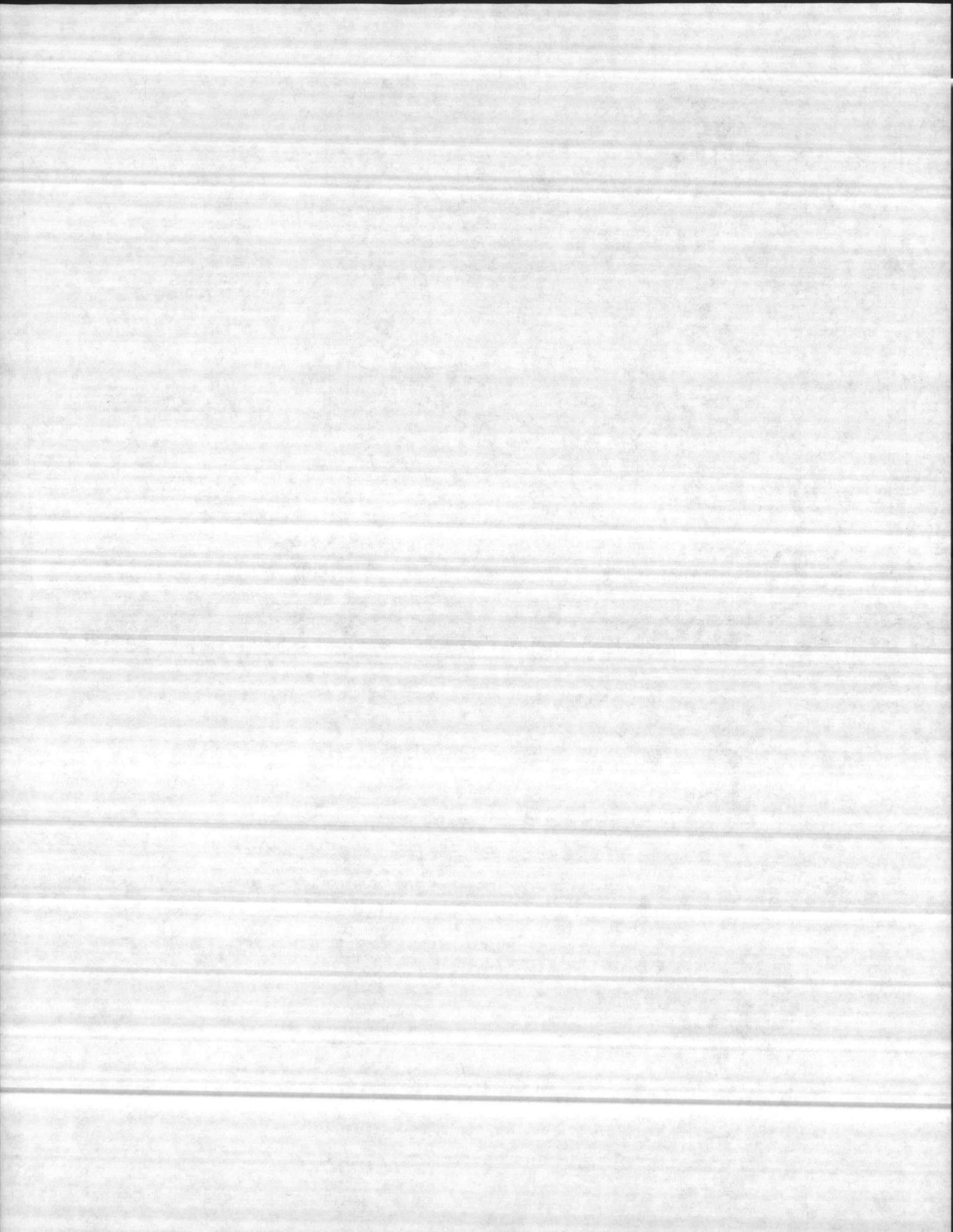


U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY
RANGE OVERLAY MAP-FEBRUARY 1942

FORM DATE: SEPT. 1953	DATE OF THIS MAP: 1953	PLATE NO.
D-103-002-002	www.army.mil/infocenter/infocenter.asp	3



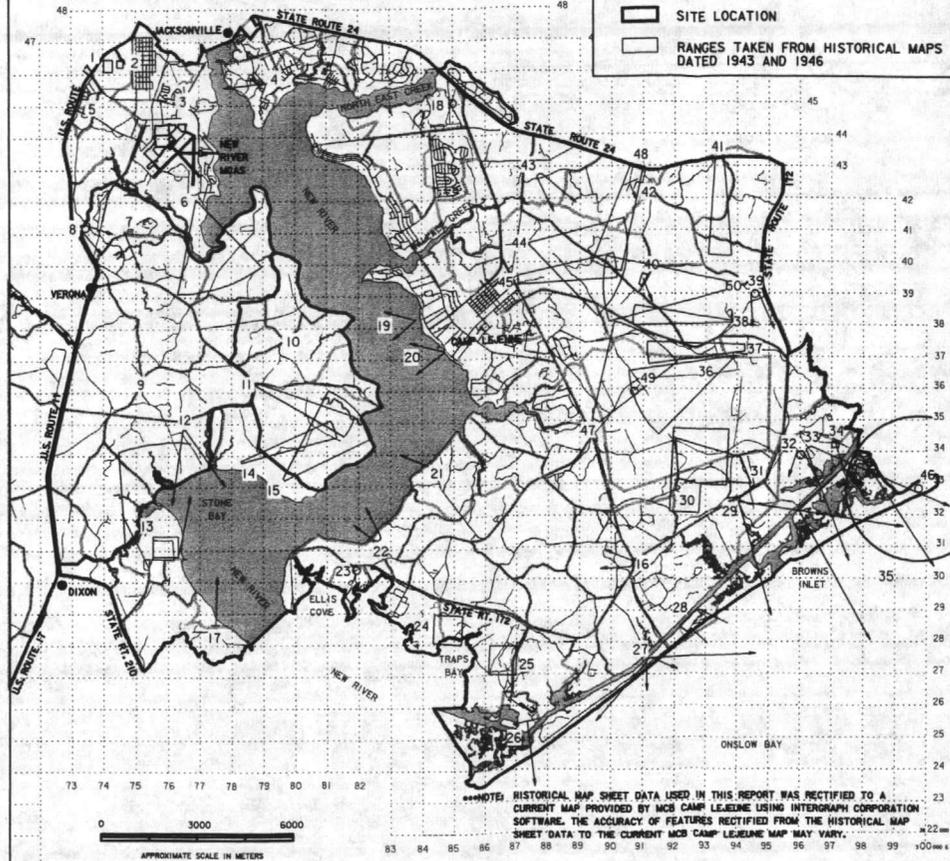


KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
1.	1000 INCH RANGE TENT CAMP AREA 1943
2.	MINIATURE ANTI-AIRCRAFT TENT CAMP AREA 1943
3.	LIVE AMBITION INDICATORATION COURSE (1945)
4.	1000 INCH RANGE, MONFORD POINT (1946)
5.	MINIATURE ANTI-TANK RANGE (TANK BATTALION TENT CAMP-1943)
6.	INFANTRY WEAPONS DEMOLITION COURSE (1946)
7.	MORTAR RANGE M-1 (1946)
8.	ARTILLERY FIRING POINT #7 (1946)
9.	IMPACT AREA (1945)
10.	IMPACT AREA K (1946)
11.	MUSKETRY RANGE E (1945)
12.	MORTAR RANGE L-1 (1946)
13.	RIFLE RANGE (1943)
14.	MACHINE GUN RANGE D (1943)
15.	MUSKETRY RANGE D (1943)
16.	ARTILLERY FIRING POINT #4 (1943)
17.	MORTAR RANGE L-2 (1946)
18.	LIVE HAND GRENADE COURSE (1945)
19.	DEMOLITION FIRING POINT #1 (1945)
20.	FIRING POINT #5 (1945)
21.	ARTILLERY FIRING POINT #10 (1945)
22.	ARTILLERY FIRING POINT #6 (1946)
23.	1000 INCH RANGE CAMPBHAMIAN BASE AREA-1946
24.	ENGINEER FIRING AREA (1947)
25.	ENGINEER FIRING AREA (1947)
26.	ARTILLERY FIRING POINT #2 (1945)
27.	ARTILLERY FIRING POINT #5 (1946)
28.	ENGINEER BEACH DEMOLITIONS AND TRAINING AREA (1946)
29.	ANTI-TANK RANGE (1943)
30.	ENGINEER FIRING RANGE (1947)
31.	ENGINEER FIRING RANGE (1946)
32.	ARTILLERY FIRING POINT #3 (1946)
33.	DIRECT FIRE ARTILLERY RANGE (1947)
34.	BEACH ARTILLERY FIRING POINT (1945)
35.	STRAFING TARGET #2 (1946)
36.	MUSKETRY RANGE C-1 (1943)
37.	MUSKETRY RANGE C (1943)
38.	MACHINE GUN RANGE C (1943)
39.	ARTILLERY FIRING POINT #2 (1946)
40.	ARTILLERY FIRING POINT #14 (1945)
41.	MACHINE GUN RANGE A (1943)
42.	ARTILLERY FIRING POINT #8 (1945)
43.	ARTILLERY FIRING POINT #1 (1946)
44.	MUSKETRY RANGE B (1943)
45.	MACHINE GUN RANGE B (1943)
46.	ROCKET RANGE #1 (1946)
47.	MINIATURE ANTI-AIRCRAFT RANGE (AREA D AND F 1943)
48.	MUSKETRY RANGE A (1943)
49.	OC BATTALION FIELD FIRING RANGE (1943)
50.	MUSKETRY RANGE C-2

LEGEND

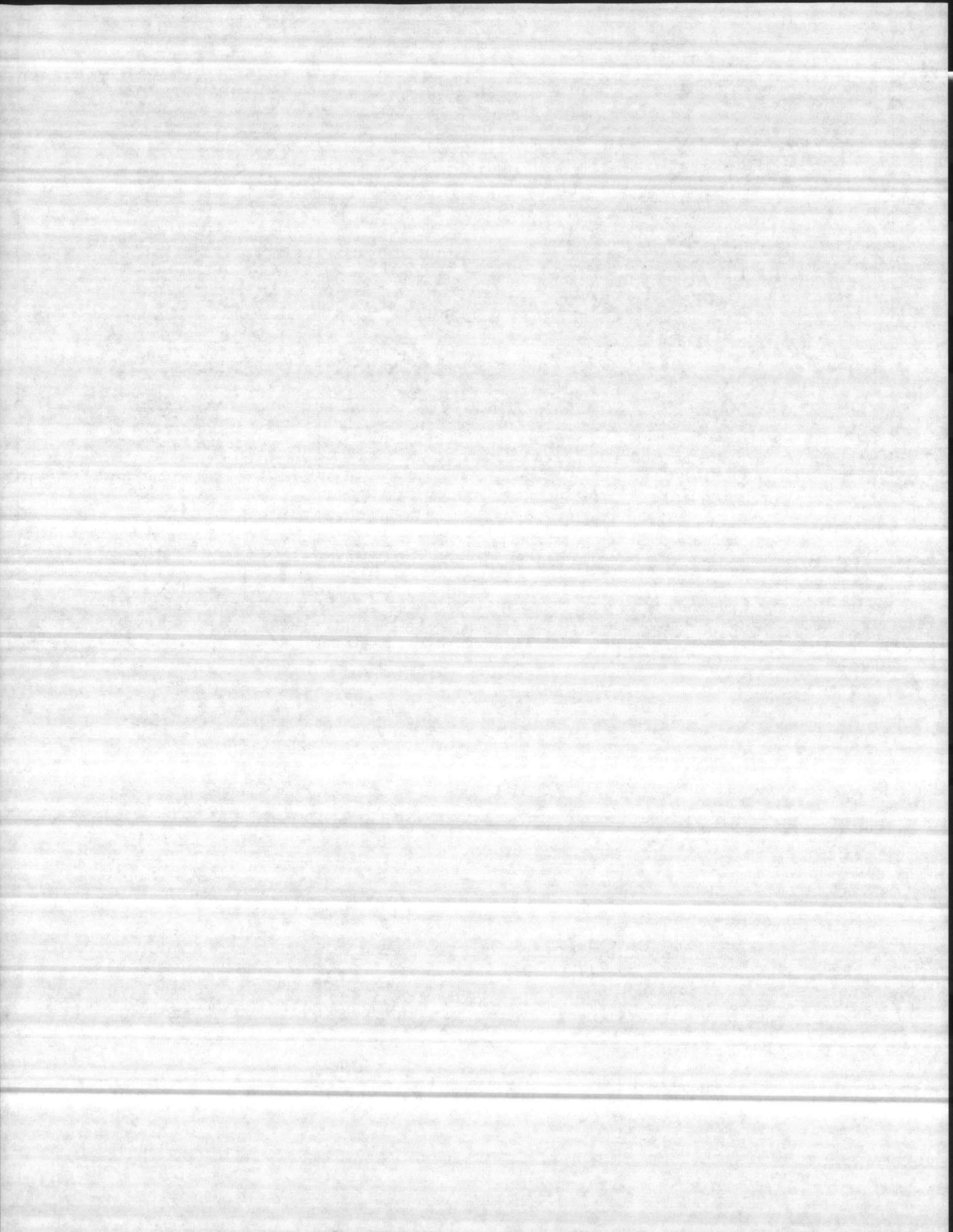
-  SITE LOCATION
-  RANGES TAKEN FROM HISTORICAL MAPS DATED 1943 AND 1946



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
 (MCB) CAMP LEJEUNE
 JACKSONVILLE, NORTH CAROLINA
 ONSLOW COUNTY
 RANGE OVERLAY MAP-1946

PLATE DATED: 1997 1999	DATE OF BASE MAP: 1999	PLATE NO. 4
25-FEB-2000 1342	\\pubweb\proj\mcb\jeune\40203\JOB.DWG	



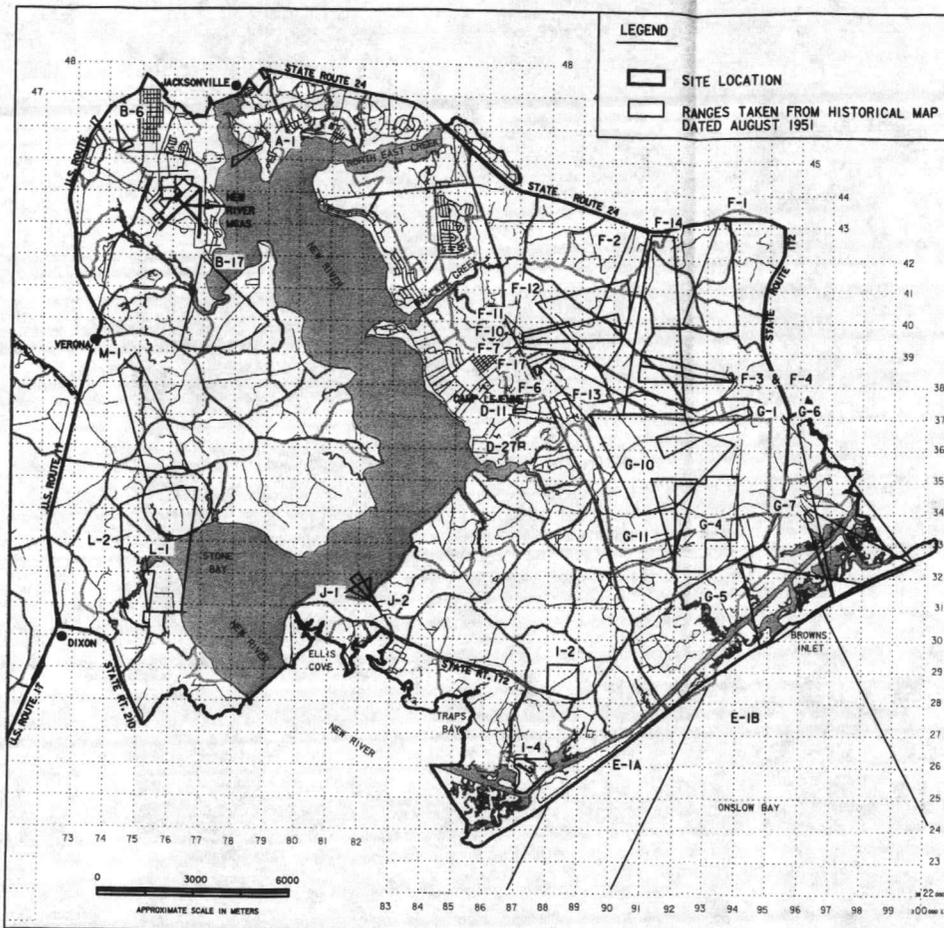
LEGEND

- SITE LOCATION
- RANGES TAKEN FROM HISTORICAL MAP DATED AUGUST 1951

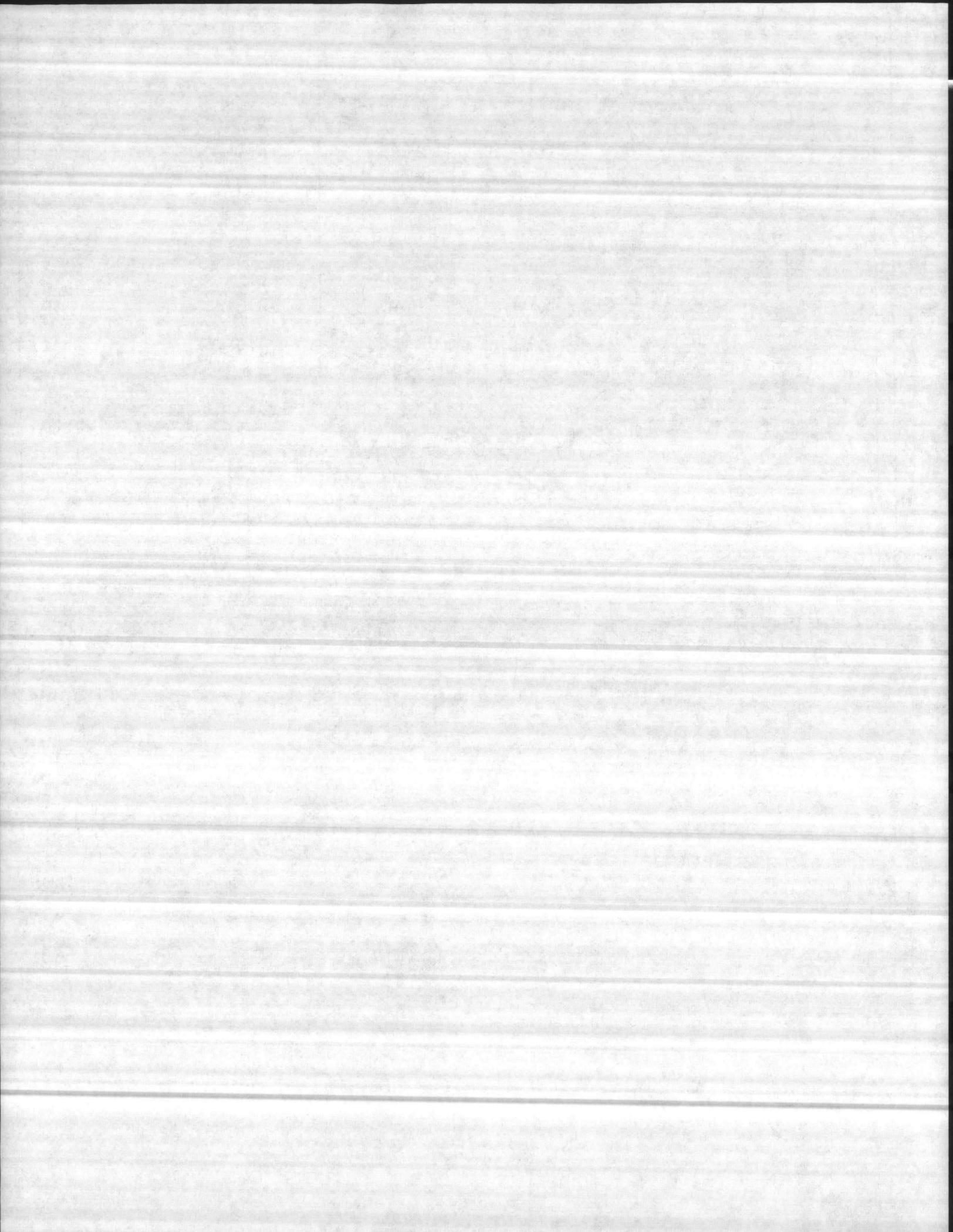
KEY TO FEATURES

FEATURE NUMBER	FEATURE DESCRIPTION
A-1	50 FOOT .22 CALIBER RANGE
B-6	50 FOOT SMALL ARMS RANGE
B-17	INFANTRY WEAPONS DEMONSTRATION COURSE
D-11	FLAME THROWER RANGE
D-27	FORTIFIED BEACH ASSAULT AREA
E-1A	AAA AND ANTI-BOAT FIRING RANGE
E-1B	AAA AND ANTI-BOAT FIRING RANGE
F-1	FIELD FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIELD FIRING RANGE
F-6	LIVE HAND GRENADE RANGE
F-7	.22 CALIBER RANGE, 1000 INCH
F-10	MACHINE GUN QUALIFICATION RANGE
F-11	PISTOL RANGE
F-12	FIELD FIRING RANGE
F-13	FIELD FIRING RANGE
F-14	FIELD FIRING RANGE
G-1	COMBAT RANGE
G-4	DEMOLITIONS ASSAULT COURSE
G-5	ANTI-TANK RANGE
G-6	ARTILLERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-10	IMPACT AREA
G-11	BATTLE INDOCTRINATION COURSE
I-2	DEMOLITION RANGE
I-4	DEMOLITION AREA
J-1	1000 INCH RANGE
J-2	1000 INCH RANGE
L-1	PISTOL RANGE
L-2	RIFLE RANGE
M-1	RANGE M-1

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT
MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLow COUNTY RANGE OVERLAY MAP-AUGUST 1951	
FIG. DATE SEPT. 1988	DATE OF BASE MAP 1988
28-FEB-2002 1603	rlc@northcarolina.gov
PLATE NO. 5	



KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
A-1	50 FOOT .22 CALIBER RANGE
B-3	GAS CHAMBER
B-6	1000 INCH RANGE
D-3	PRACTICE HAND GRENADE COURSE
D-6	PRACTICE HAND GRENADE COURSE
D-7	GAS CHAMBER
D-27	FORTIFIED BEACH ASSAULT AREA
E-1A	AAA AND ANTI-BOAT RANGE
E-1B	AAA AND ANTI-BOAT RANGE
F-1	FIELD FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-6	LIVE HAND GRENADE RANGE
F-7	1000 INCH RANGE
F-9	TRIANGULATION RANGE
F-10	MACHINE GUN QUALIFICATION RANGE
F-10A	1000 INCH RANGE
F-11	PISTOL RANGE
F-12	FIELD FIRING RANGE
F-13	FIELD FIRING RANGE
F-14	FIELD FIRING RANGE
G-1	COMBAT RANGE
G-4	ASSAULT DEMO. AREA
G-5	ANTI-TANK RANGE
G-5A	MECHANIZED ANTI-TANK RANGE
G-6	ARTILLERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-10	IMPACT AREA
G-11	BATTLE INDOCTRINATION RANGE
G-13	MINIATURE ANTI-AIRCRAFT RANGE
G-14	TANK MACHINE GUN RANGE
I-4	DEMOLITION AREA
J-1	1000 INCH RANGE
J-2	1000 INCH RANGE
K-2	IMPACT AREA
L-2	IMPACT AREA
L-3	MACHINE GUN TRANSITION RANGE
L-4	1000 INCH RANGE
M-4	FIELD FIRING RANGE
M-5	ARTILLERY RANGE
M-5A	ARTILLERY RANGE
N-1	DANGER AREA
PR	PISTOL RANGE
RR	RIFLE RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



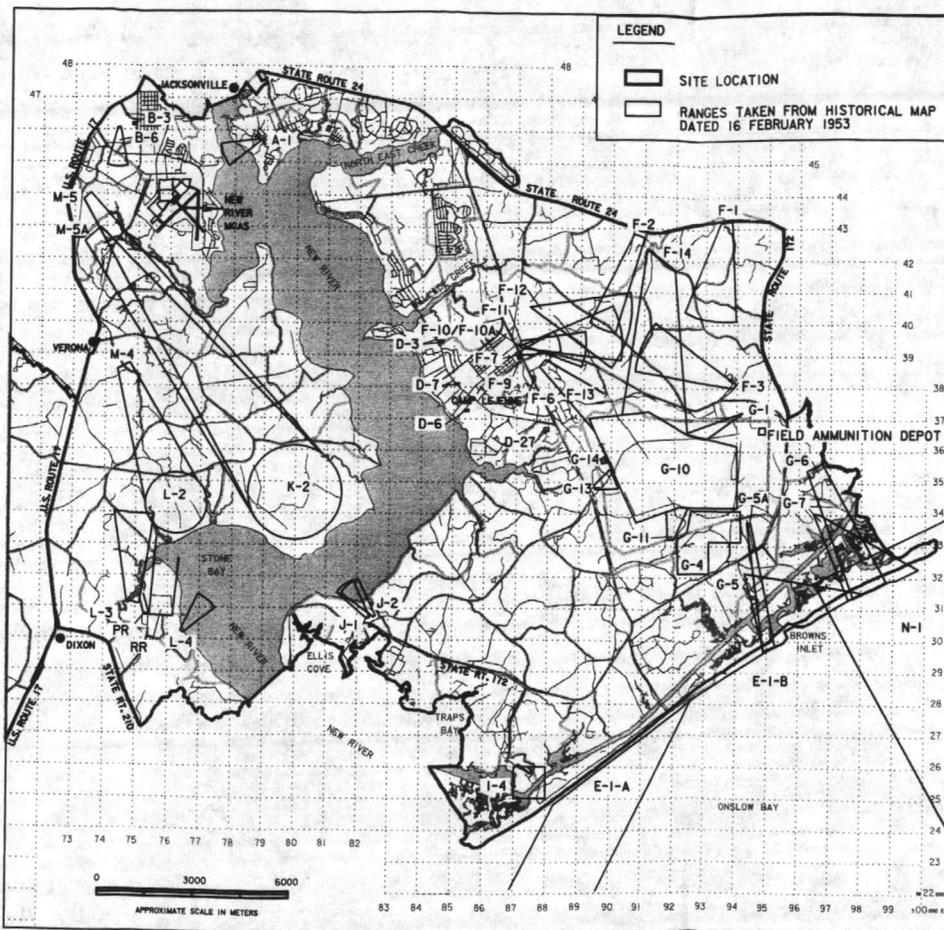
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

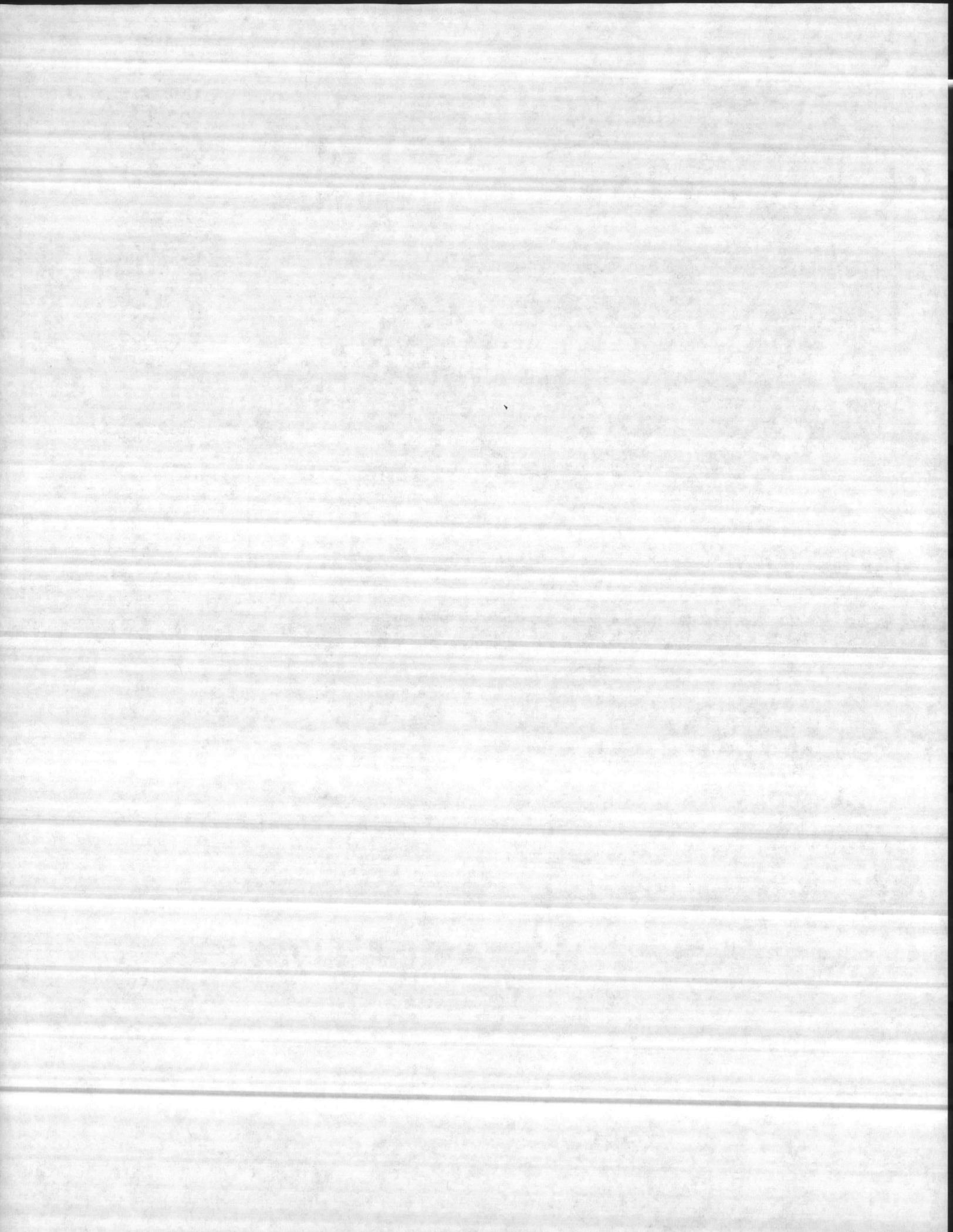
MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY
RANGE OVERLAY MAP-FEBRUARY 1953

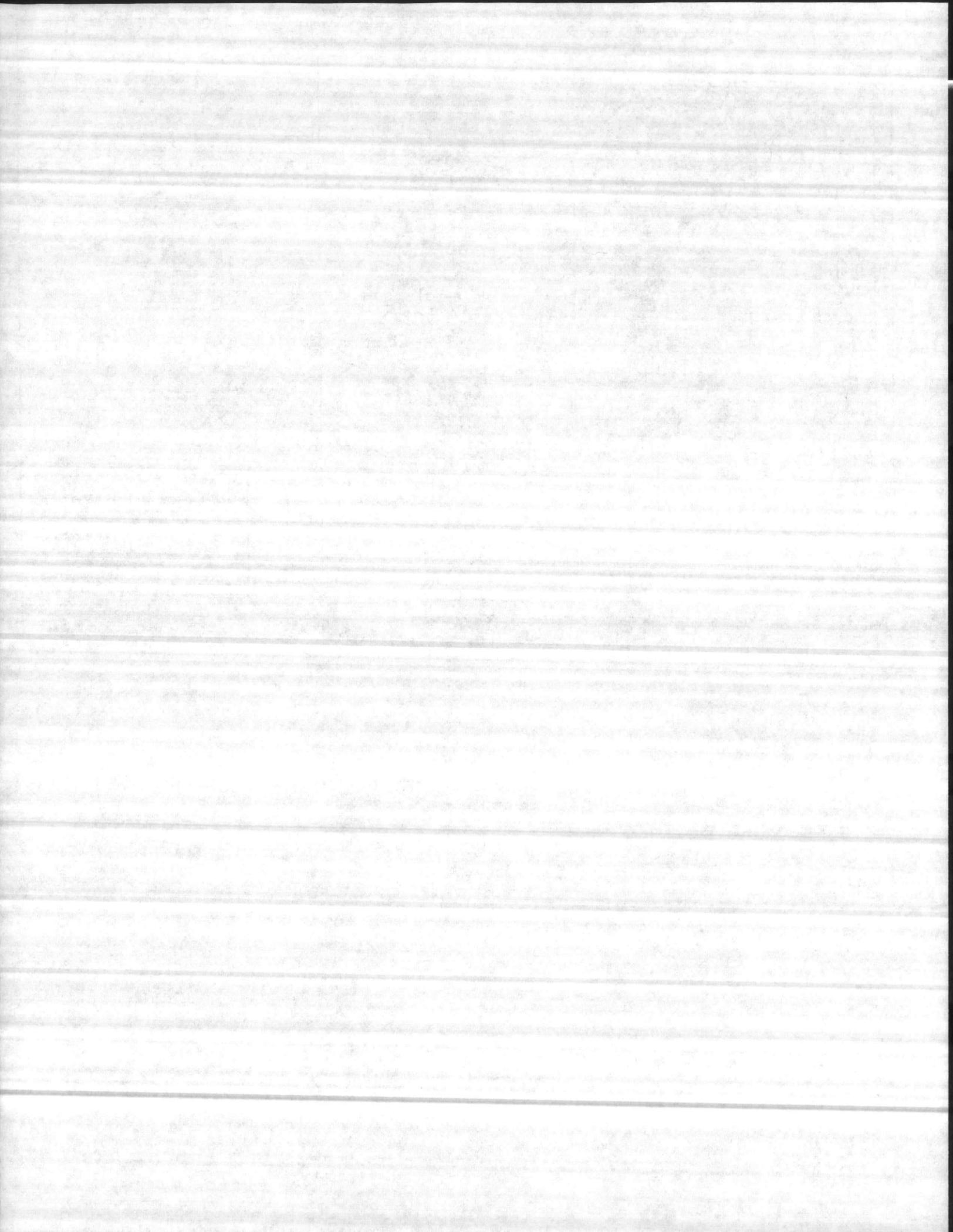
PROJ. DATE: SEPT. 1953	DATE OF THIS MAP: 1953	PLATE NO. 6
23-FEB-2000 1040	Intergraph Corporation	

LEGEND

- SITE LOCATION
- RANGES TAKEN FROM HISTORICAL MAP DATED 16 FEBRUARY 1953







LEGEND

- SITE LOCATION
- RANGES TAKEN FROM HISTORICAL MAP DATED 30 JUNE 1954

KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
A-1	50 FOOT .22 CALIBER RANGE
B-3	GAS CHAMBER
B-5	PRACTICE HAND GRENADE COURSE
B-6	50 FOOT SMALL ARMS RANGE
D-3	PRACTICE HAND GRENADE COURSE
D-6	PRACTICE HAND GRENADE COURSE
D-7	GAS CHAMBER
D-9	SKEET RANGE
D-27	FORTIFIED BEACH ASSAULT AREA
E-1A	AAA AND ANTI-BOAT FIRING RANGE
E-1B	AAA AND ANTI-BOAT FIRING RANGE
F-1	FIELD FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIELD FIRING RANGE
F-6	LIVE HAND GRENADE RANGE
F-7	.22 CALIBER RANGE 1000 INCH
F-9	TRIANGULATION RANGE
F-10	1000 INCH RANGE
F-10A	MACHINE GUN QUALIFICATION RANGE
F-11	PISTOL RANGE
F-12	FIELD FIRING RANGE
F-13	FIELD FIRING RANGE
F-14	FIELD FIRING RANGE
F-16	COMBAT VILLAGE
G-1	COMBAT RANGE
G-4	DEMOLITION ASSAULT COURSE
G-5	ANTI-TANK RANGE
G-5A	MECHANIZED ANTI-TANK RANGE
G-6	ARTILLERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-10	IMPACT AREA
G-11	BATTLE INDOCTRINATION RANGE
G-13	MINIATURE ANTI-AIRCRAFT RANGE
G-14	TANK MACHINE GUN RANGE
I-4	DEMOLITION AREA
J-1	1000 INCH RANGE
J-2	1000 INCH RANGE
K-2	IMPACT AREA
L-2	IMPACT AREA
L-3	MACHINE GUN TRANSITION RANGE
L-4	1000 INCH RANGE
M-4	FIELD FIRING RANGE
N-1	IMPACT AREA

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



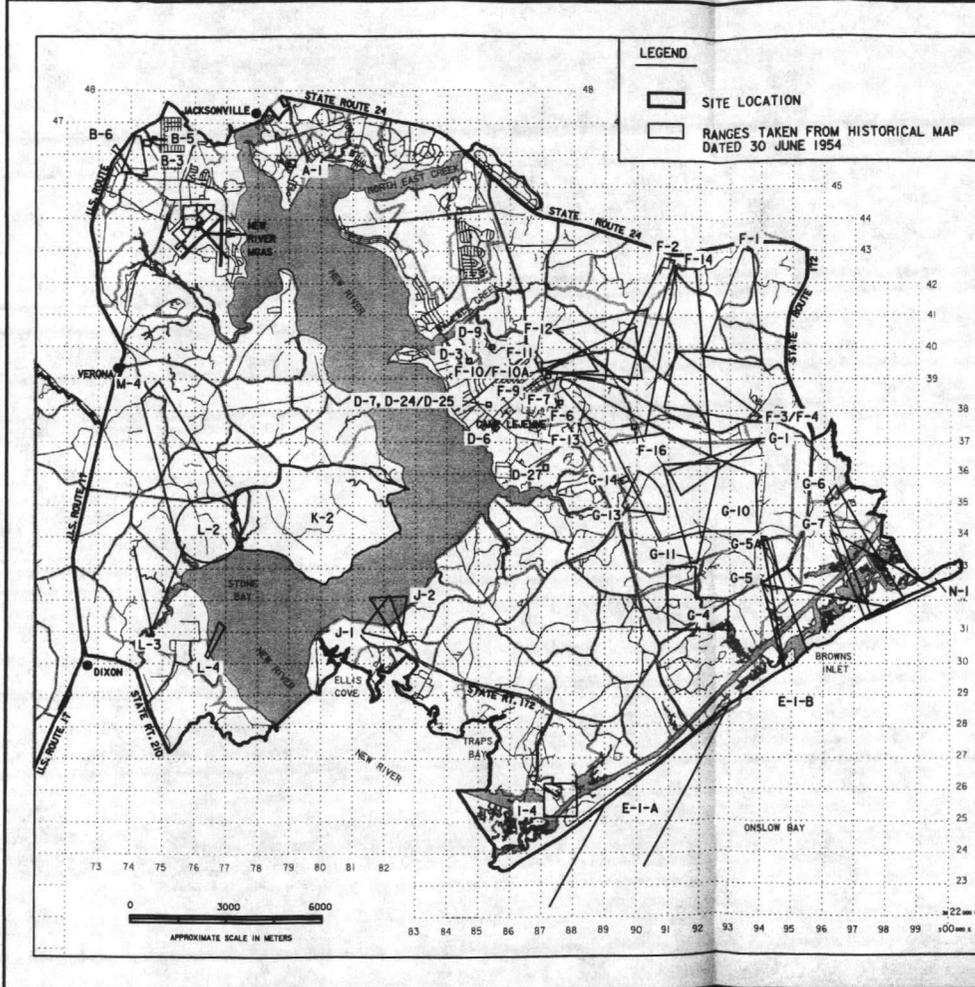
**U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT**

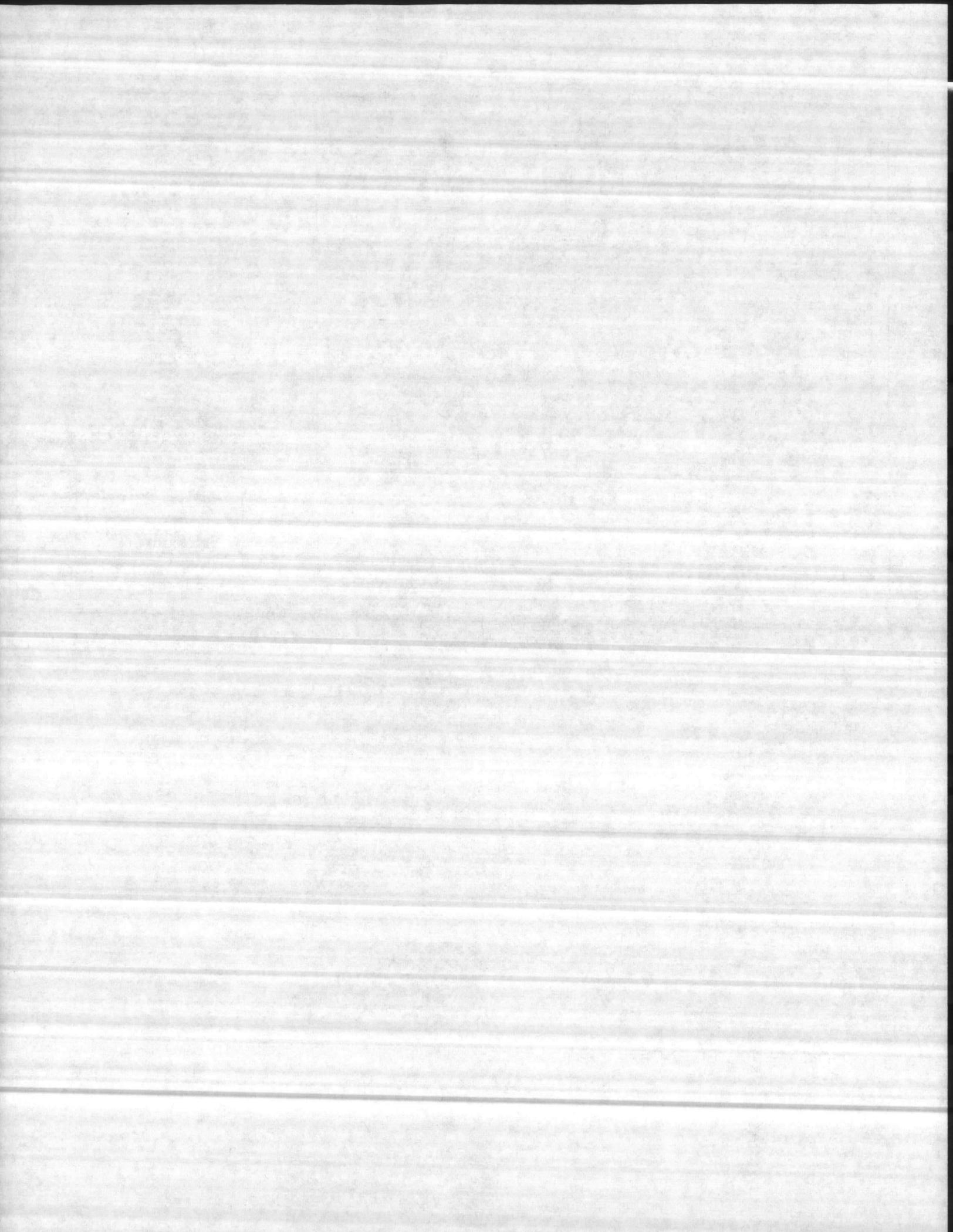
**MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY
RANGE OVERLAY MAP-JUNE 1954**

FORM DATE: 08/57 1950
20-FEB-2000 1800

DATE OF DATA MAP: 1954
www.usmc.mil/june1954.pdf

PLATE NO. **8**





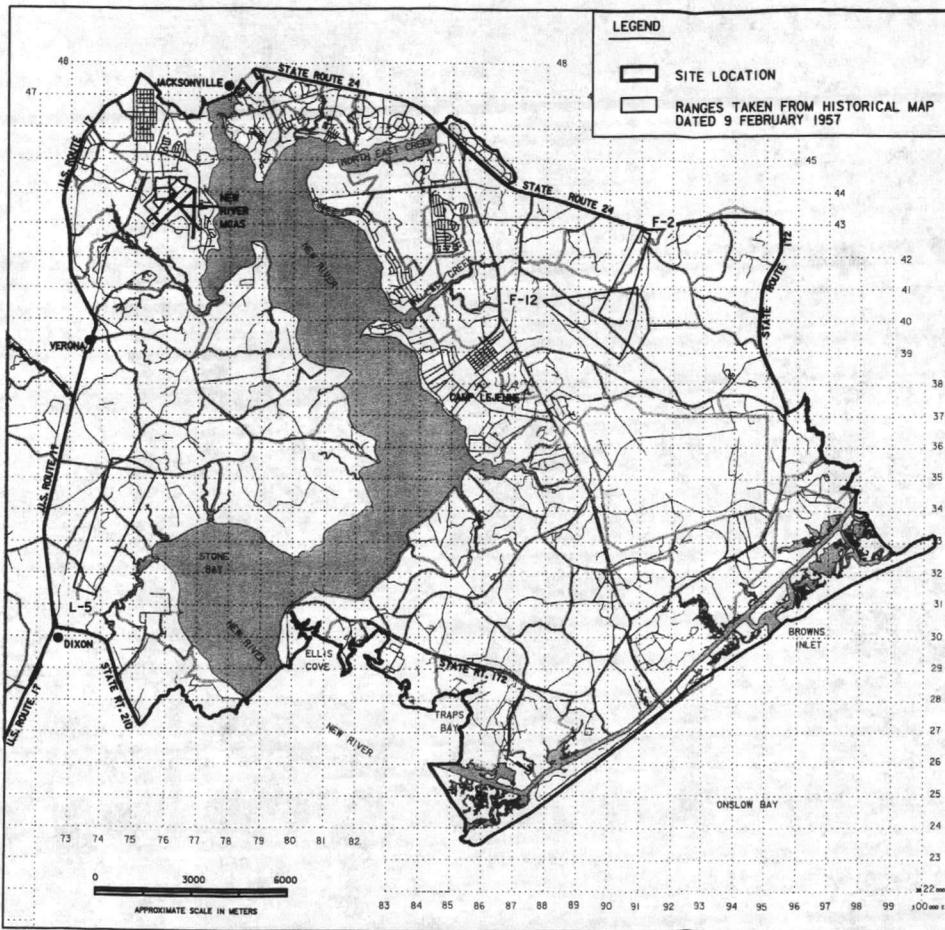
LEGEND

-  SITE LOCATION
-  RANGES TAKEN FROM HISTORICAL MAP DATED 9 FEBRUARY 1957

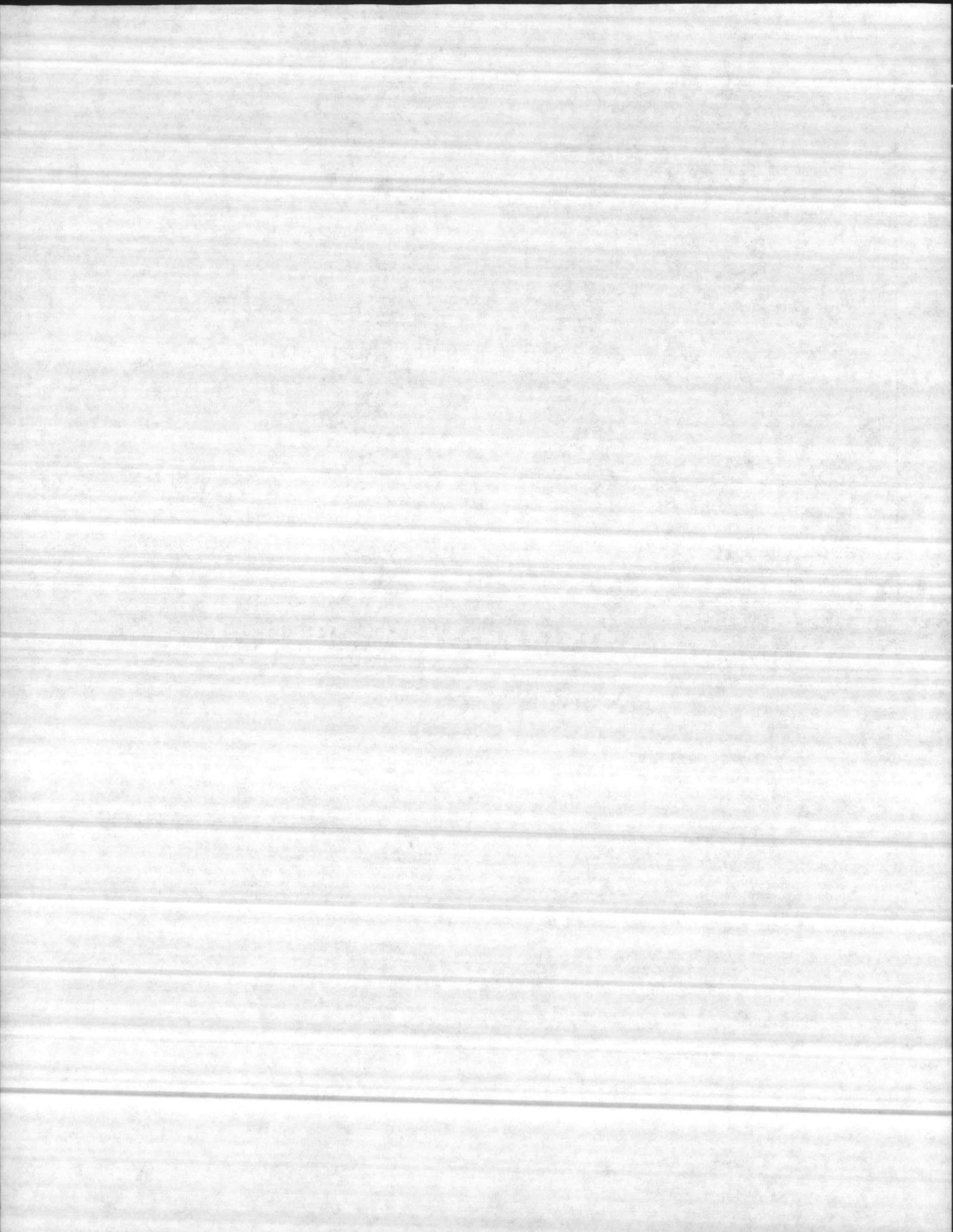
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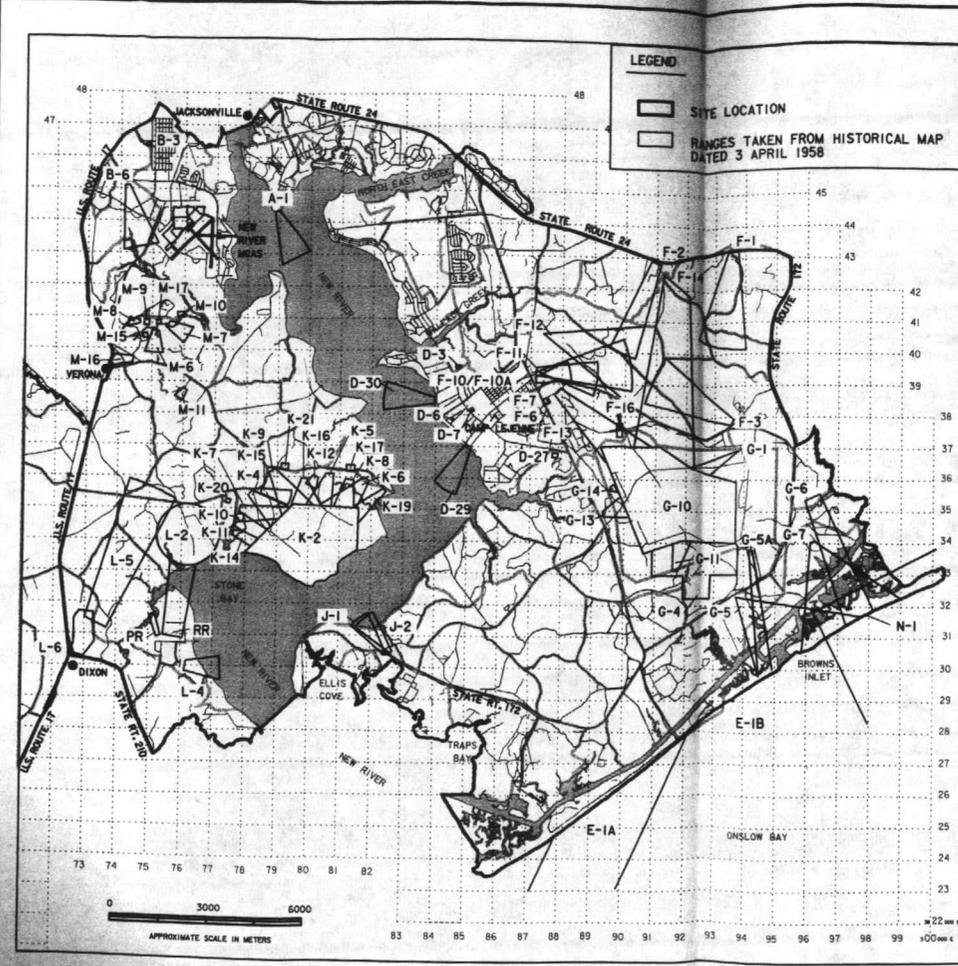
FEATURE NUMBER	FEATURE DESCRIPTION
F-2	FIELD FIRING RANGE
F-12	FIELD FIRING RANGE
L-5	MULTI-PURPOSE MACHINE GUN RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLow COUNTY RANGE OVERLAY MAP-FEBRUARY 1957	
Proj. DATE: SEPT. 1959	DATE OF BASE MAP: 1959	PLATE NO. 9
29-FEB-2000 10:03	\\mscwr-t40001\jls\jls\mcb\fd\71.dwg	





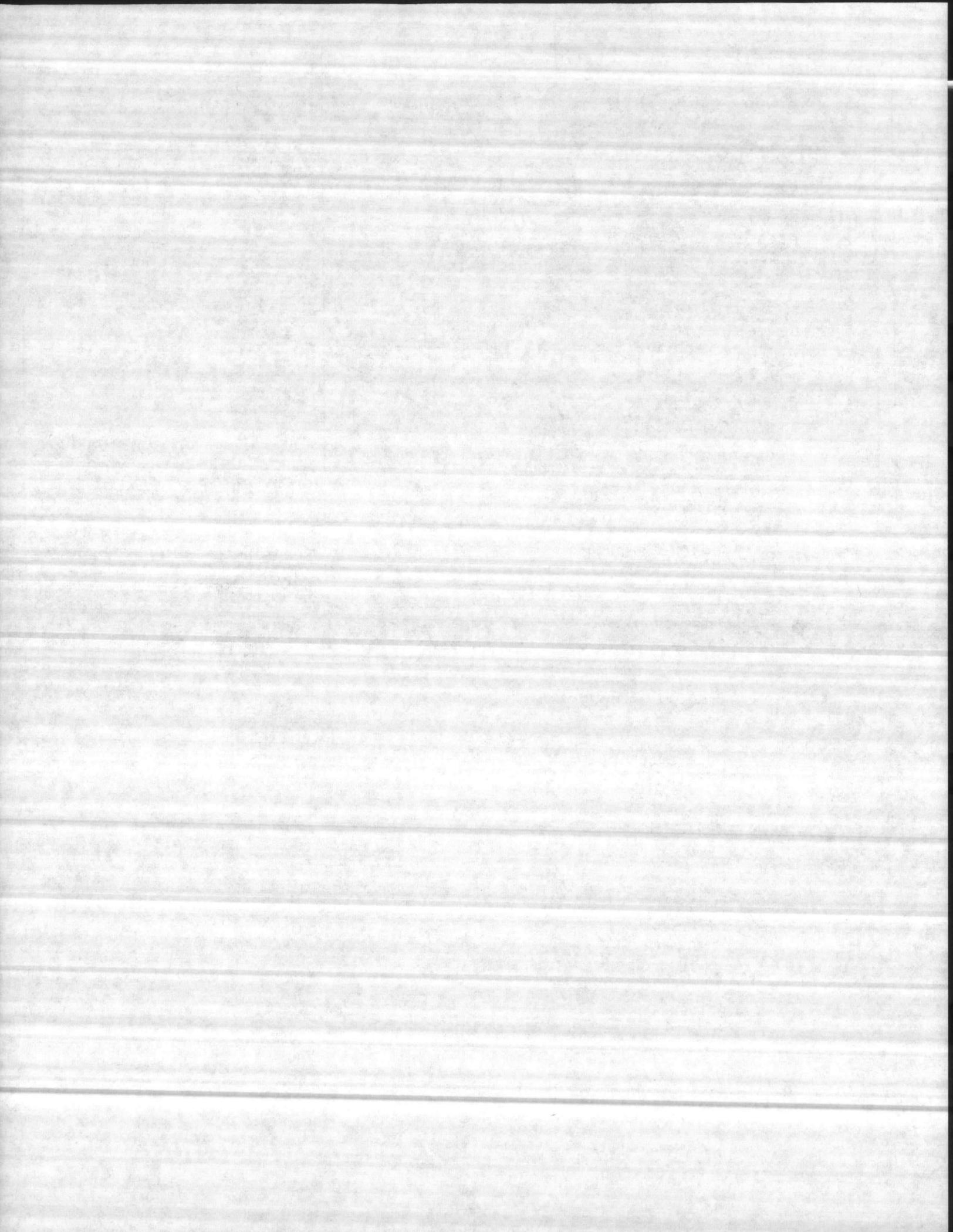
KEY TO FEATURES:		KEY TO FEATURES:	
FEATURE NUMBER	FEATURE DESCRIPTION	FEATURE NUMBER	FEATURE DESCRIPTION
A-1	50 FOOT .22 CALIBER RANGE	K-15	MACHINE GUN FIELD FIRING RANGE 500' AND 1000'
B-3	GAS CHAMBER	K-16	INFANTRY WEAPONS DEMONSTRATION RANGE
B-6	50 FOOT SMALL ARMS RANGE	K-17	PRACTICE HAND GRENADE COURSE
D-3	GAS CHAMBER	K-19	300 YARD BATTLESIGHT RANGE
D-6	PRACTICE HAND GRENADE RANGE	K-20	HAND GRENADE RANGE
D-7	GAS CHAMBER	K-21	FLAME THROWER RANGE
D-27	FORTIFIED BEACH ASSAULT AREA	L-2	IMPACT AREA
D-29	50 FOOT SMALL BORE RANGE	L-4	1000 INCH RANGE
D-30	50 FOOT SMALL BORE RANGE	L-5	MULTI-PURPOSE MACHINE GUN RANGE
E-1A	AAA AND ANTI-BOTAT FIRING RANGE	L-6	MINE WARFARE AND DEMOLITION AREA
E-1B	AAA AND ANTI-BOTAT FIRING RANGE	M-6	INFILTRATION COURSE
F-1	FIELD FIRING RANGE	M-7	LANDSCAPE RANGE
F-2	FIELD FIRING RANGE	M-8	ASSAULT OF A FORTIFIED POSITION RANGE
F-3	FIELD FIRING RANGE	M-9	COMBAT VILLAGE AREA
F-4	LIVE HAND GRENADE RANGE	M-10	HAND GRENADE RANGE
F-7	.22 CALIBER RANGE, 1000 INCH	M-11	ASSAULT OF A FORTIFIED POSITION AREA
F-10	MACHINE GUN QUALIFICATION RANGE	M-15	MINE, BOOBYTRAP DISPLAY AREA
F-10A	1000 INCH RANGE	M-16	OUTDOOR CLASSROOM
F-11	PISTOL RANGE	M-17	PRACTICE HAND AND RIFLE GRENADE RANGE
F-12	FIELD FIRING RANGE	N-1	IMPACT AREA
F-13	FIELD FIRING RANGE	PR	PISTOL RANGE
F-14	FIELD FIRING RANGE	RR	RIFLE RANGE
F-16	COMBAT VILLAGE		
G-1	COMBAT RANGE		
G-4	DEMOLITION ASSAULT AREA		
G-5	ANTI-TANK RANGE		
G-5A	MECHANIZED ANTI-TANK RANGE		
G-6	ARTILLERY RANGE		
G-7	DIRECT FIRE ARTILLERY RANGE		
G-10	IMPACT AREA		
G-11	BATTLE INDOCTRINATION COURSE		
G-13	MINIATURE ANTI-AIRCRAFT RANGE		
G-14	TANK MACHINE GUN RANGE		
J-1	1000 INCH RANGE		
J-2	1000 INCH RANGE		
K-2	IMPACT AREA		
K-4	TRANSITION FIRING RANGE		
K-5	COMBAT FIRING RANGE		
K-6	TRANSITION RANGE		
K-7	COMBAT FIRING RANGE		
K-8	CLOSE COMBAT COURSE		
K-9	3.5 INCH ROCKET FIELD FIRING RANGE		
K-10	RIFLE GRENADE FIELD FIRING RANGE		
K-11	INFILTRATION COURSE		
K-14	CLOSE COMBAT COURSE		

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



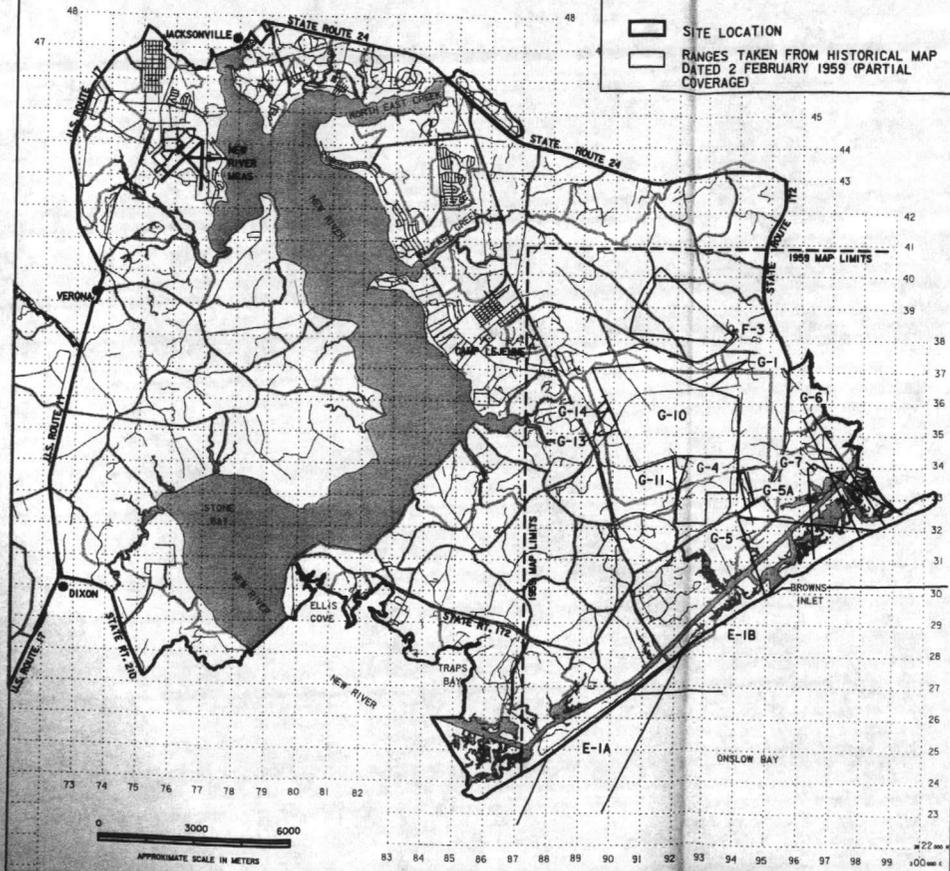
 U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY RANGE OVERLAY MAP-APRIL 1958	
<small>PLAT. DATE: SEPT. 1950</small> <small>25-102-2000 1000</small>	<small>DATE OF MAP: APR. 1958</small> <small>www.usmc.mil/lejeune/lejeune.asp</small>
PLATE NO. 10	





LEGEND

-  SITE LOCATION
-  RANGES TAKEN FROM HISTORICAL MAP DATED 2 FEBRUARY 1959 (PARTIAL COVERAGE)



KEY TO FEATURES:

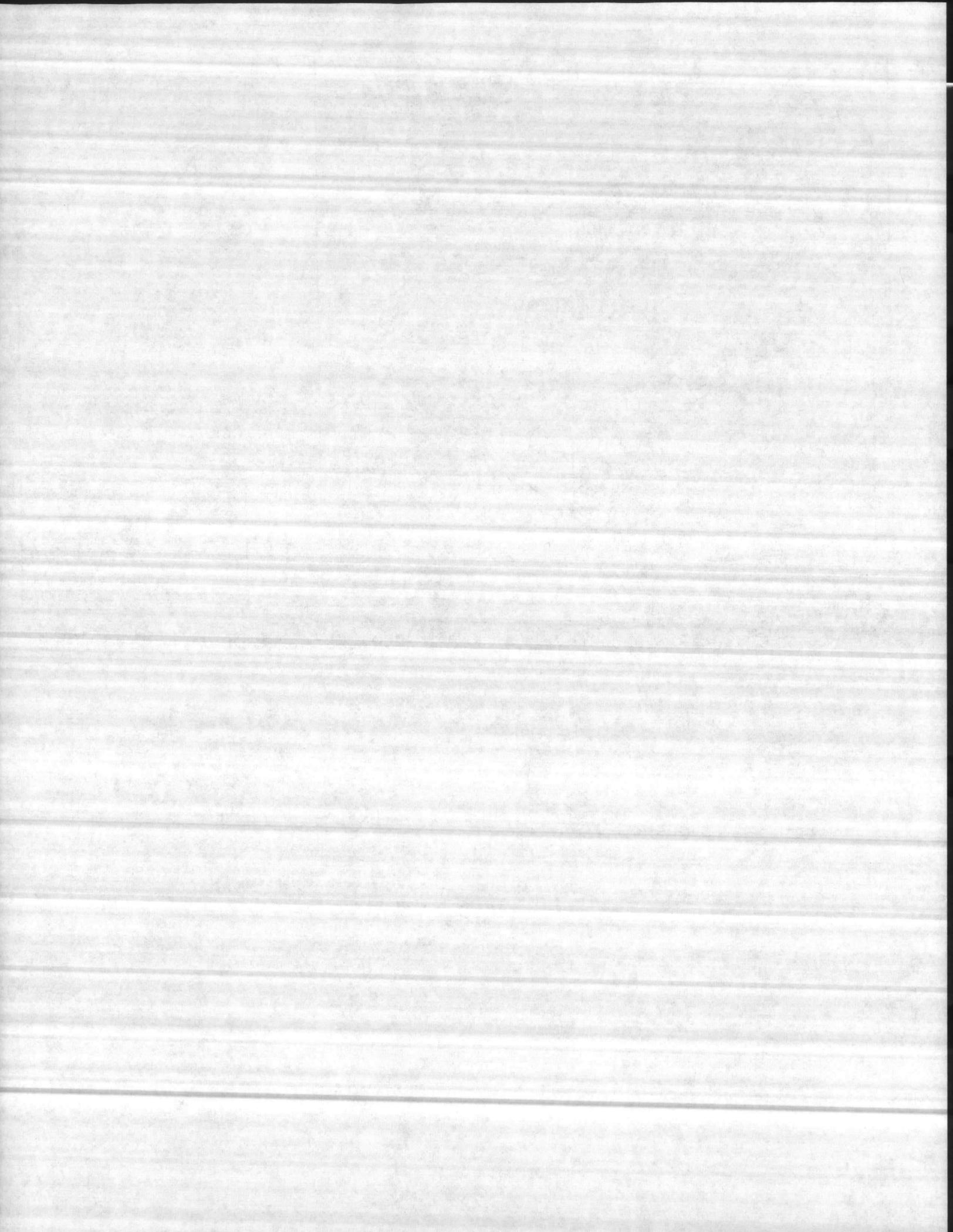
FEATURE NUMBER	FEATURE DESCRIPTION
E-1A	AAA AND ANTI-BOAT FIRING RANGE
E-1B	AAA AND ANTI-BOAT FIRING RANGE
F-3	FIELD FIRING RANGE
G-1	COMBAT RANGE
G-4	DEMOLITION ASSAULT AREA
G-5	MECHANIZED ANTI-TANK RANGE
G-5A	MECHANIZED ANTI-TANK RANGE
G-6	ARTILLERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-10	IMPACT AREA
G-11	BATTLE INDOCTRINATION COURSE
G-13	MINIATURE ANTI-AIRCRAFT RANGE
G-14	TANK MACHINE GUN RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



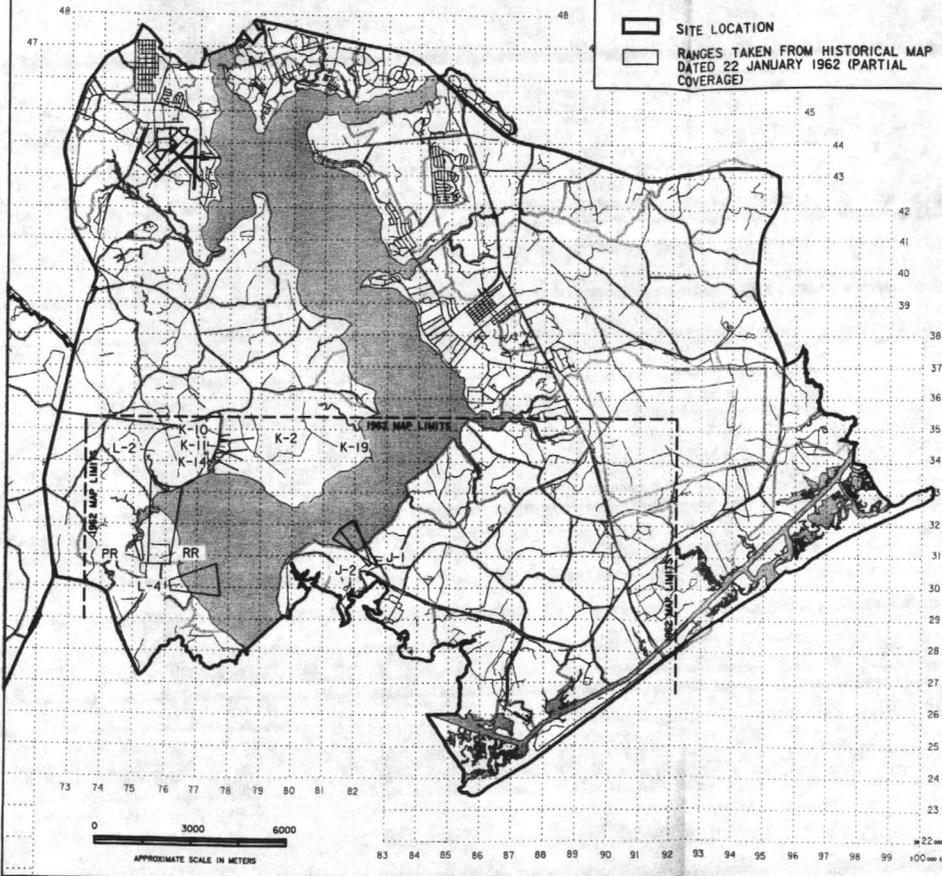
	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLow COUNTY RANGE OVERLAY MAP-FEBRUARY 1959	
FIG. DATE SEPT. 1969	DATE OF BASE MAP 1959	PLATE NO. 11

0 3000 6000
APPROXIMATE SCALE IN METERS



LEGEND

-  SITE LOCATION
-  RANGES TAKEN FROM HISTORICAL MAP DATED 22 JANUARY 1962 (PARTIAL COVERAGE)

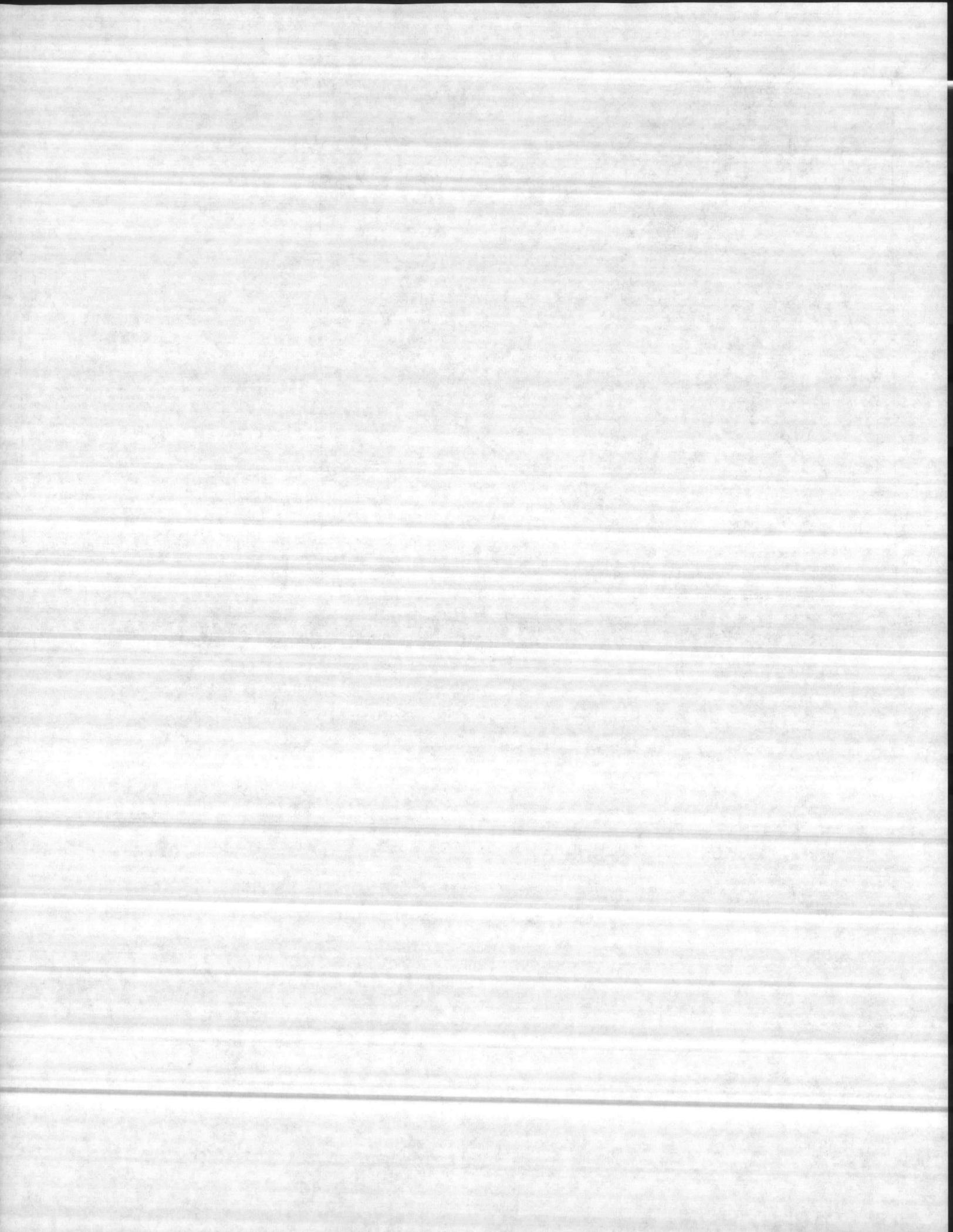


KEY TO FEATURES

FEATURE NUMBER	FEATURE DESCRIPTION
J-1	1000 INCH RANGE
J-2	1000 INCH RANGE
K-2	IMPACT AREA
K-10	RIFLE GRENADE FIELD FIRING RANGE
K-11	INFILTRATION COURSE
K-14	CLOSE COMBAT COURSE
K-19	300 YARD BATTLESTIGHT RANGE
L-2	IMPACT AREA
L-4	1000 INCH RANGE
PR	PISTOL RANGE
RR	RIFLE RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY RANGE OVERLAY MAP-JANUARY 1962	
FORM DATE: SEPT. 1960 29-FIC-2000 (MCS)	DATE OF BASE MAP: 1960 revised 11/10/61 by [unreadable]	PLATE NO. 12



KEY TO FEATURES

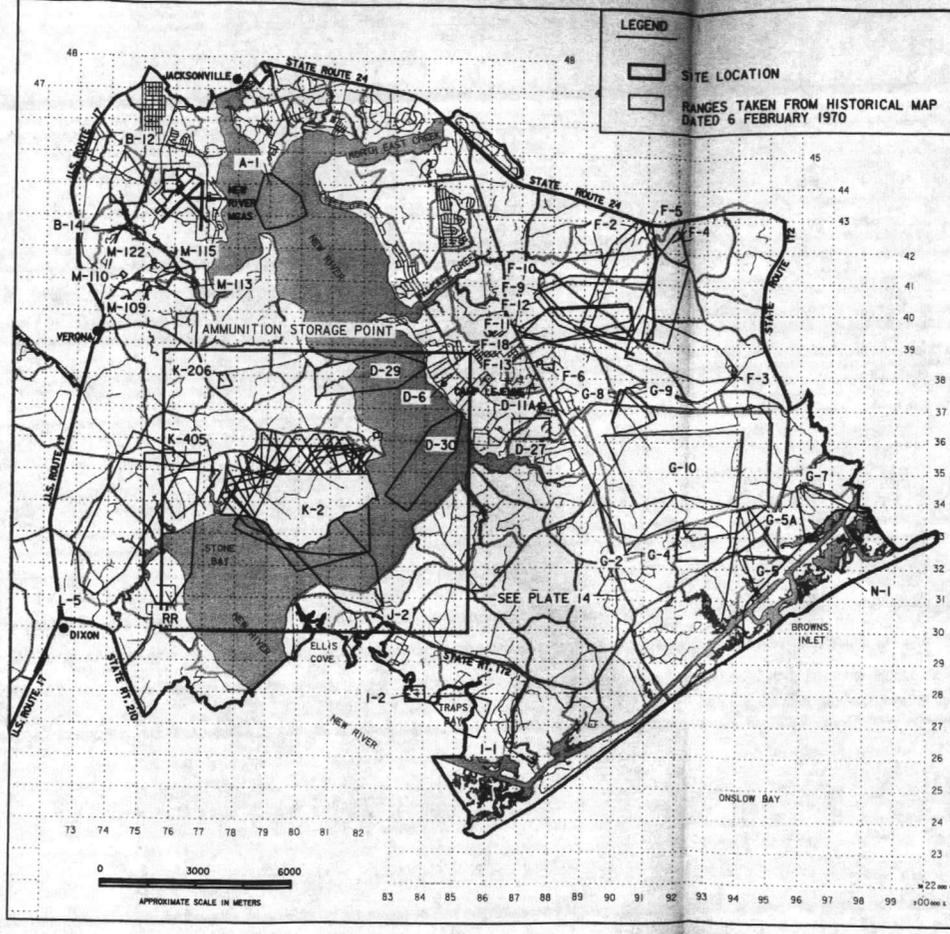
FEATURE NUMBER	FEATURE DESCRIPTION
A-1	PISTOL AND SHOTGUN RANGE
B-12	BAFFLED PISTOL RANGE
B-14	ASSAULT OF A FORTIFIED POSITION RANGE
D-6	50 FOOT INDOOR SMALL BORE RIFLE AND PISTOL RANGE
D-11A	FLAME TANK AND FLAME THROWER RANGE
D-27	FORTIFIED BEACH ASSAULT AREA
D-29	50 FOOT SMALL BORE RANGE
D-30	50 FOOT SMALL BORE RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIRE CONTROL RANGE
F-5	SOLID LIVE FIRE AND HANDLER COURSE
F-6	LIVE HAND GRENADE RANGE
F-9	BATTLE SIGHT RANGE
F-10	MACHINE GUN QUALIFICATION RANGE
F-11	PISTOL RANGE
F-12	FIELD FIRING RANGE
F-13	FLAME THROWER RANGE
F-18	MACHINE GUN FIELD FIRING RANGE
G-2	INFILTRATION RANGE
G-4	DEMOLITION ASSAULT COURSE
G-5	ANTI-TANK RANGE
G-5A	MECHANIZED ANTI-TANK RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-8	GRENADE LAUNCHER RANGE
G-9	LIGHT ANTI-ARMOR WEAPONS AND SHOULDER LAUNCHED MULTI-PURPOSE ASSAULT WEAPONS RANGE
G-10	IMPACT AREA
I-1	50 FOOT SMALL BORE RANGE
I-2	DEMOLITION AREA
J-2	1000 INCH RANGE
K-2	IMPACT AREA - SEE NOTE BELOW
K-206	UNKNOWN RANGE
K-405	COMBAT PISTOL MARKSMANSHIP RANGE
L-5	MULTI-PURPOSE MACHINE GUN RANGE
M-109	INFILTRATION RANGE
M-110	DEMOLITIONS AND BOOBY TRAP RANGE
M-113	HAND GRENADE RANGE (PRACTICE) DEMONSTRATOR
M-115	HAND GRENADE RANGE
M-122	FLAME THROWER RANGE
N-1	IMPACT AREA
RR	RIFLE RANGE

***NOTE: SEE PLATE 14 FOR FEATURE NUMBERS AND FEATURE DESCRIPTIONS ON K RANGES.

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

LEGEND

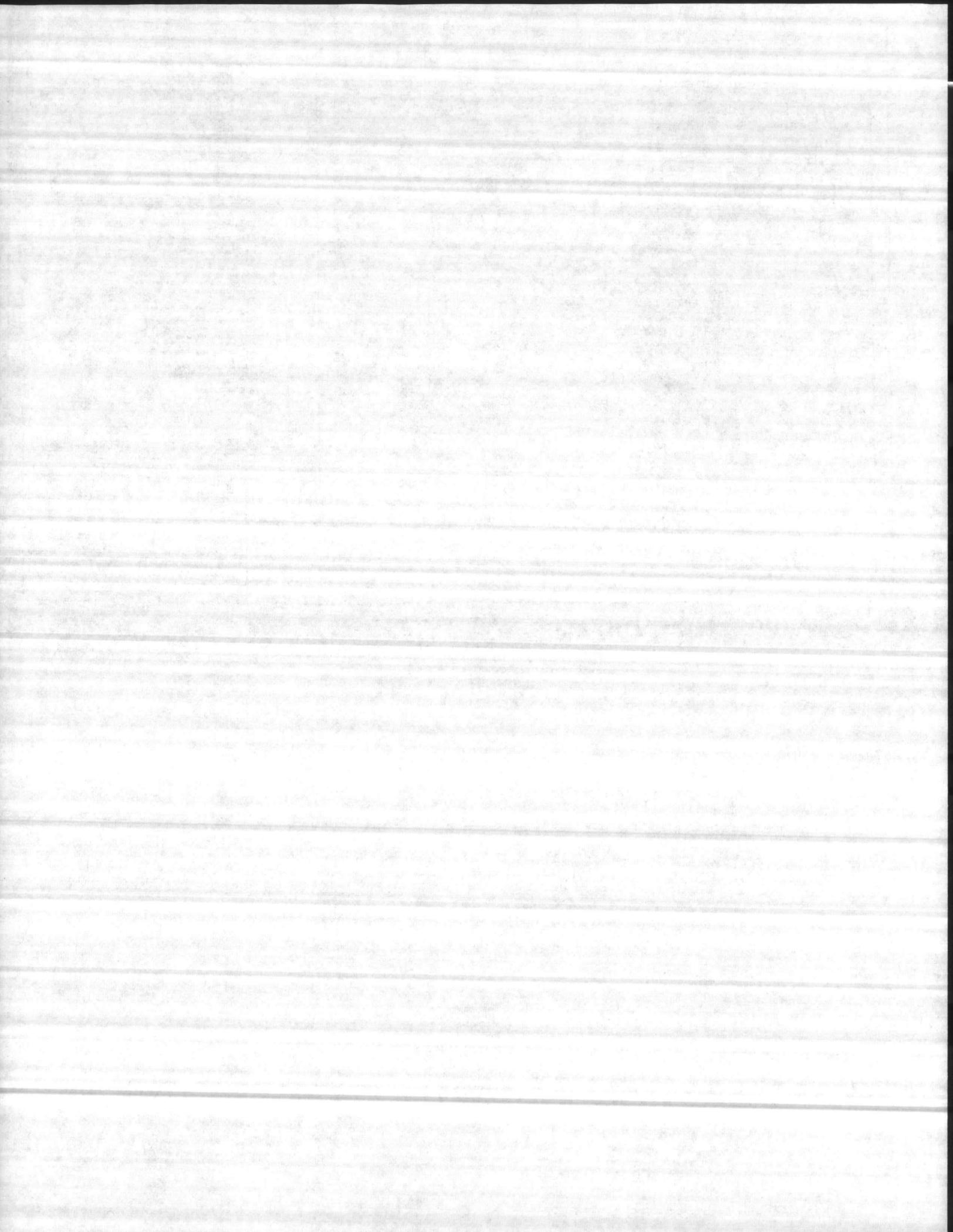
 SITE LOCATION
 RANGES TAKEN FROM HISTORICAL MAP DATED 6 FEBRUARY 1970

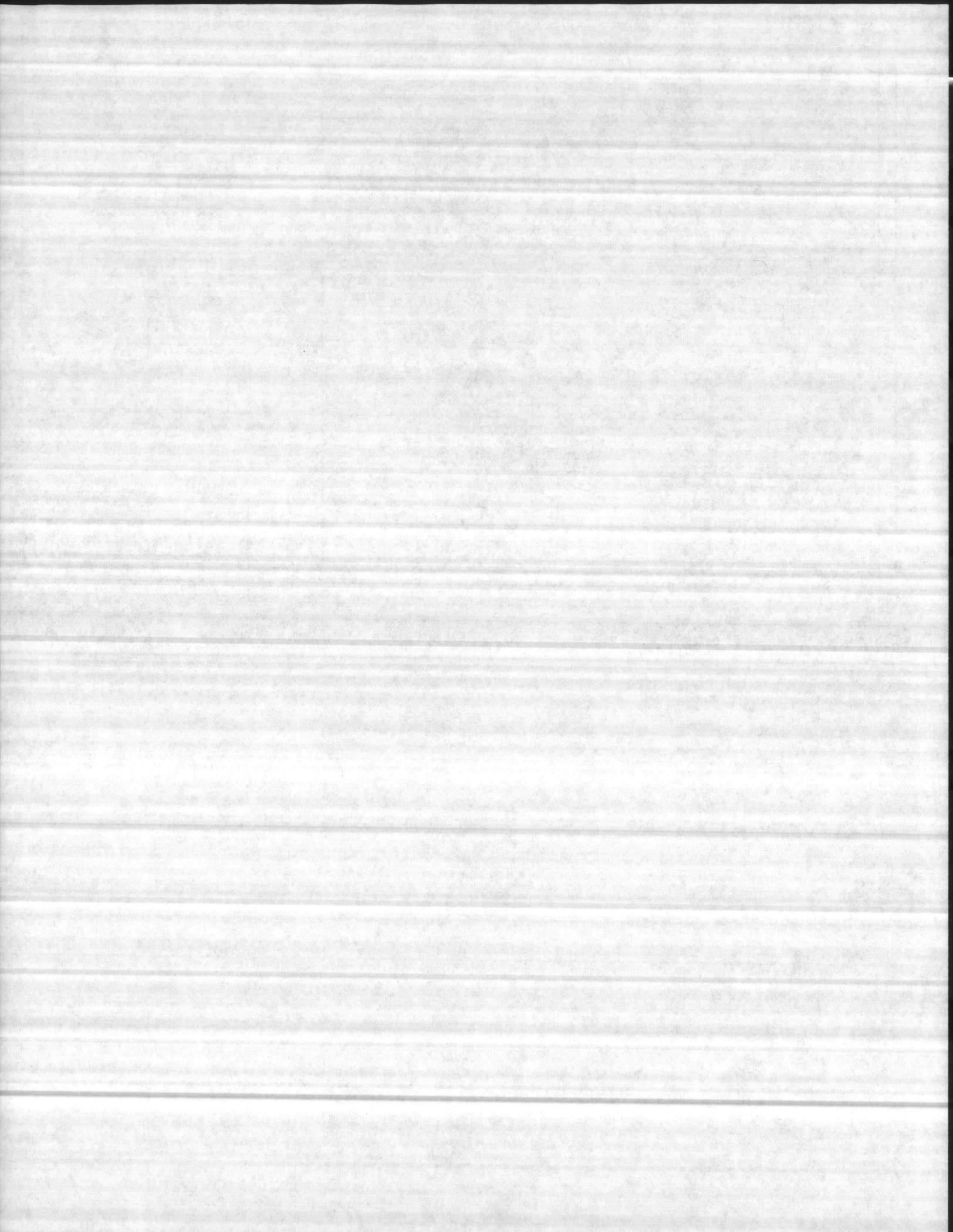



U.S. ARMY CORPS OF ENGINEERS
 ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY
RANGE OVERLAY MAP-FEBRUARY 1970

FROM DATE: SEP. 1969 DATE OF BASE REAR: PLATE NO. **13**
 BY:

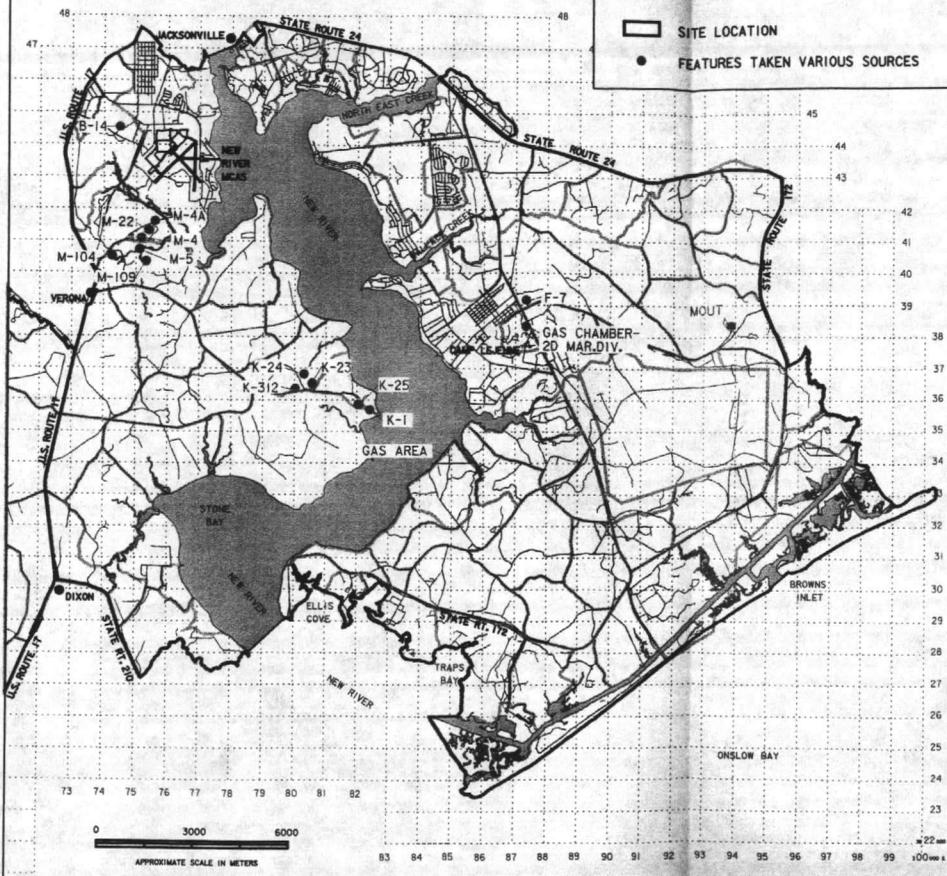




LEGEND

□ SITE LOCATION

● FEATURES TAKEN VARIOUS SOURCES



KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
K-24	DEMOLITION RANGE (1960)
K-25	ASSAULT OF A FORTIFIED POSITION RANGE (1960)
M-4	RIFLE GRENADE RANGE (1960)
M-5	PRACTICE RIFLE GRENADE RANGE (1960)
M-22	PRACTICE HAND GRENADE COURSE (1960)
K-23	GAS CHAMBER (1960)
M-4A	PRACTICE HAND GRENADE COURSE (1960)
K-1	81MM MORTAR FIELD FIRING RANGE (1960)
F-7	FLAME THROWER RANGE (1960)
M-104	DEMOLITIONS RANGE (1970)
M-100	INFILTRATION RANGE (1970)
MOUT	MOUT ASSAULT COURSE (1994)
B-14	ABC WARFARE AREA (1960)
GC	GAS CHAMBER (2D MAR. DIV.) (1970)
K-312	GAS CHAMBER (1970)
GAS AREA	GAS TRAINING AREA (1945)

***NOTE: THESE LOCATIONS ARE APPROXIMATE. NO PRECISE LOCATIONS WERE FOUND IN THE DOCUMENTATION.

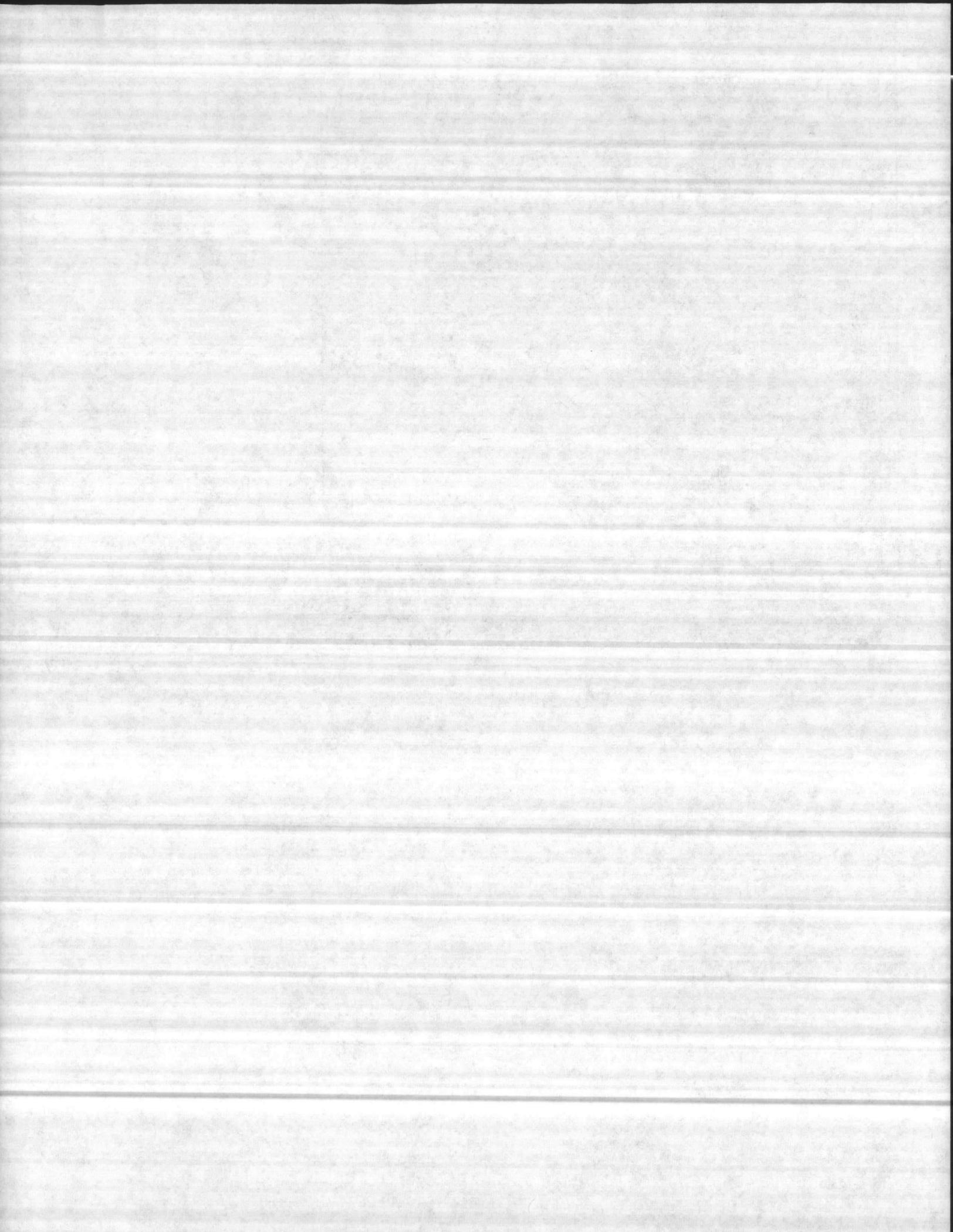
***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLow COUNTY
MISCELLANEOUS RANGE FEATURES

PREP. DATE: SEPT. 1989 DATE OF BASE MAP: 1989 PLATE NO. 15
20-750-000 15A 20-750-000 15A



LEGEND

□ SITE LOCATION

□ RANGES TAKEN FROM HISTORICAL MAP DATED 25 SEPTEMBER 1976

KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
A-1	PISTOL AND SHOTGUN RANGE
B-12	BAFFLED PISTOL RANGE
B-14	ASSAULT OF A FORTIFIED POSITION RANGE
D-9	SHEET RANGE
D-11A	FLAME TANK AND FLAME THROWER RANGE
D-27	FORTIFIED BEACH ASSAULT AREA
D-29	50 FOOT SMALL BORE RANGE
D-30	50 FOOT SMALL BORE RANGE
E-1	AIR DEFENSE FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIRE CONTROL RANGE
F-5	SQUAD LIVE FIRE AND MAMELIVER COURSE
F-6	LIVE HAND GRENADE RANGE
F-9	BATTLE SIGHT RANGE
F-10	MACHINE GUN QUALIFICATION RANGE
F-11	PISTOL RANGE
F-12	FIELD FIRING RANGE
F-13	FLAME THROWER RANGE
F-18	MACHINE GUN FIELD FIRING RANGE
G-2	INFILTRATION RANGE
G-4	DEMOLITION ASSAULT COURSE
G-5	ANTI-TANK RANGE
G-5A	MECHANIZED ANTI-TANK RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-8	GRENADE LAUNCHER RANGE
G-9	LIGHT ANTI-ARMOR WEAPONS AND SHOULDER LAUNCHED MULTI-PURPOSE ASSAULT WEAPONS RANGE
G-10	IMPACT AREA
I-1	50 FOOT SMALL BORE RANGE
I-2	DEMOLITION AREA
J-2	1000 INCH RANGE
K-2	IMPACT AREA - SEE NOTE BELOW
K-405	COMBAT PISTOL MARKSMANSHIP RANGE
L-5	MULTI-PURPOSE MACHINE GUN RANGE
	HAND GRENADE RANGE (PRACTICE)
	DEMONSTRATOR
M-115	HAND GRENADE RANGE
M-122	FLAME THROWER RANGE
N-1/BT-3	IMPACT AREA
RR	RIFLE RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

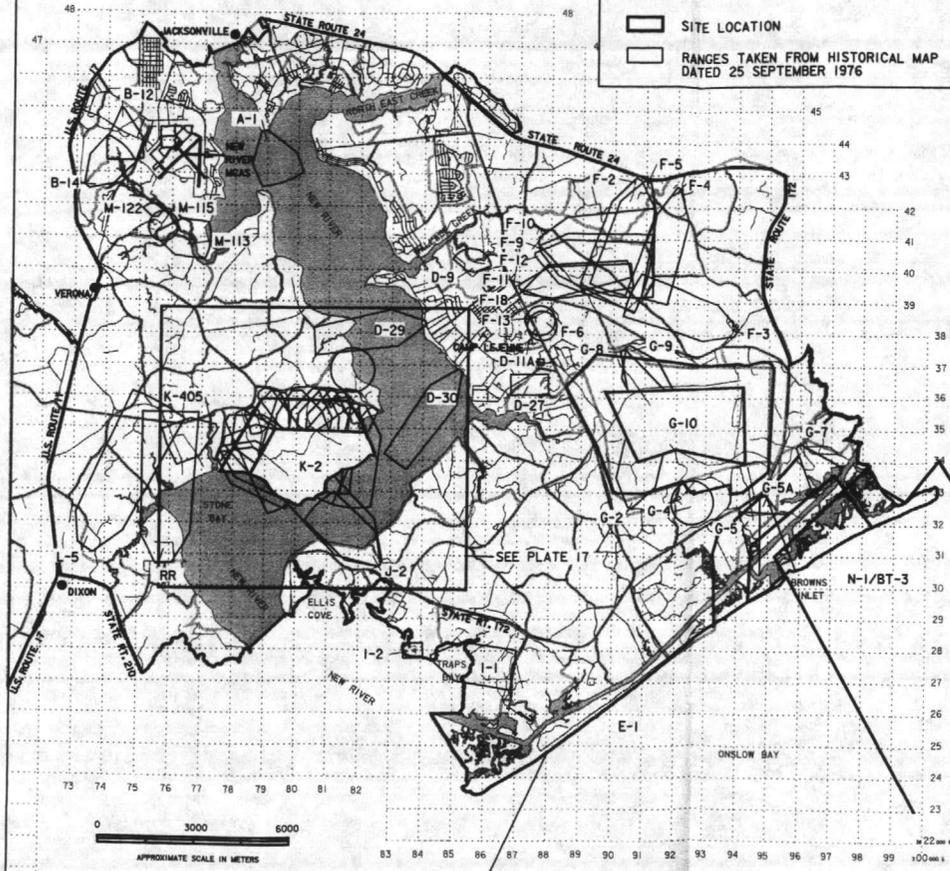
***NOTE: SEE PLATE 17 FOR FEATURE NUMBERS AND FEATURE DESCRIPTIONS ON K RANGES.

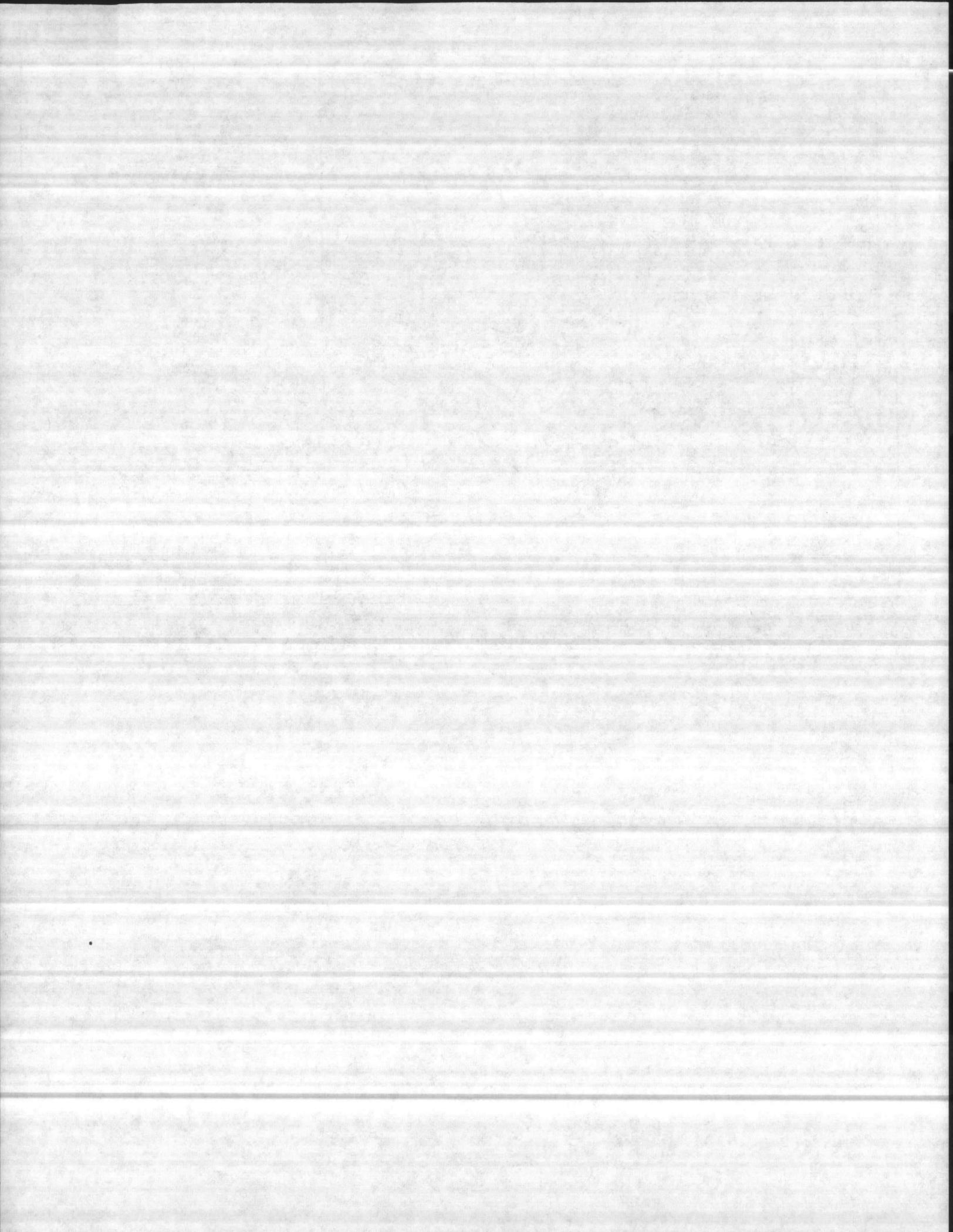


U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLOW COUNTY
RANGE OVERLAY MAP-SEPTEMBER 1976

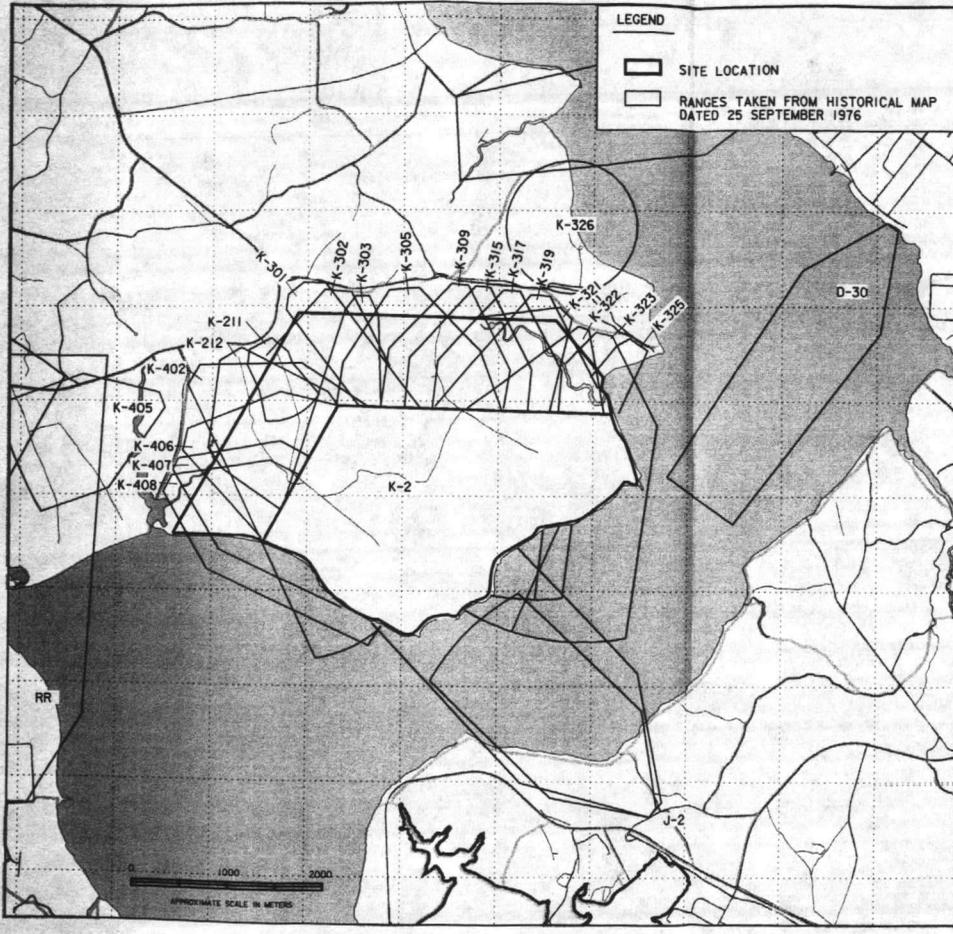
PLATE NO. 16





LEGEND

-  SITE LOCATION
-  RANGES TAKEN FROM HISTORICAL MAP DATED 25 SEPTEMBER 1976



KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
K-2	IMPACT AREA
K-211	M203 AND MK 19 GRENADE LAUNCHER RANGE
K-212	INFILTRATION AND INDIVIDUAL MOVEMENT RANGE
K-301	LIGHT ANTIARMOR WEAPONS AND SHOULDER-LAUNCHED MULTIPURPOSE ASSAULT WEAPON RANGE
K-302	FIELD FIRING AND BATTLESIGHT RANGE
K-303	BASIC TECHNIQUES OF FIRE AND MORTAR FIELD FIRING RANGE
K-305	INFANTRY WEAPONS DEMONSTRATION RANGE
K-309	MACHINE GUN AND LIGHT ANTIARMOR RANGE
K-315	NIGHT AND COMBAT FIELD FIRING RANGE
K-317	CLOSE COMBAT RANGE
K-319	FIELD FIRING RANGE
K-321	TRANSITION RANGE
K-322	MOVING REALISTIC TARGET RANGE
K-323	GRENADE LAUNCHER RANGE
K-325	MTZ LIGHT ANTIARMOR WEAPON AND M203 GRENADE LAUNCHER RANGE
K-326	EGD- 2 EXPLOSIVE ORDNANCE DISPOSAL RANGE
K-402	FIRE AND MOVEMENT RANGE
K-405	COMBAT PISTOL MARKSMANSHIP RANGE
K-406	MACHINE GUN RANGE
K-407	INDIVIDUAL QUICK REACTION RANGE
K-408	URBAN OBSTACLE COURSE

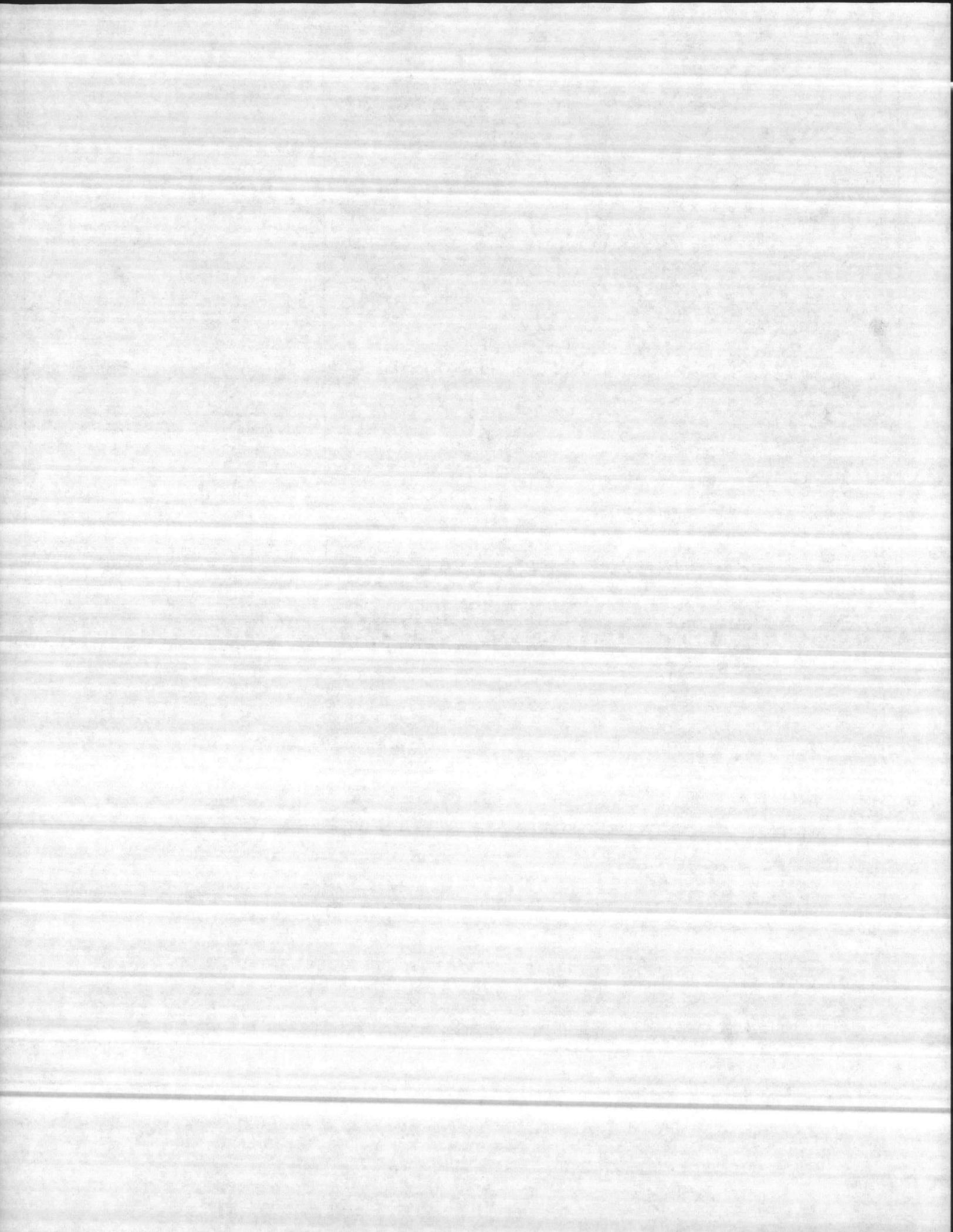
***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATIO SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

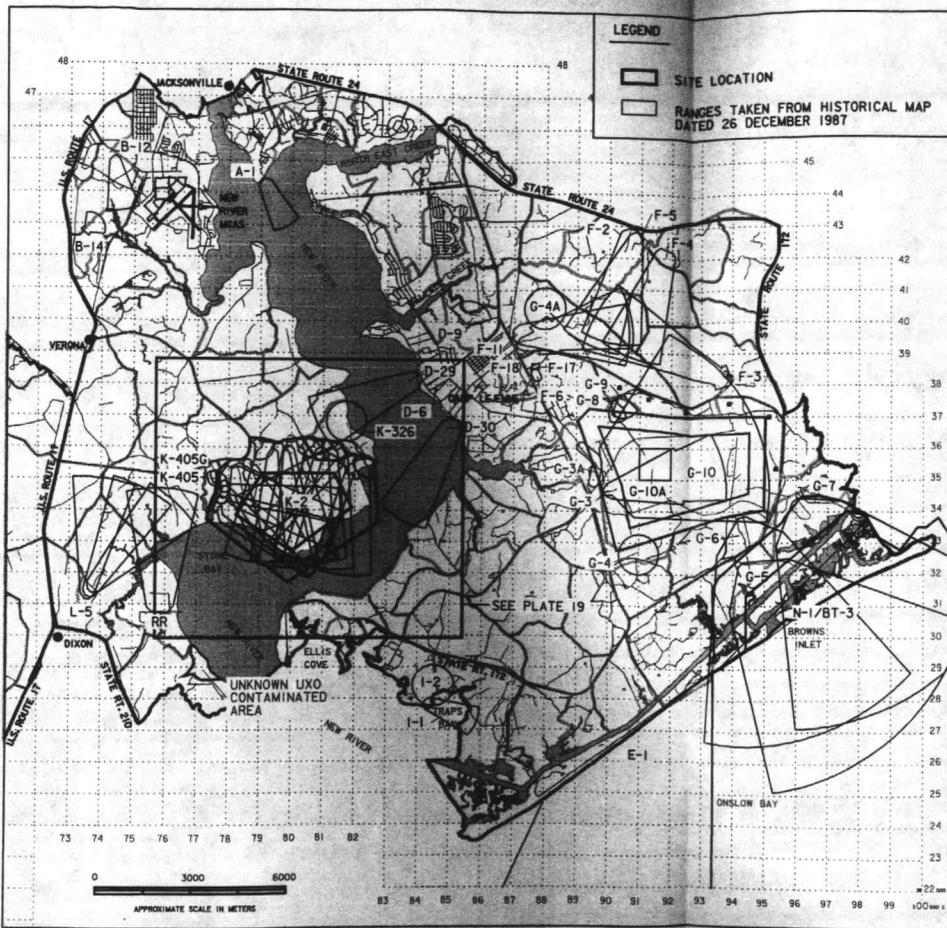


U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLow COUNTY
DETAIL "K" RANGES-SEPTEMBER 1976

FORM DATE SEPT. 1980 DATE OF BASE MAP 1980 PLATE NO. 17
28-FEB-2000 1043





LEGEND

□ SITE LOCATION

□ RANGES TAKEN FROM HISTORICAL MAP DATED 26 DECEMBER 1987

KEY TO FEATURES

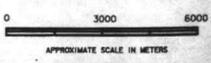
FEATURE NUMBER	FEATURE DESCRIPTION
A-1	PISTOL AND SHOTGUN RANGE
B-12	BAFFLED PISTOL RANGE
B-14	ASSAULT OF A FORTIFIED POSITION RANGE
D-6	50 FOOT INDOOR SMALL BORE RIFLE AND PISTOL RANGE
D-9	SKEET RANGE
D-23	50 FOOT SMALL BORE RANGE
D-30	50 FOOT SMALL BORE RANGE
E-1	AIR DEFENSE FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIRE CONTROL RANGE
F-5	SQUAD LIVE FIRE AND MANEUVER COURSE
F-6	LIVE HAND GRENADE RANGE
F-11	PISTOL RANGE
F-17	DRY NET TRAINING
F-18	MACHINE GUN FIELD FIRING RANGE
G-3	INFANTRY WEAPONS RANGE
G-3A	M 257 SMOKE GRENADE LAUNCHER SYSTEM RANGE
G-4	DEMOLITIONS ASSAULT AREA
G-4A	EOD RANGE
G-5	ANTI-TANK RANGE
G-6	TANK GUNNERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-8	GRENADE LAUNCHER RANGE
G-9	LIGHT ANTI-ARMOR WEAPONS AND SHOULDER LAUNCHED MULTI-PURPOSE ASSAULT WEAPONS RANGE
G-10	IMPACT AREA
G-10A	EOD DISPOSAL AREA
I-1	50 FOOT SMALL BORE RANGE
I-2	DEMOLITION AREA
K-2	IMPACT AREA- SEE NOTE BELOW
K-326	EOD-2 EXPLOSIVE ORDNANCE DISPOSAL AREA
K-405	HAND GRENADE RANGE
K-405G	UNKNOWN RANGE
L-5	MULTI-PURPOSE MACHINE GUN RANGE
N-1/BT-3	IMPACT AREA
RR	RIFLE RANGE

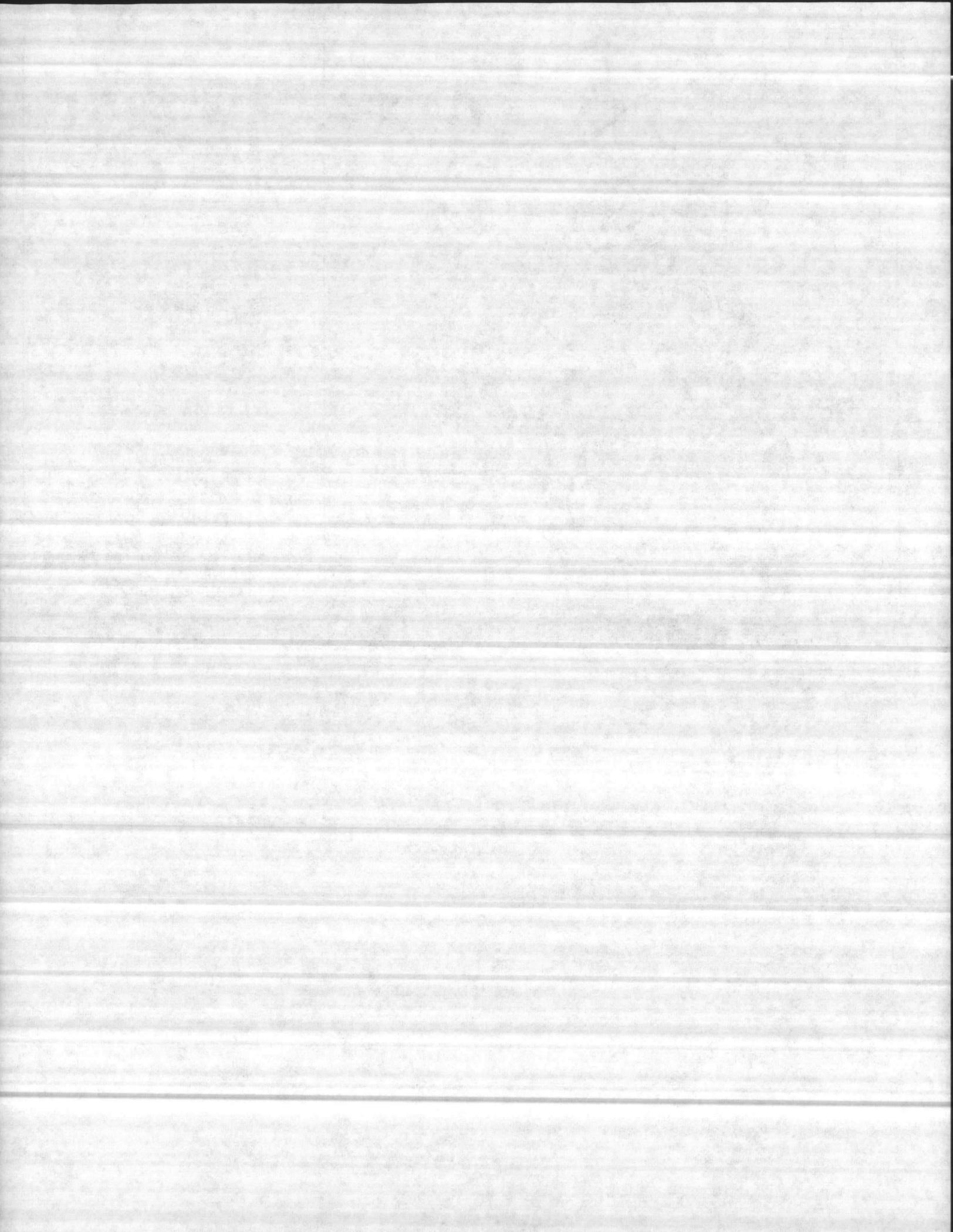
***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

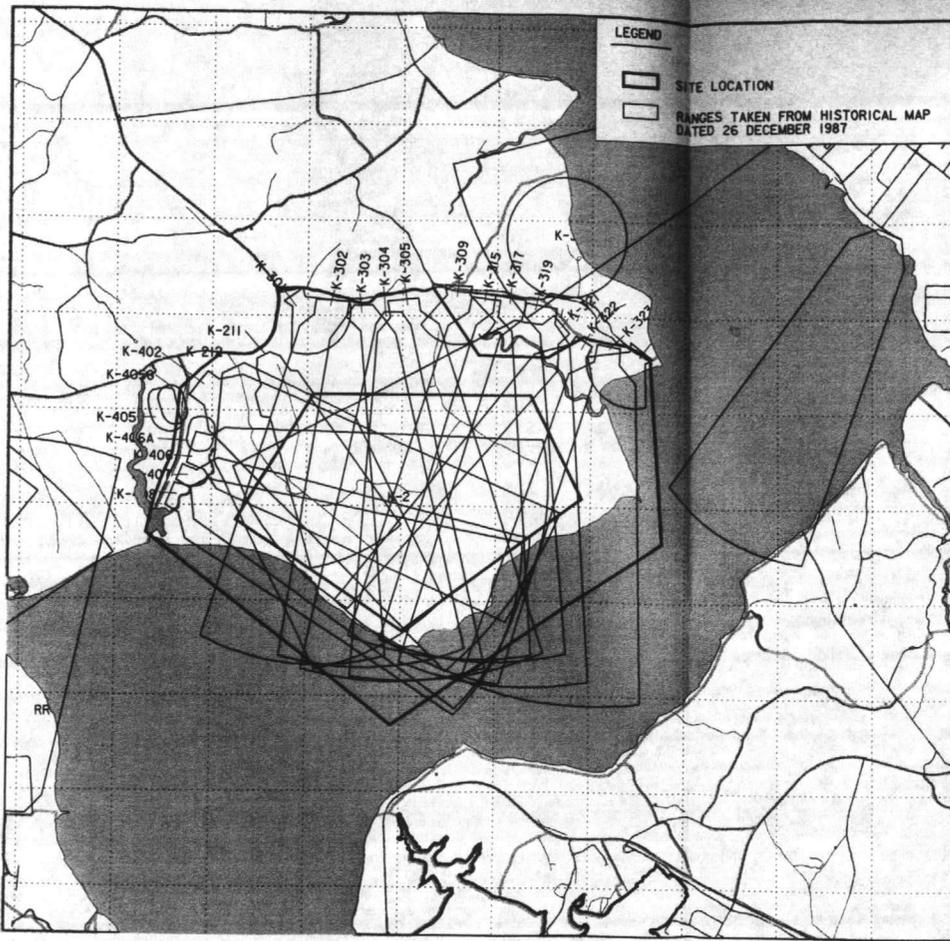
***NOTE: SEE PLATE 19 FOR FEATURE NUMBERS AND FEATURE DESCRIPTIONS ON K RANGES.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY RANGE OVERLAY MAP-DECEMBER 1987	
PROJ. DATE: SEPT. 1987	DATE OF BASE MAP: 1987	PLATE NO. 18







LEGEND

□ SITE LOCATION

□ RANGES TAKEN FROM HISTORICAL MAP
DATED 26 DECEMBER 1987

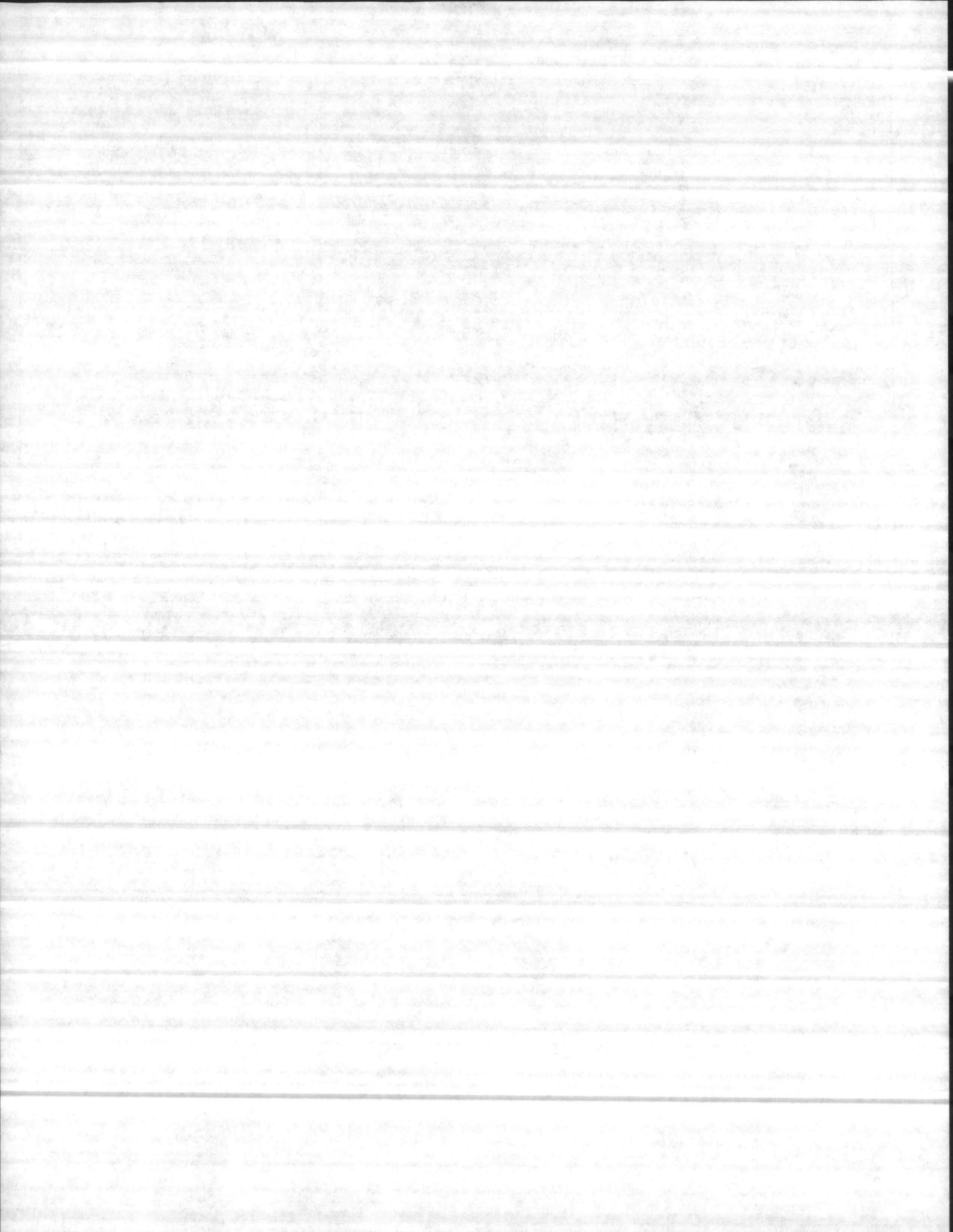
KEY TO FEATURES

FEATURE NUMBER	FEATURE DESCRIPTION
K-2	IMPACT AREA
K-211	M203 AND MK 19 GRENADE LAUNCHER RANGE
K-212	INFILTRATION AND INDIVIDUAL MOVEMENT RANGE
K-301	LIGHT ANTIARMOR WEAPONS AND SHOULDER-LAUNCHED MULTIPURPOSE ASSAULT WEAPON RANGE
K-302	FIELD FIRING AND BATTLESIGHT RANGE
K-303	BASIC TECHNIQUES OF FIRE AND MORTAR FIELD FIRING RANGE
K-304	INFANTRY WEAPONS RANGE
K-305	INFANTRY WEAPONS DEMONSTRATION RANGE
K-309	MACHINE GUN AND LIGHT ANTIARMOR RANGE
K-315	NIGHT AND COMBAT FIELD FIRING RANGE
K-317	CLOSE COMBAT RANGE
K-319	FIELD FIRING RANGE
K-321	TRANSITION RANGE
K-322	MOVING REALISTIC TARGET RANGE
K-323	GRENADE LAUNCHER RANGE
K-325	MT2 LIGHT ANTIARMOR WEAPON AND M203 GRENADE LAUNCHER RANGE
K-326	EOO-2 EXPLOSIVE ORDNANCE DISPOSAL RANGE
K-402	FIRE AND MOVEMENT RANGE
K-405	HAND GRENADE RANGE
K-405B	UNKNOWN RANGE
K-406	MACHINE GUN RANGE
K-406A	COVER AND CLEAR RANGE
K-407	INDIVIDUAL QUICK REACTION RANGE
K-408	URBAN OBSTACLE COURSE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATIO SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY DETAIL "K" RANGES-DECEMBER 1987	
PROJ. DATA E871.1000 25-FEB-2000 1305	DATE OF BASE MAP 1988 15-NOV-1988 1305	PLATE NO. 19



LEGEND

-  SITE LOCATION
-  RANGES TAKEN FROM CURRENT MAP DATED 1993

KEY TO FEATURES

FEATURE NUMBER	FEATURE DESCRIPTION
A-1	PISTOL AND SHOTGUN RANGE
B-12	BAFFLED PISTOL RANGE
D-9	SKREET RANGE
D-29	50 FOOT SMALL BORE RANGE
D-30	50 FOOT SMALL BORE RANGE
E-1	AIR DEFENSE FIRING RANGE
EOD-1	EOD DISPOSAL AREA
EOD-2	EOD DISPOSAL AREA
ETA-1	ENGINEER TRAINING AREA
ETA-2	ENGINEER TRAINING AREA
ETA-3	ENGINEER TRAINING AREA
ETA-4	ENGINEER TRAINING AREA
ETA-5	ENGINEER TRAINING AREA
E-1	AIR DEFENSE FIRING RANGE
F-2	FIELD FIRING RANGE
F-3	FIELD FIRING RANGE
F-4	FIRE CONTROL RANGE
F-5	SQUAD LIVE FIRE AND MANEUVER COURSE
F-6	LIVE HAND GRENADE RANGE
F-11	PISTOL RANGE
F-18	MACHINE GUN FIELD FIRING RANGE
G-3	INFANTRY WEAPONS RANGE
G-3A	M 251 SMOKE GRENADE LAUNCHER SYSTEM RANGE
G-4	CLOSE QUARTER BATTLE RANGE
G-5	ANTI-TANK RANGE
G-6	TANK GUNNERY RANGE
G-7	DIRECT FIRE ARTILLERY RANGE
G-8	GRENADE LAUNCHER RANGE
G-9	LIGHT ANTI-ARMOR WEAPONS AND SHOULDER LAUNCHED MULTI-PURPOSE ASSAULT WEAPONS RANGE
G-10	IMPACT AREA
I-1	50 FOOT SMALL BORE RANGE
K-2	IMPACT AREA - SEE NOTE BELOW
L-5	MULTI-PURPOSE MACHINE GUN RANGE
N-1/BT-3	IMPACT AREA
RR	RIFLE RANGE

***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.

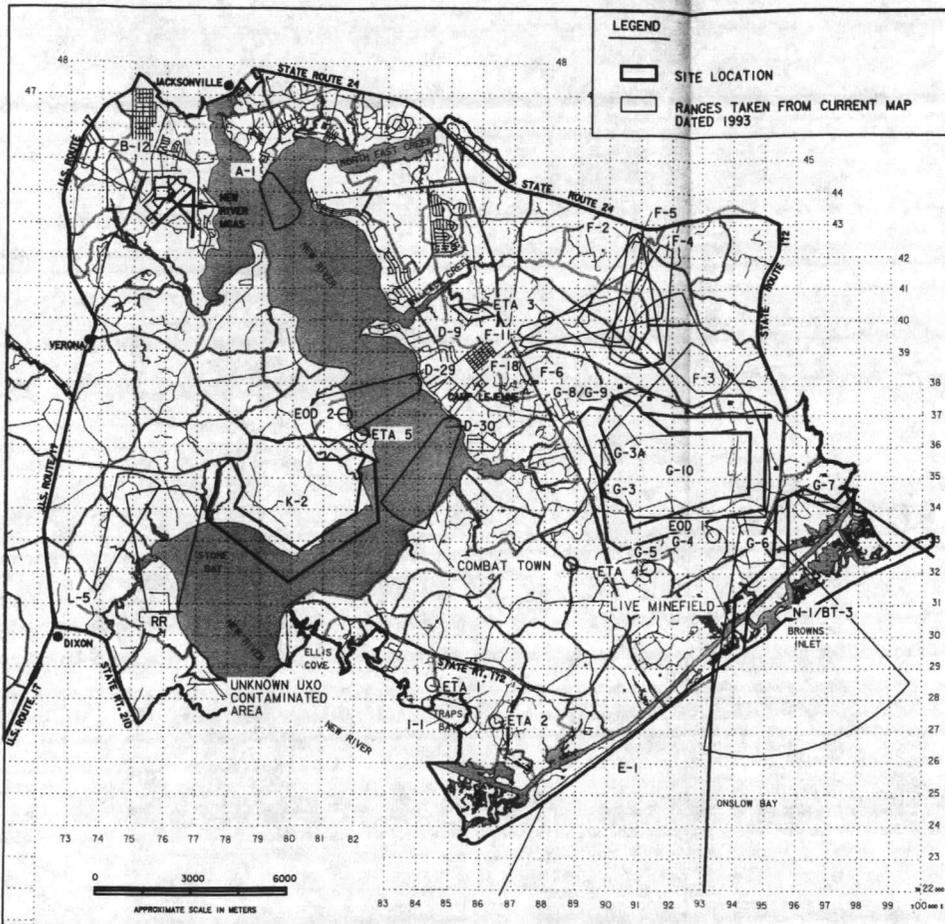
***NOTE: "K" RANGE FANS WERE NOT SHOWN ON 1993 SOURCE MAP AND THEREFORE NOT INCLUDED ON THIS PLATE.

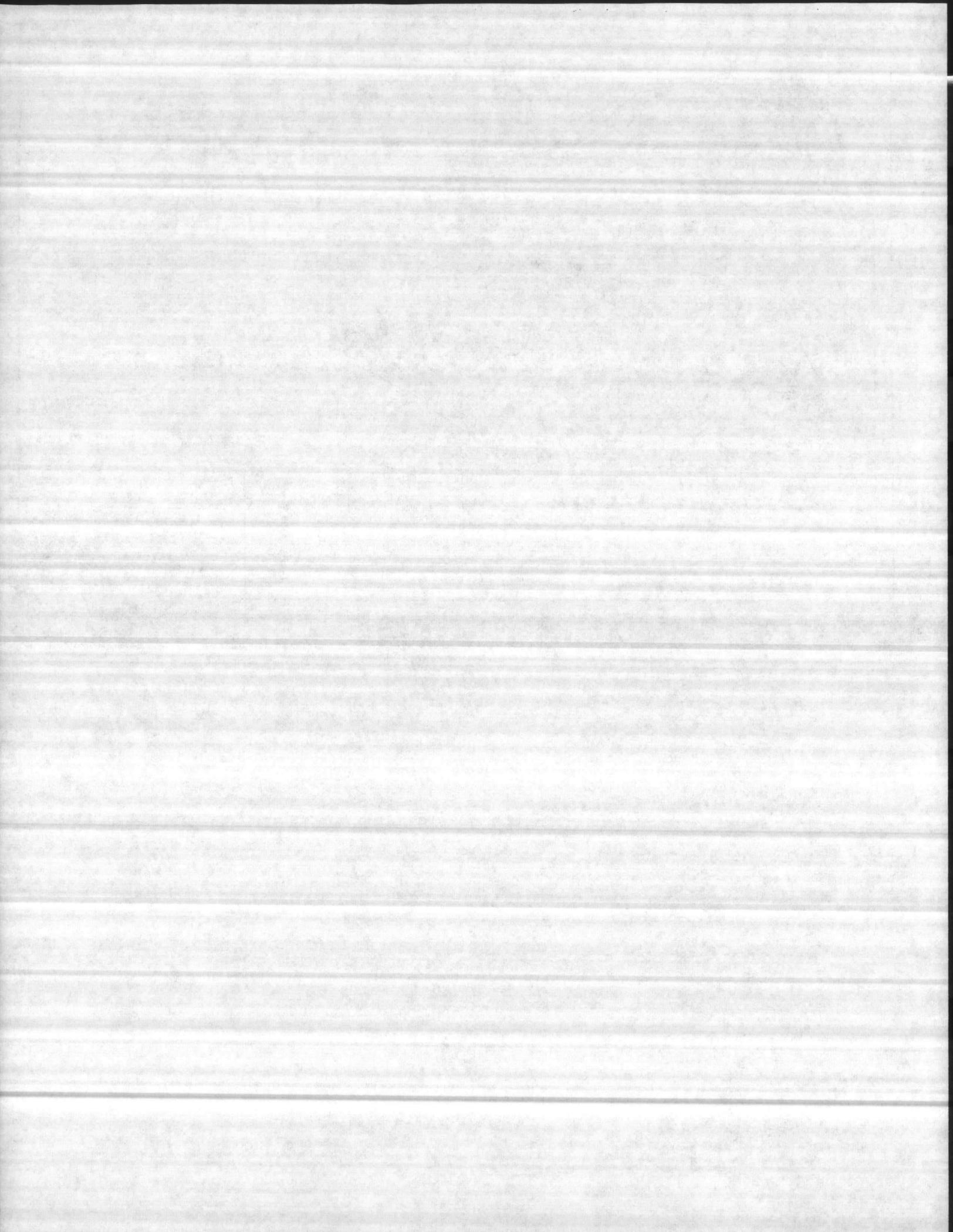


U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

MARINE CORPS BASE
(MCB) CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
ONSLow COUNTY
RANGE OVERLAY MAP-1993

FILE DATE: 08/19/93 DATE OF MAP: 08/19/93
25-FEB-2007 0802





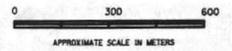
LEGEND

☐ RANGES AND BUILDINGS TAKEN FROM HISTORICAL MAP DATED JUNE 1951

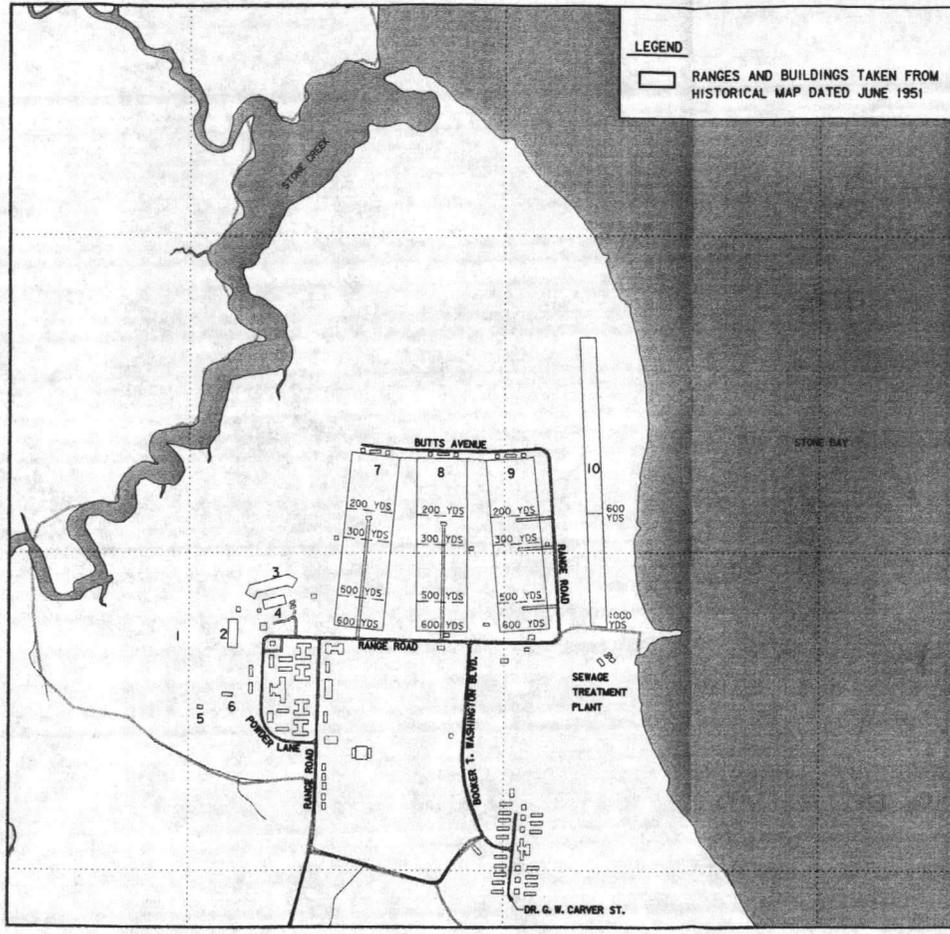
KEY TO FEATURES:

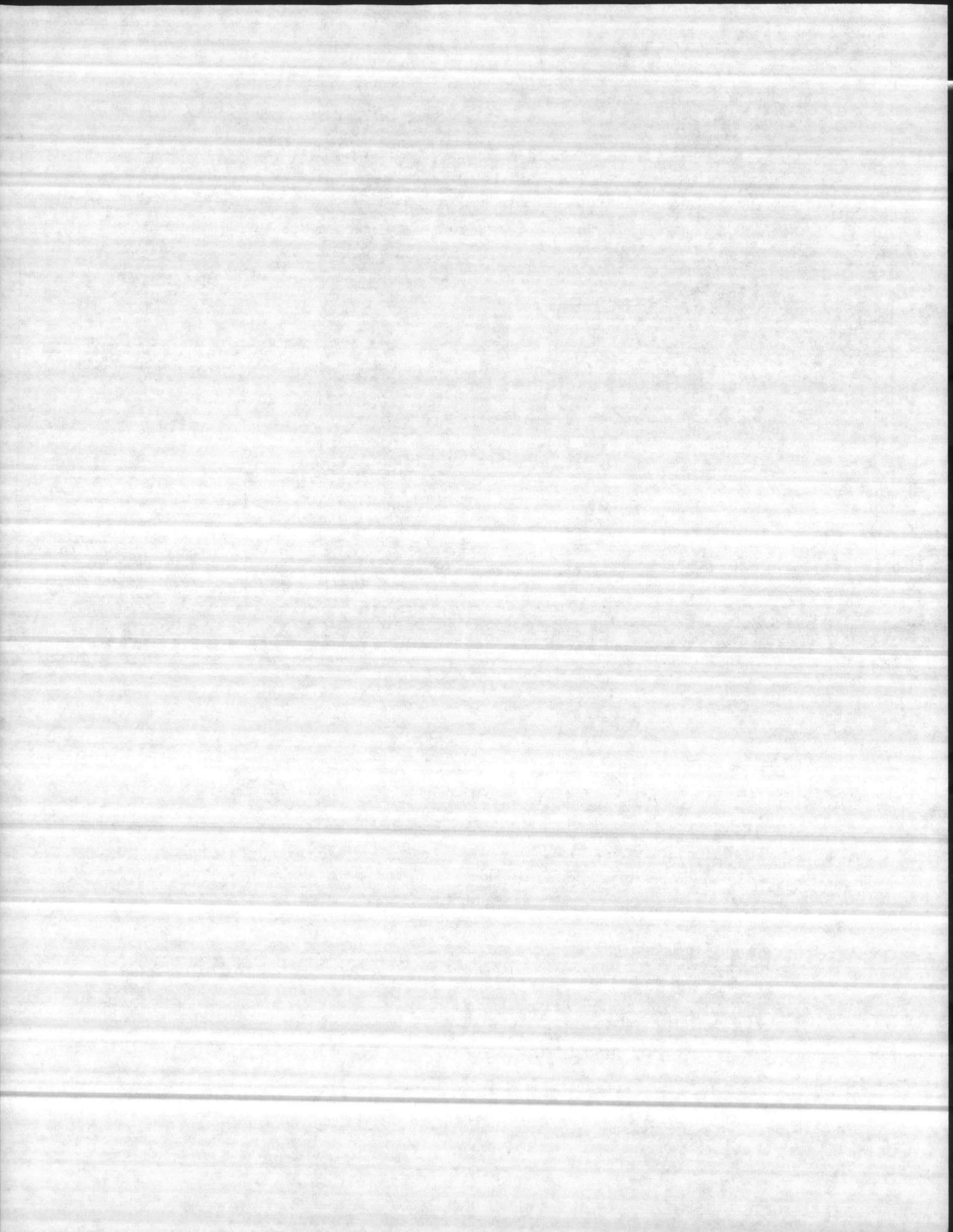
FEATURE NUMBER	FEATURE DESCRIPTION
1	COMBAT RANGE
2	BUTT
3	PISTOL BUTT
4	PISTOL RANGE
5	GAS CHAMBER
6	INDOOR PISTOL RANGE
7	RIFLE RANGE 1
8	RIFLE RANGE 2
9	RIFLE RANGE 3
10	MACHINE GUN RANGE

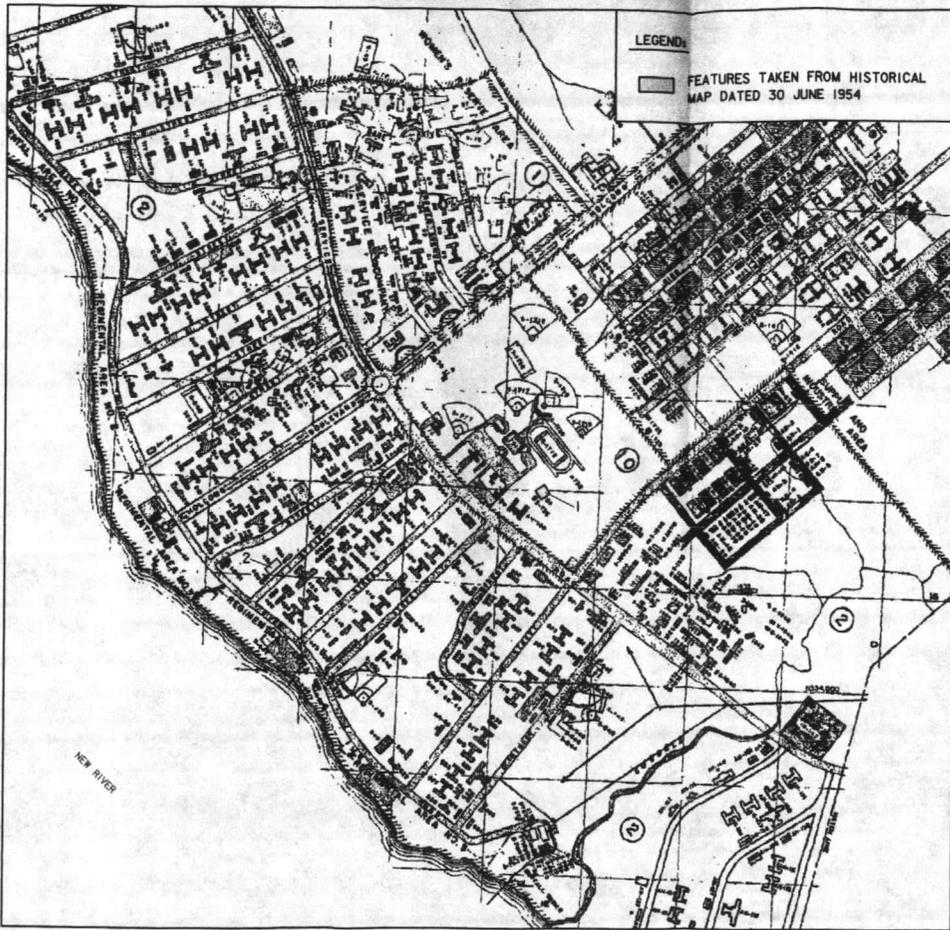
***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA RIFLE RANGE COMPLEX	
7501: DATE: 08/27/1988 25-FEB-2000 12:03	DATE OF BASE MAP: 1990 10/10/1990 09:00:00 AM	PLATE NO. 21







LEGEND

FEATURES TAKEN FROM HISTORICAL MAP DATED 30 JUNE 1954

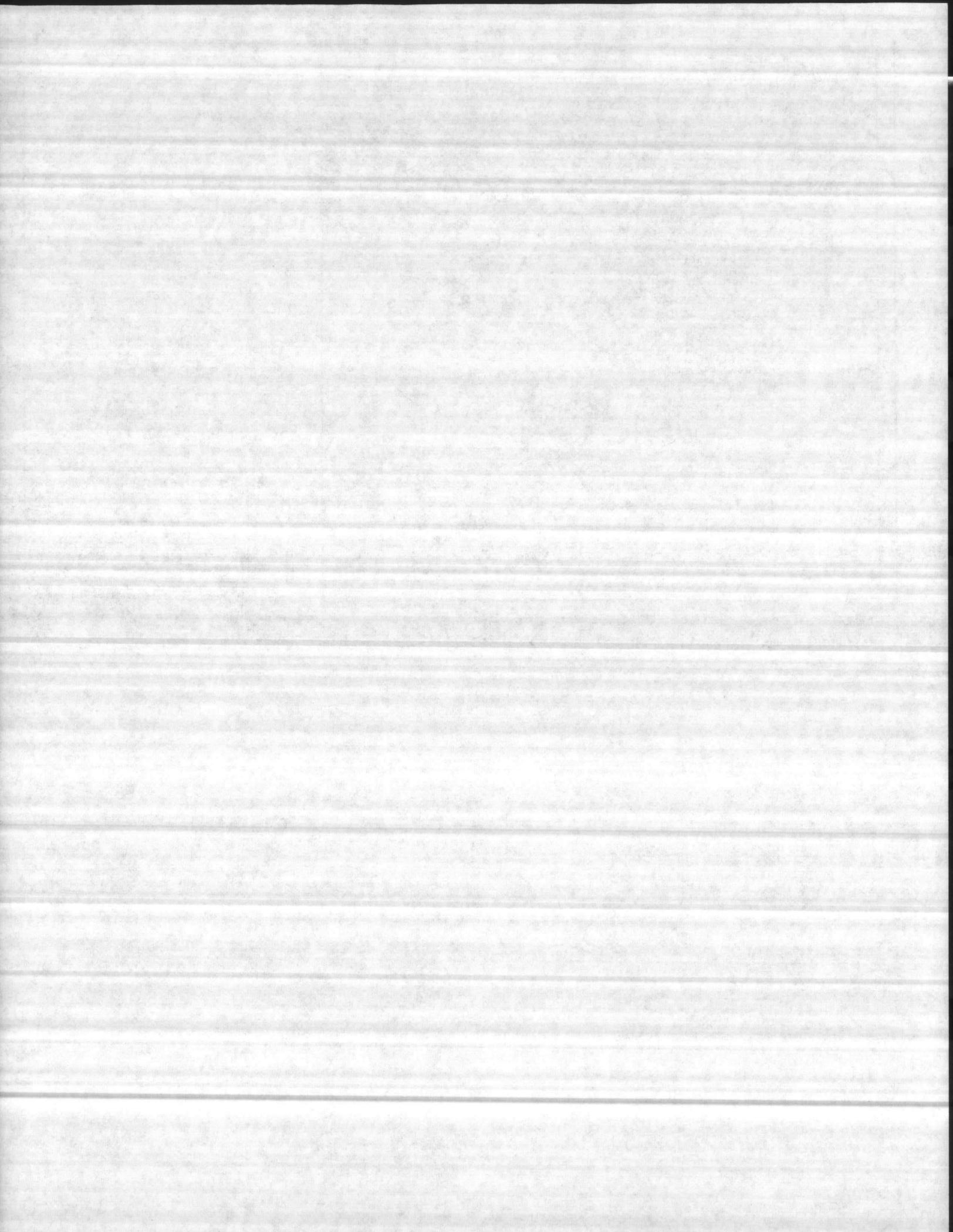
KEY TO FEATURES:

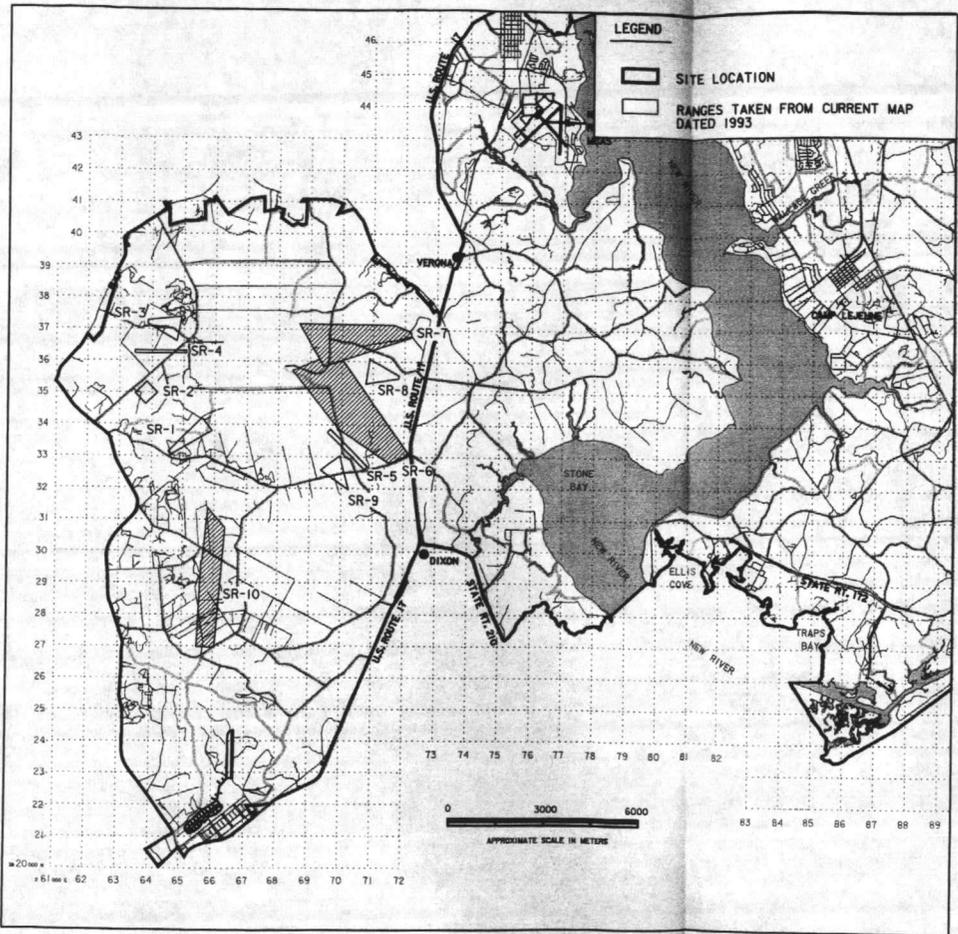
FEATURE NUMBER	FEATURE DESCRIPTION
1	BASE CS CHAMBER AND NBC TRAIL
2	RANGE D-6 - 50 FOOT SMALL BORE RANGE

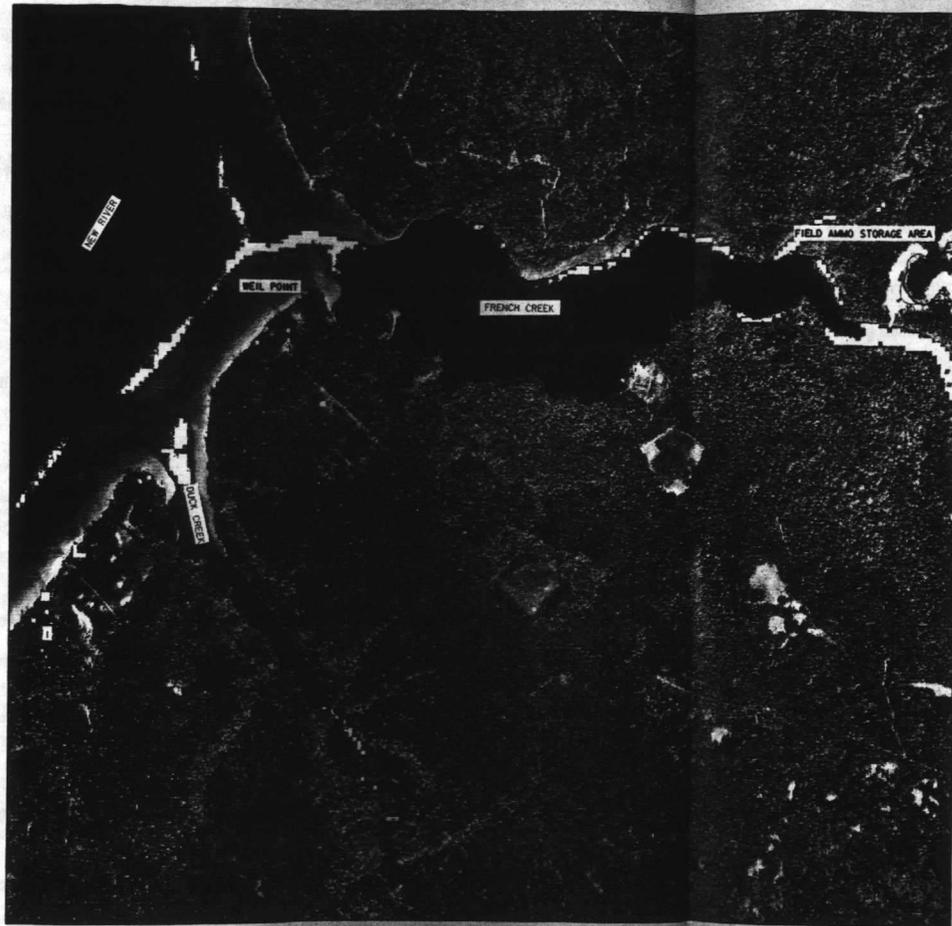
***NOTE: HISTORICAL MAP SHEET DATA USED IN THIS REPORT WAS RECTIFIED TO A CURRENT MAP PROVIDED BY MCB CAMP LEJEUNE USING INTERGRAPH CORPORATION SOFTWARE. THE ACCURACY OF FEATURES RECTIFIED FROM THE HISTORICAL MAP SHEET DATA TO THE CURRENT MCB CAMP LEJEUNE MAP MAY VARY.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLow COUNTY HISTORICAL FEATURES-JUNE 1954
FIG. DATE: SEPT. 1988 16-FEB-2000 1308	DATE OF BASE MAP: 1954 16-FEB-2000 1308
PLATE NO. 22	

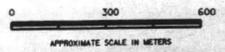




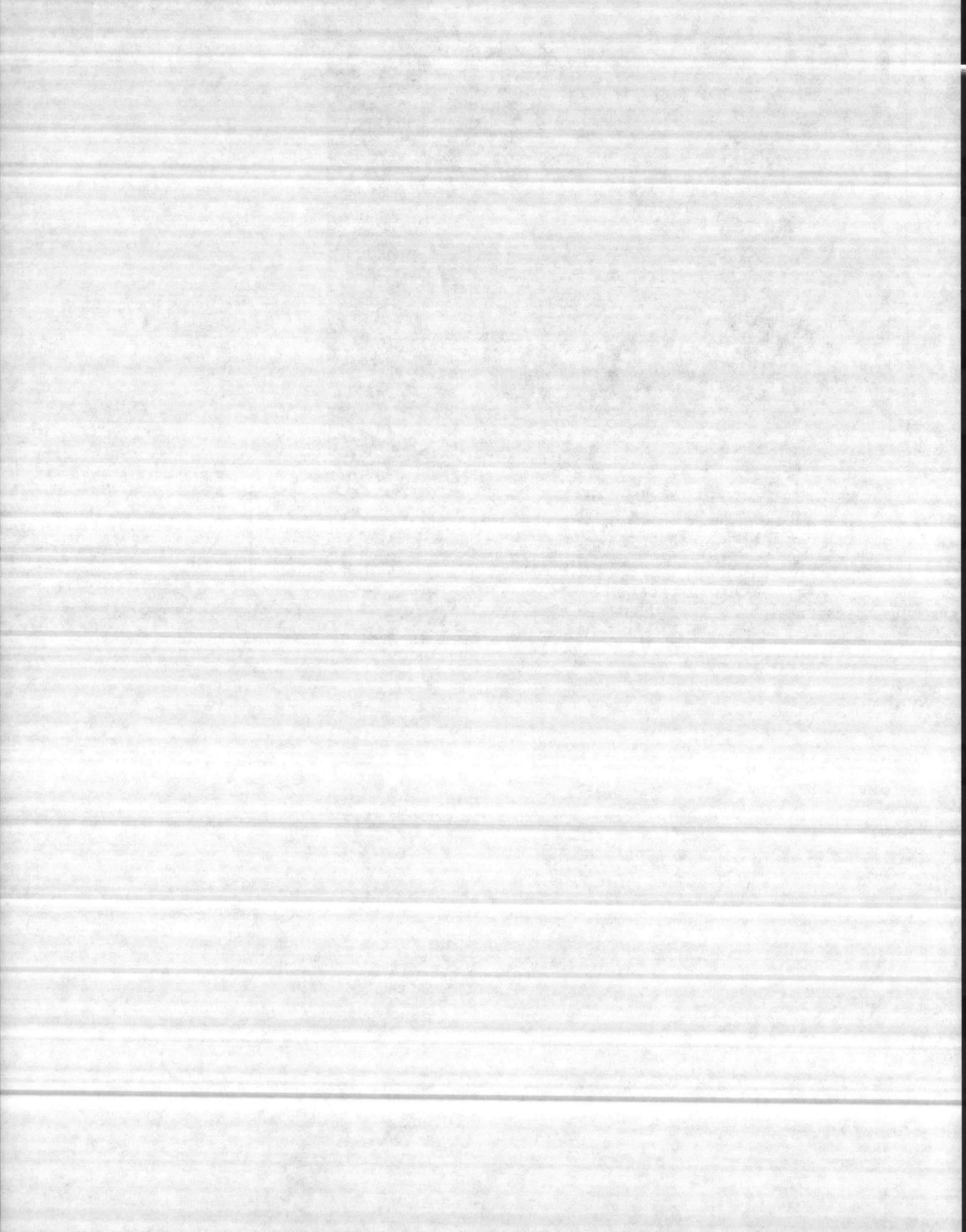


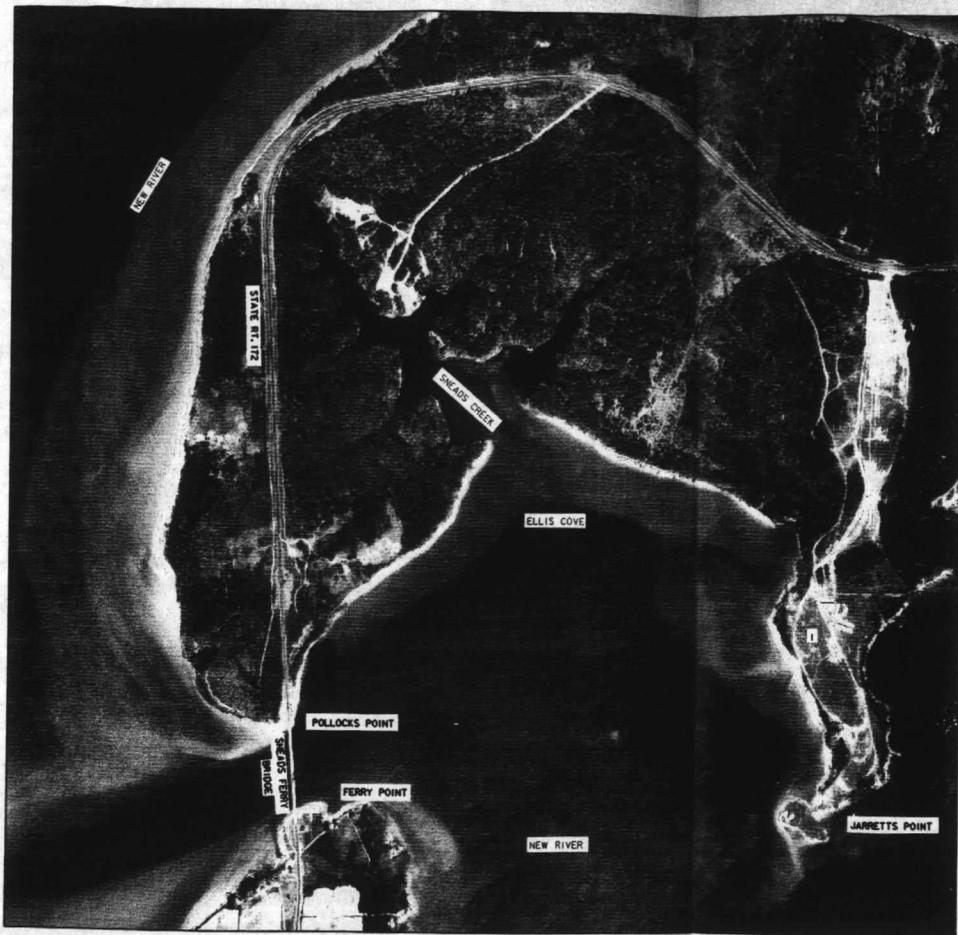
KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
I.	FORMER CHEMICAL TEST AREA



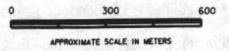
	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY FORMER CHEMICAL TEST AREA	
POINT DATE: 08/11/50 DRAWN: [unclear]	DATE OF THIS MAP: [unclear]	PLATE NO. 24



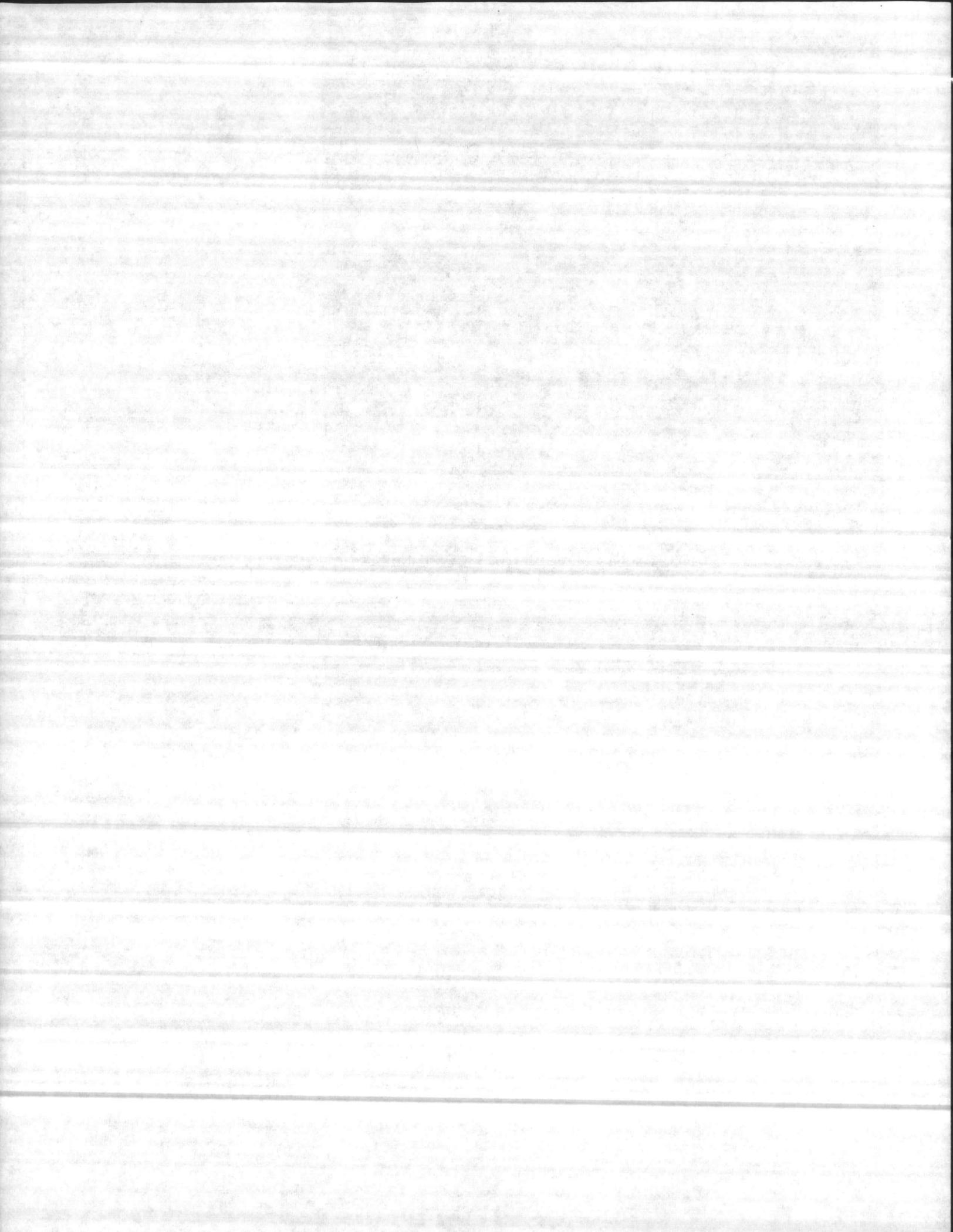


KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
I.	UNKNOWN TRAINING AREA



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY UNKNOWN TRAINING AREA	
PROJ. DATED SEPT. 1959 (17-483-2000 10-61)	DATE OF PHOTO 1958 (See cover for title/author/edition)	PLATE NO. 25



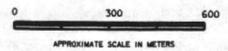
LEGEND

☐ RANGES TAKEN FROM HISTORICAL MAP DATED AUGUST 1951

KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
PR	PISTOL RANGE
RR	RIFLE RANGE

***NOTE: GRAPHIC OVERLAY SHOWS HOW THE USER OF DATA FROM THIS ASR WOULD VIEW HISTORICAL DATA OVERLAIN ON CURRENT CAMP LEJEUNE DATA SET. PLATE SHOWS DATA DERIVED FROM 1951 MAP AND 1956 PHOTO SOURCE OVERLAIN ON 1998 ORTHOPHOTOGRAPHY. CURRENT PLANIMETRIC INFORMATION FROM 1993 MILITARY INSTALLATION MAP IS ALSO SHOWN.



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	MARINE CORPS BASE (MCB) CAMP LEJEUNE JACKSONVILLE, NORTH CAROLINA ONSLOW COUNTY RIFLE RANGE COMPLEX	
FILE DATE REV. 1999 12-98-2000 0000	DATE OF PHOTO 1998 10-Nov-1998 0000	PLATE NO. 26



