

SEA TURTLES - JOHNSTON ATOLL

**GEORGE BALAZS
FILE**


U.S. FISH AND WILDLIFE SERVICE

Defoliant Disposal on Ship in Pacific

The Air Force says 825,000 gallons of Herbicide Orange, a defoliant used in Vietnam, will be destroyed aboard an incinerator ship 120 miles southwest of Johnston Island later this year.

Approval was granted by the Environmental Protection Agency which will monitor the disposal project.

The first batch of chemicals to be burned aboard a Dutch ship built especially for the task will come from supplies now at Gulfport, Miss.

If all goes well the rest of the 1.4 million gallons of herbicide stored on Johnston Island, about 900 miles from Honolulu, will be destroyed.

Star Bulletin 4/28/77

10/77
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7-2-86

Army doesn't want lethal gases moved; favors destruction

Combined Staff, Wire Reports

WASHINGTON — The Army said yesterday it has tentatively decided to destroy thousands of aging and potentially dangerous chemical weapons at eight storage sites around the country.

The decision sets the stage for a confrontation between the Army and members of Congress who oppose on-site destruction of the munitions. Other lawmakers, however, object to transporting the aging munitions to regional disposal sites.

The Army made its preliminary decision in an environmental impact statement compiled under orders from Congress, which ordered disposal of the nerve gas, mustard gas and other chemical weapons by Sept. 30, 1994. It would cost \$2 billion to destroy the stockpile, including some weapons that are leaking, Army Deputy Undersecretary Amoreta Hoerber said.

A final decision on the disposal will be made in January by Army Secretary John Marsh following public hearings at all eight locations. His decision may differ from the tentative one announced yesterday, depending on the outcome of the hearings, Hoerber said.

Congress in 1983 approved construction of a disposal facility for obsolete chemical munitions stored on Johnston Island, 824 miles southwest of Honolulu. The facility, under construction and due to be completed in mid-1989, will destroy stockpiles of nerve gas, chemical agents and mustard gas in rockets, artillery rounds, land mines, mortars and bombs.

Most of the munitions were made during the 1950s and 1960s and are death-dealing nerve gases and blistering agents whose compounds already are mixed in casings housed in rockets, artillery

shells and bombs.

Leaks have been found in several hundred M-55 rockets, which are made of aluminum and are subject to corrosion. They have been put in special canisters to contain the leaks.

The administration wants to build a new generation of chemical weapons, called binaries, in which the components would not be mixed into their deadly form until the weapon is in flight. These weapons could be stored safely.

In choosing on-site destruction of the weapons, the Army discarded three other options: doing nothing, transporting all of the weapons to depots at Tooele, Utah, and Anniston, Ala.; or transporting everything to Tooele.

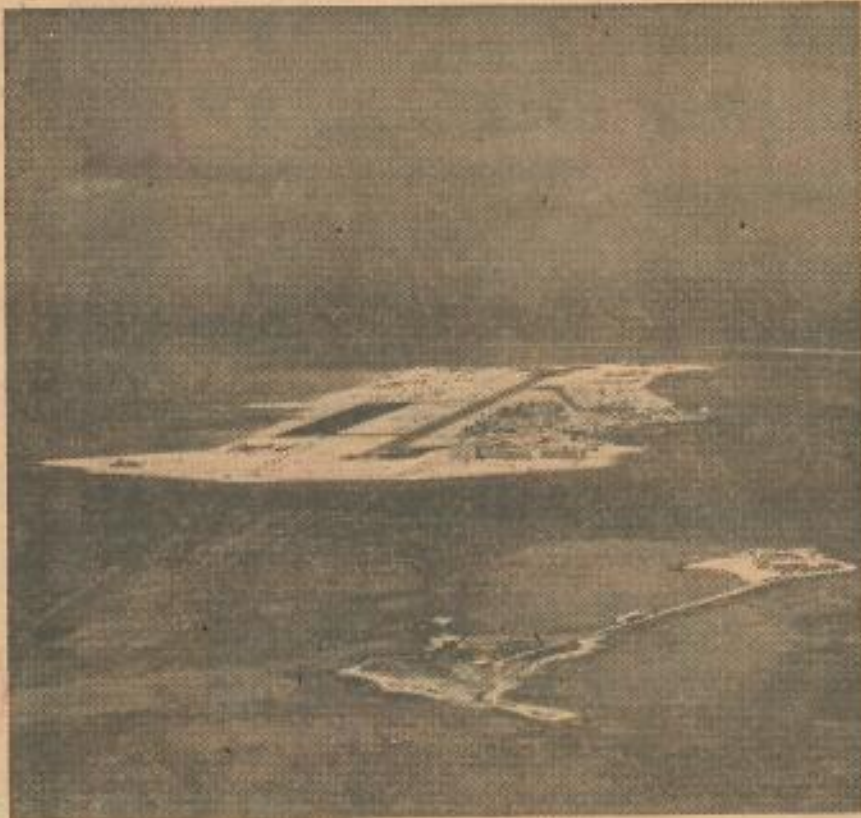
"There is no alternative for taking care of the stockpile that doesn't have a risk, including doing nothing," Hoerber said.

Under the schedule, destruction of the first stockpile on Johnston Island would begin in June 1989. Disposal of the munitions in the Mainland would begin in 1991.

In a process called "reverse assembly," the munitions would be destroyed in special incinerators that would be built at each of the locations and the residue would be buried at an existing landfill. The incinerators would be destroyed once the weapons are burned, Hoerber said.

The draft statement on environmental impact, **did not include Johnston** because of its remote location.

Besides Tooele and Anniston, the Army maintains its chemical weapons at Aberdeen Proving Ground, Md., Newport Army Ammunition Plant, Ind., Umalilla Depot Activity, Ore., Pueblo Depot Activity, Colo., Pine Bluff Arsenal, Ark., and Lexington-Blue Grass Army Depot, Ky.



SMALL ATOLL—Johnston is the home of herbicide orange and nerve gas. — Coast Guard Photo.

Herbicide Burning to End This Week

By Lyle Nelson
Star-Bulletin Writer

Seven years of bureaucratic Ping-Pong almost comes to an end this week with the burning of herbicide orange 120 miles southwest of Johnston atoll.

If all goes well with the elimination of 850,000 gallons of the super weed killer that had been stored in Mississippi, the remaining 1.5 million gallons now on Johnston also will go into the incinerator.

Herbicide orange was something of a secret weapon designed to help take away the ground cover from Communist forces as one strategy to win the war in Vietnam.

RED TAPE TIED up the Air Force and ecologists, causing the lengthy delay in burning the unwanted poison nearly 1,000 miles from Honolulu.

It is being poured today into an incinerator aboard the ship *Vulcanus*, out of Rotterdam, by men wearing overalls, respirators and boots.

Herbicide orange gets mixed in holding tanks with fuel oil, then incinerated. The heat destroys all, leaving no solids and sending a gaseous vapor up two stacks. The combination of carbon dioxide, carbon, carbon oxide, water and hydrochloric acid cannot be seen.

This is happening aboard a ship sitting in an "ocean desert," the water 10,000 feet deep and nothing else around.

THE AIR FORCE says the *Vulcanus* has furnaces with 99.9 per cent efficiency.

In the vapor will be 23 grams of deadly dioxin that will settle in the salty deep, apparently too little to bother ecological systems.

What to do with the dioxin, the stuff that gave herbicide orange its punch, caused much of the bureaucratic slow motion.

After eight years of being dropped by American aircraft into numerous jungle areas where the Viet Cong hid, President Nixon halted use of

herbicide orange in 1970. Vietnam got 11 million gallons before the surgeon general determined that the defoliant may have caused birth defects in rats.

In 1971 the lesser stockpile was stored at Gulfport and the next year the remainder was stored on the tiny atoll.

NEXT CAME AN effort to recover a few bucks for the U.S. Treasury from the leftover batch by separating the bad dioxin out through a coconut charcoal process in order to unload the product on a commercial insecticide buyer.

The Air Force perfected the separation system but was stumped on how to dispose of the deadly residue, dioxin, known as TCDD. Herbicide orange contains two parts per million of dioxin. The Air Force says there is no real evidence that herbicide orange is harmful. But it makes leaves curl.

The next problem was how to store the dioxin. Double-walled steel canisters sunk in the Arizona desert was one idea but the poison ended up in Arlington, Ore.

When Sen. Mark Hatfield, Oregon Republican, found that out he had it dispatched to Johnston.

IN 1974 THE Air Force decided the incineration process would be the best way to solve the herbicide orange problem.

Environmental Protection Agency hearings were held in Honolulu in 1975. They were suspended when the Air Force went ahead with separation while trying to learn the technology to dispose of the dioxin.

The Air Force received approval from the EPA last April to burn it.

It will need a second permit to finish the job of disposing of the Johnston stocks.

The *Vulcanus* burn is costing \$5 million in direct and indirect costs, the Air Force estimates.

Meanwhile Johnston remains a womanless military base with another problem—stored Army nerve gas.

HSB A:1 8-27-87

Isle is graveyard for nerve gases

1,000 workers help to build an incinerator

By Linda Hosek
Star-Bulletin Writer

Doreen Duels got her gas mask 18 months ago when she arrived on Johnston Island, a remote coral strip in the Pacific Ocean. Now it's buried somewhere under her desk and probably won't surface until she leaves.

The thousands of rockets of obsolete nerve gas stored in igloos about a mile upwind from her windowless office no longer worry her as she works or jogs around the tropical island hundreds of miles from civilization.

She does have one complaint about this potentially dangerous job site, where the most essential piece of equipment is a pair of sunglasses to filter rays, not air.

"I can't get in my car and go shopping," said Duels, 23, a secretary for Hawaiian Dredging & Construction Co., which is building an incinerator to burn up the deadly chemicals.

Most of the island's 1,000

See JOHNSTON, Page A-6

Destruction to begin in August 1989

By Linda Hosek
Star-Bulletin Writer

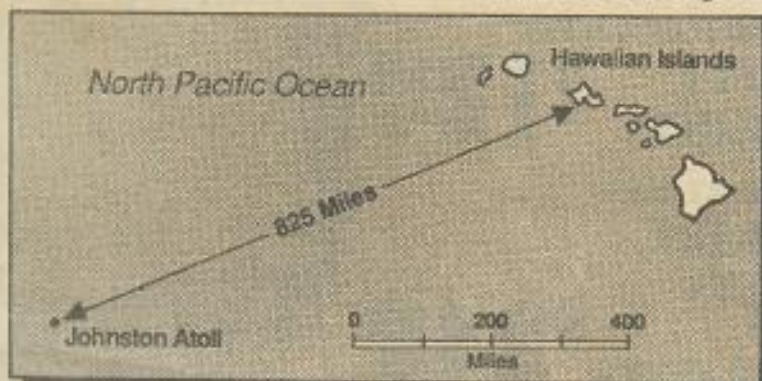
This is how they destroy:

When these rockets explode over the enemy, the liquid inside them turns into an aerosol known as nerve gas. Let's say you are the victim. The deadly vapor enters your lungs and settles on your skin. Almost immediately, your nose begins to run, your chest tightens and it is hard to take in air. Your muscles begin to twitch and cramp as the chemicals prevent them from relaxing. Your head begins to ache and you feel drowsy. Then you slip into a coma or convulsions, which flush out your bodily fluids. In less than 15 minutes from contact, you stop breathing and die.

This is how they will be destroyed:

These same rockets, many in storage on isolated Johnston Island, will move by truck from igloos to the incinerator building, where

See NERVE GAS, Page A-6



By Ray Higuchi, Star-Bulletin

Mr. George Balys
National Marine Fisheries Service

July 24, 1984

Dear George,

In answer to your questions:

① Methods - There exists about a million methods in the literature as to the "right" way to digest tissue samples. The main goal in all of these methods is to break down as much organic material as possible. The method I have been using is a combination of methods found in M. Pinta's book Detection and Determination of Trace Elements (1971) Ann Arbor Science Publishers (London) and in Perkin-Elmer's Analytical Methods for Atomic Absorption Spectrophotometry (1973) Norwalk Connecticut, (no authors or editors listed). The latter is basically the manual that accompanied the flame spect. machine. What I did was to digest a tissue

sample in a 1:1:1 ratio of a mixture of sulfuric acid / nitric acid and distilled water in 25 X 100 mm Pyrex culture tubes. These samples were then placed in a 60°C water bath for 24 hours. I then placed these samples into an ash-furnace. The samples were slowly cooled up to a temperature of 275°C and left at this temp. for 24 hours. After these samples were cooled, 50 ml of a 3% nitric acid solution was added to each tube, and this was the sample that was used for analysis. The results were recorded as ppm (wet weight). In most of the papers I've read, wet weight seems to be preferred.

In regards to the amount of tissue left: All the tissue was used. I usually use about a 5 gram sample for best results. For smaller sample sizes other methods are usually used (i.e. mass spect, graphite furnace A.A. etc). I was able to detect all the metals (in the amount of tissue I received from you) within the detection limits of the machine used. I was surprised I was able to do this with the smaller amount of tissue.

As for the radiocesium analysis: To my knowledge we don't have the equipment here to do it. There was some talk that we would be able to use Ohio State's equipment, but that never seemed to ~~materialize~~ materialize.

I'll be sending you a copy of my thesis which contain the metal data from the fur seals as soon as it's in its final form. I'll be graduating here this September, with vet. school hopes next year at Ohio State. I intend ~~to~~ a future in marine mammal medicine. Thus, I do intend to continue my research in the toxicology field with aquatic animals. I will be at John Cornell for the fall and winter semesters. Please contact me if you need anymore help with your work.

Sincerely,

Bob Hester
Biology Dept.
John Carroll Univer.
University Heights, Ohio

44118

P.S. Please keep in touch.
I'm interested in your organization
and what you're involved in.

Army to burn chemical weapons

Military chemical stockpile has become aging, leaking, hazardous mess

By WENDELL COCHRAN
Gannett News Service

WASHINGTON — The Army's fearsome chemical weapons have become an aging, leaking mess that nobody wants: too brutal to use, too dangerous to keep — and even hazardous to destroy.

But Congress has decreed that the Army must get rid of them. And after looking at freezing them, blowing them up with nuclear bombs and dumping them into the ocean, the Army now plans to build special pollution-free furnaces to dispose of its stockpile of chemical weapons.

The chemicals will be incinerated in furnaces reaching 2,000 degrees Fahrenheit. Marked for destruction are thousands of tons of mustard and nerve agents — some stored in leaking missiles, bombs, mines and rockets, some in one-ton steel containers.

They were created, the Army says, as "retaliatory" weapons when they "were considered acceptable military weapons." All the stockpiled chemicals are at least 17 years old and some predate World War II.

But they remain lethal, and last year Congress ordered them destroyed by Sept. 30, 1994.

The problem of disposal is as old as the weapons themselves.

"Until 1969, obsolete or unserviceable agents and munitions were routinely disposed of by open-pit burning, land burial or ocean dumping," said a draft environmental impact statement on disposal plans. "These disposal methods were used extensively dating back to World War I without any casualties or adverse public reactions."

The preferred method of disposal was ocean dumping, a practice halted by public outcry in 1969 and outlawed by Congress in 1972. Since 1970, the Army has disposed of 16.8 million pounds of chemical agents, either by incineration or chemical neutralization.

Before settling on incineration in its latest destruction plan, the Army looked at several other methods. One of them, chemical deactivation, would have created five pounds of wastes for every pound of material neutralized. Also ruled out was putting all the chemical weapons in a deep well and blowing them up with nuclear devices.

Last month, the Army tentatively concluded that incineration at the eight Army installations where the chemicals are now would be preferable, because it would eliminate transportation hazards — including risks of terrorist attacks.

The on-site incineration plan calls for private contractors to design, build and operate special furnaces at the eight facilities. When the destruction job is finished, the incinerators will be cleaned up and disassembled.

The concept has been tested at Toelle, Utah, and a model incineration system is being built on Johnston Atoll in the Pacific.

At the Newport, Ind., Army Ammunition Plant, the disposal project is estimated to cost \$83 million. Destruction of the Newport stockpile is simplified because all chemicals there are stored in one-ton steel containers — no bombs, rockets, mines, artillery shells or other explosives. And Newport has only one chemical, the nerve agent VX, the deadliest chemical in the arsenal.

MacNab said the weapons have incorrectly been called "gas." VX, for example, is a brown liquid that "looks like motor oil." It is extremely lethal, and just a tiny drop on human skin can cause respiratory failure and kill a 170-pound man in minutes.

The other nerve agents, GA and GB, are less toxic, but still deadly. Mustard agents do most of their damage by blistering.

VX was involved in an accidental leak that killed 6,000 sheep in Utah in 1988. That incident led to President Nixon's 1969 ban on such weapons and to U.S. acceptance of a chemical weapons treaty.

Plans call for construction to begin on the Newport incinerators in 1988 and to be finished by 1992. The chemicals will be trucked to a bulk unloading facility.

Johnston Isle Chemical Disposal Facility Checked

A civilian advisory team recently was taken by the Army on an inspection trip to Johnston Island, where a major disposal facility for chemicals is under construction.

Hawaiian Dredging & Construction Co. broke ground early this year for the \$32,850,000 project. The contract calls for construction of the Johnston

Atoll Chemical Agent Disposal System to be finished in November 1987.

Johnston Island, a treeless atoll about 800 miles west southwest of Honolulu, has been used by the Army since 1971 to store agents of chemical warfare, including nerve gas.

Federal law prohibits return

of these chemicals to the United States. They must be detoxified or destroyed outside the United States.

The initial phase of disposal of Johnston Atoll chemical munition stocks will involve the destruction of 13,889 M55 rockets containing nerve agent VX and 58,419 M55 rockets containing nerve agent GB, the Army said

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HSP

RADIOACTIVITY IN THE MARINE ENVIRONMENT

Prepared by the
PANEL ON RADIOACTIVITY IN THE MARINE ENVIRONMENT
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NATIONAL RESEARCH COUNCIL

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Burn obsolete chem weapo

By Dan Carmichael

United Press International

WASHINGTON — A scientific advisory group, rejecting ocean dumping or a huge nuclear explosion, said yesterday the Army should burn thousands of tons of obsolete, lethal chemical weapons, some of which are already leaking.

Some of the deadly weapons have been around for 40 years and all are at least 16 years old, the National Research Council said in a 215-page report, noting, "Some munitions have begun to leak. Many munitions have become obsolete or unserviceable."

The weapons are stored at Army depots in Alabama, Arkansas, Colorado, Indiana, Kentucky, Maryland, Oregon and Utah and on Johnston Island, 715 nautical miles southwest of Hawaii.

The United States unilaterally announced in 1969 it would stop making chemical weapons and Congress repeatedly has rejected Reagan administration efforts in the last two years to resume production.

The U.S. chemical stockpile contains four basic agents — VX and GB, both nerve agents; mustard substances that cause blistering; and BZ, a hallucinogen that temporarily incapacitates people.

They are contained in rockets, land mines, artillery and mortar shells, bombs spray tanks, and also are stored in bulk containers.

John C. Fairbank, media relations officer for the U.S. Army Western Command at Fort Shafter, which oversees Johnston Island, said there are 73,000 M-55 rockets on the tiny atoll. All contain the VX or GB chemical gases.

(Fairbank said public hearings already have been held and approval won for the Army to build an incineration facility on Johnston Island. Construction is expected to begin next year on the project, with disposal of the weapons anticipated in 1988.)

The Army told the panel that about 90 percent of the munitions and chemical agents have "little or no military value" and the panel determined that disposal, using current technology,

could cost up to \$4 billion and take up to 20 years.

The council, organized by the National Academy of Sciences, examines scientific questions for the government and issues recommendations. It advised that all obsolete stocks be destroyed "as soon as possible" and found incineration was the "preferred means" of destruction.

It advised the Army to assess "the risks and costs of transporting munitions" before deciding whether to try to burn the weapons where they are or build regional disposal sites.

Dumping them in the ocean was banned by Congress in 1972, the group said, and chemical treatment to convert the agents into less hazardous forms would be "inadequate."

ns, report advises Army

Another possibility, "burying the weapons and destroying them in a nuclear explosion, poses great geographic and political hurdles," the panel said.

The panel said the Army already has disposed of large quantities of chemical agents with "no chemical-related injuries or environmental releases."

But it said safety must be in-

proved at the storage depots.

The recommendation to incinerate the deadly substances drew immediate fire.

"It disturbs me," said Kathy Flood, a member of Concerned Citizens of Madison County, Ky., and a member of a task force appointed by Rep. Larry Hopkins, R-Ky.

She said the chemical weapons should be packed up and

moved, rather than be burned in Kentucky.

The study panel said the M-55 rocket is the "most dangerous item" and urged the Army to give "top priority" to quick disposal. It said the rockets should be destroyed at the depots where they are located

— not taken to a central facility because leakage already has started.

From Page One ...

JOHNSTON: Workers set up a facto

Continued

employees are not allowed to own autos; they get around on foot or bicycle. And the only place to shop is the base exchange, which doesn't have clothes for women, she said.

Which leads to another drawback (or is it a benefit?) of life on this bustling but nearly barren U.S. territory 717 nautical miles west southwest of Honolulu: The ratio of men to women is about nine to one.

ON AN ISLAND that offers one mess hall, two bars, a bowling alley and an outdoor movie theater with chairs, the statistic becomes less exciting.

"You can't be wined and dined and go dancing," said Duels, who tries to stay away from island romance anyhow.

The island, named for British sea captain James Johnston and claimed by King Kamehameha IV, has had little romance in its own history. Turned into a military base during World War II, it has been bombed, dredged and filled in. It also has been the site of atmospheric tests for nuclear bombs, which led to plutonium contamination and a rather spectacular light show.

The explosion from one test in 1962 turned a midnight sky in Honolulu into noontime.

In 1971 it became a storage site for nerve agents, which apparently have coexisted without incident with the island's green turtles, birds protected by a wildlife refuge and about 250 trees affectionately named Johnston Island National Forest, also a popular picnic site.

The Defense Nuclear Agency now has authority over the island, part of an egg-shaped reef known as Johnston Atoll. Its mission is to provide a base of operations in case the United States resumes nuclear testing. Island tenants include the U.S. Army, which maintains the igloos.

THESE DAYS, a runway stretches across the white coral reef, sitting like a cattle brand on the rectangular property only 2 1/2 miles long. The igloos occupy one end of the island in the restricted Red Hat area; the dining room, post office, the soft ice cream machine and most of the other structures line Arnold Avenue, the island's Main Street.

Two doctors and a staff of emergency medical technicians treat patients in a six-bed dis-

pensary. Patients usually suffer from a sprain from a sports event or an infection from the island's coral, which carries bacteria.

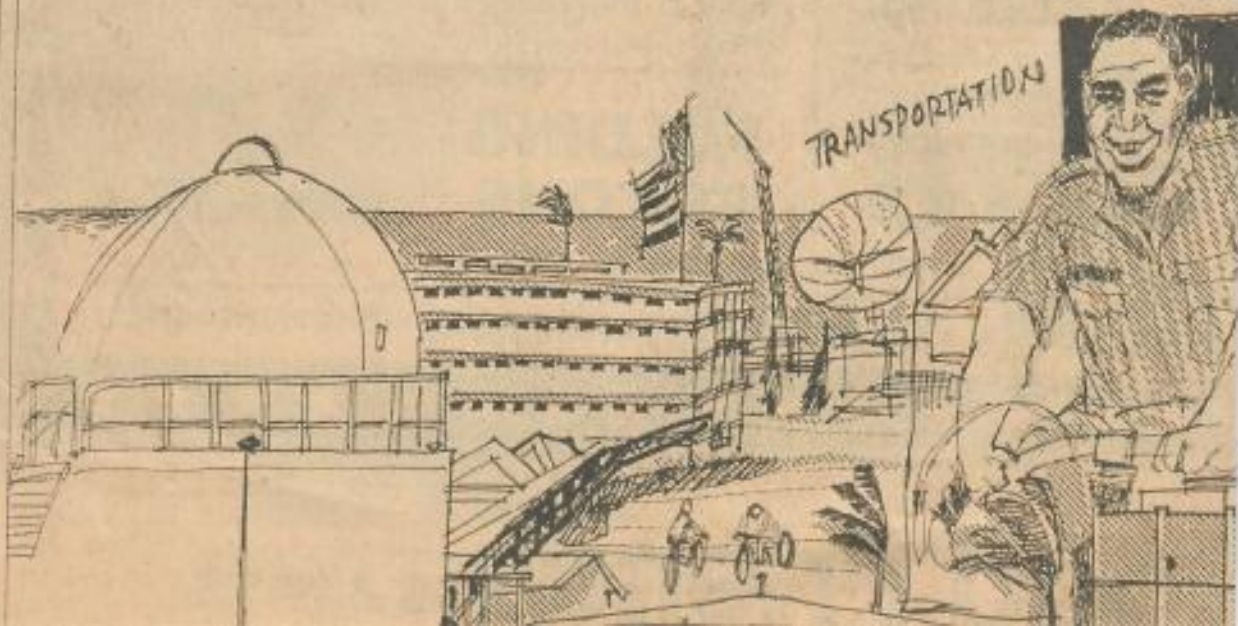
There's also a chapel with an ecumenical chaplain, though every now and then a priest arrives to say Mass. For night life, there's the Waikiki and Tiki clubs. Occasionally the Department of Defense brings in one of its road shows, providing pop entertainment. And for international and local news, there's "The Breeze," the official atoll newspaper published six days a week.

About 300 employees work for the Army's chemical operation and about 700 are building the incinerator and installing equipment. They live in barracks or apartments and rely primarily on the dining hall for food.

THE HALL, known as the "Best in the Pacific," represents one of the island's real hazards. Almost everyone who gets assigned to Johnston Island gains weight. Not only is the food good, but it also is abundant and affordable: free for the enlisted and \$3.00 a day for officers and civilians.

"They have a fine bakery,

Johnston Atoll workers beat boredom



ry to destroy rockets of nerve gas

with all kinds of pastries and donuts," said Army Maj. R.N. Vanderwarker, who spent 19 months on the island. "The donuts are on the rack and you can take a box to work."

Overall, however, the environment on Johnston Island is no-nonsense. Individuals need "entry authorization" before they can board the commercial or military planes that fly to the island. Only those who have jobs can stay. Spouses, visitors and children are not allowed. And if workers get too rowdy, they can be rounded up by the military police and sent home.

Employees work six days a week, often for 10 or 12 hours a day, easily earning \$1,000 a week with overtime. For some civilian workers, the money is a major draw. The military provides room and board for most workers, enabling them to save what they earn.

THE MILITARY also provides extensive recreational opportunities, such as sailing, scuba diving, swimming, racketball, tennis, golf, fishing, crafts, tournaments and races. For athletes, the highest honor is to become "Atoll Man," a competition that includes swimming,

bicycling and running.

In some ways, the activities give this serious military operation the feeling of summer camp.

Take Manny Fernandes' Sunday schedule, for example. Fernandes, 36, a project engineer for Hawaiian Dredging, gets up about 7:30. He plays tennis at 8:30, brunches about 10:30, goes boating or scuba diving about noon, has dinner about 4 p.m., then bowls with his league and ends the day with a movie.

"I've been here 14 months and there is not enough time to do all the things I want," he said.

The friendly faces and community barbecues also give the operation a sense of life in Middle America.

There's prime rib every Wednesday night and steak on Saturday night. You can have it cooked to order or cook it yourself over a grill. After dinner, stick around for some bingo, watch shooting stars in a smog-free sky and enjoy the quiet nights. For those who do own cars, they can't drive after 6 p.m.

"It's a little tropical paradise," Maj. Vanderwarker said. "Everyone knows everybody. You don't lock your doors.

There's virtually no theft."

BUT HE WARNS inhabitants can get the blues if they sit around and don't get out — though sometimes the blues occur from the job, and not the place.

"The problems seem to be larger, maybe because you can't get away from them," said Larry Stevenson, project manager for Hawaiian Dredging.

The "green flash" he occasionally sees on the horizon at sunset and the peaceful nights help him get through the pressures.

Despite exceptional wages and recreational opportunities, the place does get to some employees. About 30 out of a total Hawaiian Dredging workforce of about 500 have returned to Honolulu, he said.

Stevenson, who arrived in January 1986, has only four months before he can turn in his gas mask: "I can see the end."

So can Duels, who leaves in December.

"I'll be ready to get back," she said. "I miss my family and friends and civilization and reality. This is dreamland."

om with leisure pleasure





NERVE GAS: Costly chemical destructi

Continued

an elevator will take them to the second floor.

Human hands will feed the 6-foot-long weapons one by one into the disposal system. From there, automation will take over.

They will be punched with holes, allowing the liquid poison to drain. The liquid then will move to an incinerator, where scrubbers will remove dangerous gases from the exhaust.

At the same time, sturdy blades will cut the drained rocket into five pieces, leaving a pile of metal, motors and explosives. The parts will get fed into a kiln, where scrubbers there will attack the acid gasses.

In the end, the scrubbers will leave a salty brine that may be contaminated with heavy metals, but not with chemicals that kill.

THIS POLITICALLY sensitive U.S. Army project, known as the Johnston Island Chemical Agency Disposal System (JACADS), will be fired up two years from this month.

Designed to destroy the Army's obsolete weapons, it is

a big, visible and high-tech undertaking in the Pacific Ocean with its own stockpile of interesting facts and ironies.

For starters, government agencies and public interest groups, which frequently oppose each other, agreed on the objective: to destroy these dangerous weapons.

There still were concerns, however. The U.S. Fish and Wildlife Service addressed dangers to the island's wildlife and marine environment from the operation and resulting wastes.

In response, the Army poured money into safety and pollution control efforts for the lethal chemicals — and the costs reflect it.

From design to dismantling, the project is expected to cost \$400 million. The equipment and construction costs alone will be about \$140 million, twice the amount of the cost of the prototype disposal system at the Tooele Army Depot in Utah, which has destroyed more than 26,000 rockets.

Ironically, the cost to destroy the chemical weapons may be roughly the same as the cost to manufacture them. In the 1960s, each rocket cost \$120, a figure that would increase with 25 years of inflation. The Army

gives the current incineration cost per rocket "in excess of \$100." The exact figure, which could run much higher, is classified to protect the stockpile's size.

No new chemical weapons have been produced since 1969, by order of a presidential proclamation. The current stockpile, however, is immense.

It includes 72,000 rockets filled with liquid nerve agents GB and VX, which were moved from Okinawa to Johnston Island in 1971. It also includes the blistering agent HD or "mustard," contained in bombs, rockets, projectiles and mines.

To destroy 90 percent of these weapons, crews will have to work round-the-clock for four years.

THE PROJECT is on schedule, but over budget by about 10 percent, primarily from inflation, said Richard Rife, systems manager.

"It has received priority and support along the chain of command," including 1981 orders from Pentagon officials to get on line as soon as possible, said Rife, with the Army's Maryland office for chemical demilitarization. He was recently in Honolulu on a routine

Army environmental study will offer sev

Rockets containing chemicals known as nerve gas will enter at one end of the plant and leave as a milky translucent liquid that pours like oil.

During four years of operation, the Johnston Island disposal system will produce 7 million gallons of this brine. The nerve agents will be gone, but the brew may contain other contaminants that re-

quire careful disposal.

Army officials have prepared a supplemental environmental impact statement to outline possible disposal methods of the brine and other wastes, including scrap iron and ash.

The review is expected to be released within a few weeks. Copies will be distributed to the Environmental Protection Agency, interested agencies

and libraries for public comment.

Alternatives for brine disposal include ocean dumping or drying the brine into salts, which could be shipped to a mainland landfill or stored on Johnston Island. The Army has assumed the brine will be hazardous, which means the dried salts could only be deposited in a landfill designated for haz-



on process will take up to four years

trip to the Johnston Island project site.

Hawaiian Dredging and Construction Co., which received the \$47 million contract to build the facility, broke ground in January 1986. The structures, which include the processing plant, a chemical laboratory to monitor the waste products and air, guard house and personnel support complex, should be up by November, Rife said.

Virtually all 280 employees will have a gas mask and tube of an antidote, which stops the chemical's attack on the nervous system. The antidote can be self-injected into the thigh.

If the dose is not lethal, the body flushes out the agent in several weeks, said Maj. R.N. Vanderwarker, chief of the nuclear chemical division at Western Command.

Since 1971, only one incident has occurred in which an employee was hospitalized for possible exposure, he said. The incident occurred in March when a 12-member team investigated a leak from an M55 rocket. While none of the employees displayed overt symptoms, four had a lower enzyme level, suggesting possible expo-

sure to the chemical. One received medication to counter the low enzyme level and was observed at Tripler Army Medical Center.

JOHNSTON ISLAND is one of 10 sites in the United States and overseas where obsolete chemicals are stored. A federal law prohibits the return of the chemicals to any of the 50 states.

Before 1969, the U.S. Army routinely disposed of the obsolete chemicals by open pit burning, land burial or ocean dumping.

Disposal, however, changed course in 1969 after the public objected to an Army plan to dump 27,000 tons of the chemicals and munitions into the ocean.

After a study, National Academy of Sciences recommended the Army avoid sea dumping. It proposed the Army determine a disposal method on appropriate military bases that did not involve hazards to the general public or pollution to the environment.

An environmental impact statement on the Johnston Island plant was prepared by the

Army and filed in 1983 with the Environmental Protection Agency, which approved the plan.

Several agencies and a few members of the general public commented on possible adverse effect on fish and wildlife from increased recreation.

"We've been part of the process and we're satisfied with the project," said Stewart Fefer, refuge complex manager for the U.S. Fish and Wildlife Service in Honolulu. "The Army has been cognizant about the problems to the wildlife. It's a very high visibility project."

He said the agency has monitored the effect of the project on island birds, whose populations have increased during construction.

Another concern raised by the agency and the public was the disposition of the facilities after completion. Rife said the plant will be disassembled after all munitions are destroyed.

The Department of Defense has a current proposal to produce new binary chemical weapons, which do not become deadly until they explode and the separated agents combine.

Several alternative disposal options

ardous wastes. Hawaii does not have any appropriate landfills.

A third alternative involves dumping the brine through an outfall pipe off the island.

The Army has proposed to dump the scrap iron in the ocean or ship it to the United States, where it could be sold. The mixed ash could be stored on the island or encapsulated in concrete coffins and dump-

ed in the ocean or shipped to the mainland.

The Army will determine if it will hold a public hearing on disposal methods, based on the significance of the comment, said Richard Rife, systems manager of the Johnston Island project.

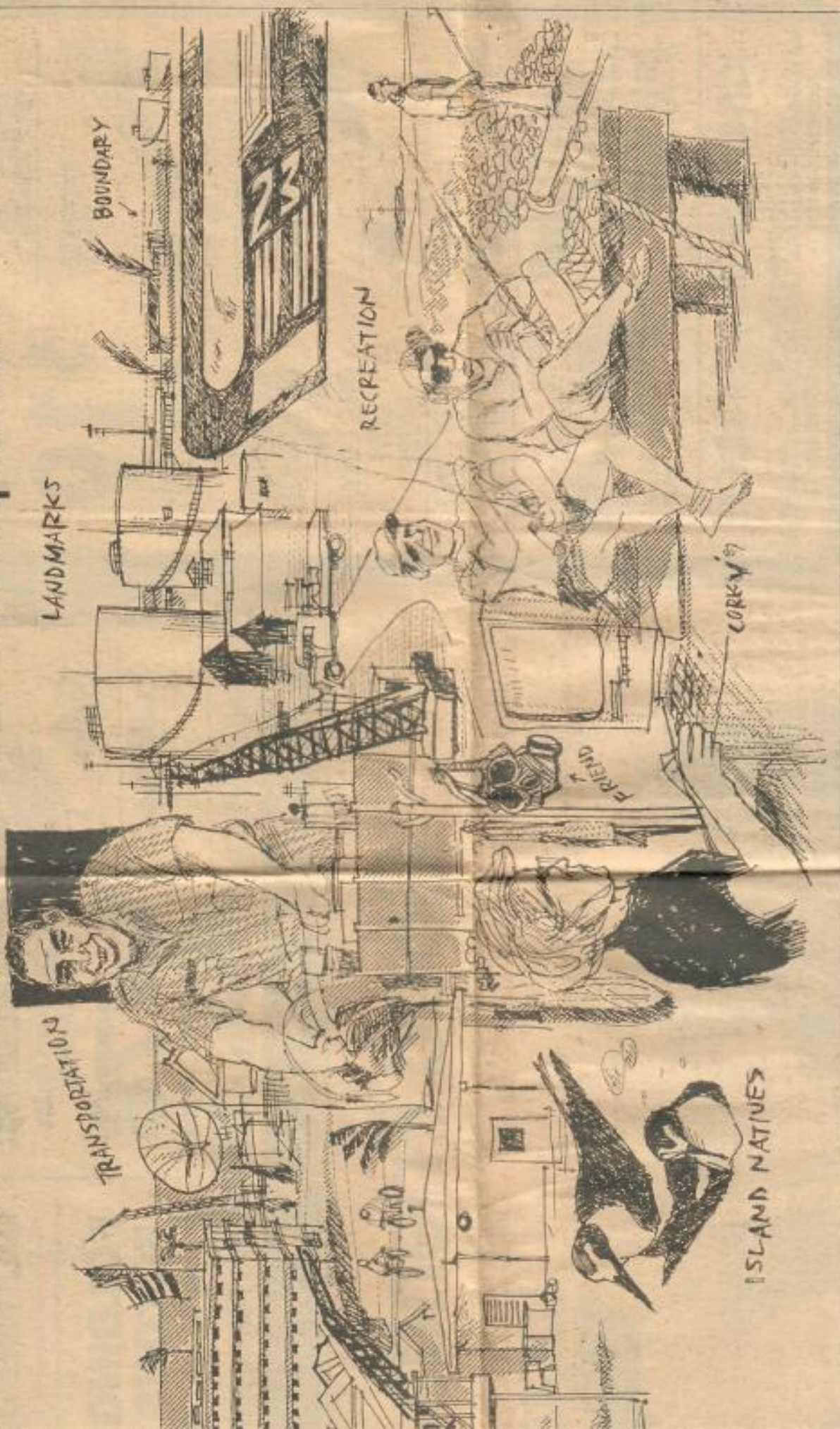
If meetings are held, their location will depend on the ori-

gin of the comments, he said.

If the Army selects ocean dumping, it would have to request that EPA designate a site and issue a permit to use it, he said. If the Army selects a landfill, it may have to prepare a review specific to the site.

By Linda Hosek, Star-Bulletin writer

Oil workers beat boredom with leisure pleasure



TRANSPORTATION

LANDMARKS

BOUNDARY

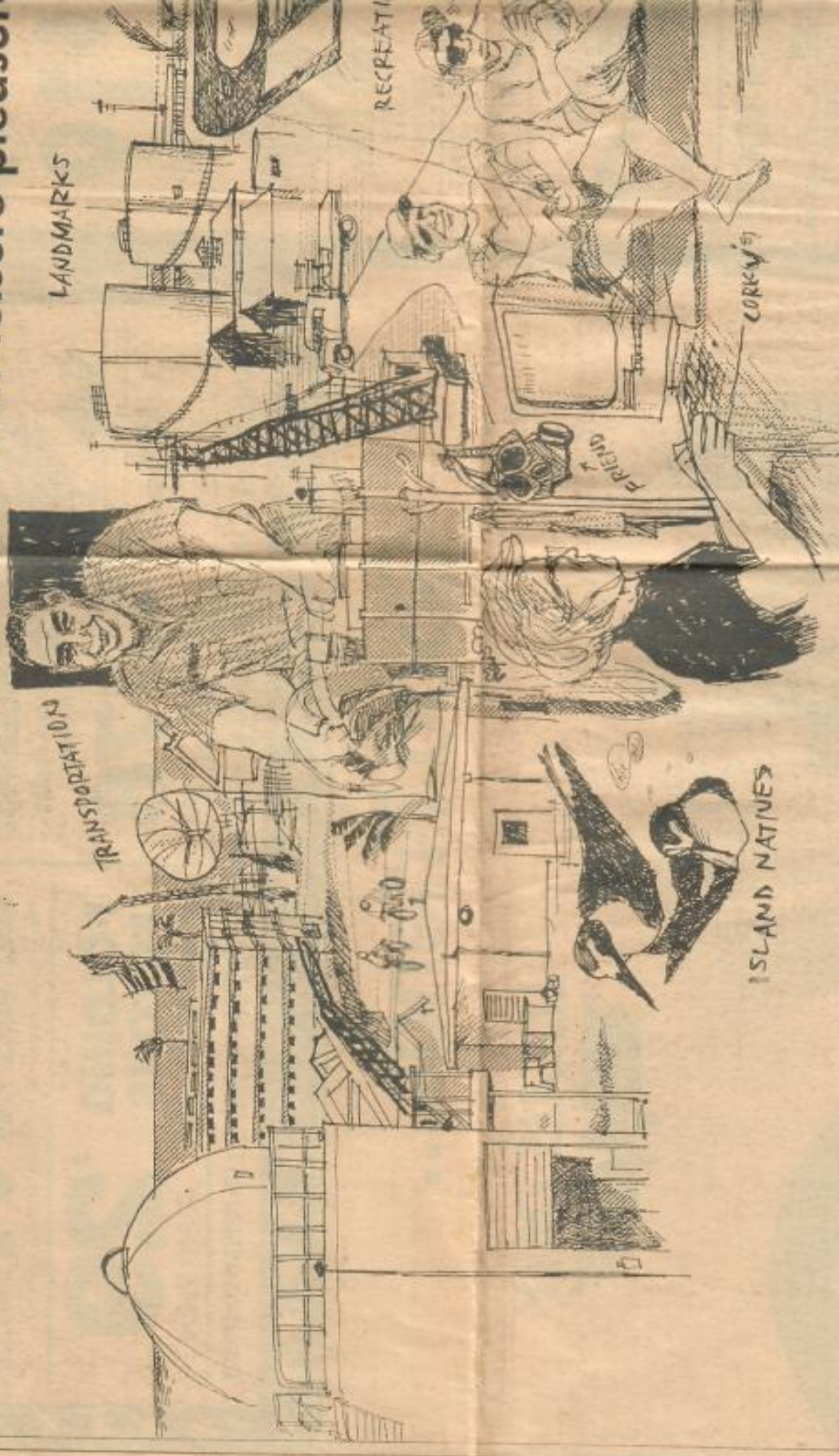
RECREATION

ISLAND NATIVES

FRIEND

COREY '89

Johnston Atoll workers beat boredom with leisure pleasures



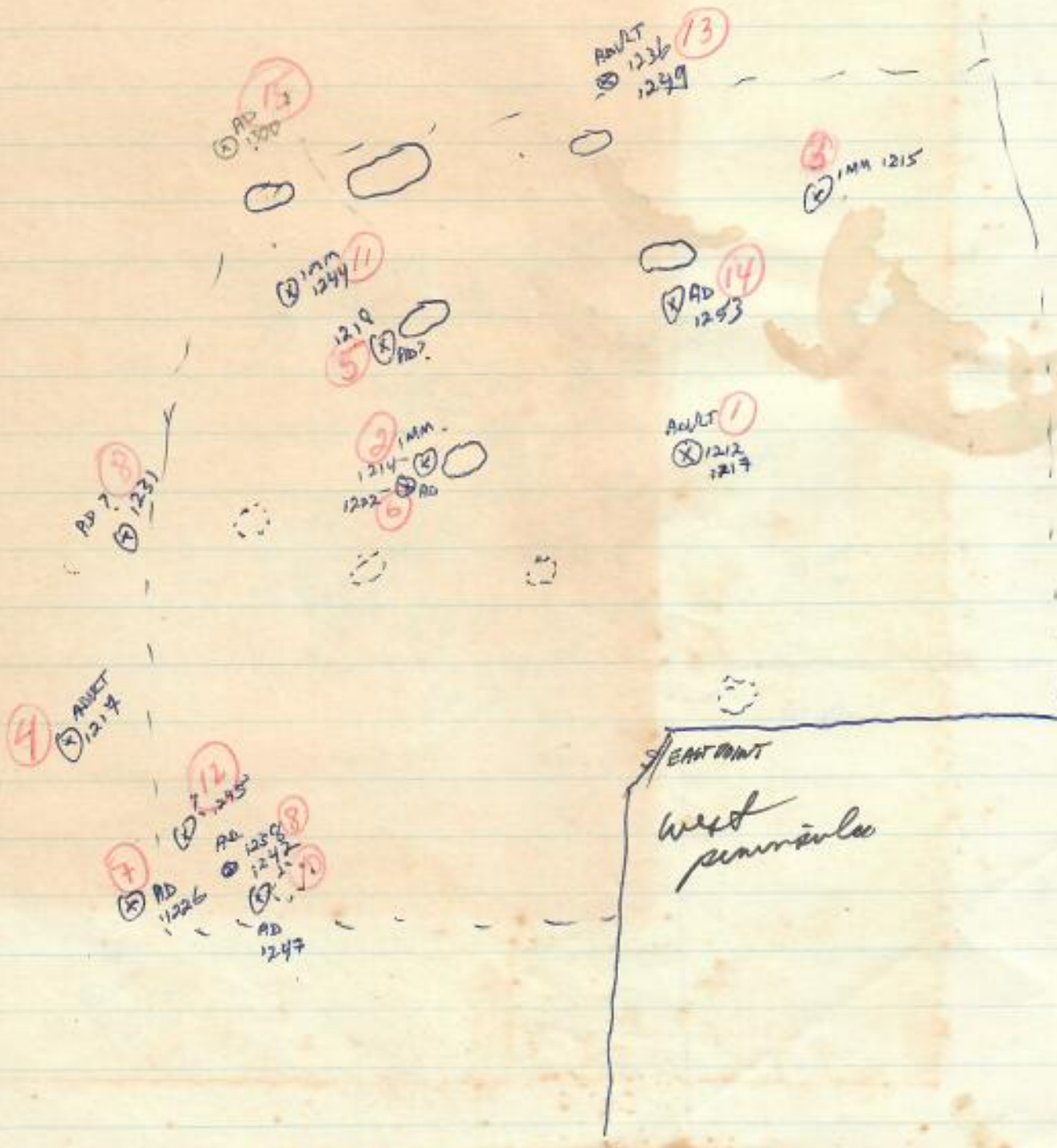
(MICHAEL LESLIE)

1210-1305 HENDERSON OBS.

11/16/83 high tide 2:49 pm 1.9'

55 MINUTES

15 sightings & saw 5-8 different turtles?



Turtle observation
west side of
East Peninsula

1015-1045 11/17/83

Diomedea

no turtles

1330, 11/15/83, West Peninsula

When checking the nets for entangled turtles I observed the following incident at the net farthest from shore, running parallel to the long axis of the island.

A large turtle approached the ^{East end of} net from the NW, swam alongside the net a short distance, swam around the float and then west along the south side of the net for, perhaps, 10m then south to the coral head there.



Looks like at least one of them "knows" nets — did not see white #'s on it.

Bill

Turtle observations @ North Island Johnston Atoll
 11/10/83 - W.G. Schwartz

<u>Time</u>	<u>Location</u>	<u>Turtle Sightings</u>
0805-0835	Initial walk around island, all shores	none
0845-0900	West beaches (out to ~150m)	none
1055-1110	"	"
1240-1255	"	"
1400-1415	"	"
1540-1600	"	"
0905-920	North beaches	"
1110-1125	"	"
1255-1310	"	"
1415-1430	"	"
1600-1620	"	"
0925-0940	East beaches	"
1125-1140	"	"
1310-1325	"	"
1430-1445	"	"
1620-1640	"	"

<u>Time</u>	<u>Location</u>	<u>Turtle Sightings</u>
0945-1000	South beaches (out to ~150m)	none
1140-1155	" "	"
1325-1340	" "	"
1445-1500	" "	"
1640-1700	" "	"

from shore observations: East Island

~~11/11~~¹⁰/83 0800 → 1700

by G. Peterson

0800 - 0835 - Complete circuit of island
shoreline

0835 - 0915 - obs. area 1 - "camp"

0920 - 0950 - obs. area 2

1000 - 1100 - obs. area 3

1120 - 1150 - obs. area 4

1150 - return to "camp" for radio call @ 1200

1200 - 1300 - lunch - intermittent obs. - area 1

1310 - 1355 - area 2

1355 - 1410 - area 3

1410 - cross island to secure gear - due to approaching
squall

1420 - 1450 area 4.

1500 - 1545 area 3

1550 - 1615 area 2

1615 - 1700 area 1

1700 - packed gear / left island at 1710.

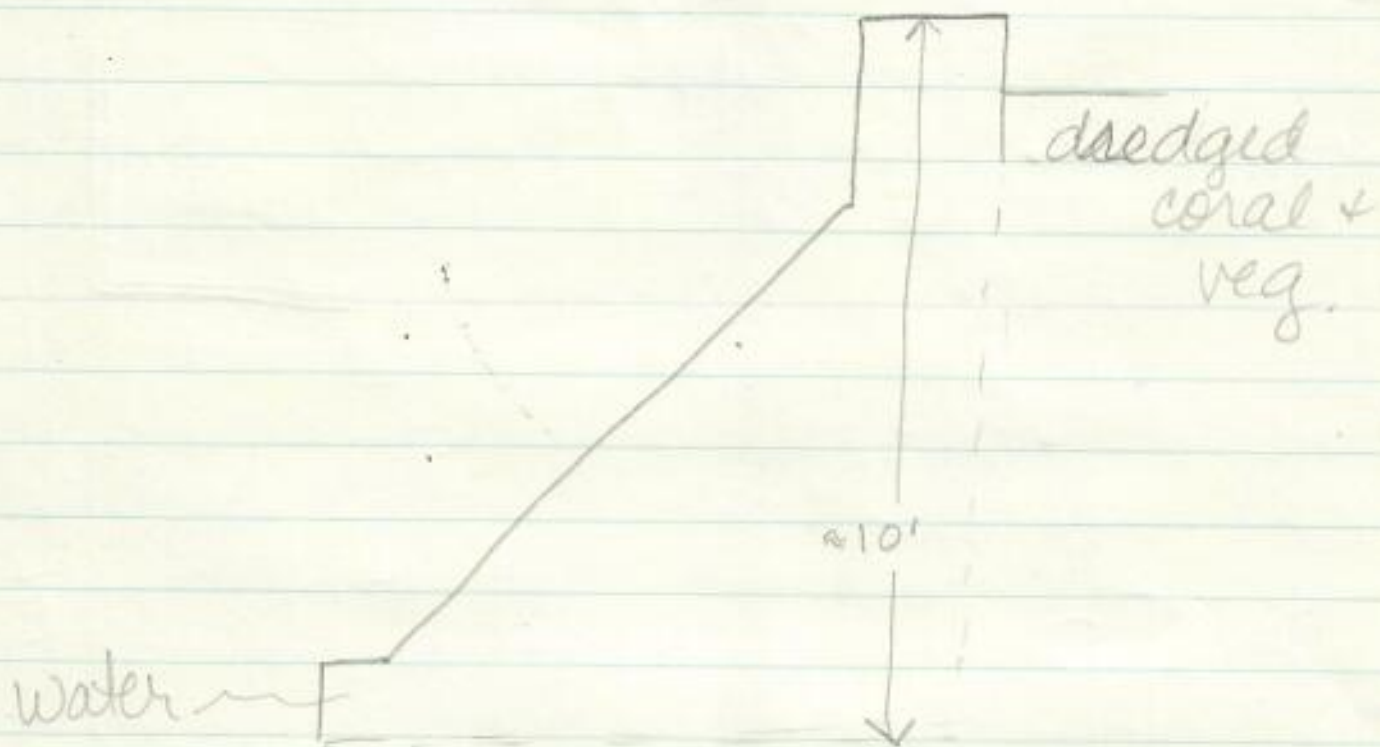
East
11/11/23

I sketched the island (Fig. 1) giving a description of the shoreline and near shore waters. Also noted are my observation points, algae locations, and location of marine life seen.

During the course of the day's observation no turtles were sighted in the surrounding waters of East Island (I.A.). I surveyed with binoculars all the coral heads in each observation area at least 2 times in the morning and afternoon. Other observations were ^{made} with naked eye to cover a larger field of view. During this period very little was seen. No rays, sharks or large fish were observed.

11/11/83

side view of sea wall East Is.



NOV 9: GAIL PEITERSON AND JOHN HENDERSON MADE TWO SNORKEL
EXCURSIONS FROM SAND ISLAND TO SURVEY FOR BENTHIC MACROALGAE.
THE FIRST (A) - FIG 1) SPANNED ≈ 20 MINUTES AND EXTENDED
 ≈ 200 M. FROM SHORE. TWO SPECIES OF MACROALGAE WERE NOTED:

CAULEPILA ARCEMOSA (TOXONYX OF MAGRUBER & HUNT) OCCURRED IN
SHALLOW (< 1.5 M) WATER, AND EXHIBITED A LOW GROWTH
ASPECT WITH MANY RAMIFYING RHIZOIDS ADHERING TO THE SUBSTRATE.
THE SPHERES ("GARBES") OCCURRED ALONG THE RHIZOIDS, SINGLY
RATHER THAN IN UPRIGHT CLUSTERS. THE SUBSTRATE WAS HARD,
COVERED BY A THIN (< 1 CM) SILTY LAYER.

CAULEPILA SP. (?) OCCURRED FURTHER FROM SHORE (1-2 M DEEP)
ON ISOLATED RUBBLE. THIS SPECIES POSSESSES LOW RHIZOIDS
WITH UPRIGHT PROJECTIONS WHICH ARE KNOBBY & ALMOST STARLIKE.

THE 2ND EXCURSION (B) - FIG 1) SPANNED ≈ 1 HR AND EXTENDED
 ≈ 400 M. FROM SHORE. 4 SPECIES OF MACROALGAE WERE

OBSERVED:

CAULEPILA ARCEMOSA, AGAIN NEAR SHORE (< 1.5 M), PREDOMINANTLY
IN THE LOW GROWTH ASPECT. IN SOME SHELTERED LOCATIONS,
NEAR THE NORTH PROMONTORY (C) - FIG 1) THE SPHERES ARE
CLUSTERED AND UPRIGHT.

CAULEPILA SP. AS ENCOUNTERED IN PREVIOUS EXCURSION,
THOUGHT TO A DEPTH OF 4 M.

UNID. RHODOPHYTE - FILAMENTOUS BUT FORMING A

(2)

"MUSHROOM" SHAPED GROWTH ASPECT, WITH SPONGY TEXTURE.
OCCASIONAL CLUMPS 3-6 M DEPTH.

DICTYOSPHAERIA VERSLUYII: ONE COLONY, ≈ 2-3 M. DEEP.

NOV 11: JRH SURVEYED FROM SHORE FOR TURTLES. A CIRCUIT OF THE
ISLAND SPANNED ≈ 1½ HRS. SURVEY TIMES WERE AS FOLLOWS.

0745 - START

0920 - OFF

0935 - START

1200 - OFF

1315 - START

1505 - OFF

1530 - START

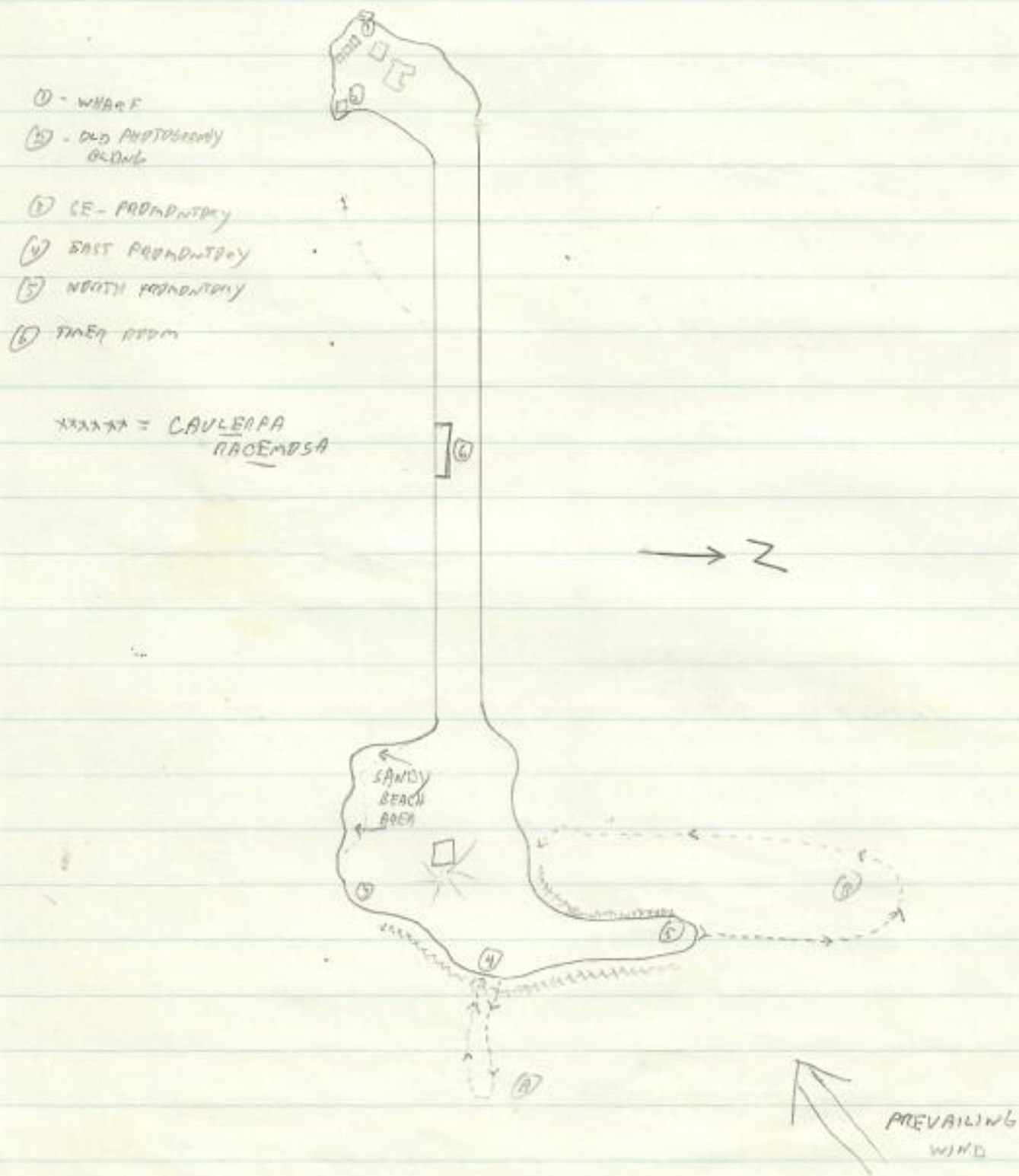
1700 - OFF

BESIDES OBSERVING FROM THE SHORELINE, I USED 3 HIGH
VANTAGE POINTS. 1) THE HIGHEST POINT ON THE EAST SIDE OF
THE ISLAND, 2) THE CATWALK ABOVE THE DIESEL TANKS, 3)
THE ROOF OF THE ABANDONED PHOTO-TRACKING OUTPOST.

NO TURTLES WERE SIGHTED.

AN INTERESTING OBSERVATION IS THAT THE WEST (DOWNWIND)
EDGE OF THE NORTH PROMONTORY (AN OLD CORAL BENCH)
AFFORDS A SHELTERED, CAULERPA COVERED AREA OF ≈ 1.5 M
DEPTH AT HIGH TIDE WHICH SUPERFICIALLY APPEARS SUITABLE
FOR TURTLE GRAZING

FIG. 1. SAND ISLAND

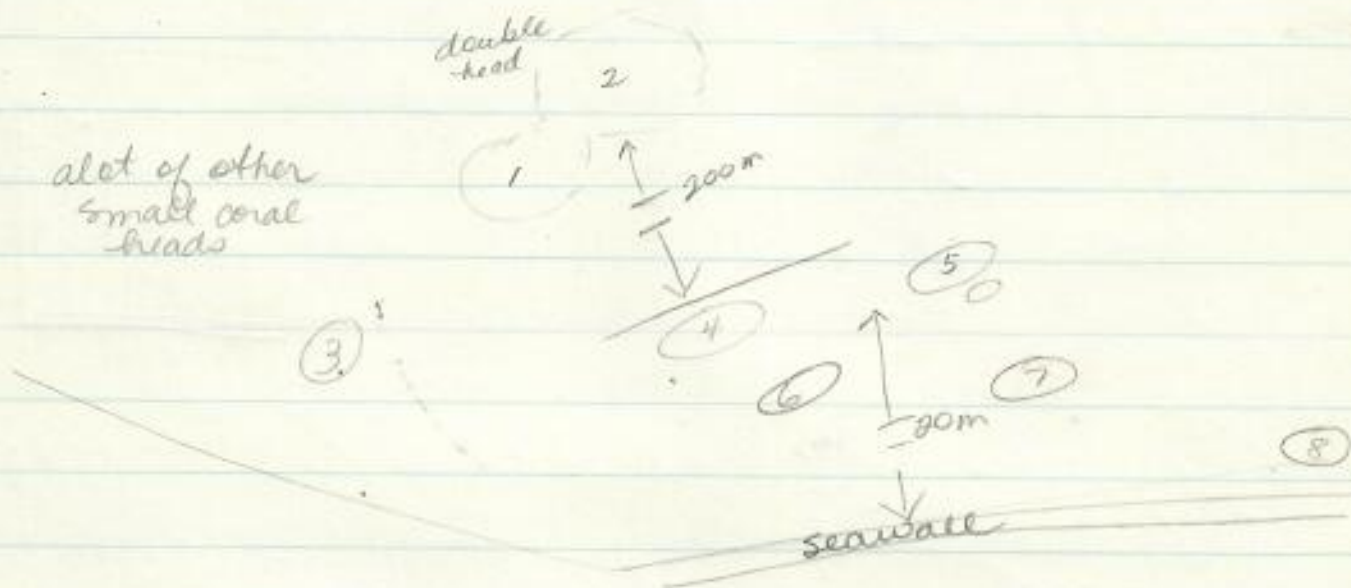


Shelton

1215 - 1300

16 Nov 83

Red Hat Obs. Pt.



area observed continuously 1245 - 1300
by naked eye with intermittent checks
with binoculars.

Coral head #	time	comments
1+2	1215 - 1300	awash / no turtles
5	1249	Ad ^{ult} turtle - facing shore - submerged
6	1250	Sm. Ad - 2 breathes dive in same spot
5	1300	Ad - facing shore - 1 breath + dive

Steiterson

16 Nov 83

1500 - 1515 ; 1520 - 1535

East
Pena.

o o
o o
o o
o o
o o
o o

piling

1500-1515 - No turtles

1515-1520 - left area to do a net check @ West Pena

1520-1535 - No turtles

27 Nov 1983

JACK G. FRAZIER

USNM 163581 (Catalogue entry)

Accession No. 278016

Original No. 11287

Name Chelonia mydas/ japonica

Locality Sand Id., Sohnston Atoll

Date collected Nov 20 1966

Received from Smithsonian Institution Pacific Ocean Biological Survey Project

Collected by -

When Entered Sept 14 1967

Sex & no of spec. 1

head/

USNM has 1 head in tank 8 in alcohol, evidently collected fresh on a white sand beach after the left side of the head was cut (with a machete?); head width is approx 10 cm

George,

If you need more information the only source is the people who were on POBSP.

Best wishes for the holidays and new Year.

Foch



DEFENSE NUCLEAR AGENCY
JOHNSTON ATOLL, FIELD COMMAND
APO SAN FRANCISCO 96305

FCJ

SUBJECT: Letter of Welcome

TO: Visiting Personnel

On behalf of Field Command, Defense Nuclear Agency, and the entire population here at Johnston Atoll, I would like to extend to you a very warm and sincere welcome. Your stay with us, regardless of purpose or duration, is a welcome one, and I can assure you that everything will be done to make your visit as pleasant and productive as possible. If there is anything that you find unsatisfactory with respect to our services, please feel free to call our Logistics Officer, Major Mitchell, Ext 2359, or myself at Ext 3005 anytime.

Our mission here at Johnston is one of nuclear test readiness. In that regard we operate in support of Safeguard C to provide the capability to resume atmospheric testing should it be directed by appropriate authority. In addition to our primary mission of readiness, we support several tenant organizations including an Army Chemical Company, a Coast Guard LORAN Station, and a National Oceanic and Atmospheric Administration (NOAA) Weather Service Detachment. Base support functions are performed by an American Forces Radio and Television Service unit, AFEES and by civilian contractors which include Holmes and Narver for operations and maintenance and Kentron for communications support and cablehead maintenance.

We sincerely hope that your stay with us will be enjoyable. The accompanying enclosures will help explain the wide variety of activities and services available to you. May your visit be a safe and rewarding one. Once again, welcome.

Patrick C. Moore
PATRICK C. MOORE
Lt Colonel, USAF
Commander

BRIEF HISTORY OF JOHNSTON ATOLL

Johnston Atoll was first sighted by the American Brig SALLY of Boston on 12 Dec 1868 but is named after Captain Charles James Johnston, a British sea captain who is credited with its official discovery on 14 Dec 1807.

The Atoll first came in public light when in 1926 it came under the jurisdiction of the Department of Agriculture as a breeding ground and refuge for the native birds which flocked here.

In the early 1930's the Atoll was placed under the jurisdiction of the Department of the Navy and in the ensuing five years the Pacific Fleet made rather infrequent visits to Johnston Atoll.

In 1939 the US Navy began construction of an air base which was destined to play an important role during World War II. The Atoll was shelled during the early months of the war but provided important facilities for submarine patrol and fighter aircraft tasked with major defenses in the battle for the Mid-Pacific. By 1944, Johnston Atoll was an important midpoint and communication center on the aerial highway for tactical aircraft ferried to the distant war fronts. The increased air traffic brought expansion of the existing land mass by adding coral dredged from the lagoon.

Management of Johnston Atoll was transferred to the Air Force on 1 July 1948. It became a base under the jurisdiction of the Pacific Air Command and Military Transport Service. It played an important role during the Korean War as a staging point for transports and fighters.

In 1958, for a few months, the Atoll came under the Commander of Joint Task Force Seven, a special organization formed to conduct operation HARDTACK, a series of atomic tests in the Pacific. Once these tests were completed the Atoll reverted back to Air Force control.

In 1962 the US decided to resume atmospheric nuclear testing after the nuclear test moratorium was abrogated. Joint Task Force Eight, charged with responsibility for conducting the 1962 Pacific atomic tests, took control of the Atoll on 18 July 1962. Johnston Atoll was the site of the Dominic series tests, several high altitude nuclear tests events. The Limited Test Ban Treaty brought a halt to atmospheric nuclear testing; however, under the guidelines of Safeguard C, the Defense Atomic Support Agency, later to become the Defense Nuclear Agency, decided to concentrate this nation's overseas Nuclear Test Facility at Johnston Atoll. Joint Task Force Eight took control of Johnston, and the Atoll was converted to the Central Test Facility. Expansion of the land mass was begun in 1962 and by 1969 was enlarged to include dredge construction of two man-made islands, North (Akau) and East (Hikina). Today the Atoll encompasses a total of 691 acres. By 1970 a decision had been made to reduce test readiness funding, and JTF-8 was inactivated and administrative and operational control of the Atoll was transferred to the Air Force on 1 July 1970. In the next three years use of the Atoll was expanded, and because of its isolated location it became the storage site of various Army chemical warfare agents and Air Force Herbicide assets. The basic mission of the Atoll--maintenance of a nuclear test readiness to test support base--continued throughout this period. The dual management Defense Nuclear Agency and Air Force presented problems in maintenance management and budgeting, and on 1 July 1973 high-level planners decided that one DOD agent should have both major responsibilities, and the Atoll was transferred from the Air Force to the Defense Nuclear Agency.

Today Johnston Atoll's mission is to maintain and operate the Atoll in Caretaker status for use as a base in the event of a return to nuclear testing under Safeguard C and to provide base support to tenant organizations.

DEFENSE
JOHNSTON
A

Housing and Subs

Personnel

All housing and mess
are operated
are no civilian o
must use the contra

Effective 1 Sep 82
personnel are \$10.85 f
incorporated for the a

Breakfast: \$
Lunch:
Dinner/Brunch:
Box Lunch:

On first duty de
Building 20, JOC

Prior to depart
ance (second fl
omplished durin
duty hours rep

NEWCOMERS HANDOUT

The following leisure time activities are available for your use. The Recreation Department is located on the 1st floor of building 20 (JOC), room 102. There is additional special sports equipment available for check-out.

<u>FACILITIES</u>	<u>OPERATING HOURS</u>	<u>REMARKS</u>
Radio		Radio 24 hrs, TV 4 hrs a day Sun-Thurs and 12 hrs Fri & Sat (Color video cassette programming).
Movie Theater-South end of bldg 4 (Indoor), Outdoor is next to the Post Office.	Daily 2000	Soft drinks, beer, popcorn & candy sold, free movie schedule is listed in the "Breeze".
Basketball courts, Indoor court (bldg 119), Outdoor access from the Dining Hall.	Daily	Check out basketballs from Special Services, ext 2557/3296. Volleyball league also played on courts.
Boat house, bldg 127, ext 2355	Mon/Wed/Fri 1200-1900 Sat/Sun 0730-2100	Boston whalers, sailboats, water skis, Scuba & snorkeling equip. Report to FCJO, JOC to qualify.
Bowling Alley Bldg 206, ext 2997	Daily 1730-2100	League play & open bowling on various nights.
Fishing (Port Control)	As Scheduled	Deep sea & off shore, limited supply of lures.
Golf course, par 3 at end of island	Daily	Check out golf clubs at Special Services, room 102, JOC. Tournaments play 0900 Sundays.
Golf course - Mini north of bldg 290	Daily	Check out putters at Special Services.
Library recording Bldg 20, 1st floor, center SW corner	Mon-Sat 0800-1100/1700-2000 Sun 1200-1600	Wide selection of books & magazine can be borrowed, periodicals & records are also available.
ARS station Bldg 30	Mon-Fri 1000-1100	Three minute calls to the Mainland are usually free.
Photo Lab Bldg 190, room 116	Daily	Must pass approved photo class, purchase own supplies, except chemicals.
Racketball Court Bldg 20, 1st floor	Daily	Make reservations at Special Services. Rackets and balls also.
Base Exchange JOC, 1st floor	Mon-Wed 1130-1230 & 1700-1830, Thurs & Fri 1600-1830, Sat & Sun 1130-1330	Located near the racketball court.

na - West of Swimming Pool	Mon-Wed/Fri-Sun 0900-2400/Thurs 1300-2400	10 minute limit recommended for first time users.
Swimming Pool ac 704, ext 3888	Mon-Wed/Fri-Sun 1130-1730	Lifeguard on duty at all times. Swimming lessons available to interested personnel.
Tennis Court across from Dining Hall	Daily	Check out tennis rackets at Special Services.
SO Shows	As Scheduled	Usually one per quarter.
Video Tapes	As Scheduled	Week delayed TV from Honolulu, generally movies & special sporting events.
Weightlifting Room Bldg 512	Daily	Buddy system recommended. Call ext 2577 for more info
Wood Hobby shop Bldg 32, ext 3063	Mon/Wed/Fri 1700-2000 Sat/Sun 1300-1700	Must be checked out by IUF Officer, JOC, Rm 221. Get key from Security. Buddy system in effect at all times, individuals will clean up after use.

NOTES:

1. Newcomers briefing is the first Monday of each month, JOC, 2nd floor, Conference Room. This briefing is mandatory for all newly assigned permanent party.
2. Energy Conservation: Last person using recreation facilities must turn out the lights.
3. Various other activities are available throughout the year. Such as card tournaments; bridge; pinochle and cribbage. Shuffle board, pool and ping pong tables are located in the clubs and dayrooms.



United States Department of the Interior
FISH AND WILDLIFE SERVICE

BRIEFING SHEET

JOHNSTON ATOLL NATIONAL WILDLIFE REFUGE

Johnston Atoll is part of the National Wildlife Refuge System and is managed cooperatively by the U.S. Fish and Wildlife Service and the Defense Nuclear Agency at Johnston Atoll in the north central Pacific Ocean for marine wildlife.

The U.S. Fish and Wildlife Service maintains more than 350 National Wildlife Refuges, totaling more than 30 million acres. These are managed for the benefit of wildlife--nesting, resting, and feeding areas for sea birds, shore birds, and waterfowl and habitat for mammals. The Service makes its facilities available for public use to the extent that such use does not hamper the purpose for which the refuge was established. Refuges also provide millions of days of recreational opportunities including sport fishing and wildlife observation per year. Scientific research is also a valid activity on National Wildlife Refuges.

The animal life of Johnston Atoll is quite varied and abundant. Invertebrate animals include 18 species of coelenterates (jellyfish to corals), over 58 species of mollusks, 12 species of annelids, 75 species of marine crustaceans, and 68 species of insects. Vertebrate animals include 194 inshore species of fish, the green sea turtle, the Hawaiian monk seal, and 56 species of birds including 22 species of migratory sea birds, 12 of which breed on the atoll.

Regulations for the protection and conservation of the natural resources, fish and wildlife of Johnston Atoll, are in effect. It is prohibited for any person to hunt, trap, capture, willfully disturb, or kill any bird of any kind whatever, or take the eggs of such bird, except as specifically authorized by the Refuge Manager, U.S. Fish and Wildlife Service. It is also prohibited for any person to hunt, trap, capture, or kill any member of a species which has been designated as threatened or endangered pursuant to the Endangered Species Act of 1973. No molesting or harvesting of turtles or seals is permitted.

No animals of any kind are permitted upon Sand Island, except for a reasonable number of domesticated dogs which personnel may keep as pets. Any such domesticated dogs must be restricted from entering the nesting areas of the island.



No animals of any kind are permitted on East Island. There shall also be no human visitation to the nesting areas during the nesting season (February 1 - September 1), except for purposes of facility maintenance and repair. Reasonable use of unvegetated beach and the dock areas will be permitted during the nesting season incident to recreational fishing and diving activities.

Lagoon (areas within the reef) fishing is limited to sport fishing for recreational purposes and for authorized scientific purposes only. Diving and shell or coral collecting are limited to recreational and scientific purposes only. No commercial activity is permitted. Harvesting of mature lobsters is permitted for personal consumption only on a noncommercial basis. The lobster season shall be closed during the period June 1 to August 31. Harvesting of lobsters of less than mature age (approximately one pound) is not permitted at any time.

The use of nets within the lagoon is prohibited except for throw nets with a minimum mesh size of one and one-half inches stretched diagonal measure.

Refuge headquarters is located at 337 Uluniu Street, Kailua, Hawaii 96734. Telephone contact is 808-261-9781. Inquiries concerning the Refuge should be directed to that office.

October 1, 1976



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
Honolulu Laboratory
P. O. Box 3830
Honolulu, Hawaii 96812


23 November 1983

Col. Richard Hartman
Fitzsimmon Army Medical Center
Department of Pathology & ALS
Aurora, Colorado 80045

Dear Col. Hartman:

During October and November I conducted a small baseline assessment of green sea turtles (*Chelonia mydas*) at Johnston Atoll. This work was done for the Army Corps of Engineers' JACADS project. A part of this study included cholinesterase analysis by Lucille Bodnar of the Johnston Is. dispensary. Lucille suggested that I write to you for clarification on the results she obtained. As shown in the attached data sheets, significantly different values were obtained for each turtle when samples of 0.2 ml and 0.4 ml were run. Can you explain this difference? Is it possible that the test is not suited for green sea turtles? Any information that you can offer on this problem will be greatly appreciated.

Sincerely,


George H. Balazs
Wildlife Biologist

8 December

Dear George,

Captain Carmichael phoned me last Monday. I tried twice to discuss the turtle business, but we were abruptly disconnected on the Autovon line. He planned to call you. I hope he did. His feathers were a little ruffled, because we didn't go through the usual time-consuming channels, but he did not belabor the point.

My bird patient would not eat the fresh fish I laid at its feet. I put two types of water containers nearby. Next morning the bird was sitting on the fish - none had been eaten. I changed the water, but it is doubtful any was sipped. Sunday afternoon two people brought the bird to the clinic. We decided to drench a boy with ether. The bird never struggled. It was still before we got the lid taped. It was agreed that I would call your referral name about the other matter.

My best
Lucille Bodnar

I did not have enough room in my run to include the 0.4 ml aliquot. I will include that in my next run which will be anytime after Thursday. Fresh buffer takes two days to prepare.

The normal range for this method is:

0.63 - 0.89 $\mu\text{g}/\text{hr}$

Lucille

Keep em coming!

BALAZS, George H.
NOAA (NMFS)

SPECIMEN/LAB RPT NO

MISC

URGENCY
 ROUTINE
TODAY
 PRE-OP
STAT

PATIENT STATUS
 BED AMB
 OUTPATIENT
 NP DCM

SPECIMEN SOURCE
(Specify)

Blood-Vein

LABORATORY FILE

JOHNSTON ISLAND DISPENSARY
APO SAN FRANCISCO 96305

Enter in above space PATIENT IDENTIFICATION—TREATING FACILITY—WARD NO.—DATE

REQUESTING PHYSICIAN'S SIGNATURE

Emmett L. KEHOE, M.D.

REPORTED BY

L.B.

MD DATE

TECH

23 Nov 83

LAB ID NO

REMARKS

Cholinesterase Test - PCS

SERUM OR PLASMA Δ ph/hr
PACKED RBC'S $.72 \Delta$ ph/h
Michel Manual Electrometric Methods

EMMETT L. KEHOE, M.D.
Chief Medical Officer

TEST(S)
SPECIMEN TAKEN
DATE TIME REQUESTED
11/16/83 1025M

RESULTS

667-105

MISCELLANEOUS

STANDARD FORM NO. 3 (7/77)
General Services Administration
GSA FPMR (41 CFR) 101-11.6

BALAZS, George H.
NOAA (NMFS)

SPECIMEN/LAB RPT NO

MISC

URGENCY
 ROUTINE
TODAY
 PRE-OP
STAT

PATIENT STATUS
 BED AMB
 OUTPATIENT
 NP DCM

SPECIMEN SOURCE
(Specify)

Blood-Vein

PATIENT'S MED. RECORD

JOHNSTON ISLAND DISPENSARY
APO SAN FRANCISCO 96305

Enter in above space PATIENT IDENTIFICATION—TREATING FACILITY—WARD NO.—DATE

REQUESTING PHYSICIAN'S SIGNATURE

Emmett L. KEHOE, M.D.

REPORTED BY

L.B.

MD DATE

TECH

23 Nov 83

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EMMETT L. KEHOE, M.D.
Chief Medical Officer

TEST(S)
SPECIMEN TAKEN
DATE TIME REQUESTED
11/16/83 1025M

RESULTS

667-105

MISCELLANEOUS

STANDARD FORM NO. 3 (7/77)
General Services Administration
GSA FPMR (41 CFR) 101-11.6

BALAZS, George H.
NOAA/NMFS

SPECIMEN/LAB RPT. NO.

MISC

URGENCY

ROUTINE
TODAY
 PRE-OP
STAT

PATIENT STATUS

BED AMB
OUTPATIENT
 NP DCM

SPECIMEN SOURCE
(Specify)

Blood -
VEIN

LABORATORY FILE

JOHNSTON ISLAND DISPENSARY
APO SAN FRANCISCO 96305

Enter in above space PATIENT IDENTIFICATION - TREATING FACILITY - WARD NO. - DATE

REQUESTING PHYSICIAN'S SIGNATURE

REPORTED BY

MO DATE

LAB. ID. NO.

DR. KEHOE/ras

Lucille BODNAR

TECH 5 Nov-83

REMARKS

Cholinesterase Baseline # 2 1430

TEST(S)	SPECIMEN TAKEN	TIME	REQUESTED	RESULTS
	11/5/83	1130 AM		

Serum or Plasma _____ Δph/hr
Packed RBC'S 0.74 Δph/hr
FAMC 17 Minute Method

EMMETT L. KEHOE, M.D.
Chief Medical Officer

MISCELLANEOUS

BALAZS, George H.
NOAA/NMFS
564-54-0156

SPECIMEN/LAB RPT. NO.

MISC

URGENCY

ROUTINE
TODAY
 PRE-OP
STAT

PATIENT STATUS

BED AMB
OUTPATIENT
 NP DCM

SPECIMEN SOURCE
(Specify)

Blood-Vein

PATIENT'S MED. RECORD

Johnston Island Dispensary
APO San Francisco 96305

Enter in above space PATIENT IDENTIFICATION - TREATING FACILITY - WARD NO. - DATE

REQUESTING PHYSICIAN'S SIGNATURE

REPORTED BY

MO DATE

LAB. ID. NO.

Emmett L. KEHOE, M.D.

L.B.

TECH 5 Nov-83

REMARKS

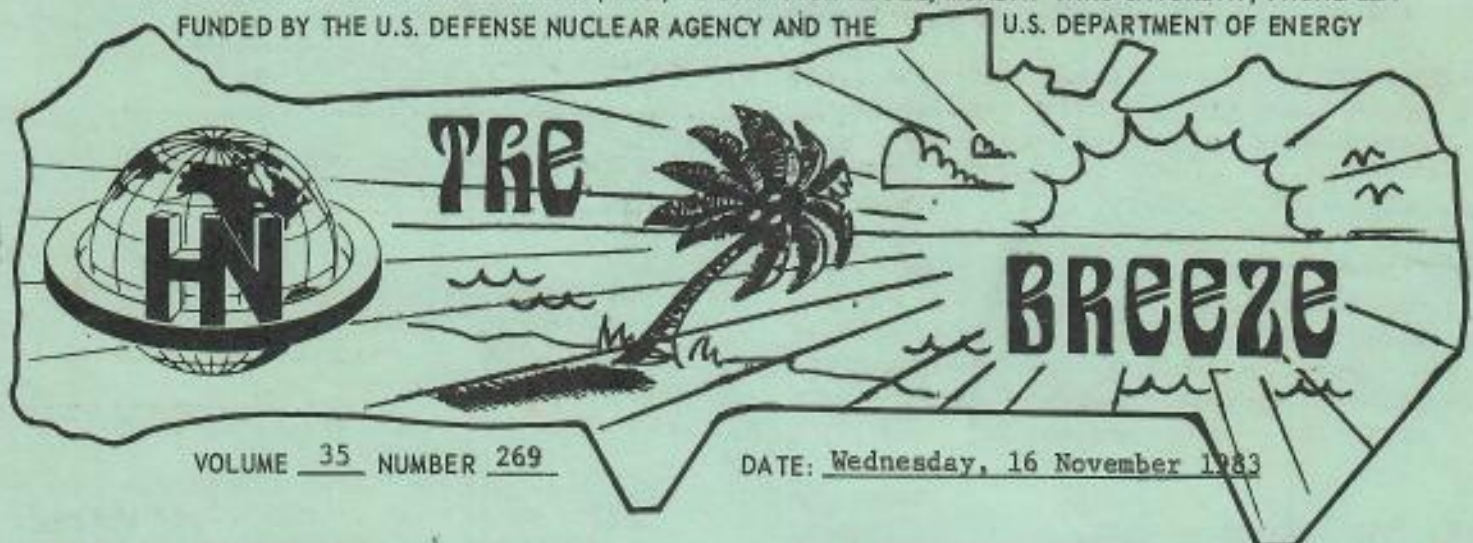
L Bodnar
Cholinesterase Baseline #1 1130

TEST(S)	SPECIMEN TAKEN	TIME	REQUESTED	RESULTS
	11/4/83	12 00 PM		

SERUM OR PLASMA _____ Δph/hr
PACKED RBC'S 0.78 Δph/hr
Michel Manual Electrometric Methods

EMMETT L. KEHOE, M.D.
Chief Medical Officer

MISCELLANEOUS



POLICE IN LEBANON SAY Yasser Arafat's refugee camp fell today to PLO rebels. Arafat and his forces reportedly fled into Tripoli.

ISRAELI WARPLANES struck today at a pro-Iranian guerrilla camp in the Bekaa valley in Lebanon. Reports from Lebanon say the camp was destroyed in half an hour. Israel says the Beirut suicide-bombers trained at that camp.

AMERICAN COMBAT TROOPS will be home from Grenada by Christmas. Under the War Powers Act, President Reagan would need congressional approval to keep US combat forces on the island after December 23rd. And today, the White House announced it intends to meet that deadline.

PRESIDENT FRANKLIN ROOSEVELT opened diplomatic relations with the Soviet Union 50 years ago today...a date President Reagan is marking with a special message to the Soviet people. In a US produced magazine sold each month in the Soviet Union, Reagan says the American people do not have hostile intentions.

THE LEADER of the newly proclaimed Turkish Republic of Northern Cyprus is headed for the United Nations today, hoping to persuade the world to accept partition of the long-disputed island. Besides Turkey, the only country in the world to recognize the new nation so far is Bangladesh.

POLICE IN ATHENS, GREECE say they've found a stolen motorscooter they believe was used by the assassin of US Navy Captain George Tsantes and his driver. The scooter was found just two miles from where yesterday's shooting took place. A left-wing terrorist group has claimed responsibility.

AN ALBINO SNAKE IN THAILAND has been declared sacred, and its owner says the snake has proven its divinity. Witnesses say the white snake gave birth to 23 little snakes and became a vegetarian. The owner says the serpent refused its usual diet of fish during the three-month Buddhist lent, proving it is holy. He said the snake is fond of reclining on his pillow and sipping tea.

NATIONAL ORGANIZATION FOR WOMEN President Judy Goldsmith promises NOW will actively work for the defeat of all House members who voted against the ERA yesterday. And she warns that women can be discriminating voters — and says — "This is a day of truth and consequences."

"HUSTLER" MAGAZINE publisher Larry Flynt returns to court today, saying he'll pay his second \$10,000 fine for contempt of court. Flynt must pay the fine every day he refuses to reveal the source of audio tapes connected to the John DeLorean cocaine trafficking trial. Flynt says he'll pay today's fine in one-dollar bills. And he vows to keep paying -- and keep quiet about the tapes -- as long as he's got the money.

The National Marine Fisheries Service, Marine Mammals and Endangered Species Program staff have completed their survey for turtles at Johnston Atoll and will be leaving tomorrow. They captured, measured, tagged and took various specimen materials and then released 21 green turtles. Roughly 60 percent were considered adults and the others immature. All were captured off the south shore of Johnston Island. Large white numbers were painted on their shells before release, which should last up to two weeks. It would help them if any sightings of these numbers were reported to Phil Roseberry, who will pass them on to NMFS. Remember that these turtles are

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DUTCH BREWERY OWNER Freddie Heineken and his driver are still missing, one week after being kidnapped in Amsterdam, Holland. Cryptic messages repeated in three personal column advertisements since Friday are thought to be a code expressing a willingness to pay a ransom. After a week of silence from the kidnapers, negotiators are reportedly growing anxious.

THE PROTESTS against the deployment of US cruise missiles continued in Britain today, as dozens of women were dragged from the gates of a US air base. But the deployment plans remain unchanged.

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KEEP JOHNSTON ATOLL CLEAN! Do your part by throwing garbage in the garbage cans, not on the ground...and cigarette butts in the butt cans. PUT TRASH WHERE IT BELONGS!!!

TONIGHT'S DINNER - Prime Ribs of Beef
Taco Bar

Dessert - Anna's Cheese Cake

You may BYO wine to the Dining Hall for this meal for your added dining pleasure. The Package Store opens at 1630 hours to provide you with the widest choice of wines this side of Honolulu!

TONIGHT'S MOVIE - AMITYVILLE II: The Possession

TIKI LOUNGE - 1615 to 2230 Hours

BINGO & RAFFLE - 1900 Hours

(Don't miss this chance to win a 19" color TV!)

MOVIE: - 2030 Hours

Stroker Ace.

WAIKIKI CLUB - Closed

TONIGHT'S AFTV PROGRAM GUIDE

M: Night Crossing	1630
Enos	1820
SP: Bobby Blues Band	1911
FBI	1941
Happy Days Again	2031
St. Elsewhere	2059
Private Benjamin	2150
David Letterman	2215

TODAY'S CHANNEL FOUR HIGHLIGHTS

The Good News	1435
Portrait of America: Oregon	1505
In Defense of Freedom	1605
News	1705
M: The Deadliest Season	1905
Hellcats of the Navy	2105
The Conspirators	2250
News	0100

GUIDELINE ON GIFTS (Part 1) is tonight's message on Authentic Christianity at 1930 hours on AFRTS Radio.

TOMORROW'S TIDE AND SUN

H 0359 2.2 L 1001 0.4
R 1524 1.8 L 2131 -0.1
Sunrise 0723 Sunset 1843

DOW JONES STOCK AVERAGES (NOON)

30 Industrials	1254.16	UP	6.20
20 Transportations	597.71	UP	1.12
15 Utilities	137.37	UP	0.43
65 Stocks	504.36	UP	1.92

PILOT GROUND TRAINING: Tonight at 1800 hours in Room 229 of JOC, is the first training class. You're welcome to attend to find out what it's all about!

MAC FLIGHT CHECK-IN TOMORROW

Passenger/Baggage Check-In : 1000-1030
Handcarry/Mask Check-In/Board: 1230 Hours

All personnel departing the atoll, for any reason, must turn in their protective mask. This may be done no earlier than final check-in (1230). A tag for the mask is provided at the check-in counter. Write your name and date of return on the tag. If you are not returning, write: NO RETURN on the tag. Attach tag to the mask bag.

All personnel traveling on military aircraft must be properly attired. Military members must be in uniform. Civilians may not wear shorts, tank tops or getoks.

All assigned personnel departing the atoll, for any reason, must stop by the Post Office to fill out a Mail Change Notice (Form 789). This is a requirement.

THERE IS A LIMIT!

Air Force Regulation 75-12, Chapter 4, Para. 4-2.e is quoted for your guidance:

e. "Under no circumstances will more than one wine gallon (US gallon) of alcoholic beverage be transported by anyone on a US Air Force aircraft."

The MAC C-141 aircraft servicing JA is an Air Force aircraft...so this means us!

BON VOYAGE to everyone traveling on tomorrow's MAC flight to The World, namely, Dr. Jack Pennington, completing his tour at the Dispensary, to George Balazs, Bill Gilmartin, John Henderson, Alan Kam and Gail Peiterson of the National Marine Fisheries Service, to Lynn Katsan and Bob Uchida of Weather, Bill Jackson of DOE/PASO and CPT Mike McGuire from Tripler. Roundtrippers are Rodney Cargill, Garland Collins, Pat Chang, Jim Evans, Numeriano Francisco, Stan Honda, Bob Ige, Mike Marcelino, Bill Morgan, Tommy Sato, George Shimabukuro and Iwao Yamamoto.

THE JOHNSTON ATOLL SECURITY FORCE will be using the North Island Firing Range on Friday, 18 November between the hours of 0800 and 1100.

VOLLEYBALL: All the noise made by the Mixed Bentos just couldn't muster up enough points last night as they fell to Da Kine 7-0, 15-3.
MVP: Hapa

SINGO & RAFFLE - 1900 hours
(Don't miss this chance to win a 19" color TV!)

MOVIE: - 2030 Hours
Stroker Ace

WAIKIKI CLUB - Closed

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WATER SPORTS CERTIFIER: If you are an avid SCUBA Diver and have been assigned to JA for three months or more, you may qualify as a Water Sports Certifier. If you're interested in becoming one, contact Phil Roseberry at 2962.

THE BX will be closed for inventory on Sunday and Monday, the 20th and 21st of November.

+++++ TODAY'S THOUGHT +++++
Angels can fly because they take themselves lightly!!!

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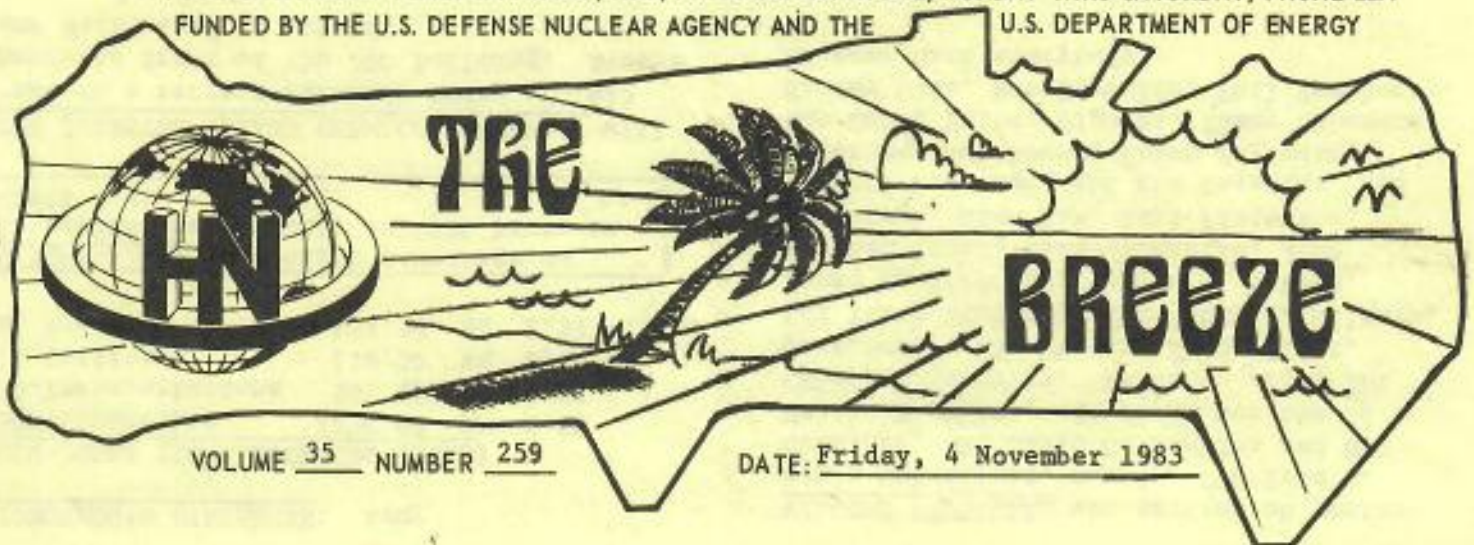
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TURTLEMAN: Yes, we have spotted our first marked turtle. Moses Caballero reported the sighting yesterday while out sailing. Our friends from the National Marine Fisheries S. are leaving us tomorrow and Phil Roseberry will be their liaison. So..if you spot one, let him know!

REC SERVICES will be sponsoring a beginner's swim class starting November 21st - 25th. The class will begin at 1630 hours at the pool. Don't miss out on this chance to learn to swim.

WHO'LL BE THE ATOLLMAN '83? Pick up your form from Rec Services and submit it soon!!!



AT LEAST 14 PEOPLE WERE KILLED and 21 injured in a suicide bomb attack on Israeli military headquarters in southern Lebanon today. Israel retaliated with air strikes on Syrian and Palestinian targets that reportedly killed as many as 30 people. Reporters in northern Lebanon say both sides are using everything they have in their arsenals in the battle between Palestinian forces loyal to Yassar Arafat and dissidents backed by Syrian and Libyan troops.

THE PRESIDENT is in North Carolina for a memorial service at Camp Lejeune, the home base of the Marine unit that lost most of the 230 men killed in the Beirut bombing. After the ceremony, Reagan will speak at the nearby Cherry Point Marine Base.

A SOVIET CREW IS REPORTED headed north from Cuba to aid a Soviet submarine disabled about 500 miles off the South Carolina coast. The Pentagon says the Soviet sub was disabled by an unknown mechanical failure Wednesday.

THE GOVERNMENT OF POLAND is condemning President Reagan's action this week to ease economic sanctions a bit. The Polish government's chief spokesman says relations between the US and Poland took "a step backward" this week. Jerzy Urban says Poland sees all US comments about human rights violations as "libelous and offensive."

PHILIPPINE PRESIDENT MARCOS today ordered the release of 64 anti-government demonstrators. But his government did not rule out their prosecution on charges of subversion -- which is punishable by life imprisonment or death. Most of those

THE US JUSTICE DEPARTMENT is pitting itself against a New York State university hospital and the parents of a severely deformed baby who don't want the child to undergo corrective surgery. A federal judge hears arguments today in New York on the government's efforts to review "Baby Jane Doe's" hospital records.

A UCLA PHYSICS STUDENT has pleaded innocent to charges of breaking into computer systems, including one used by the Defense Department. The judge in the case has lowered Ronald Austin's bail from ten to two-thousand dollars -- and ordered him to stay away from computers.

TALKS RESUMED THIS MORNING in Twinsburg, Ohio in an effort to end a four-day strike that's idled 17,000 Chrysler workers. Meanwhile, no talks are scheduled in the strike against Greyhound Bus Lines, now in its second day.

WHAT WERE ONCE TOP SECRETS might someday go on display for the world to see. America's retired spies are pushing the Smithsonian Institute to set up an exhibit or an entire museum dedicated to the intelligence gathering. Former CIA Director William Colby says such a spy museum could demonstrate that intelligence work is an "honorable profession."

FASHION DESIGNERS FROM FIVE COUNTRIES combined efforts for a Paris fashion show... for none other than Snoopy. Designers from France, Italy, Britain, the US and Japan all contributed to the display of fashions for male and female Snoopy dolls. They include a jumpsuit and rhinestone evening wear... It's what they call dressing "top dog."

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PHILIPPINE PRESIDENT MARCOS today ordered the release of 64 anti-government demonstrators. But his government did not rule out their prosecution on charges of subversion -- which is punishable by life imprisonment or death. Most of those being freed were arrested in September demonstrations following the assassination of opposition leader Benigno Aquino.

JAPANESE POLICE SAY they've uncovered detailed plans by a radical leftist group to raid the US embassy and a US Navy base before the visit of President Reagan next week. A police spokesman says the evidence was uncovered late last month. Meanwhile, railroad officials say the group implicated by the findings has stepped up its anti-Reagan campaign -- disrupting commuter rail traffic with smoke bombs.

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JUDGES IN ROCHESTER, NEW YORK really use their imaginations when they sentence non-violent offenders. For instance, a shoplifter who also was a singer had to do four concerts for senior citizens. And a man who was growing pot in his attic had to grow 50 house plants for senior citizens' homes. Then there was the man convicted of drunken driving. He was ordered to clean out the elephant cages at the zoo. The man rode the bus to get there -- but they wouldn't let him back on for the trip home. They apparently got wind of what he had been doing.

TONIGHT'S DINNER - Braised Beef Brisket
Ravioli
Dessert - Cheese Pie

TONIGHT'S MOVIE - Under The Rainbow

TIKI LOUNGE - 1615 to 2400 Hours
Movies: - 1900 & 2040 Hours
A Cry For Love
Bridges At Toko RI

WAIKIKI CLUB - 1615 to 2230 Hours
Today's Special - Beef Stew
(Grill closes at 2200 Hours)

TONIGHT'S AFTV PROGRAM GUIDE

M: Adam 1630
Those Amazing Animals 1830
That Nashville Music 1920
Gavilan 1943
Rat Patrol 2034
Fall Guy 2101
Filthy Rich 2151
Three's Company 2217
Benny Hill 2243
Special:
Billy Joel "Live" 2307
Special:
Eddie Murphy "Live" 0012
Sign Off 0015

TODAY'S CHANNEL FOUR HIGHLIGHTS

Aerobicise 1205
BB: Hawks vs Bulls 1505
News 1720
Nighttracks 1900
US Festival Day 1 2145
M: Au Pair Girls 2315
The World According to Garp 0045
Super Dave Festival 0305

TOMORROW'S EARLY AFTV PROGRAMS

Kwicky Koala 0900
Cheers 0922
Movie: 0952
Monty Python's Meaning of Life
Emerald Point N.A.S. 1139

TOMORROW'S EARLY CHANNEL FOUR PROGRAMS

News/Weather/Sports 0500
M: The Best Years of our Lives 0730
The Gambler 1030

TOMORROW'S TIDE AND SUN

H 0600 2.7 L 1242 0.2
H 1742 1.5 L 2319 -0.1
Sunrise 0717 Sunset 1846

TOMORROW'S FISHERMEN: Army

DOW JONES STOCK AVERAGES (NOON)

CHAPEL SERVICES SCHEDULE - JOC Rm 235

Protestant - Chaplain David Howard
Choir Rehearsal: 1900 Hrs, Today, G. Bruce
1030 Hrs, Sunday, Waikiki C.
Chapel Breakfast: 0830 Hrs, Sunday, D. Hall
Bible Study : 0930 Hrs, Sunday, Waikiki C.
Morning Worship: 1100 Hrs, Sunday, Waikiki C.

OPEN AIR SERVICE: (Ecumenical)

At the Waikiki Club 6 Nov with hotdogs and hamburgers to follow. OCCASION: Hail our new island chaplain, Rod Ozmun and farewell to Chaplain Howard. All island personnel are invited!

Catholic - Kahaku Kealoha

Eucharist Celebration & Rosary at 1630 hours, Saturday
Ecumenical Service at Waikiki Club at 1100, Sunday

Latter Day Saints - Rey Baldado - JOC Rm 203
Sacrament Meeting - 1800 Hours - Sunday

PRAYER FELLOWSHIP will be held this week on Sunday at 1830 hours in Room 407, Bldg. 16. (That's Guy's room!)

NEW BX HOURS EFFECTIVE SUNDAY, 6 NOVEMBER

Mon/Tues/Thurs/Fri	1130-1300	1630-1830
Wednesday	Closed	
Saturday	1130-1330	
Sunday	1630-1830	

IMPORTANT PIECE OF EQUIPMENT missing from the Zodiac boat stored in the indoor gym. If anyone has this 8-foot spear, or knows the whereabouts of it, please contact Security. No questions asked. It is important that this be returned!

**** REC SERVICES REMINDERS ****

TODAY is the last day to sign up for the basketball tournament!

WE NEED your volleyball team rosters to organize our league that starts NEXT WEEK!

PING PONG TOURNAMENT is Sunday in the Tiki Game Room at 1500 hours. Sign up there at 1430!

THE ATOLLMAN competition is coming...watch the Breeze for further details.

THE USO SHOW is next Wednesday night!!!

WELCOME NEWCOMERS who arrived on yesterday's MAC flight, namely, PFC Eric D.

TONIGHT'S AFTV PROGRAM GUIDE

M: Adam	1630
Those Amazing Animals	1830
That Nashville Music	1920
Gavilan	1943
Rat Patrol	2034
Fall Guy	2101
Filthy Rich	2151
Three's Company	2217
Benny Hill	2243
<u>Special:</u>	
Billy Joel "Live"	2307
<u>Special:</u>	
Eddie Murphy "Live"	0012
Sign Off	0015

TODAY'S CHANNEL FOUR HIGHLIGHTS

Aerobicise	1205
BB: Hawks vs Bulls	1505
News	1720
Nighttracks	1900
US Festival Day 1	2145
M: Au Pair Girls	2315
The World According to Garp	0045
Super Dave Festival	0305

TOMORROW'S EARLY AFTV PROGRAMS

Kwicky Koala	0900
Cheers	0922
<u>Movie:</u>	0952
Monty Python's Meaning of Life	
Emerald Point N.A.S.	1139

TOMORROW'S EARLY CHANNEL FOUR PROGRAMS

News/Weather/Sports	0500
M: The Best Years of our Lives	0730
The Gambler	1030

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H 0600 2.7 L 1242 0.2
H 1742 1.5 L 2319 -0.1
Sunrise 0717 Sunset 1846

TOMORROW'S FISHERMEN: Army

DOW JONES STOCK AVERAGES (NOON)

30 Industrials	1220.63	DN	6.50
20 Transportations	581.09	DN	2.62
15 Utilities	139.02	DN	0.91
65 Stocks	493.30	DN	2.59

DISQUALIFIED is tonight's message on Authentic Christianity at 1930 hours on AFRTS Radio. (Part 1)

THE JOHNSTON ISLAND CHEMICAL ACTIVITY will conduct a retreat ceremony today at 1615 hours in front of the JOC Building. Everyone is invited to attend!

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Catholic - Kahaku Kealoha
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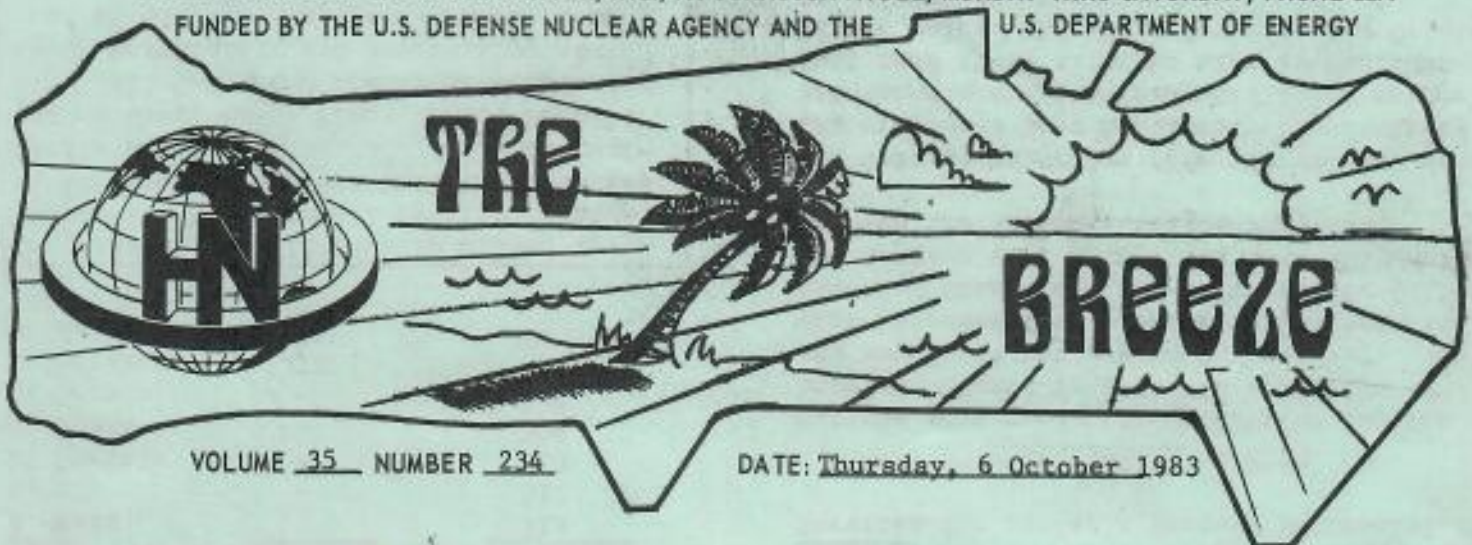
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WELCOME NEWCOMERS who arrived on yesterday's MAC flight, namely, PFC Eric D. Crawford, SSG David C. Jenkins and SSG Walter W. White, all three for the JI Chemical Activity. Welcome, also, TDY personnel - Ken Groves, Shed Elliot, CPT Terry Stoddart, CW2 Danny A. Milburn, James R. Bird Jr., George H. Balazs, Stephen Coval, Bill Gilmartin, John Henderson, Alan Kam, Gail Pieteron, Jeffrey Roesener, ALL the Coasties, and returnees Bob Bowne, Kazuo Fujimoto, Lee Gohr, Walter Higuchi, Tammy Nakamura, Barney Olds, Bob Reynolds, Phil Roseberry. Welcome back everybody!



THOUSANDS OF ANTI-GOVERNMENT protesters today again called on Philippine President Ferdinand Marcos to resign. Opposition leader Salvador Laurel told a crowd of about four-thousand: "Marcos has the guns, the goons and the gold, but we have the people." The rally came as Marcos went on national radio and TV, appealing for calm.

POPE JOHN PAUL personally announced the death of New York's Cardinal Terence Cooke today to bishops attending a Vatican meeting...and asked them to pray for Cooke. The spiritual leader of New York's two-million Roman Catholics for 15 years died earlier today after a long battle with cancer. He was 62.

THE SWEDISH ACADEMY TODAY named British novelist William Golding winner of the 1983 Nobel Prize for literature. The 72-year-old Golding is best known for his 1954 novel "Lord Of The Flies," about the awakening of evil in a group of English schoolboys marooned on a desert island. The Academy describes Golding's novels and stories as a blend of "dark myths about evil" and "colorful tales of adventure."

CHINA WARNED TODAY it can reclaim Hong Kong "any time it chooses" and that it may not wait long if Britain clings to its "obstinate colonialist stand" in talks over Hong Kong's future. The warning, in the official Communist Party newspaper, was the third during the past week.

PRESIDENT REAGAN SAYS he doesn't think relations with the Soviet Union are at the lowest point since the cold war of the 1950's. Despite chilled relations, the president feels the Soviets have a better understanding of where America is

THE FIRST WOMAN to sue her former lover for "palimony" says she's wiser for the experience -- and has written a contract with her current mate. Mitchell Triola Marvin, who sued actor Lee Marvin for half his earnings during the years they lived together, never got a penny from the case. In 1981 a state appeals court overturned a 1979 order that Ms. Marvin be paid \$104,000.

HERE ARE SOME NEW GOVERNMENT FIGURES that may brighten your day a bit. Life expectancy for the average American rose slightly in 1982 -- to an all-time high of 74.5 years. The number of deaths declined -- as did the number of divorces.

OFFICIALS FROM EIGHT STATES bordering the Great Lakes are meeting in Quebec to discuss, among other things, the problem of acid rain. Canada claims three-quarters of its acid rain comes from pollutants from the United States. It's calling for a 50-percent reduction in sulfur emissions in each country. But so far, the Reagan Administration has balked at the idea.

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IN FLORIDA, former Vice-President Mondale was greeted by cheers today as he accepted the endorsement of representatives of 14-million AFL-CIO members. Mondale says he's ready to be "the president who puts America back to work."

OPPONENTS OF A PROPOSAL to make Martin Luther King Junior's birthday a national holiday say they have not signed their

THOUSANDS OF ANTI-GOVERNMENT protesters today again called on Philippine President Ferdinand Marcos to resign. Opposition leader Salvador Laurel told a crowd of about four-thousand: "Marcos has the guns, the goons and the gold, but we have the people." The rally came as Marcos went on national radio and TV, appealing for calm.

POPE JOHN PAUL personally announced the death of New York's Cardinal Terence Cooke today to bishops attending a Vatican meeting...and asked them to pray for Cooke. The spiritual leader of New York's two-million Roman Catholics for 15 years died earlier today after a long battle with cancer. He was 62.

THE SWEDISH ACADEMY TODAY named British novelist William Golding winner of the 1983 Nobel Prize for literature. The 72-year-old Golding is best known for his 1954 novel "Lord Of The Flies," about the awakening of evil in a group of English schoolboys marooned on a desert island. The Academy describes Golding's novels and stories as a blend of "dark myths about evil" and "colorful tales of adventure."

CHINA WARNED TODAY it can reclaim Hong Kong "any time it chooses" and that it may not wait long if Britain clings to its "obstinate colonialist stand" in talks over Hong Kong's future. The warning, in the official Communist Party newspaper, was the third during the past week.

PRESIDENT REAGAN SAYS he doesn't think relations with the Soviet Union are at the lowest point since the cold war of the 1950's. Despite chilled relations, the president feels the Soviets have a better understanding of where America is "coming from."

THE NEW CHIEF OF THE JUSTICE DEPARTMENT'S criminal division says drug traffic has gotten out of control. In an interview with the "Los Angeles Times," Steven Trott says drug dealing has become so widespread it threatens to corrupt the government agencies in charge of investigating it. Trott's solution: Attack the networks of illegal drug distribution. In his words, "Pull them out by their roots, burn and flatten them."

THE FIRST WOMAN to sue her former lover for "palimony" says she's wiser for the experience -- and has written a contract with her current mate. Michell Triola Marvin, who sued actor Lee Marvin for half his earnings during the years they lived together, never got a penny from the case. In 1981 a state appeals court overturned a 1979 order that Ms. Marvin be paid \$104,000.

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OPPONENTS OF A PROPOSAL to make Martin Luther King Junior's birthday a national holiday say they have not given up their fight to defeat it. A filibuster against the bill ended yesterday. Debate was put off until after Columbus Day.

A DEPARTMENT OF EDUCATION estimate figures it'll cost the government over a billion dollars to remove asbestos from some 14,000 elementary and secondary schools. The report -- ordered by Congress -- estimates the cost per school will run about \$100,000.

TONIGHT'S DINNER - Baked Pork Chops
Pork Pimiento
Dessert - Cherry Pie

TONIGHT'S MOVIE - Zorro, The Gay Blade

TIKI LOUNGE - 1615 to 2230 Hours
Movie: - 1900 Hours
Jeremiah Johnson

WAIKIKI CLUB - 1615 to 2230 Hours
Today's Special - Shoyu Chicken
(Grill closes at 2200 Hours.)

TONIGHT'S AFTV PROGRAM GUIDE

Jacques Cousteau 1800
Benson 1851
Chicago Story 1918
Muppets 2033
M: 2001 Space Odyssey 2057
Late Nite Theater 0100
The Awakening
Friday The 13th II

TODAY'S CHANNEL FOUR HIGHLIGHTS

M: It Came From Hollywood 1100
Mark Twain Theater 1230
NCAA Football 1405
News 1715
M: A Man Alone 1805
M: Two Guys From Texas 2035
Americans: The Immigrant 2230
M: Sex Ray 0010
John Barbour's World 0200
M: The Adventures of Marco Polo Jr. 0305

THE MIND OF CHRIST will be tonight's message on Authentic Christianity at 1805 hours on AFRTS Radio.

TODAY'S AFRTS SPORTS (RADIO)

Chicago at Baltimore Game #2
(AL Playoffs) 1420

TOMORROW'S TIDE AND SUN

H 0615 2.5 L 1229 0.2
H 1811 2.0
Sunrise 0709 Sunset 1902

DOW JONES STOCK AVERAGES (1:30 PM)

30 Industrials 1261.38 UP 11.18
20 Transportations 583.31 UP 3.87
15 Utilities 139.55 UP 0.73
65 Stocks 503.07 UP 3.87

MORE H&N BOWLING LEAGUE RESULTS

Name	Hi-Game	Hi-Series
A. Pada	-	513
R. Ely	-	512
L. Gacutan	-	510

THE SEA TURTLE STUDY AT JOHNSTON

The National Marine Fisheries Service will be tagging sea turtles along the south shore of Johnston Island during October and November. This work is part of a baseline ecological study for JACADS. Turtles will be counted, measured, photographed and permanently marked with small metal tags attached to their front flippers. A large white number will also be painted on each side of the shell. If you should see one of these turtles, please notify George Balazs or Alan Kam at Apt. 695D (phone-3022). These men would also like to hear from you if you have any other information about sea turtles, especially of a historical nature. P.S. Alan & George are the two guys riding around in Roseberry's truck!

REMEMBER: All sea turtles at Johnston are protected under the US Endangered Species Act!

LEAVING THE ISLAND...with too much to take? Well, the Recording Studio would gladly accept any donations of albums that just won't fit in your suitcase...or that you're tired of hearing...so drop them off in the Library if you have any to spare! Thanks.

LOST: One solid gold wedding band with a hammered finish. Probably lost in the ball field area. Please turn in to H&N Security if found.

LOST? One black camera case from the back of Waikiki Club. Would whoever removed it, please return it as soon as possible!

WARRIORS ROMP WHILE AMERICA SLEEPS

It was all Warriors last night as they produced a 7-2 victory and propelled themselves into a showdown match with The Force. It was Dennis Seeger leading the way as he went 3-for-3 including a massive two-foot drive. Ricky Thurman had his usual two hits as did Harvey, West and Wallace. For the losers it was "flat city" as they only produced six hits. Final: 7-2.

FOR ALL THE MARBLES: There were a lot of possibilities going into last night's game. Now, there is only one. Whoever wins tomorrow night's Warrior/Force game will be the undisputed champions of the PASL. So don't miss this exciting game at 2000 hrs.

CROQUET: Don't forget to sign-up now at Rec Services for Sunday's Croquet Nationals!

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Jacques Cousteau	1800
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Chicago Story	1918
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H 0615 2.5 L 1229 0.2
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DOW JONES STOCK AVERAGES (1:30 PM)

30 Industrials	1261.38	UP	11.18
20 Transportations	583.31	UP	3.87
15 Utilities	139.55	UP	0.73
65 Stocks	503.07	UP	3.87

MORE H&N BOWLING LEAGUE RESULTS

Name	Hi-Game	Hi-Series
A. Pada	-	513
R. Ely	-	512
L. Gacutan	-	510
H. Trent	-	504
B. Toyama	-	503
K. Batalona	212	-
P. Kaleikini	201	-

Once again, I would like to extend my heartfelt thanks to all my friends here on the island. My special thanks to the Manila Machine, Bldg. 252 Gang, Communication Gang, Batch Plant Group, Waikiki Club, 415 Gang and the Riggers' Loft for their hospitality and generosity. But most of all, my sincerest thanks to my two handsome escorts, Baldado & Bautista. Thank you all again.

Helen Cabana

These men would also like to hear from you if you have any other information about sea turtles, especially of a historical nature. P.S. Alan & George are the two guys riding around in Roseberry's truck!

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*****SPORT SHORTS*****

Put the most productive hitter on the Los Angeles Dodgers in a clutch situation -- and you might get a game-winning hit. That's what happened last evening in Los Angeles, as Pedro Guerrero's off-field triple lifted the Dodgers to a 4-to-1 win over Philadelphia to even the National League Playoffs.

The Chicago White Sox rode the red-hot pitching of Lamarr Hoyt to victory in yesterday afternoon's American League Playoff opener. Hoyt made it 14 straight wins as his five-hitter helped the White Sox edge the Orioles in Baltimore 2-to-1.



Jan 72



July 69



Dec 73



Catch Jan 18, 1970

236 lbs

107.3 kg

Oct 72



N.D.



Oct 72



Caught Jan 11, 1970
175165 19.5 kg



Caught Jan 11, 1970
145165

OCT 72



Closing deadly leaks in U.S. arsenal

By Terry Atlas
Chicago Tribune

WASHINGTON — The Pentagon estimates that it will cost \$1.5 billion to destroy its aging and largely obsolete stockpile of lethal chemical weapons that poses a greater potential threat to military handlers than to Soviet soldiers because of leaky containers.

In asking unsuccessfully to renew nerve gas production after a 4-year halt, Pentagon officials have revealed far more this year than before about the condition of the U.S. chemical

arsenal and the difficulty of destroying it.

They disclosed in congressional testimony and elsewhere that the Army has nearly 800,000 lethal chemical munitions identified as Code H, or unusable, and that the bulk of the remaining chemical weapons stockpile has no military usefulness, although it has not been classified as obsolete.

The cost of destroying chemical weapons is many times the cost of producing them, but Pentagon officials expect little opposition in Congress to appropriations to eliminate a type of weapon viewed as particularly

ghastly by the military and civilians alike.

Only about 10 percent of the chemical weapons inventory is potentially usable under battlefield conditions, according to Theodore Gold, deputy assistant defense secretary for chemical matters.

The Pentagon is working on a program to destroy the remaining 90 percent because of concern that the weapons become increasingly prone to leaks as they age. So far, the Army reports that it has about 1,150 leaking munitions, which have been put into leakproof metal containers awaiting their destruction. "Though leaking munitions exist only in small numbers, they pose serious problems," according to the Congressional Research Service.

But Gold and other officials dispute that the leaks are causing as much concern as the uncertainty about the rate of deterioration in the future. "We're absolutely sure the current situation is under control," Gold said. "I have less confidence that I know what the future will bring."

The Army plans to spend \$500 million over the next five years to destroy more than 200,000 obsolete M-55 rockets loaded with nerve gas, which have shown the most serious deterioration.

ration, and over the next 10 to 15 years the total bill for destruction of those and other chemical stockpiles will amount to about \$1.5 billion, officials said.

"Generals would much rather buy bullets and tanks than spend money this way," Gold said in an interview in his Pentagon office. "This doesn't buy readiness, this doesn't help our war fighting, this doesn't close the gap between us and the Soviets."

Nevertheless, Gold said, the military has to address the problem of these aging weapons. Their continued deterioration, he said, could pose increased risks and higher costs for destruction in the future. "We built the crap, and we have the responsibility for getting rid of it in a safe way," he said.

For years, the Army got rid of thousands of tons of mustard gas and other old chemical weapons by dumping them at sea, but that practice was ordered halted by Congress in 1969. Since then, the Army has been researching ways to incinerate or otherwise destroy chemicals so toxic that exposure on the skin or by breathing can paralyze the central nervous system and produce death by asphyxiation.

phosphate buffer prepared 27 Oct 83 Control #14 38-44
 Express 11 Nov
 REB BLOOD CELL CHOLINESTERASE #15 75-81
 FITZSIMMON ARMY MEDICAL CENTER 17 MIN. METHOD

DATE: 6 Nov-83

		PH 1	PH 2	Δ PH
1	Control #14	8.04 8.03	7.65	0.39
2	Control #15	8.04	7.29	0.75
3	7481 A 0.2 ml >	7.60	7.32	0.28
4	7481 B 0.2 ml	7.60	7.29 7.28	0.31
5	7481 A 0.4 ml >	7.44	7.04	0.40
6	7481 B 0.4 ml	7.43	7.01	0.42
7	7485 A 0.2 ml >	7.64	7.49	0.15
8	7485 B 0.2 ml	7.63	7.47	0.16
9	7485 A 0.4 ml >	7.44	7.22	0.22
10	7485 B 0.4 ml	7.46	7.23	0.23
11	Control #14	8.06	7.65	0.41
12	Control #15	8.06	7.29	0.77
13				
14				
15				
16				
17				
18				

phosphate buffer prepared 27 Oct 83
express 11 Nov 83

RED BLOOD CELL CHOLINESTERASE
FITZSIMMON ARMY MEDICAL CENTER 17 MIN. METHOD

range
Control #14 38-44
Control #15 75-81

DATE: 8 November

		PH 1	PH 2	Δ PH
1	Control #14	8.04	7.65	0.39
2	Control #15	8.05	7.26	0.79
3	7490 A 0.2 ml >	7.64	7.37	0.27
4	7490 B 0.2 ml	7.64	7.37	0.27
5	7495 A 0.2 ml >	7.65	7.52	0.13
6	7495 B 0.2 ml	7.65	7.51	0.14
7	Control #14	8.04	7.63	0.41
8	Control #15	8.05	7.27	0.78
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

Phosphate buffer prepared 11 Nov 83
 24 Nov 83
 RED BLOOD CELL CHOLINESTERASE

FITZSIMMON ARMY MEDICAL CENTER 17 MIN. METHOD

Control #14 range 0.38-0.44
 Control #15 0.75-0.81

DATE: 12 Nov 83 normal range for method 0.63-0.89

		PH 1	PH 2	Δ PH
1	Control #14	8.04	7.64	0.40
2	Control #15	8.05	7.25	0.80
3	7490A 0.40 ml	7.49	7.08	0.41
4	7490B 0.40 ml	7.46	7.06	0.40
5	7495A 0.40 ml	7.46	7.24	0.22
6	7495B 0.40 ml	7.48	7.25	0.23
7	7501 0.20 ml	7.59	7.46	0.13
8	7501 0.40 ml	7.46	7.26	0.20
				one tube of blood
9	Control #14	8.05	7.63	0.42
10	7505 0.20 ml	7.66	7.40	0.26
11	7505 0.40 ml	7.50	7.09	0.41
				one tube of blood
12	7512 A 0.2 ml	7.69	7.46	0.23
13	7512 B 0.4 ml	7.52	7.21	0.31
14	Control #14	8.04	7.63	0.41
15	Control #15	8.05	7.25	0.80
16				
17				
18				

F A M C

Dept. of Pathology + A.S.

Attn: Richard Hartman, Col msc
Aurora, Colorado 80045

autovon 943-3318/8548

Dr. David Hatt

Phosphate buffer prepared
supernatant

11 Nov 83
24 Nov 83

RED BLOOD CELL CHOLINESTERASE
FITZSIMMONS ARMY MEDICAL CENTER 17 MIN, METHOD

range
Control #14 0.38-0.44
Control #15 0.75-0.81

DATE: 12 Nov 83

PH 1 PH 2 Δ PH

		PH 1	PH 2	Δ PH
1	Control #14	8.04	7.65	0.39
2	Control #12			
3	7555A 0.2 ml >	7.57	7.23	0.34
4	7555B 0.2 ml	7.59	7.27	0.32
5	7555A 0.4 ml >	7.37	6.89	0.48
6	7555B 0.4 ml	7.37	6.91	0.46
7	Control #14	8.04	7.63	0.41
8	7517A 0.2 ml >	7.67	7.37	0.30
9	7517B 0.2 ml	7.66	7.37	0.29
10	7517A 0.4 ml >	7.50	7.07	0.43
11	7517B 0.4 ml	7.51	7.10	0.41
12	Control #14	8.03	7.64	0.39
13	Control #15	8.05	7.27	0.78
14				
15				
16				
17				
18				

I am from the island of Maui but am presently employed by Holmes & Narver and working on Johnston Island.

On August 29, 1982, at about 1300 hours, I was fishing off the seawall at the east peninsula of Johnston Island for papio and moana kali. There were lots of stickfish swimming close to the seawall. All of a sudden this big, black thing came up and started after the stickfish. It swam about 10 feet off the wall. It was a 185-pound yellowfin tuna. I took a good look at the fish and told myself, "no way am I going to tackle that monster with a light tackle." So I watched the ahi until he disappeared before I continued with my fishing for papio.

All of a sudden the ahi came swimming by again, and that's when I decided to do something about it. I got into my truck, went to my office, and picked up my 9-foot Garcia pole with its 7600 Daiwa spinner.

Back at the seawall, I only waited for a couple of minutes before the ahi came up again after the stickfish. I made a cast and snagged the tuna on his back in back of the dorsal fin. He took off as soon as my hook sank in. He made a run that emptied my spool and broke the line. I was using only 30-pound test monofilament line.

I rigged my line again and waited to see if the ahi would return. Five minutes later he made another pass for the stickfish. I could see my first hook still embedded in the back of his dorsal fin. I made another cast and hit him in exactly the same spot of his back. I fought him for about five minutes before he broke my line again.

By this time I was really frustrated because if I went back to the area and told the guys that I fought a big ahi from the seawall, they would tell me "that's the biggest fish story we've heard yet." I sat down and drank a beer and kept watching for him.

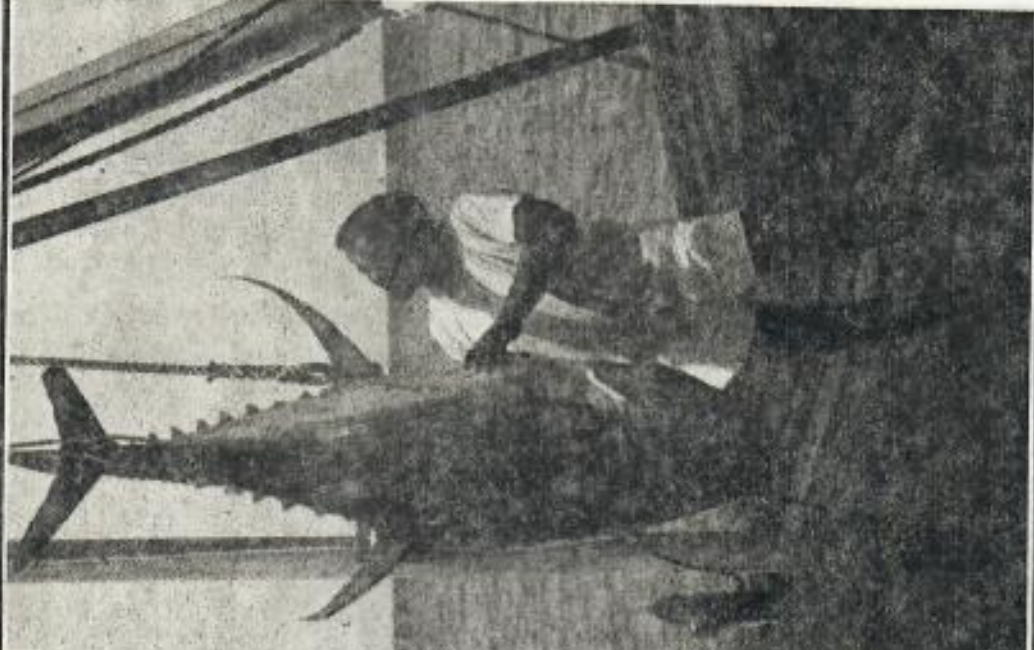
I spotted him about 50 yards off the wall, just cruising the surface. At this time I was really excited. He was asking for it.

I didn't have any more lines rigged. I found some stainless steel, 50-pound test leader in my box. I cut off a piece about three feet long, got me a No. 3 treble hook, and did a fast rigging job onto some 30-pound test monofilament line. I then got on the wall and spotted him heading towards me.

I cast out and snagged him again, for the third time hitting him at the same spot behind the dorsal fin. I fought him for 45 minutes. It was a good battle. I thought I would lose him a number of times, but the water was shallow

the MAIL BUOY Biggest Fish Story

by Chris Balutbar



"New Record For Island Shorefisherman"
Spin fisherman Chris Balutbar with a 185-lb. ahi captured while shorefishing with a Garcia rod and Daiwa reel on the Johnston Island seawall.

and he couldn't sound. (Ahi like to sound as soon as they are hooked.) It was a touch-and-go battle, and I was quickly tiring out as I had to walk back and forth to keep him from taking the line from my spinner. During the fight, he stayed mostly on the surface, and a couple of times I saw two whitetip sharks, four feet long, swimming alongside him, but not once did they go after him.

After about 40 minutes I had him on his side along the seawall. His big eyes were looking at me, and I looked back at him and started to drop tears. He was so close, but I couldn't pull him up by myself.

Just about that time he started to swim parallel to the seawall. I gave him enough line so he wouldn't get too close to the wall. I walked with him until he came to the area where my truck was parked. I gave him some more line; then, holding the pole with one hand, I got into my truck. I started the engine and got on the radio. I called Port Control on the Crash/Fire net. I got no response, so I called Alamo (our "security department"). Alamo answered. I asked Alamo to call Port Control and to tell them I needed help right away — I had a big ahi on my line.

Meanwhile, Mr. Sonobe, our fire chief and "one of the regulars on our Sunday fishing trips," was headed for the ball game when he overheard my radio transmission. Sonobe drove straight over to where I was fishing. You should have seen the expression on his face when he got on the wall and saw what I had on the end of my line. A minute after he got there, Herb Ching, the marine superintendent, and Freddie Batalona, marine deckhand, arrived. Herb's comments of what he saw is something you can't print.

Herb had brought along the gaff he uses on our fishing boat. It was 10 feet long, but a little short. I told Herb that I was going after my rope gaff. I gave Freddie the pole and proceeded for my gaff, which was at the terminal.

When I got back, all three of the men were standing on the corner, and, on the deck, the great big ahi was flapping around. I went to him and patted him on the head. Herb had gaffed him, and it had taken all three of the men to lift him from the water. We all congratulated each other.

I know this is unbelievable, but it happened to me, and I'll never forget the experience of fighting a big fish with medium-sized tackle. I hope this will be published in your paper as it is something that happens once in a lifetime.

...Chris

Hikina Island

Submerged coral reef

Dredged to a minimum depth of 25ft (1964)

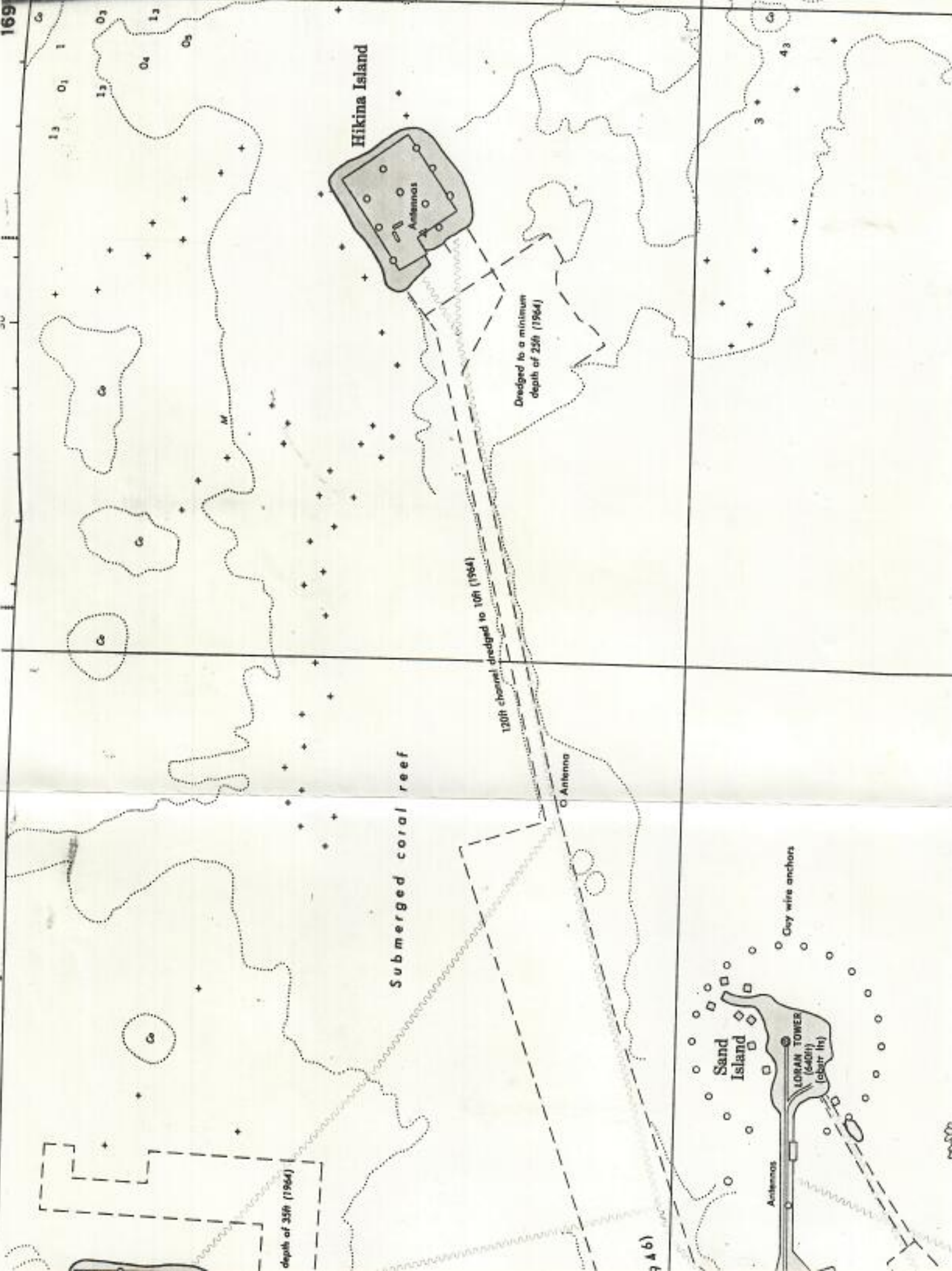
120ft channel dredged to 10ft (1964)

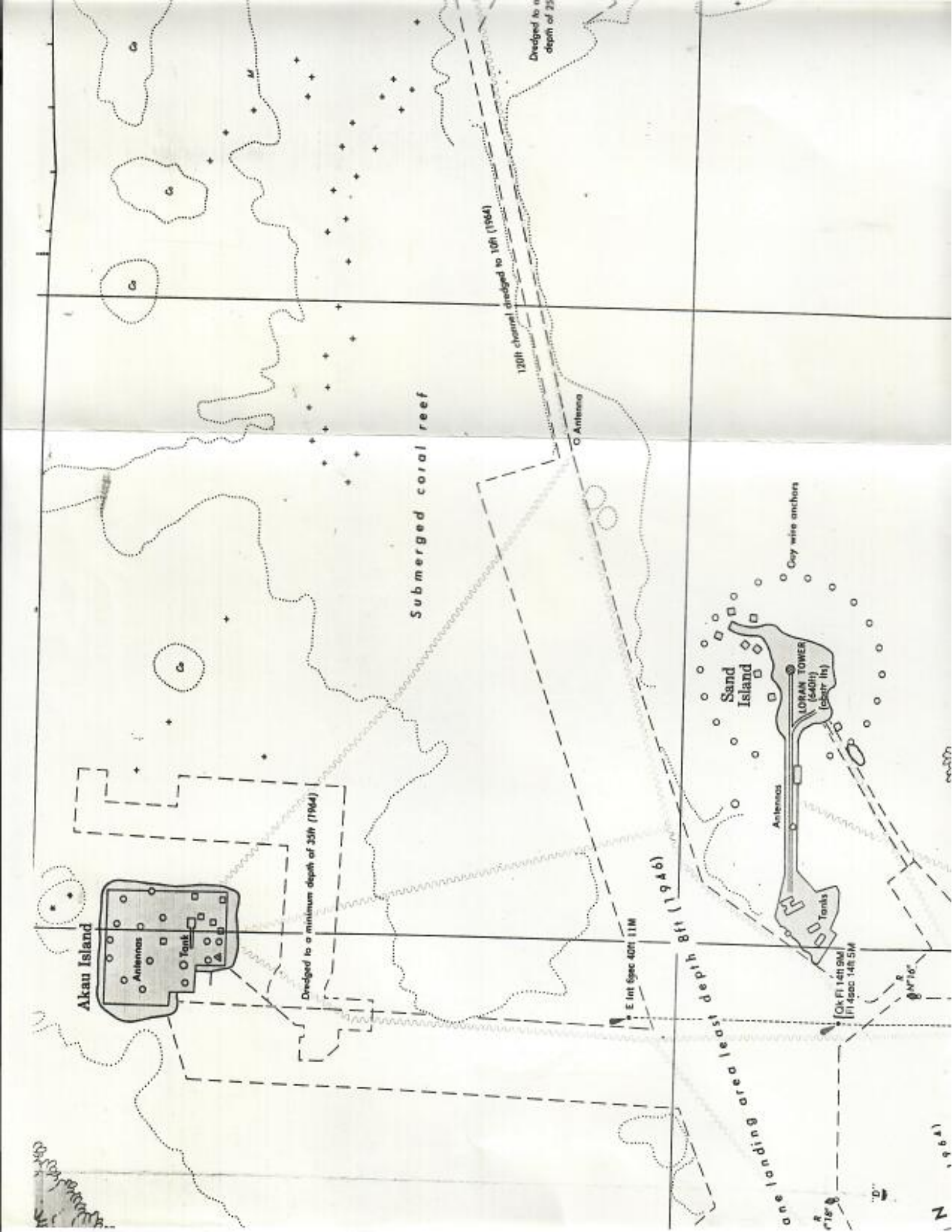
depth of 35ft (1964)

Sand Island

LORIAN TOWER (6-40ft) (about 1ft)

Clay wire anchors





August 19, 1983

F/SWC2

Dr. Robert Shallenberger
Acting Pacific Islands Administrator
U.S. Fish and Wildlife Service
P. O. Box 50167
Honolulu, HI 96850

Dear Rob,

Under the terms described in the enclosed document, the Honolulu Laboratory is planning to conduct a baseline assessment of sea turtle stocks at Johnston Atoll. The field work segments of this project have been tentatively scheduled for September 13-20 and October 24-November 3, 1983. Laboratory personnel who will be involved in the study include: William G. Gilmartin, Leader, Marine Mammals and Endangered Species Program, and the following staff of that program George H. Balazs, John R. Henderson, Alan K. H. Kam, and Gail A. Peiterson.

Since Johnston Atoll is jointly administered by your office as a National Wildlife Refuge, we would like to apply for a Special Use Permit to conduct this work. If additional information is needed on our proposed research, please contact William G. Gilmartin at 946-2181.

Thank you for your assistance.

Sincerely,

Richard S. Showara
Director, Honolulu Laboratory

Enclosure

GHB:ey
cc: Balazs
Gilmartin
HL



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service

Johnston Atoll National Wildlife Refuge

SPECIAL USE PERMIT

Permit number	Sta. No. to be credited
JHN-2-83	12515

Contract number

Date September 7, 1983

Permittee (Name and address) William Gilmartin, Leader
Marine Mammals and Endangered Species Program
Southwest Fisheries Center
National Marine Fisheries Service
P.O. Box 3830, Honolulu, HI 96812

Period of use (inclusive)
From September 10 19 83
To December 1 19 83

Purpose (Specify in detail privilege requested, or units of products involved)

To conduct baseline assessment of sea turtle stocks at Johnston Atoll. Assessment includes study determination of and description of ecology, abundance and distribution of turtles at Johnston Atoll and development of conservation measures.

Description (Specify unit numbers, miles and bounds, or other recognizable designations) Permittees may enter refuge and observe, capture, tag, examine, release and collect turtles at Johnston Atoll NWR. Operations may be conducted from shore or in the water. Capture may be done by standard, non-lethal methods. Two turtles may be captured near the Johnston Atoll sewage outfall, killed and their tissue examined for bacteria, heavy metals, dioxins and radionuclides. Collection of potential food items from reefs is also authorized.

Additional information is included in the attached study description.

Amount of fee \$ N/A If not a fixed fee payment, specify rate and unit of charge: N/A

- Full payment
 Partial payment-Balance of payments to be made as follows:

Record of Payments

N/A

Special Conditions

1. All operations and activities of the permittee and his assistant(s) are subject to all Federal laws, rules and regulations governing National Wildlife Refuge (50 CFR).
2. The taking of any animal, vegetable, or mineral matter except as authorized in writing by the Refuge Manager or by this Special Use Permit (and Endangered Species Permit if applicable) is prohibited on all refuge units. Disturbance to any wildlife except as outlined in the study outline is also prohibited.
3. Seabird nesting colonies will be avoided.
4. All clothing, gear and materials taken onto each island must be inspected and found to be free of foreign plants, seeds, animals and insects prior to entry onto the island.

This permit is issued by the U.S. Fish and Wildlife Service, and accepted by the undersigned, subject to the terms, covenants, obligations, and reservations, expressed or implied therein, and to the conditions and requirements appearing on the reverse side.

Permittee (Signature)

William Gilmartin

Issuing Officer (Signature and title)

Robert J. Shallenberger
Refuge Manager

William Gilmartin
Special Use Permit
September 7, 1983

5. The permittee will be responsible for removing all trash and refuse resulting from his activities. No trash or pollutants of any kind will be dumped into adjacent waters.
6. The permittee shall protect, maintain and keep in good order the premises and/or facilities occupied under this agreement.
7. The Federal government will not be held liable for any damages to injuries resulting from the conduct of the study.
8. No provision of this Permit shall invalidate provisions of Threatened Species Permit or other permits issued under the Endangered Species Act (16 ELSC 1539(a), 50 CFR 17.42(b)) that pertain to this research. All provisions under those permits must be followed.
9. The permittee will furnish the Refuge Manager with copies of all reports resulting from his investigations as listed in the study outline within 90 days of completion of study.
10. The following collections of marine organisms are authorized in accordance with the study outline: two turtles, turtle food organisms.
11. This Permit applies to the permittee and the following persons: George H. Balazs, John R. Henderson, Alan K.H. Kam and Gail A. Peiterson.
12. All activities of Johnston Atoll NWR must be coordinated with the Commanding Officer or authorized representative at the Defense Nuclear Agency at Johnston Atoll.



THE QUIET LIFE—John M. Merle, part-time U.S. magistrate on tiny Johnston Atoll, has never had to issue an arrest warrant or hold any kind of judicial hearing. Behind Merle is part of the island, which is controlled by the U.S. Defense Nuclear Agency.

Magistrate Presides on Crime-Free Atoll

By Charles Memminger
Star-Bulletin Writer

JOHN M. Merle is the law west of the Pecos — way, way west.

Merle's territory is Johnston Atoll, a dot of land 800 miles southwest of Hawaii that has two bars, a bowling alley, a nine-hole golf course, and a swimming pool, but mostly, one big runway.

For 10 years, Merle has been the part-time U.S. magistrate on Johnston Atoll, a position that carries with it the weight of federal law enforcement. In reality, however, with only 300 civilians on the tropical island to worry about, Merle doesn't have much magistrate work to do.

In 10 years, he has never so much as issued a search warrant. Or an arrest warrant. In fact, he has never even held any type of judicial hearing.

But that's fine with the 61-year-old Merle, whose main job is being resident manager for

Holmes and Narver, a civilian contractor working for the U.S. Defense Nuclear Agency, which has control over the island.

"This is such a peaceful little island that we don't have any serious crime," Merle said in a recent telephone interview. "Most crime we have are petty thefts or things like that."

Col. Robert Pennington, the base commander, has control over all of the military personnel on the island, leaving Merle to watch over the civilians. But since the civilians on the island also work for Holmes and Narver, they usually are disciplined as employees rather than citizens.

BUT JUST knowing there is a magistrate present on the island helps to keep people in line, Merle said.

"They know (a magistrate) is here and it's a deterrent," he said. He said when given the choice of having a court hearing or being disciplined by the resi-

Turn to Page A-8, Col. 1

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Crime-Free Johnston Atoll

Continued from Page One
dent manager, they always choose the latter.

"I just ask them which hat do they want me to wear," Merle said.

Getting disciplined as an employee is no picnic, Merle said.

"There is very firm and hard rule under Holmes and Narver policy," he said. "If you get into a fight, you've lost your job."

A review of disruptions on the island during the past several years showed that most of the incidents were assaults or cases "drunk and disorderly." In most of those cases, the employees were fired.

Unlike his judicial counterparts across the country, Merle does

not even handle simple traffic citations. Its hard to believe that people are given citations on such a small island, "but they are," said Merle. On the "main drag" the speed limit is a blistering 15 miles per hour. On the road that goes around the island, drivers can get up to 25. Speeding tickets are issued, he said, by security officers. But instead of going to traffic court, the violators are assessed penalty points, Merle said. If a person receives more than 12 points in a year, he has to hoof it around the island for the rest of his stay. Or hitch rides with friends. If a person whose job entails driving loses his license, he also loses his job.

But there is not really a lot of places to drive anyway, Merle points out. And most civilians, including the 12 or so women, enjoy the quiet life on the island and are careful not to jeopardize their stay.

Although the island is only two miles long and a half-mile wide—one third of which is taken up by a runway—and the fact that the island is a hub of nuclear

Easy Life for Magistrate

weapons activity, life on Johnston Atoll is pleasant.

"There is no hustle or bustle," Merle said. "The weather is excellent, better than in Honolulu. There is excellent fishing, swimming and snorkeling. There is a bowling alley, racquetball court, a nine-hole par-three golf course and a swimming pool."

THERE ALSO are two bars: the

Waikiki Club, an outdoor club with a Hawaiian motif frequented mostly by civilians, and the Tiki Lounge, an air-conditioned bar "for Army types," he said.

Until about four years ago, there were no women on the island. But since the two dozen women arrived, the men have actually become more well-behaved, he said. There have even

been a few marriages between residents of the island. Merle, who is unmarried, said the ceremonies had to be held in Hawaii, however, because the one thing he is not authorized to do is perform weddings.

Merle's main business as magistrate is issuing passports and other clerical work. He also is the island's only notary public.

Couple's Dream Trip Sha

By Murry Engle
Star-Bulletin Writer

Pat and Shirley Hines are broke, in debt and camping this week at the Honolulu Airport USO. But they're happy to be alive after the mast on their 35-foot Yorktown sloop broke at sea and brought them and two Fijian crewmen close to starvation.

After Shirley had shed about 40 pounds, Pat 30 and the crewmen similar amounts, they washed ashore in their crippled vessel — only they were on Johnston Island, which is off-limits to civilians.

Their saga that grew into a nightmare began two years ago this month when the couple left jobs in Santa Rosa, Calif., sold everything, bought the boat, christened it "Freedom" and sailed for Honolulu and points beyond.

SOMEWHAT SEASONED by March, they left Fiji, joined by

two adventurous Fijians, for Futuna, a French-governed island, only to meet Cyclone Sarah sweeping down through the Lau group on 45 mph winds and 30- to 40-foot seas.

After weathering the storm, they went to Fanning, where a man gave them a package to deliver to a Honolulu girlfriend — a package that was to save their lives.

They sailed again and was blessed with decent seas for a few days when disaster struck. The mast collapsed and broke in heavy weather as the four lounged in the cockpit, luckily hitting no one. Pat had turned 50 years old only the day before. Shirley is 53.

The boat drifted for three days while the crew rigged up a stubby mast and sails. The voyage was lasting longer than planned and food supplies were running short.

When they did run out, the four reluctantly but hopefully

opened the package. They found that it contained, besides a letter, four coconuts and some fish that saved their lives.

TWO WEEKS LATER even that was gone and, in light winds, the short sails couldn't pick up much speed.

Pat knew where they were, but Johnston seemed far away.

"It got to be a love-hate relationship between all of us and the boat," Shirley said. "We fought, prayed and ultimately grew closer."

Figuring they had only about two days to live, on the evening of May 29 they approached Johnston Island, dropped sail and told their plight to the landing craft crew that met them.

One crewman ate so much on the first meal that he collapsed and was hospitalized. All four were dehydrated.

Accommodated but urged to leave Johnston, they made repairs and sailed again, only to have one of the crewmen develop systemic poisoning and the boat's engine fail.

It was back to Johnston, where military officials "weren't really too pleased," Pat said.

Now, not only was \$2,400 still owed for mast and other repairs to the boat, but another \$1,000 had to be advanced to fly the Hineses to Honolulu and to deport the visa-less Fijians home.

It's a matter now of finding the money; then, "we'll probably sell her back on the Mainland and consider my dream fulfilled," Pat said.

attered by Disaster at Sea



SEAFARING COUPLE—Pat and Shirley Hines relax at the USO at Honolulu International Airport after a nightmare at sea during which they and their two crewmen nearly starved. Their boat, bought with their life savings, lost its mast in heavy seas in the South Pacific. —Star-Bulletin Photo by Dean Sensui.

JUNE 1980

Army's Chief of Staff Due in Hawaii

When Gen. Edward C. Meyer, the Army chief of staff, completes a tour of the Western Pacific he will stop off in Hawaii about July 5, Fort Shafter officials report.

A reception will be held at the Cannon Club July 7, and other events will be announced later.

Whether Meyer picks this time and place to announce changes in the form and shape of Army commands remains to be seen.

The Army's study of the feasibility of restoring the old USARPAC concept remains a possibility, Western Command officials admit.

When USARPAC was eliminated in 1974 the reasons given included: better satellite communications, expanded automatic data processing, better logistics management, and more tonnage lift by container ships and larger aircraft.

IF USARPAC returns, like a Star Wars movie, does that mean that all of the above would become inoperative?

Plenty of comings and goings at Pearl Harbor. The Robert E. Perry, Joseph Strauss and Sample left for the Western Pacific Tuesday following the departure the week before of an amphibious task group that included the New Orleans, Dubuque and Fresno, along with three other ships, that had unloaded Kaneohe Marine forces onto the beaches at Kahooolawe.

This amphibious exercise was a warmup, I would bet, for a WestPac deployment and the last time that happened K-Bay Marines almost got within sight of Iran.

The Wichita and six other ships

left Pearl for WestPac May 27.

Talbot Charley this time is the salvage ship Brunswick which will leave Saturday for WestPac.

As these ships saw the Waianae Mountains slip below the horizon they did not see, apparently, the mast of a Soviet spy ship that hangs around Oahu from time to time.

CINCPAC said no Soviet snooper capable of intelligence work has been off Oahu in the last month. These spies can monitor military communications lines here, CINCPAC assumes, a spokesman at Camp H.M. Smith said.

It now appears that dedication ceremonies for the new Arizona Memorial dockside facility will be held in October, a Naval Base spokesman said.

A West Coast contractor is still working on the film that will be shown visitors at the twin shoreside theaters.

The two Osaka orphanage youngsters have gone back home following a whirlwind round of events put on by their hosts, the Wolfhounds of the 27th Infantry. Interesting that this year a little boy, Sakio Ozaki, 10, made the trip, a first for the project.

The Army tells me a change in administration of the Holy Family operation in Osaka brought on a new policy calling for a boy and girl to make the annual trip rather than one, two or three girls as in the past.

The Pearl Harbor Naval Shipyard is among those federal job sites that has warned employees to beware of sexual harassment. Any trouble can be reported to the federal women's program manager.



The Armed Forces

By Lyle Nelson

Brig. Gen. Wesley H. Rice, new 1st Marine Brigade commander at Kilauea, a native of Baltimore, has more than 225 parachute jumps to his credit and training in snow warfare and skiing from the Norwegian Army.

An enlisted man for nearly two years, Rice has seen most Marine installations, such as Okinawa, but has also pulled duty with the British Royal Marines in Plymouth, England, and at such off-the-beaten-path places as Ogden, Utah, and Tampa, Fla.

The Air Force has warned its personnel that participation in the pyramid investment scheme, even in an open field or parking lot, is a violation of regulations.

Under the Selective Reserve Incentive Program the Army Reserve's 411th Engineers is now offering a \$1,500 enlistment bonus. The same organization is also sponsoring an auto mechanics course for youngsters in cooperation with the Boy Scouts.

Lt. Col. Rodney K. Anzal, former University of Hawaii distance running star, is winding up a tour in West Germany and will be assigned to Hickam in December.

He has been coaching track at the Kaiserslautern American High School and his son, Alan, looks like a good prospect.

Michigan veterans have until June 30 to apply for a bonus worth \$15 for every month served between 1961 and 1973 or a \$600 bonus for Vietnam duty.

Latest population figures from state and military sources show about 300 men now are serving on Johnston Island.

That includes 180 Holmes and Narver housekeeping contractors, 104 soldiers to look after the stored gas and only 11 Coast Guardsmen and 10 airmen.

At the time of the mass evacuation from Johnston in 1972 due to Hurricane Celeste there were nearly 600 personnel, such as booster rocket men from Vandenberg, Baker-Nunn camera operators and Pacific Missile Range personnel have since left.

The standby force today for the atmospheric nuclear testing is small.

Over at Wake the population is down to 209, with 168 housekeepers from Kentron International and 35 from Williamette Western. The six Air Force personnel there fuel up transiting aircraft.

Midway's population, 1,668 before dependents were pulled out, is down to 462 Navy men now.

No New Evidence to Lift Herbicide Ban, EPA Says

WASHINGTON (UPI)—Dow Chemical Co. has failed to provide any new evidence to warrant lifting a ban on herbicides 2,4,5-T and Silvex, the Environmental Protection Agency said Thursday.

The agency expressed that position in a brief filed with an administrative law judge assigned to hear arguments from the EPA and Dow over the controversial herbicides.

The agency banned the substances temporarily last year, citing miscarriages among women living in areas where the chemical was used.

In January, Dow asked the judge to dismiss the case, saying a recent EPA study showed no detectable amounts of the chemical in mother's milk.

But the EPA told the judge that Dow "presents virtually nothing that can be regarded as factual evidence bearing on the cancellation Instead, the Dow letter insists primarily of various examples designed to show that some members of the scientific community disagree with the agency's assessment of the risks"

It said the significance of the EPA study cited by Dow "is highly questionable for a number of reasons, including the lengthy period of time between spraying in the area and obtaining milk samples."

The agency said Dow has "conveniently overlooked new information on TCDD residues in Vietnam veterans—information which may be an extraordinarily important indicator of the extent of human exposure to TCDD."

TCDD is a dioxin that is present in both Agent Orange, used for defoliation in Vietnam, and the domestically marketed herbicides that were used on timber to control unwanted vegetation.

Johnston file

B

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FOCU

Yes, there are people on most of those ships under the cloud, created by an explosion the strength of the Nagasaki A-bomb on Bikini Atoll in the summer of 1946. Operation Crossroads, involving 94 ships, began the U.S. post-war nuclear weapons testing program.

Photo courtesy of Thomas Satter



Legacy of the giant mushrooms

From 1945 to 1962, the United States carried out 235 atmospheric and underwater nuclear tests, most in Nevada and the Pacific. Since 1966, France has triggered 94 nuclear blasts on Polynesian atolls — tests that continue today. Now there is growing concern that the French tests, underground since 1975, are irradiating the ocean. And the early U.S. experiments have come back to haunt the government in the form of claims by cancer victims who had been exposed to radiation. These stories, the last of a two-part report, examine the 36-year role of the Pacific as an outdoor nuclear laboratory.



Late 'fallout of

By Jim Borg

Advertiser Military Writer

At 12:50 a.m., Aug. 1, 1958, Honolulu's night sky lit up as though the sun were rising in the west.

Scores of Islanders watched in alarm as a fireball formed on the horizon. For five minutes, like some biblical vision, the heavens glowed orange-red.

As far south as Fiji and Samoa, lightning and purple auroras colored the sky.

Radio communications blacked out. For a while, Japan Air Lines believed it had lost two passenger planes.

The cause of this commotion was a 1-megaton nuclear burst in the upper atmosphere above Johnston Island, 825 miles southwest of Honolulu.

The explosion, code-named Teak, was equivalent to 1 million tons of TNT, or 80 Hiroshima bombs. Aboard ships positioned out to 300 miles around Johnston, rabbits were set up to observe the flash and biologists later measured the

hundreds of once-secret documents and as test participants break Cold War vows of silence, are details of U.S. nuclear tests coming to light.

The impetus has come from hundreds of "atomic veterans" who feel they were guinea pigs in the nation's nuclear experiment. Many have contracted cancer and blame it on blast radiation.

The Defense Nuclear Agency estimates that 220,000 personnel observed atomic detonations or conducted exercises from nearby trenches, planes and ships. But the agency insists the vast majority of test participants received only harmless levels of radiation.

In Salt Lake City, a related issue has reached federal court. Twenty-four cancer victims or their surviving relatives are demanding \$48 million in damages from the U.S. government, claiming their disease or family member's untimely death was caused by fallout from Nevada atomic tests in the 1950s. The verdict will be the linchpin for claims by 1,200 other litigants in Nevada, southern Utah and northern Arizona — and possible future claims by residents of the



facts' in A-tests

the lymph glands. In an unprecedented decision in 1979, he became the first veteran to win a VA pension after discharge for a disability incurred while on active duty. Kelly's cancer killed him in 1980.

Another first involves Elroy Runnels of Honolulu, a veteran of Operation Wigwam, a 1955 underwater test off the coast of California. Attorneys confirmed last week that Runnels' widow, Feadora, received an unpublicized \$10,000 out-of-court settlement in 1981 from the Scripps Institute of Oceanography, which designed safety procedures for the 30-kiloton test involving 30 ships and 6,500 sailors.

"It's the only case so far where money has changed hands, either in or out of court," says Cooper Brown, Runnels' former attorney, now with the National Association of Atomic Veterans in Iowa. Mrs. Runnels said she gave part of the money to the Mormon Church here.

Runnels died of leukemia in 1979, days after filing suit against the government. Federal Judge Martin Pence dismissed part of the class-

Bikini was the scene of the biggest and perhaps dirtiest U.S. atmospheric test — a 15-megaton thermonuclear blast on March 1, 1954, with the ironically inappropriate name of Bravo.

A Defense Nuclear Agency report, published in April, calls Bravo "without question the worst single incident of fallout exposures in all the U.S. atmospheric testing program." The report outlines a startling exception to the agency's claim that radiation exposures were "generally" within established safety limits.

Bravo was bigger than anticipated (1,200 Hiroshimas), winds changed unexpectedly, and fallout described as "pinhead-sized white and gritty snow" blanketed Navy ships, a Japanese fishing boat and hundreds of islanders on nearby Rongelap and Utirik.

Officials had determined that a radiation exposure of 3.9 roentgens should be the maximum safe level for participants over the 13-week Castle series, six explosions in all. But Castle Bravo bathed some individuals with radiation as high as 95 roentgens in a matter of hours, the report

burns on the animals' retinas.

A belated government announcement described the explosion, and a follow-up test 12 days later, as "by far the most spectacular shots ever fired by the United States." The military also abashedly promised to warn the civilian populace before conducting more atomic pyrotechnics.

Detonated 38 miles up, Teak's fireball never touched the earth, but it left a strong impression. For Hawaii residents, it was an introduction to the solemn special effects of the atomic age. Scientists say charged particles from the explosion are still falling today.

Not until today, as the government releases

Marshall Islands.

It's a different kettle for veterans, forbidden to sue the government for injuries suffered in the line of duty. Although 2,882 disability claims have been filed with the Veterans Administration, only 66 have been sanctioned as "service-related," the VA says. Only 15 cases have been officially recognized as relating to the tests.

The landmark case involved former Army Sgt. Maj. Orville Kelly, who on Japlan Island at Enewetak in the Marshall Islands witnessed 22 nuclear blasts in 1958. Kelly's experiences are chronicled in a new book, "Countdown Zero," co-authored by Thomas H. Saffer.

In 1973, doctors told Kelly he had cancer of



A mushroom cloud over Moruroa — one of 41 atmospheric tests in French Polynesia between 1966 and '75.

Bitter d

By Jim Borg

Advertiser Military Writer

PAPEETE, Tahiti — Hanging above the peaks of Moorea, the afternoon sun pours through the window of the beachside bungalow library of Bengt and Marie-Therese Danielsson. Shelves along the wall hold hundreds of books, magazines and scholarly reports. A desk and typewriter overlook the balmy Pacific. A dog naps on the floor.

The tranquility is deceptive. Despite its lazy charm, the Danielsson library may be the strongest single center for dissent in French Polynesia.

The issue is *la bombe*, the French government's nuclear testing program on Moruroa, a tiny atoll in the Tuamotu Archipelago about 800 miles to the southeast.

Few voices have been raised as loudly against the tests — and for Polynesian self-determination — as those of Danielsson, a Swedish author-historian who came to Tahiti in 1947 on Thor Heyerdahl's *Kon Tiki*, and his French-born wife, a member of the Papeete town council.

In books and in their "Postmark Papeete" column in the *Pacific Islands Monthly*, the Danielssons have challenged the French government to provide the public with health and ecological statistics regarding the tests, which have rocked the South Pacific since 1966.

"We have tried over the years to get facts and figures," Danielsson says. "When the French army took over, they stopped publishing health statistics."

Forty-one atmospheric tests were conducted from 1966-75, and since then 53 subsurface tests have been conducted on Moruroa and Fangataufa. The latest test...

action suit Aug. 30, but will allow attorneys to argue whether the government should have warned Wigwam participants as new information surfaced about radiation risks.

From the end of World War II until 1962, the Atomic Energy Commission and Defense Department set off 106 atmospheric and underwater nuclear bombs in the Pacific. The remote Marshall Islands became the Pacific Proving Ground in 1946, and 66 blasts were detonated there over the next dozen years.

Whole Marshallese island populations were displaced and periodically evacuated to accommodate the mushroom clouds.

According to recently-released U.S. documents,

says. (A typical X-ray is less than 1 roentgen.)

"If somebody had been out there for years, they shouldn't have gotten that much," says Col. Bruce Kennedy, a medical physicist at Tripler Army Medical Center. "I'd say that's excessive, and I don't think anyone would quarrel."

The report says 21 sailors on the USS Philip and 16 on the USS Bairoko "sustained small skin lesions resembling burns," but which "healed without complications." The tanker USS Patapasco received fallout more than 200 miles away and had to be decontaminated three weeks later

See Light on Page B-3

Dissent over 'la bombe'



Bengt Danielsson

Trying to get the facts.

estimated by New Zealand authorities at 70 kilotons, about five to six Hiroshima bombs.

A new test series is expected to begin this fall. In a recent 1983 budget statement, French Defense Minister Charles Hernu said that the country's nuclear strike force will get "top priority" to the tune of \$6.2 billion, fully a third of defense expenditures.

There has been a vague uneasiness here about the French nuclear program from the beginning, but fears about radioactive pollution intensified last December with a report by a group of dissident engineers from France's Atomic Energy Commission. In a bold breach of the French Defense Secrets Act, the report said government negligence had caused "major ecological problems" on Moruroa and threatened the health of those stationed there.



Marie-Therese Danielsson

Media ignore test opponents

● The blasts have cracked Moruroa's porous coral base and basalt foundation, allowing waste to seep into the ocean and contaminate fish.

● International guidelines for nuclear waste storage have been flouted and one Moruroa beach had become a "radioactive rubbish heap."

● Storms in 1981 ripped off layers of asphalt covering several pounds of radioactive plutonium. Waves swept the debris into the lagoon and out to sea, and irradiated gloves and other material washed ashore for weeks.

The pollution got so bad a year ago that the engineers and technicians threatened to strike. The commission promised to clean up the mess, but there has been no independent verification of its efforts.

Last Dec. 21, the Territorial Assembly with rare unanimity

risks from the testing by independent doctors and radio-biologists. The resolution eventually prompted a two-day visit to Moruroa in June by seven Defense Ministry scientists who declared conditions safe.

There were no radio-biologists in the group, however, and the Danielssons and other critics — notably Greenpeace, the French Ecology Party and the French group Friends of the Earth — remain unsatisfied. The scientists' leader himself called for further study.

The Assembly, meanwhile, under a shaky majority since elections May 23, has not followed up on its resolution.

But the elections brought an unprecedented victory for a pro-independence, anti-nuclear political party called *la mana te nuna* (Power to the People), which gained three of the 30 seats. And some feel that the Assembly, though forbidden by French law to delve into defense issues, will take a stronger role in matters of health.

The major impediment to change, the Danielssons say, remains France's domination of the legal system and mass media in Tahiti, annexed in 1842.

"It's very difficult for Polynesians to understand what it's all about," says Danielsson, currently at work on a six-volume history of the islands. "They have been subjugated, oppressed and cheated by Europeans from the very beginning. It will be very difficult for them to take over and gain independence. They are not able to understand the machinery and control it."

Says Mrs. Danielsson, "It's very simple. Radio and TV are owned by the government. No opponent of the tests has ever been allowed to say a word"

Light shed on Pacific tests

from page B-1

at Pearl Harbor.

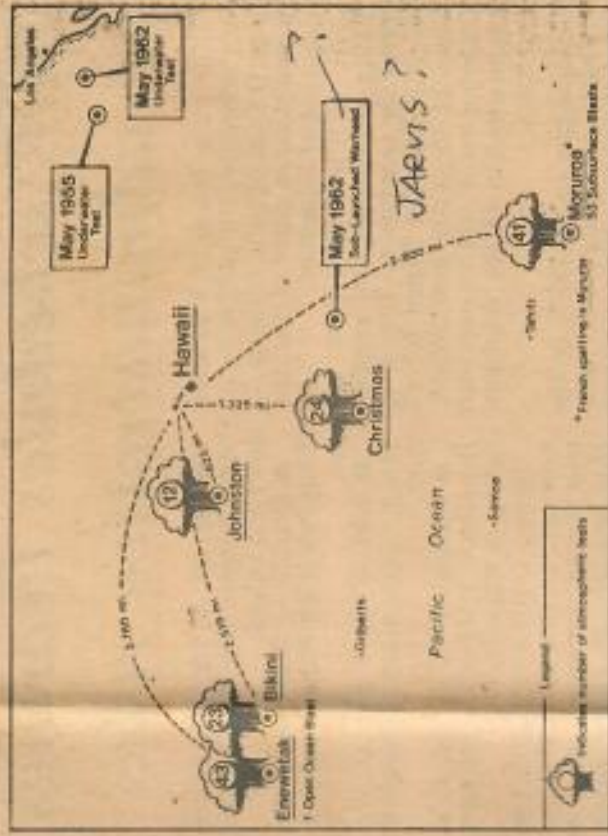
Two days after the shot, the destroyer Philip evacuated 82 people from Rongelap, 100 miles east of Bikini, to Kwajalein. A day later, 157 people were evacuated from Utrik, 300 miles from ground zero, after readings showed the inhabitants would be exposed to 58 roentgens if they stayed. Ailuk atoll, with a population of 401, was not evacuated, since readings indicated the islanders would get less than 20 roentgens.

On April 29, 1954, three sailors and 26 soldiers and airmen who had been badly irradiated were admitted for observation at

Tripier. Although "detailed hospital records are not available," the report says findings were "essentially negative" and the men were returned to duty.

Under mounting international pressure, President Eisenhower declared a unilateral moratorium on atomic testing on Oct. 30, 1958 — provided the Soviet Union followed suit. But the Soviets broke the moratorium in 1961 and by 1962 the U.S. program was back in full swing.

Thirty-six atmospheric blasts that year were at Christmas and Johnston islands, some of them visible from Honolulu. By year's end, the U.S. and Soviet Union signed a treaty banning atmospheric explosions. Four years later, France began atmospheric tests in Polynesia.



STATUS OF SEA TURTLES IN THE CENTRAL PACIFIC OCEAN

by

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INTRODUCTION

Except for the Hawaiian Archipelago, sea turtle populations in the Central Pacific Ocean and other areas of Polynesia have not been systematically surveyed and only limited information exists on their occurrence and present survival status. This report will summarize and review what is known for a number of locations within the region, specifically the Hawaiian Archipelago, Line Islands, Phoenix Islands, Cook Islands, American Samoa, Western Samoa, Tokelau, Tavalu, Nukunono, Johnston, Howland and Baker (Figure 1). While the information for most of these areas is clearly inadequate, there is nevertheless evidence to indicate that the numbers of turtles have declined within historical times. At those islands with indigenous human populations, the traditional conservation systems that served to protect turtles and other marine resources from over-exploitation have deteriorated considerably, and in some cases vanished altogether. Three interrelated factors contributing to this breakdown have been the introduction of money economies, the decline of traditional authority, and the imposition of new laws and practices by colonial powers (Johannes, 1976). In

Polynesian societies, sea turtles are known to have played an important role in certain religious ceremonies, in mythology and art, in the production of implements and medication, and as high protein food sources generally reserved for chiefs and priests (Buck, 1932; Emory, 1933, 1947; Emory et al., 1968; Kalakaua, 1888; Pukui and Elbert, 1971).

Of the islands covered in this report, only the ones under United States jurisdiction currently have governmental regulations for sea turtles. Under the U. S. Endangered Species Act, all sea turtles at those U.S. areas are fully protected.

STATUS

Hawaiian Archipelago (U.S.A.)

Three species of sea turtles occur in Hawaiian waters, the Green turtle, *Chelonia mydas*, the hawksbill, *Spherocheilus imbricatus*, and the leatherback, *Dermochelys coriacea*. The olive ridley, *Lepidochelys olivacea*, and the loggerhead, *Caretta caretta*, have been recorded, but only as rare visitors.

The Hawaiian hawksbill population is small and only known to occur in coastal waters of the eight main and inhabited islands at the southeastern end of the 2,450 km long archipelago. Several nestings have been documented on the island of Hawaii where black volcanic sand beaches are utilized. A single nesting has also been recorded on the island of Molokai (Ernst and Barbour, 1972).

6. The predation on hatchlings by rats at Rose Atoll should be quantified and control methods implemented if the conditions warrant.

7. Military agencies of the U.S. Government that administer islands covered in this report should undertake a thorough investigation of the aggregations of sea turtles occurring at such sites. This would include Johnston Atoll, Kingman Reef, Wake, and Midway in the Northwestern Hawaiian Islands. Any plans for the storage of nuclear wastes and other highly toxic substances on Pacific islands should include a careful evaluation of the potential impact on both nesting and foraging aggregations of turtles.

8. The Hawaiian Islands National Wildlife Refuge, particularly the critical rookery of French Frigate Shoals, should encompass a substantial amount of surrounding marine habitat to serve as a buffer against the forthcoming development of commercial fisheries.

ACKNOWLEDGEMENTS

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I would also like to gratefully acknowledge the support and assistance of the U.S. Fish and Wildlife Service, the National Marine Fisheries Service (Honolulu Laboratory), the Hawaii State Division of Fish and Game, the South Pacific Commission, the Fourteenth

U.S. Coast Guard District, the Fifteenth Air Base Wing of the U.S. Air Force, and the New York Zoological Society. Appreciation is also extended to Fisheries Departments of the Cook Islands and Western Samoa for their hospitality and assistance during my visits in 1977. This is contribution number 578 of the Hawaii Institute of Marine Biology and conference paper number UHIH-SEAGRANT-CP-80-05 of the University of Hawaii Sea Grant College Program.

From 11-14 December 1979 a workshop on sea turtles in the Pacific islands will be jointly held by the South Pacific Commission and the U. S. National Marine Fisheries Service in Noumea, New Caledonia.

7/9/91 A10

Johnston Island: uncharming but important

JOHNSTON Island is the place chosen to start destruction of our horrifying inventory of nerve gas and other chemical warheads. It is alone in the Pacific 780 miles southwest of Honolulu — so alone returnees have to fill out customs declarations. The air route to Honolulu is its umbilical cord.

If you want to know what it looks like drive out to Lagoon Drive at Honolulu International Airport. It's a slice of Lagoon Drive two miles long and half a mile wide inside a coral lagoon. Like Lagoon Drive it has a few palm trees, warehouse-type buildings and a long airstrip.

All but 60 of its 600-plus acres are man-made — from imported landfill and coral dredged up from the lagoon. It was a stationary aircraft carrier in World War II. Thirty years ago it was used for serial nuclear tests. One of these made Honolulu as bright as day one midnight.

Aerial testing still is a congressionally stated standby use — possible but improbable after the 1995 scheduled end of the chemical disposition program begun in 1989.

Today's Johnston residents are roughly 300 military personnel, 245 of them Army, and 1,100 employees of civilian contractors.

They live on the eastern end of the island close up against the incoming tradewinds. The weapons destruction plant is at the far west end. There the trades should blow gases to sea in case of a mishap.

Military personnel are responsible for the security of the island, the air base and a Coast Guard patrol. Weapons delivered to the island for storage and eventual destruction are under Army control until they are inside the munitions demolition building (MDB). Then the civilian firms take over.

Inside MDB the weapons are opened mechanically in sealed rooms, sawed into small chunks, then dumped into a volcano-hot incinerator.

few personnel have been there up to five years. No dependents are allowed. Married couples may come only if both are employed. Most jobs require at least a junior college education.

Recreation opportunities include open air movies, a sauna, a pool, fishing, which is particularly great when garbage dumping draws in fish and sharks, sailing, power boating, hiking, bicycling (no private cars are allowed), softball, golf on a parched nine-hole course, racketball, weightlifting and more. There is no surf to speak of.

Disciplinary problems are few. There is a holding room (used rarely for drunks) but no brig. The Army commander of the operation, Col. Richard I. Haley, tells me morale is great. In a short visit I saw no reason to disagree.

Visiting firemen are a part of the routine — Congress members, government officials, scientists, environmentalists, Pacific island leaders, people from the eight states scheduled to get similar plants, interested civilian and military personnel, and even a party of Russians.

Most seem to be persuaded the operation is safe. So are the personnel living on the island. Everyone must carry a gas mask as a precaution. Visitors get a fitting and brief training.

In a super-emergency all 1,400 personnel would retreat to the pressurized joint operations center at the windward end of the island. Food, water and other supplies stored there could sustain everyone for at least three days — long enough to correct any emergency.

I wouldn't want to live on Johnston. But I'm glad 1,400 people do and are doing the important job at hand. This includes, I hope, demonstrating to the eight future host states that this necessary process can be safe. After all these weapons were originally made and stored far closer to populated places than Johnston is.

A.A. Smyser is Star-Bulletin contributing editor.

HAWAII'S WORLD

By A.A.
Smyser



The fumes are treated with neutralizing chemicals until they are safe. The metal residue is stored for disposition back in the mainland U.S., the responsibility of the contractors.

The most dangerous jobs are those that require doing maintenance in the sealed rooms. Some 50 or so people do this, always in teams of two or three. They are sealed into white rubber suits — the final seal done mechanically up and down their backs so that they are in much tighter than crackers in those unopenable bags. An airhose lifeline is attached.

These workers look like astronauts. They have considerable dexterity despite their cumbersome attire. Communication with them is by phone. Safety monitors are on them all the time. When a shift is over (never more than two hours) they are cut out of their suits with surgical scissors. A new \$200 suit has to be used each time. The old suits go through a careful disposition process.

If Johnston is uncharming in landscaping and architecture it still has its amenities — free food for all but military officers, bimonthly two-week travel-paid leaves back home for most civilian workers, clubs that draw no distinction between civilian or military, officer enlisted, phones that reach anywhere through the Honolulu exchange.

Most contracts and tours are for a year but a

Puerto Rican Target Island Dispute Grows

By Lew Wheaton

ABOARD USS EISENHOWER (AP) — The Puerto Rican islet of Vieques and the waters around it are a unique and vital practice range that the U.S. Navy will never give up voluntarily, says Adm. Jerry O. Tuttle.

Fishermen and other residents along Puerto Rico's east coast have been campaigning for years for an end to the bombing, shelling and strafing of the small offshore island. Now the Puerto Rican Environmental Quality Board is supporting them.

A destroyer's accidental launch last week of a high-explosive Harpoon missile supplied new ammunition for the campaign.

But Tuttle, directing Navy training exercises in the area from the 35,000-ton aircraft carrier Dwight D. Eisenhower, says: "I can't see the military relinquishing it, or offering to."

"It's the last training place we have east of the Mississippi where we can drop live ordnance, and live ordnance is essential, absolutely essential, if you're going to be ready to go into combat."

As the admiral talked, 1,400-mile-an-hour F-14 Tomcat fighters were taking off with ear-shattering jet screams from the 4½-acre flight deck above his quarters.

Pilots aboard the 1,092-foot-long "Ike" concurred in Tuttle's assessment of Vieques.

"We can't do without it," said Lt. Cmdr. Stan Bryant, the operations officer of the ship's air group.

Bryant, whose A-6 Intruder can carry 7½ tons of bombs, says his pilots have dropped at least 1,000 live bombs, each weighing 500 pounds or more, plus about 2,000 small practice bombs on the islet and its waters during the past two weeks of the readiness exercise.

It's "extremely important" for pilots to be able to take off from a carrier with a heavy load of live bombs, drop them on target and then return to the ship, said Bryant.

He added that Vieques is the only area available to ships on the east coast where this can be done.

The readiness exercise ends this week, and the ships return to their home ports. Protesting fishermen and others who disrupted training operations in previous years did not try to interfere this time.

Tuttle said the Harpoon missile launch was the first accidental firing of a Harpoon he knew of and was being investigated. But he wouldn't comment further.

The Navy says the missile crashed into the water at least 45 miles from the nearby island of St. Croix, one of the U.S. Virgin Islands. Legislators there are demanding an independent investigation and a full explanation from top Navy officials.

Spokesmen for three anti-Navy groups charged that the missile "gravely threatened" St. Croix and demanded an immediate halt to Navy operations in the area.

A number of lawsuits have been filed to stop the Navy shelling and bombing around Vieques on environmental grounds. The U.S. Justice Department says the Supreme Court will review the issue.

But Navy exercises in the area will continue, said Lt. Drew Malcolm, a spokesman at the big Roosevelt Roads base on the east coast of Puerto Rico. They will include Atlantic Fleet war games next month in which ships from a number of countries will take part, other officers said.

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Specialists Shortage Hurting the Air Force

Talk about a manpower pinch in the armed services.

The Air Force seeks, among others, radio operators to man airborne communications aircraft, pilots for the high-flying SR-71 reconnaissance Blackbird, instructors for Air Academy cadets-taking soaring courses and colonels for the ROTC program.

News has just reached the Pointer newspaper from Midway Island that sailors there celebrated the 39th anniversary of the Battle of Midway by holding a 12-hour marathon dance in which all couples completed the dance, raising \$1,300 for Navy Relief.

A first occurred at Barbers Point when Patrol Squadron 22 made the first attempt at night mining drops in an ocean area within the Barking Sands range. All went well and the mines were unarmed.

THE THREE-WAR fighting men, such as Adm. Donald C. Davis, who retired the other day, are fading away. Also retiring was Capt. Clyde O. Wimberly, 58, assistant to the Pacific Fleet surgeon for administrative medical services. Wimberly enlisted in the Navy in 1941 as a corpsman and his service pre-dates

The Army operates beaches at De-Russy, Mokuleia and Waianae. The Navy has Nimitz and White Plains at Barbers Point. The Air Force runs Bellows. The Marines operate Fort Hase, Kay-Bay Beach, Hale Koa, Pyramid Rock and North Beach.

SOME ASTRONAUTS who visited the moon later turned to religion while others became bank executives. But Alan L. Bean, 49, who resigned in June from flight status, has turned to painting. Bean walked on the moon with Charles "Pete" Conrad in 1969. Coupled with a later flight on Skylab, Bean accumulated 1,671 hours in space, the most among the active astronauts. Bean will remain in the Houston area where he has been living.

The National Aeronautics and Space Administration's Atmosphere Explorer-5 re-entered the atmosphere and burned up June 10 after 31,268 orbits in more than five years. Its last signal was heard by Kokee, Kauai. It burned up east of Nicaragua, NASA officials said.

Two U.S. Omicron satellites decayed recently after orbiting the Earth for 20 years.

James A. Van Allen, discoverer of

The Armed Forces

By Lyle Nelson



the Pearl Harbor attack. Later he served in the Savo Island, Inchon and Vietnam conflicts — 17 major combat engagements in all.

The American Legion, at its upcoming national convention in Waikiki, will give its Distinguished Service Medal to Columbia astronauts Robert L. Crippen and James W. Young, but neither will be here to take a bow. However, astronaut Karol J. Bobko will attend.

Dr. David Weiss of child adolescent psychiatric services at Tripler Hospital, will offer a clinic for overweight military dependents between the ages of 13 and 19. Prospects must be at least 15 percent overweight. Telephone 433-6312 for more information.

Twenty Sea Cadets from San Francisco, Miami and the Islands will finish a three-week "boot" camp at the Naval Station Friday. The volunteer training program is sponsored by the Navy League.

Col. David Bartholomew has taken over the Air Force Pacific Communications Division at Hickam.

RADIOMAN Reginald E. Pimental of Kaneohe serves on the dock landing ship Thomaston in Far Eastern waters.

A New Zealand Embassy newsletter carries photos of frigid members of the 25th Division working a war games problem in plenty of snow in the Waiouru area.

West Point's Board of Visitors, of which Sen. Daniel Inouye is a member, arrived here earlier this week.

Arthur L. "Bud" Andrews is the new chief master sergeant of the Air Force, replacing James McCoy in impressive ceremonies in Washington.

The military operates 11 beaches on Oahu, five by the Marine Corps, two by the Navy, three Army and one by the Air Force. All service personnel are welcome on any of them. Civilians are allowed to use a part of Bellows on weekends and De-Russy at any time.

radiation belts in space, says Pioneer 10, now halfway between the orbits of Neptune and Uranus, has found that solar energy extends far beyond the point predicted earlier by scientists. Solar energy includes solar wind, radiation belts and solar magnetic storms. On July 26, Pioneer 10 was 2.3 billion miles from the sun. It takes 3 hours and 28 minutes for data from the spacecraft, traveling at the speed of light, to reach the Ames Research Center in Mountain View, Calif.

TO COMBAT WASTE and fraud in the military, Caspar W. Weinberger, secretary of defense, has established a hotline. If you know something that DOD ought to know, telephone (800) 424-9098 or 223-5080.

Congress has increased the permanent change-of-station travel allowance from 7 to 13 cents per mile. The change-of-station per diem jumped to \$50 a day.

The Navy's Pacific Division engineering command has earned the civic enrichment award from the Hawaii Society of the American Institute of Architects for its design of the wind-ventilated enlisted quarters at Pearl Harbor.

Sailors off the submarine Sargo visit Kapiolani-Children's Hospital every month as part of a community service inspired by Storekeeper 3.C. Mark Moore. The sailors always wear their uniforms for the visits.

The Department of the Army finally has seen the folly in submitting the stock handshake-award photo to island newspapers. From now on such events will be recorded with a Polaroid-type camera and those being honored will receive the photo. Such photos won't even be submitted to military newspapers.

Col. Charles Beckwith, who led the aborted Iranian raid, will retire from the Army at Fort Bragg on Oct. 1. He plans to form his own anti-terrorist tactics training group for hire by corporations.

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A:1

Waihee inspects Johnston Island

Plant to destroy nerve gases

By Richard Borreca
Star-Bulletin writer

Gov. John Waihee quietly slipped out of town this week to visit Johnston Island where the U.S. Army is building a \$400 million facility to destroy thousands of deadly nerve gas rockets.

After returning, Waihee said yesterday he toured all the facilities on the tiny atoll 717 miles southwest of Honolulu and left feeling confident that the army was handling the matter safely.

Waihee flew to Johnston Island as a guest of the military. Also included in the traveling party were Senate President Richard Wong, House Speaker Daniel Kihano, and First Hawaiian Bank Chairman John Bellinger, civilian aide to the secretary of the Army.

"It is the kind of thing we need to be interested in and concerned about to make sure that it is done in a safe way," Waihee said.

"THEY HAVE taken some extraordinary steps to guarantee the safety of the process.

"At this time they have pretty much satisfied any concerns we had."

Army spokesman John Fairbank said Waihee and the other political and community leaders spent three hours on the island,

touring the nerve gas facilities plus the agent orange and plutonium storage areas.

There are 10 sites maintained by the United States across the globe to store chemical weapons which under federal law can not be returned to the 50 states.

No new chemical weapons have been produced by the United States since 1969, but since then the existing stockpile of nerve gas rockets, shells and bombs have been stored and are slowly deteriorating.

NOW ON JOHNSTON Island there is a \$400 million construction project under way to build the plant and laboratories needed to disarm and destroy the chemical weapons.

The local construction firm, Hawaiian Dredging and Construction won one of the major contracts to build the facility.

About 300 Army personnel are assigned to run the chemical storage facility with another 700 civilians building the incinerator and fitting the equipment.

Waihee said he was also interested in helping the civilian workers regain the income tax free status they lost because of last

See WAIHEE, Page A-4

WAIHEE: Governor tours Johnston Island

Continued

year's federal tax reform measure.

Since January of this year, Waihee said, civilian workers on Johnston Island have had to pay federal income tax, something which has been exempted in the past.

"THERE AREN'T many advantages to working on Johnston Island — its a little atoll in the middle of the Pacific, you can't bring your family along, so the

tax-free status was one of the better advantages of the place," Waihee said.

Waihee said he promised to help lobby the federal government to restore the income tax exemption.

"This means they will have more money to spend when they return to Hawaii," Waihee said.

Civilian workers on Johnston Island are not liable for local income taxes, Waihee added.

July 1981

The Point

Page 4



DEADLY FORCE — VP-22 made history by being the first squadron in the Pacific Fleet to attempt night mining operations.



AO2 Aubrey Dodd, AO2 Sonny Gogo and AO2 Kevin Fick mount a mine onto a wing pylon. USN photo by PH3 Johnston

VP-22 first wit

Four aircraft from VP-22, each laden with five inert laying dummies, flew into Pacific Fleet history on July 7, as the first Pacific Fleet patrol squadron to attempt night mining operations. The actual mining run conducted at Pacific Missile Range Facility, Barking Sands, was the culmination of many weeks of lectures, workup flights, practice loads, and practice flights, with an extra-ordinary effort given by VP-22 Ordnancemen. These men worked many twelve to fifteen hours within a two-week period as they readied the aircraft for this difficult evolution and simultaneously prepared other aircraft for retro-fitting of new detection and weapons systems at Moffett Field, CA., and prepared others for additional airframe overhauling at SDLM. Led by AOC Scanlon, the ordnance gang deserving special recognition is: A01 Bennett, A01 Guy, A02 Blake, A02 Barnes, A02 Siatanuu, A02

ter

NAS Barbers Point

July



This is gone

AO1 John Guy and AO3 Wesley Maynard load 2,000-pound mine in the P-3 bomb bay station.

h night mining operations

aircraft maneuvering and the coordination between individual crewmembers increase many-fold at night, with the absence of visual checkpoints. Pre-planned target points must be hit, since an error in a real-life situation could result in a loss of allied shipping.

The Mine Readiness Certification Inspection (MRCI) was a complete success

from the initial arrival of the inspection team headed by CDR Paul Griffin, Patrol Wing Two, through the laying of the "mines" on the range. The Blue Geese of Patrol Squadron Twenty-Two demonstrated that this difficult job could be safely conducted and accomplished with superior results, thus adding a new capability to the VP community's ASW operations.



PHOTO BY [unreadable]



LT Lynn Hutton, VP-22 NATOPS Officer (left) and CDR E.R. Enterline, VP-22 CO, inspect work done by mine-loading crew.

Dodd, A02 Gogo, A03 Maynor, and AN Wynne.


LT Ron Manley, VP-22 weapons officer, developed and presented the extensive briefings preceding the actual flight evolution. He was assisted by a great support team consisting of ENS Terri Roberts, who provided the intelligence briefing, and LT Otto Rossner, who presented the operations scenario.

On Tuesday night, July 7, Crews 1, 3, 5, and 9 departed NAS Barbers Point to rendezvous at pre-designated locations within the PMRF Barking Sands range. The mission would require precision timing and the highest level of crew coordination. The complexity of precise

USN Photos by PH3 Johnston



AOC Jake Scanlon does it "by the book," to ensure proper procedures are followed in the weapons loading evolution.



A VP-22 P-3, loaded with mines, takes off for Barking Sands, Kauai for night mining exercises. Note 1,000 pound mine under right wing. USN Photo

NAF revisits Battle of Midway

Jo2 Paula Le Claire

NAF MIDWAY ISLANDS—Their shirts said, "I survived the Battle of Midway '81", and their faces showed the joy of celebration.

On the evening of June 4th, 1981, the Battle of Midway Celebration began at Naval Air Facility Midway Islands, with a bonfire on the beach. For the next three days, people gathered to celebrate the victory of 39 years ago.

Friday, June 5th, activities began early in the downtown area. It was holiday routine for the Sailors of Midway. Bowling, volleyball and golf tournaments were organized for the athletically inclined, with awards for the top finishers.

A dunking booth, kissing booth, car smash, bike auction, leg contest, and raffle were organized to entertain and raise money for Navy Relief—something that has become a tradition.

Saturday, June 6th, included a 12-hour dance marathon, bike race and conclusion of the golf and bowling tournaments. Events for the three-day celebration wound down with a base-wide dance. All of the marathon dancing couples lasted 12 hours, and brought in over \$1,300 for Navy Relief.

Yet it was not just 1981 that was brought to mind, but memories of days in June of 1942.

The war was in full swing, and Midway Islands were another point of attack for the Japanese. Thanks to counter-intelligence sources and careful planning of Admiral Nimitz, the battle of Midway would prove to be a turning point of the war.

The *USS Enterprise*, *USS Hornet*, *USS Yorktown*, six cruisers, 11 destroyers and two oilers stood ready for the Jap-

anese force of 185 ships and 685 aircraft, under the supervision of Admiral Yamamoto.

The Japanese armada sailed confidently towards Midway, and secretly, the U.S. laid waiting just northeast of the islands. The Japanese were sighted on June 3rd, and from these sightings the *Hornet*, *Enterprise* and *Yorktown* made final preparations.

At dawn, June 4, 1941, the Japanese carriers launched their attack on Midway, not realizing the presence of U.S. forces to the northeast. Midway patrol planes and bombers also were airborne, seeking the Japanese task force which they successfully found.

The battle's turning point occurred when 41 U.S. planes pressed home an attack on the Japanese. 35 were lost in almost suicidal attacks. However, caught off guard, four Japanese carriers were mortally wounded.

The Japanese returned the attack, sinking the prize they missed earlier at Coral Sea, the *USS Yorktown*. But that was not enough. Seeing the situation was completely deteriorating, Admiral Yamamoto withdrew the remains of his fleet. The invasion of Midway was cancelled, and a hard hit but victorious U.S. fleet remained in action.

So it was more than just for Navy Relief that brought the people of Midway out of their rooms, and away from the beach. It was the celebration of a victory that through thick and thin, continues to make Midway Islands a historic place of celebration. It was a time to help others in need—by commemorating a time when Midway Islands, in need, received aid from individuals who cared. From 1942 to the present, Midway's motto of "we care" still prevails.

2-12-86

STAR-BULLETIN

to th

Scientific Slick Talk

"It's like a morgue around here. There are so many backup systems, NASA is so cautious, so careful, so safety-minded, that it's incredible this happened," a NASA engineer said after the Challenger blew up.

We've heard that safety line before!

When the U.S. Army wanted to burn nerve gases on Kalama Island (Johnston) 700 miles from here, we screamed. We said, "Keep our air clean, our water pollution free."

They said, "Don't worry. It's safe. The winds will not carry the poison to you." Then they rolled out their papers with numbers, graphs, charts and words manufactured in scientific laboratories.

They got approval of the project and the construction is ongoing.

Now the United States wants to dump the waste from the burn into the ocean. We scream again.

They say, "Don't worry. It's far enough from any populated area." Then they roll out their papers with numbers, graphs, charts and words manufactured in scientific laboratories.

Notwithstanding every safety precaution possible at any costs, Challenger took seven lives. But far less study has gone into the safety of nerve gas burning and ocean dumping in Hawaiian waters.

And at risk is not seven lives. At risk is over a million people in Hawaii today and our children and theirs.

At risk is the ocean ecology. At risk is the health and the safety of everyone in the Pacific. If we are choked to death or food poisoned because of scientific error, who will burn their car lights during the day for us?

Are we so seduced by scientific slick talk that we willingly place our lives and future in the hands of others?

This is madness!

To the U.S. Army, I say, "Don't touch our waters, leave our air perfectly clean. If your activities are safe, burn and dump where you made the nerve gas, in your own back yard. Stop treating the Pacific as the cesspool of the United States."

Hayden E. Burgess



**TEN WILDLIFE
REFUGES FOUND
CONTAMINATED BY
TOXIC CHEMICALS**

Ten of the nation's 428 wildlife refuges are contaminated by toxic materials and another 74 have suspected or potential contamination problems, according to an Interior Department survey. The toxics—which include pesticides, PCBs, asbestos, selenium from irrigation water and heavy metals such as mercury—come from nearby agricultural, industrial or municipal sources and are carried by water into the refuges. Among the ten contaminated refuges are Wheeler in Alabama (DDT from industrial wastes), Kenai in Alaska (PCBs from oil and gas activities), Johnston Atoll, Hawaii (nerve and mustard gas, dioxin and plutonium from nearby military activities), Great Swamp, New Jersey (asbestos), and California's Kesterson (selenium) where this problem was recently pinpointed.

Man hit by boat in critical condition

Star-Bulletin Staff

A 27-year-old Oahu man remained in critical but stable condition today at Straub Clinic & Hospital with multiple head and shoulder injuries suffered in a boating accident off Johnston Island yesterday.

The man is a contract worker on Johnston Island with Hawaiian Dredging and Construction Co. He was boating when he apparently fell overboard before 10:30 a.m.

The boat's skipper turned the craft around to pick up the victim and ran over him, said Coast Guard spokesman Lt. Jg. Steve Saepoff. He suffered a fractured skull, and the outboard motor blades cut the back of the victim's head and his shoulders, Saepoff said.

A Coast Guard rescue plane and a Navy flight surgeon were dispatched from Honolulu to Johnston, which lies about 700 miles west southwest of Hawaii.

Deranged chemist caught

CHRISTCHURCH, New Zealand — In one of the biggest manhunts in the country's history, police arrested a deranged chemist Friday who had threatened to release a deadly nerve gas in Auckland, New Zealand's largest city.

Bruce Douglas Cameron, who escaped from a psychiatric clinic nine days ago, had threatened to release the gas unless authorities dropped criminal charges against him for producing and possessing the hallucinatory drug PCP, or "angel dust."

Police found Cameron hiding underneath a bed in a house with a copy of the chemical formula for the deadly gas sarin-GB, which was developed in Germany during World War II.

UH Geophysicist Recounts Johnston Island Discoveries

By Helen Altorn
Star-Bulletin Writer

When Barbara Keating talks about "spe-
lunking 1,500 feet below the sea," she's not
kidding. She has discovered and explored
large underwater limestone caves that were
never known in the Pacific.

The University of Hawaii geophysicist
found the caves after setting out in the sub-
mersible Makali'i to look at the structure of
Johnston Island, a
seamount that is
about 85 million
years old.



Keating

Oceanographers
who have spent a
lifetime studying the
Pacific are "incred-
ibly jealous," she
said. "I showed them
pictures of it and
they were just shock-
ed. It was never an-
ticipated that these
caves would be out
there."

"Sneaking in and
out very gingerly."

Keating and Bohdan Bartko, pilot of the two-
person submersible, investigated a cave that
was about 60 feet across, 50 feet high and 30
to 40 feet deep.

"Stalagmites and stalactites were coming
from the top and bottom. On the top surface
of the cave sponges were growing. So it was
like a big grotto — quite unusual," she said.

Data collected by the Hawaii Institute of
Geophysics scientist and others is "changing
the story of the Pacific," which she said was
ignored scientifically for a long period after
World War II.

SHE HAS received 14 grants in five years
from the National Science Foundation and
Office of Naval Research for work that has
produced many exciting and shocking discov-
eries.

Among them is the fact that the Mariana
Islands, lying at the boundary between the
Pacific and Philippine tectonic plates, have
rotated nearly 100 degrees from where they
were formed 40 million years ago.

Her latest investigation last October at
Johnston Island was "simply to look at the
geology" since work hasn't been done in the
Pacific "where we have gone down to look at
the structure of an older seamount."

She said the underwater cave features
could only be formed on land where water
can drip down on the stone and dissolve it
and redeposit it. "So it means this particular
island has sunk from the surface at least 1,500
feet and the caves formed out of water."

though the normal color is white. Studies are
being done to determine if the crust is a
manganese coating or caused by phosphate in
the rocks.

Keating said it's questionable whether the
atoll will survive since all but a strip of the
reef has died. "It may well form a guyot in
the future." She has applied for a grant to
return to Johnston to map the slides with
SeaMARC II, an advanced form of side-scan
sonar and bathymetric mapping system de-
veloped by HIG scientists.

She also is seeking funding to try and solve
the puzzle of big rotations she discovered in
the Mariana Islands. She had expected to find
they had rotated 10 to 15 degrees, similar to
the Bonin Islands ridge. Instead, they have
turned nearly 100 degrees.

"We were very shocked. None of the is-
lands in the Pacific plate have this kind of
rotation," she said. "Basically, we've thrown
out all the old tectonic models that we have
on how the Philippine Sea was formed, and
we've been forced to build our own."

She said the process that rotated the islands
is still going on. "On Guam, for example, we
see very young limestones that form the cap
of the island also are rotated."

Keating and other Hawaiian and Mainland scientists are teaming up on a research proposal to look at the Johnston seamount "from top to bottom" late next year or early 1986 with the submersible Alvin, belonging to the Woods Hole (Mass.) Oceanographic Institution. Alvin can dive 20,000 to 25,000 feet.

The Makali'i (operated by the Hawaii Undersea Research Laboratory) never got below Johnston's coral cap to its volcanic core.

"We were just pushing the edge of what the Makali'i could do," Keating said. "But the cap on the island is interesting in itself. The bathymetry says the whole island has tilted."

SHE SAID Johnston was an atoll at one time, with a ring of reef all the way around. But the reef is now 30 feet below sea level on the eastern side of the island. "It's not a big dip, but it's a very significant one."

She said there has always been a question why five atolls occur throughout the Pacific next to a guyot — a flat-topped drowned seamount. Based on dredging samples and her research, she decided "the key is in the central layer of the volcano, the way it's constructed."

What happens, she said, is that a volcano erupts under water and blasts the rock apart so that a very thick capping occurs on the volcano with broken rubble. "This is the least stable part of the volcano, very weak, and you get gravity slides. Big chunks of volcano falling down the cliffs."

She believes this happened at Johnston Island — that a big hunk likely fell out and tilted the surface. (She noted, however, that this feature of central Pacific volcanoes is quite different from what is found in Hawaiian volcanoes.)

"If that happens frequently on other volcanoes, which is very likely, you restrict the amount of coral reef you have. And if you have a very restricted coral reef, it may not survive ... So this is really a good mechanism for drowning atolls and forming guyots in the Pacific."

SHE SAID IT was exactly as she predicted as she traveled down the Johnston seamount in the submersible. The sides were almost vertical with big slump blocks the size of a house perched on the slopes.

She didn't see any evidence of old rivers or streams, which she said was quite unusual. Since the cliffs had been above water, some of the erosional features should have survived, she said. "But we don't see them, which says it's a more dynamic system than we ever thought."

Another surprise was that rocks gathered from the seamount had a black crust al-



UNUSUAL GROTTTO—Limestone caves discovered 1,500 feet underwater off Johnston Island by Hawaii geophysicist Barbara Keating are depicted in this sketch by Will Sager. A former student of Keating and now a professor at Texas A and M, Sager made the drawing from videotapes of Keating's dive.



WORLD CONFERENCE ON SEA TURTLE CONSERVATION

November 26-30, 1979 Washington, D.C.

Department of Zoology
University of Florida
Gainesville, FL 32611
(904) 392-1250

14 August 1982

Mr. William Gilmore, Chief
Division of Refuge Management
Fish and Wildlife Service
Washington, D. C. , 20240

Dear Mr. Gilmore:

I have been informed that a major installation for incinerating dangerous chemicals is to be built on Johnston Atoll, a National Wildlife Refuge. As you may be aware, many green turtles (*Chelonia mydas*) are regularly seen in the lagoon at Johnston, and it is believed that hawksbill turtles (*Eretmochelys imbricata*) may also use this area. The former is a threatened species; the latter is listed as endangered.

The construction of this unit on the beach near the turtle feeding grounds could have serious impact on the turtles. The increase in the human population during construction, the floodlights on the facility necessary to comply with DOD regulations, and the pumping of warm sea water into the lagoon could all have devastating effects on the sea turtles, both directly and indirectly by changing their feeding habitat.

I am writing to request that if this installation must be built that efforts be made to locate the unit where it will have the least effect on the turtles and to limit, as far as possible, the lighting and thermal pollution.

In addition, it is essential that the turtle populations be studied before the project starts. This will provide the data base necessary to monitor any changes in the populations, and thus determine the effect of the incineration plant on the marine turtles. At this time, there have been no studies of the sea turtles at Johnston, other than casual observations by Refuge Managers.

Please let me know how I can further these requests for the protection of U.S. sea turtles.

Sincerely yours,

Karen Bjorndal, PhD
Post Conference Coordinator

cc: Dr. Archie Carr, Chairman, IUCN/SSC Marine Turtle Specialist Group



University of Hawaii at Manoa

Hawaii Institute of Marine Biology
P.O.Box 1348 • Coconut Island • Kaneohe, Hawaii 96744
Cable Address: UNIHAW

25 April 1982

Commanding Officer
Johnston Atoll Facility
APO San Francisco- 96305

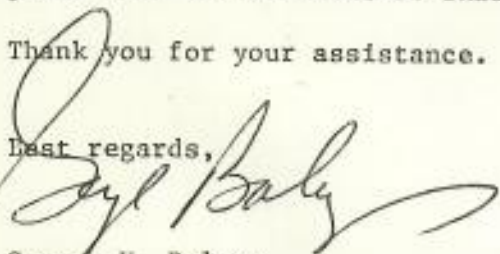
Dear Sir:

I would greatly appreciate your continuing cooperation in reporting observations of sea turtles at Johnston. I have enclosed a fresh supply of sighting forms, as well as a new sea turtle ID poster printed by the National Marine Fisheries Service.

I should also mention that I am interested in any recoveries of turtle parts from the stomachs of sharks caught by your men.

Thank you for your assistance.

Best regards,


George H. Balazs

cc

Gerald Ludwig, Fish & Wildlife Service, Honolulu



**Sea Turtle
Rescue
Fund**

3 September 1982

Mr. William Gilmore, Chief
Division of Refuge Management
Fish and Wildlife Service
Department of the Interior
Washington, D.C. 20240

Dear Mr. Gilmore:

I have just learned of plans for the construction of a facility to burn toxic chemicals on Johnston Atoll. Since this area is used by threatened and endangered species of sea turtles, we view this report with a good deal of concern.

I would very much appreciate learning more about this project. I would appreciate receiving a copy of any environmental assessments conducted under NEPA or other statutes in regard to the project. I would also like to know what mitigation measures are planned for decreasing the impact upon sea turtles and their habitat both during and after construction of the facility. What other federal agencies were consulted regarding the project under the Endangered Species Act?

Thanking you for your attention to this request, I am

Sincerely,

Michael Weber
Sea Turtle Rescue Fund Director

The Natural History of Johnston Atoll
by A. Binion Amerson and P. C. Shelton

Reptiles

Two reptile species--"one long brown species and one shorter grey species"--were recorded by E.H. Bryan, Jr. (ms.) in July 1923 when the first scientific visit was made to Johnston Atoll. He indicated that these were then abundant. Five species of reptiles are now known from the Atoll. All but one species, the Black Sea Turtle, were probably introduced by man. They are all known from various islands throughout the central Pacific.

Of the five species, two species occur only on Johnston Island and two species occur on Sand Island. Only one species occurs on both islands. As of 1969, none was known from Akau and Hikina Islands.

Species Accounts

There are no general references that illustrate the reptiles of Johnston Atoll. Taxonomy of the turtles follows Carr (1972) and Amerson (1971). Order of listing for lizards follows Brown (1957).

BLACK SEA TURTLE

Chelonia agassizi

Status

Regular uncommon visitor; known from the lagoon, offshore Johnston Island, and Sand Island.

Observations

Brooke (ms.), who visited Johnston Atoll in March 1859, commented about the lack of turtles: "The reefs are covered with fish of various kinds. Mullet abound, but there are no turtles." Wetmore (ms. a and b), likewise, recorded no turtles at Johnston Atoll in July 1923.

X POBSP personnel recorded sea turtles in the shallow marginal reef area west of Johnston Island in July 1963. An adult (USNM 163581) was collected 20 November 1966 on the beach of Sand Island. Island personnel in 1973 reported seeing 10 to 12 turtles offshore of Johnston Island throughout the year. A longtime resident estimated harvesting 12 to 15 per year.

Annual Cycle

The Black Sea Turtle apparently visits Johnston Atoll year-round. No records exist of it breeding on the atoll, although perhaps it did in small numbers prior to inhabitation by man. This species breeds during the summer in the northwestern Hawaiian Islands, especially at French Frigate Shoals (Amerson, 1971).

Bryan 1923 ms

1923 field notes [unpublished]

Pac. Sci. Inf. Cent. Bishop Museum

Brooke, J.M. ms

Journal of the Ferrimore Coopers
for 1859. [unpublished]

G.M. Brooke Jr.

Lexington, Va

**HOLMES &
NARVER, INC.**

TECHNOLOGY & CONSTRUCTION



A RESOURCE SCIENCES COMPANY

PACIFIC TEST DIVISION |
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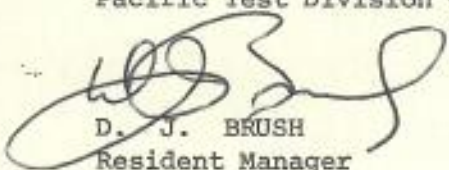
1 March 1973

Mr. George H. Balazs
Jr. Marine Biologist
University of Hawaii
Hawaii Institute of Marine Biology
Coconut Island - P. O. Box 1346
Kaneohe, Hawaii 96744

Dear Mr. Balazs:

With reference to your letter of 23 February 1973, this is to advise that no Green Sea Turtles have been observed nesting on Johnston Island; however, numerous are sighted every day in the immediate waters south of the island.

HOLMES & NARVER, INC.
Pacific Test Division - JA


D. J. BRUSH
Resident Manager

JOHNSTON ATOLL

Amerson, A. B., Jr. and P. C. Shelton. 1976. The natural history of Johnston Atoll, Central Pacific Ocean. Atoll Research Bulletin, 192: 1-479.

Buggeln, R. G. and R. T. Tsuda. 1966. A preliminary marine algal flora from selected habitats on Johnston Atoll. University of Hawaii, Hawaii Institute of Marine Biology, Technical Report No. 9, September, 29 pp.

Brook (ms.)

Wetmore (ms a & b)

Direct telephone: 422-0531 "Routine call to
Johnston Island"

18 September 1981 Telephone conversation with
Friday Jerry Ludwig who just
returned from several days
at Johnston Atoll

Continental Airlines/Timex - once a week \$126 one way.
But USCG & FAA fly there.

Auto bodies have been dumped in lagoons.
In 30 minutes time, Jerry thinks he saw
30 turtles - many large - 100' from shore
between 2 "point" - South shore.
Within the next 2 years they may
dredge and fill this area.

Jerry would like to develop
first-hand information on these turtles.

NOTE - Johnston was covered in my Conference
paper.

Jerry said a seal was hit by a boat -
*Some seen several months ago.

5/3/76 - Report from one week visit made by Paul Jobiel and Dick Brock - Chris reported that turtle catching has been stopped (used to cast out over turtle and hook it). About second week of April 4 turtles were seen engaged in mating activity - Turtles are sighted off South side of Johnston Island (a restricted area) water cloudy (downwind). Brock reports that underwater tracking used to occur down to Kingman Reef. Many nesting birds on Sand Island (USCG base). Chris has put a few (one?) tags on turtles, apparently given by Sekora, USFWS.

9/76 - ~lost week in September - Sekora brought back frozen algal sample washed upon beach - I.D. by Dennis Russell - Catappa racemosa - indicated that Doty has paper out on certain toxic substances in Catappa

3/18/77 Report from Sekora - Chris^{BALUBAR} of Johnston reports seeing turtles mating recently.

Johnston Island - from B. Amerson 11/13/73
 $\sim 169^{\circ}33'W \sim 16^{\circ}43'N$

Talked with "Chris" turtle catcher (local). Reports taking $\sim 1 - 200$ lb per month. at any one time see 12 large; during one month - 100, primarily off South side of Johnston Atoll (open ocean).

None in lagoon - reported 93 species algae in area.

Males and Females seen - also mating. a few platter size animals also.

Coast Guard frozen on Sand Island.

References to check -

Bosline paper -

Wetmore expedition -

Wetmore visited in July - no turtles seen.

Base Commander:

Col. Kenneth L. Charpiloy USAF

Commander, Johnston Atoll

Defense Nuclear Agency

Johnston Atoll Field Command

San Francisco APO-96305

Continental Airlines



Mr. G. H. Balazs
Assistant Marine Biologist
University of Hawaii-Manoa
POBox 1346
Kaneohe, Hawaii 96744

Dear George,

Thanks for your letter and the super little book. I wish i had done it myself. The pictures are excellent and the text fine. I appreciate having it in my library.

The turtle I saw on Johnston Island was on the beach- no apparent nesting attempt going on. Ill check with Phil Shelton who spent more time on Johnston and see if he has more details on turtles there. Dont worry about not hearing from Roger, its the usual state of affairs.

Since I am trying very hard to get back to Christmas Island to begin long term studies of the biology of the birds there I assume that there will be opportunity to examine regurgitations samples for turtles. I must admit that they were not high in my mind when I examined them the last time. I trust that you will be in Hawaii when i come through on the way to Christmas (which will be as soon as the aircraft begin flying there on a semi-regular basis) and I lookforward to meeting with you.

Sincerely,

Ralph W. Schreiber
Curator, Ornithology

rws:ME

Giles W. Mead, *Director*
Leon G. Arnold, *Assistant Director*
Gurdon Woods, *Assistant Director*

NATURAL HISTORY MUSEUM LOS ANGELES COUNTY

Los Angeles County Museum of Natural History • 900 Exposition Boulevard • Los Angeles, California 90007 • tel (213) 746-0410
George C. Page Museum • Hancock Park • 5801 Wilshire Boulevard • Los Angeles, California 90036 • tel (213) 933-7451



PACIFIC TEST DIVISION
CONTRACT BY-76-C-08-0020

1
APO SAN FRANCISCO, 96305

answered
5/4/78

28 April 1978

Dear Mr. Balazs:

I have just returned to Johnston Island, and have been admiring the handsome prints of the turtles (by L. Brongersma) — Green, Hawksbill, and Leatherback — which are posted in the mess hall.

Because this atoll is one of my favorite spots, I'd surely like to have copies of these fine drawings — if they are for sale.

Will you let me know if they are available, & what the cost would be (including mailing).

I'm glad these animals are now being protected.

Thanks.

Sincerely,
William F. Ketchum ^{M.D.}

William F. Ketchum, M.D.
% Holmes & Narver
PSC Box 112
APO San Francisco 96305

HOLMES & NARVER, INC.

ENGINEERS - CONSTRUCTORS

A RESOURCE SCIENCES COMPANY

THE



BREEZE

VOLUME 28 NUMBER 243

WEDNESDAY, OCTOBER 13, 1976

A Publication of HOLMES & NARVER, INC., on Johnston Atoll, Monday thru Saturday - Phone 2277

WASHINGTON - At least 10 states have suspended their swine flu vaccination programs in the wake of the deaths of eleven elderly patients after they got the flu shots in Pennsylvania, Florida and Oklahoma. Federal health authorities are urging that the states resume giving the shots. The head of the National Center for Disease Control called the deaths "coincidental" and says there is no known link between the shots and the deaths of the eleven elderly, high-risk patients. So far, at least 118,000 persons have received the shots. Most of them are in the elderly, high-risk category.

DETROIT - Workers at all of Ford Motor Company plants have begun to oil the gears on production lines, halted by a four-week-old strike. The United Auto Workers union ratified a new contract with Ford, a pact that could get some of the assembly lines rolling again by later today. However, it will be at least several days before all of Ford's 102 facilities in 22 states get back to normal operation, pending settlement of unresolved local contract disputes. Word of the ratification came late yesterday, one week after union and management bargainers announced a tentative settlement to the strike that idled 170,000 workers. The UAW will use the Ford settlement, which features seven additional paid days-off a year by 1979, as a pattern for contract negotiations with General Motors, Chrysler and American Motors.

KITTANNING, PENNSYLVANIA - Air samples from an electronics plant in Pennsylvania are to be analyzed today, as officials hunt for the cause of an outbreak of a mysterious illness at the plant. About 100 workers have been stricken during incidents that hit twice in the past two weeks. The plant at Kittanning remains closed, and its 300 employees have been

BANGKOK - Thailand's martial law regime today reimposed an indefinite, nighttime curfew on Bangkok. Without giving details, a ranking member of the ruling military council told reporters that "important information has been received that might threaten our security." Meanwhile, an army deputy chief of staff was sent to Tokyo to take up a post at the Thai embassy there. He apparently was no longer welcome in Thailand itself because of alleged meddling in politics. The army deputy chief was a close friend of a Thai general who was retired from the army Monday, in an apparent move to squash a "potential countercoup" against the week-old military regime.

HIGH POINT, NORTH CAROLINA - Fred Yoder applies to plants the adage "spare the rod and spoil the child." The 61-year-old garden store owner from High Point, North Carolina, avocates that plant owners beat their plants if they want them to grow big, healthy and strong. Yoder says that he first heard about abusing plants nearly 10 years ago from a farmer in Stokes County. It seems there was a man who had an apple tree that wouldn't produce apples. As Yoder put it, "He got so disgusted that he took out an ax to cut it down. Instead, he used the blunt end and beat the thing. The next year, it bore fruit." Yoder has been passing the story along to his customers, and they have been returning with similar success stories. One man switches his okra to make it produce, and a Richmond, Virginia, woman says her father takes a belt to whip up a bumper crop from his apple tree. One man blasted his unyielding cherry tree with a shotgun and the next year it yielded a handsome crop. The final decision to beat or not to beat, however, is left to customers. Says Yoder, "If their plant is not producing flowers or fruit, we tell

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BUENOS AIRES, ARGENTINA - A spokesman for the Irish embassy in Buenos Aires said today that armed men kidnaped an Irish Catholic priest Monday. The spokesman says that 31-year-old Reverend Patrick Rice was kidnaped while conducting a prayer meeting in a shantytown in the capital. No other details were given. So far this year, 10 priests have been murdered in Argentina, presumably by right-wing terrorists.

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HOLLYWOOD - California boaters have been told not to worry if a grim grey ball studded with spike-like sensors comes bobbing toward them in the Pacific. Odds are they are not about to be blown up by a leftover mine from World War II. Universal Studios has warned boaters that four realistic looking mines, actually harmless plastic replicas, had drifted away from the shooting location at Catalina Island off the coast of Los Angeles. The dummy mines were being used in the filming of the motion picture "MacArthur."

TONIGHT'S DINNER - Prime Ribs of Beef

TONIGHT'S MOVIE - "The Bawdy Adventures of Tom Jones"

TIKI LOUNGE - Open from 1615 to 2230 hours.

WAIKIKI CLUB - Hamburger Patty w/2 Eggs

TOMORROW'S TIDE AND SUN

L	0156	0.3	L	1741	0.5
H	0952	2.3	H	2215	1.3
Sunrise	0711	Sunset		1857	

DOW JONES CLOSING STOCK AVERAGES

30 Industrials	948.22	up	15.87
20 Transportations	206.95	up	3.10
15 Utilities	97.71	up	0.54
65 Stocks	299.08	up	4.35

CHAPLAIN'S CORNER

Catholic Chaplain Melvin V. Haggin is on the island, and will depart tonight. He will say Mass at 1630 hours this afternoon, hear Confessions immediately before Mass, and will be available for personal consultations by appointment. Call 2142 for appointment, if desired.

DINING HALL ATTIRE - In an effort to upgrade personal attire in the Dining Hall, your attention is called to two current practices which are unacceptable:

(1) men participating in sports activities attending the Dining Hall in sweat-soaked clothes, and (2) the wearing of sleeveless shirts. Your cooperation in correcting these improprieties is expected.

/s/ Col. Quinn
Base Commander

MAC FLIGHT TIME SCHEDULE

MAC mission PQDY530H will depart Johnston Island at approx. 1400 hours. Passenger/baggage check-in will be as follows:

All military passengers, not earlier than 1000 hours.

All civilian passengers, not earlier than 1030 hours nor later than 1100 hours.

MAC REMINDER - All personnel, military and civilian, traveling aboard MAC aircraft are authorized 66 pounds of accompanied baggage, unless otherwise authorized by traveler's special orders. All hand carried items must not exceed 15" x 19" x 24" and must fit under the seat. MACR 76-1 applies and will be adhered to in its entirety for all MAC passengers. All alcoholic beverages must be hand carried.

SCENE ON JI Farewell and Good Luck to all personnel departing JI tomorrow.

Departing PCS is J.C. Garza of the Army. H&Ners jetting out via MAC are: Randolph Ancheta, Arthur Igarashi, Jerry Mariano, John Termath, Herbert Ching, James Deason, George MacCulloch, William Apele, Henry Caminos, Edmund Pua, and Prescy Quengua.

SPORTS

The pitching batteries are a carbon copy of those used in the first playoff game between New York and Kansas City, and the Yankees hope the results will be the same as well. Yankee Ace Catfish Hunter will be on the mound in New York for this afternoon's potentially-decisive fourth game. Kansas City's Larry Gura, loser of the first game, will have to reverse his luck if the Royals are to have a shot at the American League pennant. The Yanks currently have a two-to-one edge in the best-of-five playoff series. New York posted a 5-3 third-game victory last night, putting the Royals' backs to the wall.

The Cincinnati Reds completed their steam-roller sweep of the playoff series against Philadelphia yesterday, claiming the National League pennant after a 7-6 come-from-behind victory over the Phils. The win sets Cincinnati up as the host for the first game of the World Series, starting Saturday.

The celebration of the Red's victory got out of hand last night in Cincinnati. Authorities say two persons were shot, four stabbed, and four others injured during violence that marred the celebrations. Police report at least 70 arrests in the hours following the playoff-winning game.

Here are UPI's pro football odds for Sunday's NFL football games:

San Francisco	8	New Orleans
Oakland	3	Denver
Miami	12	Kansas City

H 0952 2.3 H 2215 1.3
Sunrise 0711 Sunset 1857

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All passengers will report not later than 1230 hours for security check of hand-carried baggage and final boarding instructions.

MAC mission PQDY529H will depart Hickam AFB at 1100 hours. Check-in time at Hickam AFB is not later than 0930 hours. H&N employees are requested to check in at HAFB no later than 0830 hours.

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Cleveland	4	Atlanta
Baltimore	7	Buffalo
Green Bay	2	Philadelphia
Minnesota	11	New York Giants
Houston	4	San Diego
Dallas	4	St. Louis
Los Angeles	9	Chicago
New England	13	New York Jets

BALUBAR

21 November 1978 - Call from Liz Cumming who spent 23 days at Johnston Atoll last week. She met Christopher Nagill - been there 17 years - Told her the following items:

1. Has seen mating many times - in December - some lasted at least three hours ^{25'} ^{all off} (Turtle Point)
2. Sees and has caught turtles feeding at TURTLE Pt. - they feed there - 30 seconds on the surface - 3-5 minutes UW. collect & save if possible
3. No nesting ever seen - However, ² dead ones seen on shore - 1 female with lots of white lumps on shell and around head.
4. He caught about 6 per year - averaged up to 200 lbs - largest was 303 lbs. He had data on all turtles caught, but was destroyed in a fire. ^{swung with hoop using fishing gale.}
5. The algae they eat looks like grass - he pointed to it on distant rock to Liz.
6. He banded 4 turtles about three years ago
7. At Johnston, he says that the males are larger than the females
8. once he had ~ 75 lb turtle on the line,

swagged behind neck, a ~15' shark
came up and bit it off.



1/5/79 - as per Cummings - "Turtle point is
at the NE corner of main islet with
runway"

Crisencia Balukas

Johnston Atoll turtle man!

JATA

Nov. 1983 field station

1. shark line, cable, hooks, shackles
2. moisturiser for 1st stage regulator (2)
3. another propeller (replace one already on) (no need)
4. robber mallet (no need)
5. Ziploc bags (gallon size)?
6. Zodiac valve and dust cap (4)
 Price for aluminum floor boards.
 Zodiac patch kit w/ extra patches
 Zodiac brand adhesive
7. VHF radio (2) contact between parties
8. glass vials (bore samples) glass jars (algae)
9. Turtle nets 2 Danforth anchors / chain / shackles
 net material — anchor line, med. twist
 1 coil 1/4 braid line for tying
10. Propane / burner top / matches (for line ends)
11. Diagonal pliers or tin snips for string ray tails
12. Swivels for nets  (2 per net)
13. Flecto. verathane wood stain (for coloring nets)
14. Paint thinner (2 gallons)
15. Tygon tubing (larger dia.) for stomach sampling and longer
 rigid cored electrical line
16. small mesh bag for algae
17. KIDA. camouflage hat.
18. Weight belts (2) w/ 12 lbs of weight
19. \$\$\$ Money for housing / food on Nov. Trip
20. Plastic floats for net 
21. Leather gloves
22. ^{STOMACH} Tubes for large turtles
23. clean back saw blade
24. Tide table - call Mitchell

Bill - Can the 2 of us meet tomorrow morning (Thurs.)
at 8:30am? - or at a time of
your choice - call me at home 395-6409.

Checklist of important items we
need to resolve/discuss for Johnston, phase 1
(no particular order of priority)

1. Types of fieldwork to be undertaken,
and personnel needed. Diver support
and net untangling. DAILY SCHEDULE
- ~~2.~~ Procurement of 2 full-face scuba masks
for work needed downwind of sewage outfall
(Kerby-Morgan?) American Divers?
KRAVVIC
DOLLARS
- ~~3.~~ Deletion of longline shark fishing.
SEE SEPT 2 CRUISE INST.
- ~~4.~~ Payment scheme to Defense Nuclear
Agency; coordination with ACE, Col. Jolley,
and Major Mitchell. call
- ~~5.~~ Discharge
Disposal
Internal
Corrosion Collection of blood and tissue, and (intake
pipe)
arrangement for analyses; P.O. needed
Baseline - Heavy Metals - Cu, Ni
Plutonium
2,3,4-²³⁸P; 2,3,4-²³⁹P; dioxin (TCDD)
- ~~6.~~ Professional identification of a hae; P.O. needed
Dr. Russell
- ~~7.~~ Graphics and typing of the final report
to meet submission deadline
- ~~8.~~ 1951 AIR CRASH
Library research 3 days
15am? (over)

9. Request that I travel to Johnston on Nov. 3, Thursday MAC flight, instead of on Cromwell.

10. Date of our return to Honolulu. Possibility of staggered departure depending on work needs.

11. Johnston blood tests, and other base procedures.

(12. Absence of Refuge PR)

NOTE: I'll try to assemble an illustrative slide show for you to view either immediately before, or after, we meet. Slides are due back from the processor this afternoon.

Should send NHI Symposium paper

Johnston FILE

Coastal film



31 December 1977

Mr. G. H. Balazs
UH. Manoa
POBox 1346
Coconut Island
Kaneohe, Hawaii 96744

Dear George,

Thanks for your good letter of 15 December which arrived during my field trip to Baja California and thus the delay in answering.

I am very glad to hear of your interest in frigates as they relate to the green turtles. While I suspect that baby turtles would be an excellent food for the frigates, and they would have little or no problem in capturing them, I know of no record of this happening. But that is probably only because so little has been recorded about the birds. Do you know of any records of frigates eating turtles in the east-gulf of Mexico type areas?

In the 3 years that I spent on islands in the central Pacific I never saw a frigate take a turtle, but then I only saw one adult turtle (on Johnston Atoll) and no nests or young. *regurgitations?*

This is not very helpful I know. I suggest that you contact Roger Clapp at the Smithsonian about further on birds and turtles.

Best of luck. I wish I could join you on FFS. I look forward to seeing your results.

Sincerely,

Ralph W. Schreiber
Curator, Ornithology

rws:ME

*Nat Geographic
Hirth (1971)*

Giles W. Mead, Director
Leon G. Arnold, Assistant Director
Gurdon Woods, Assistant Director

NATURAL HISTORY MUSEUM LOS ANGELES COUNTY

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Dr. Ralph W. Schreiber
Curator, Ornithology
Natural History Museum
900 Exposition Boulevard
Los Angeles, California 90007

address
label please

Dear Ralph:

~~My~~ Many thanks for the information
contained in your letter of 31 December.

Burning Toxic Chemicals at Sea Makes Waves on Shore

By PHILIP SHABECOFF

WASHINGTON — The eyes of Texas are focusing angrily on a site in the Gulf of Mexico where the Environmental Protection Agency has given tentative permission for the incinerator ship Vulcanus to burn hazardous wastes 150 miles offshore.

At a hearing in Brownsville last month, thousands of Texans, supported by the state government, protested the E.P.A. decision, which the agency made Oct. 21 without going through the customary rulemaking process. The agency believes that incinerating the PCB's and other dangerous substances at high temperatures far from population centers is a safe alternative to disposing of the waste on land.

The Texans fear that spills or accidents at sea will destroy marine life on which many depend for their livelihood, as well as threaten coastal environments and even human health. They want no part of the plan. Neither do many residents of Louisiana, which has coastal areas near the proposed incineration site. Resistance has also been growing in Delaware, New Jersey and Maryland because of plans by waste disposal concerns to burn hazardous chemicals off their shores.

Landfills Unsafe

The E.P.A., which has to decide soon whether to give permanent permits to the Vulcanus, and then to other incinerator ships, is under considerable pressure to go ahead. Earlier this year the agency reported that 150 million metric tons of hazardous waste are generated each year — four times the previous estimate. Many of the most widely used disposal methods, particularly landfills, have become discredited.

Burial has been found by the E.P.A. and Congress to be a generally ineffective and unsafe method of handling toxic wastes. Legislation recently adopted by the House of Representatives would, in effect, phase out all disposal of toxic substances in landfills, under the conviction that eventually the wastes make

The E.P.A. Estimates That 150 Million Tons of Hazardous Wastes Are Generated Each Year



The incinerator ship Vulcanus.

cial who is a frequent critic of the agency's handling of the toxic waste problem — say that where it has been tried, including New York State, the tax has been extremely difficult to audit and collect. Mr. Kaufman said that such a tax even if successful would not generate enough money to clean up the waste dumps.

In recent months, senior chemical industry officials have acknowledged publicly that the hazardous waste problem is more serious than previously recognized and must be addressed more forcefully. The Chemical Manufacturers Association, a trade group, joined this year with the Conservation Foundation and the National Audubon Society to examine the problems of siting hazardous waste facilities. But no overall solutions have been proposed.

Human Tragedies

At a hearing of his House Subcommittee on Fisheries, Wildlife Conservation and the Environment earlier this month, Representative John B. Breaux, Democrat of Louisiana, commented that "with alarming frequency, this nation is faced with human tragedies," because of the toxic contamination. "These tragic incidents," he said, "painfully reflect the serious deficiencies in our hazardous waste management policies and practices and the critical need for this nation to seriously explore alternative waste management strategies."

into marketable products. And the company tries to keep all its wastes at plant sites because "we know more about our waste stream and how to manage it than anybody else." Nonetheless, Dow's Midland, Mich., plant on the Titabawassee River has been the center of one of the nation's most bitter waste management controversies. E.P.A. tests have found more than 40 toxic organic compounds, including dioxins, in waste water pumped into the river.

Taxing Waste

Recycling is expensive and does not appeal to all hazardous waste producers. One method of inducing producers to handle wastes in this fashion, now being looked at by E.P.A., is to tax chemical wastes to finance hazardous waste cleanup, instead of taxing chemical raw materials as is done now. The idea is to create a disincentive for creating the wastes in the first place.

Critics of this approach — including Hugh B. Kaufman, the E.P.A. of

"Clearly, the best step is not to make hazardous wastes at all," said William D. Ruckelshaus, E.P.A. Administrator. "The next best thing if you do make it is to recycle it into the manufacturing process. The next best is to destroy it at the site and the next after that is to treat it and keep it at the facility. Once you've tried all these things and it doesn't work, though, you've got to put it somewhere."

Environmentalists agree with Mr. Ruckelshaus's view that the best way to deal with hazardous waste is not to make it at all and if it is produced to recycle it or otherwise render it harmless at the site. So does the Dow Chemical Company, which has been the object of much scrutiny by state and Federal environmental agencies.

According to Mike Rio, Dow's manager of state environmental regulatory affairs, that is precisely the company's "waste management philosophy." The company, he said, has been giving priority to its waste stream since the 1960's, with the top priority placed on recycling wastes

their way into the surrounding environment. In any case, resistance to landfills has grown so intense that it is becoming virtually impossible for states to find acceptable sites. Minnesota, for example, received a Federal grant to help find and develop a waste disposal site, but had to give the money back because it could not come up with a place communities would accept.

Other disposal methods have also been found wanting. Waste simply placed in pits, ponds and lagoons leaks into the ground or contaminates the surrounding air. Waste injected deep into the ground often contaminates underground water supplies. Many substances are simply too toxic to be deposited in sewage systems even after treatment.

High-temperature incineration at special disposal sites, on land and at sea, has been pursued as a workable solution by industry and by the E.P.A. But these methods, too, have aroused resistance among people who fear the dangers of accidents in transit as well as pollution generated by burning.

Nuclear Industry, Heal Thyself

By JOHN TIRMAN

The nuclear power industry must be feeling a bit world-weary these days, as bad news arrives at its doorstep regularly. Court decisions, more cancellations of plant construction, challenges to accident liability limits, loan defaults, embarrassments in public hearings—this year's list is long. The industry automatically blames the Nuclear Regulatory Commission, pointing an accusatory finger at the safety regulations mandated since the accident at Three Mile Island, and is spending \$40 million on advertising to bolster its image. But filial rebellion and glitzy public relations just won't do. The industry should look inward to a disability that cripples the technology with increasing force: bad management.

The evidence is all around.

At the Salem 1 nuclear plant in New Jersey, the safety systems meant to close down the reactor during an accident failed twice in four days last February. Fortunately, the plants were running at low power. The NRC slapped a \$850,000 fine on Salem's owners, noting "insufficient management involvement in establishing a safety perspective, in requiring attention to detail, and in ensuring procedural adherence."

Or consider "quality assurance" snags, usually construction problems, which arise with unsettling frequency—South Texas, Diablo Canyon and Marble Hill quickly come to mind. The case of the Zimmer nuclear plant near Cincinnati is instructive: According to the NRC, there was "failure to implement an acceptable quality assurance program, false quality assurance documents, and intimidation and harassment of quality control inspectors." A common fear now is that such failures may be endemic.

Fortunately, if belatedly, the severe problem of business leadership is surfacing in official circles. Management specialists have long noted that basic industries may suffer from a paucity of management talent—that the best and brightest of business schools want the sexy opportunities of high tech, finance and consulting, while they eschew the dreary prospects of declining industries like steel and regulated, low-growth sectors like utilities. Nuclear power appears to be that case in spades. And now, even the NRC—the industry's alter ego—is spreading the new gospel of utility incompetence.

"Ineffective management. I believe this is the root cause," explained the NRC's Victor Stello in discussing industry woes at a Vienna conference in September 1982. "There are myriad excuses and reasons why management fails. But management ineffectiveness leads to physical defects that are built into a plant." Others in the agency echo Mr. Stello. "Two or three key individuals set the tone within a utility," says Harold Denton, head of the NRC's Nu-

clear Reactor Regulation. "The quality of the people in those jobs is crucial. Weak, lackadaisical utilities are the problem. And I've tried to sensitize utility management, make them pay attention." An NRC commissioner said privately that the agency should be licensing utility executives, though the commission did in fact reject a proposal to license plant managers in October 1982.

The sterling example of bad management is still TMI. The crippled Unit 2 is plagued by an inept cleanup and a lack of industry support. Next door is TMI-1, which has been closed down since before its twin's mishap. Operator cheating scandals, falsified reports (now the subject of federal indictments), and financial disarray have so far convinced the NRC that TMI's owner is not capable of operating the reactor. No remedial actions to avoid another accident have been taken, and poor maintenance has allowed the plant to deteriorate badly in the interim.

Nuclear-management problems have been visible since the beginning. A widely shared opinion among energy experts is that most utilities didn't recognize the complexity of the machines they were buying. They didn't take the time to find out, and once they were into it, they didn't learn from their sister utilities. They relied too much on their architect-engineers and lacked a technical staff of their own. Leonard Hyman, a senior industry analyst at Merrill Lynch, echoes that view: "In the ones that do well, management decided from the inception that the project can't be dealt with in an ordinary manner." Of those less successful, some have fallen prey to industry-wide errors; others are prone to their own brand of ineptitude.

Broadly, the mistakes fall into five categories:

Siting decisions. To save a few dollars, power companies insisted on building near cities, even though the technology was known to be hazardous, and that raised public alarm and safety regulation dramatically. Thoughtless ecological endangerment also stirred environmentalists—once the atom's friends—to stiff opposition in California, New Hampshire and elsewhere.

Custom-made plants. The lack of standardization of plant design has meant huge costs for utilities and complicated the regulatory task. The ostensible reason was to foster competition, a peculiar goal for an industry wholly created by the federal government, regulated top to bottom, and notoriously resistant to innovation.

Scaling up. Jumping to 1.1 million from 200,000-kilowatt reactors was a profound error. Management blithely assumed that no demonstration of the giant machines was needed; "economies of scale" muscled out prudence, and the cost has been high. Many of the safety and reliability problems that besiege the technology today are attributable to this great leap upward.

Finances. Cost-plus contracting, design changes during construction, failure to forecast consumer demand, and a persistent misunderstanding of how to calculate nuclear capital costs have taken a heavy toll. Each factor strikes another: Design changes affect labor productivity, overall costs, debt service, rates and, finally, demand. The fiasco of the Washington Public Power Supply System is merely the most spectacular failure in this regard.

Quality Assurance. In the broader sense—to encompass training, maintenance, security and a commitment to safe operations—QA has been absent all too often. Lapses are sometimes comical: plugging a pipe with a basketball, for instance, or sparking a disabling fire by using lighted candles during routine maintenance. So much of what goes wrong in nuclear plants, however, is simply the result of vast carelessness.

This is not just the wisdom of hindsight. Sound, alternative advice has been available all along. True, some crucial factors were confused by traditional modes of thinking—estimating power demand, for example. But the "formidable army that marches under the banner of *status quo atomicus*," in David Lilienthal's phrase, seems resolutely unwilling to learn from mistakes. In a speech last Memorial Day weekend, TVA director David Freeman made the point neatly. "In most industries," Mr. Freeman said, the "resounding marketplace setback would be enough to provoke a search for a better product. The nuclear power industry, on the other hand, has made only minor 'product changes' in response to the bad news from the marketplace."

The frequency and depth of nuclear mismanagement raise a sticky issue. To many opponents of nuclear power, the technology's inherent safety problems, potential for weapons proliferation, woeful economics and incumbent bureaucracy make it unsuitable for further expansion—particularly when alternatives seem so plainly available. Now a major "human factor" threat is vividly apparent, ineptitude that penetrates far beyond the control room and raises a slew of doubts about current operations. TMI didn't result from dumb operators. What it revealed was profound deficiencies with operator training and the integrity of plant management. (The industry has successfully resisted Kemeny Commission recommendations for better operator education.)

Is the technology manageable? We don't know. There is not enough data or experience to know. What we do know is that the increasing incidents of bad management are bringing the industry to its knees. It will have to do far more than blame the NRC or hire pricey public-relations firms to right itself. Nuclear power's real enemy is within.

Mr. Tirman is senior editor for the Union of Concerned Scientists.

Waste Management Still Hits Snags In Bid to Operate Incinerator Ship

By HAL LANCASTER

Staff Reporter of THE WALL STREET JOURNAL
ANTWERP, Belgium—In a vacated section of the port here, Waste Management Inc.'s incinerator ship, Vulcanus II, bobs silently in the water, waiting for an elusive prize: a permit to burn hazardous wastes in U.S. waters.

That permit could lead to big profits; it already has led to big headaches.

Right now, the permit seems to be within the company's grasp. The Environmental Protection Agency tentatively approved a three-year permit for the Vulcanus last month, a big first step. Final approval can't come until after public hearings in Alabama and Texas next week.

Waste Management has been pursuing the permit for two years, but the project has been entangled in political scandals and public protests. The ship has met with considerable public opposition, particularly from Gulf Coast residents. Its performance and testing have been criticized. And the problems of its owners, whose waste-disposal operations are being investigated in a half-dozen states have complicated matters.

"It's been rough from the start," concedes Frank Krohn, a vice president of the company's Chemical Waste Management subsidiary.

Toxic wastes have been burned at sea for more than a decade in Europe, which is generally considered more willing to experiment than the U.S. in these matters. In 1980, Waste Management, an Oak Brook, Ill., company, decided to try to get permission to use the method in the U.S. after a federal study group urged that it be tried. The company bought Vulcanus, one of three commercial incineration ships then operating in the North Sea, for less than \$2 million, and began doing business in the region.

Pleased with the experiment, the company subsequently commissioned construction of the larger Vulcanus II, hoping to get permission to use it in U.S. waters.

U.S. Permission Is Vital

But that permit isn't coming easily. The U.S. has designated the Gulf Coast as the one region where an incinerator ship can operate, largely because of all the toxic wastes generated in petrochemical plants there. For the company, U.S. permission to use Vulcanus II is vital. "Without a permit, this is excess capacity," says Gert Heinemann, general manager of the company's ocean incineration operations. "There's nowhere else we can take it on a long-term basis." Indeed, the company is losing money on what has become a \$25 million investment.

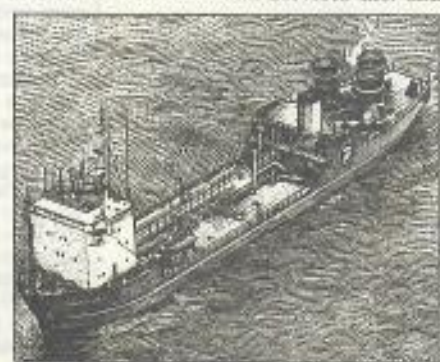
Despite its promise to destroy toxic wastes at a safe distance from populated areas, at-sea incineration scares people. In operation, the vessel—which some have called a leper ship—puts on a show befitting its name, taken from the Roman god of fire. "The noise from the burners and the fire shooting up is quite something to see," says Mr. Heinemann, who thinks the eerie glow

emitted during night burning adds to people's apprehension. Shipmaster Udo Rieck compares the ship in operation to "rockets at Cape Canaveral."

Critics contend that the ship hasn't been tested adequately. Vulcanus I, which for testing purposes is the same as Vulcanus II, has undergone 15 test burns in Europe and the U.S. since 1974. But when a Gulf of Mexico test was done in 1981 as part of the application for a permanent permit, things went awry. However, Mr. Krohn contends that was because of faulty testing procedures. In a second burn last year, he points out, the ship's destruction efficiency exceeded EPA standards.

"The proof of the pudding is in the eating," Mr. Krohn says. "Our destruction efficiencies compare very favorably with land-based incinerators."

Land-based incineration companies such as Rollins Environmental Services Inc. and



Vulcanus II

Enso Inc. consider those tests inadequate, however. They argue that Vulcanus testing relied on fewer gas samples from the stacks than do land-based operators and that the samples were inadequate because the short stacks on Vulcanus don't stir up the necessary turbulence.

Allegations against Waste Management of EPA influence-peddling also have slowed permit approval, the company believes. Press accounts quoting anonymous EPA sources have charged that James Sanderson, who has represented the company occasionally, influenced an agency official to expedite a Vulcanus permit against his staff's will. Mr. Sanderson, one-time adviser to EPA's ex-chief, Anne Burford, was being investigated at the time on conflict-of-interest charges centered on another agency decision that benefited Waste Management. The Justice Department subsequently cleared him of those charges.

Gulf Coast opposition to the permit has been intense, particularly since spring, when allegations of lax waste-disposal practices cropped up against the company. That opposition was evident during recent public meetings set up by the company.

In Brownsville, Texas, company officials were greeted by the inevitable "worst-case scenario" question: What happens if the ship founders and dumps its toxic load? "What you've had here in the past is the

worst-case scenario," countered Jack J. Schramm, the company's director of government affairs, who cited the 1.4 million tons of toxic wastes dumped legally into the Gulf in 1973. "That's the equivalent of dumping a full Vulcanus load every day for a year," he said.

But Carlos Rubinstein, a city epidemiologist, wondered "what guarantees we have that the hydrogen chloride (an acid released during burning) will be neutralized by the ocean" as the company claims? "Nobody knows," he said. He wants pollution-cleaning scrubbers required, as they are for land-based operators, which would reduce considerably the ship's expected cost edge.

Company credibility has become a major issue, says Larry Norton, a spokesman for the Gulf Coast Coalition for Public Health, a citizens' group formed to fight the Vulcanus. "There's no one out there to watch them. The possibility of abuse is there, so you focus on trustworthiness."

In Antwerp, the Vulcanus II looks peaceful as a small crew performs maintenance jobs between trips. It has been doing the work of Vulcanus I, which recently returned after being overhauled.

The 307-foot-long, double-hulled double-bottom ship looks like a tanker, except that the seven-story bridge-and-living quarters structure has been jammed into the bow to separate it from the three squat 15-ton incinerators hunkered down in the stern.

Minimal Contact With Waste

The crew's contact with waste is minimal. Workers garbed in rubber overalls and gas masks hook up hoses that pump the material into eight storage tanks. Without an approved storage facility (that, too, has run into environmental snags), wastes must be loaded directly from trucks, a less-than-ideal situation, Mr. Krohn concedes.

Once aboard, wastes are pumped directly into incinerators through a maze of pipes and valves. They then pass through a cup spinning at 6,000 revolutions a minute, which breaks them into tiny, more-easily burned droplets. Critics contend that this controversial design doesn't hold waste in the incinerator long enough for thorough combustion. Mr. Heinemann contends that it breaks waste into smaller droplets than other systems do, offsetting that problem.

Vulcanus faces stiff competition from two ships being built by Tacoma Boatbuilding Co., and many argue that its market will be severely limited anyway. The ship burns only liquid wastes, but new production of polychlorinated biphenyls (PCBs) has been banned, and other liquid chlorinated wastes are increasingly recycled or burned as boiler fuel, says Melvyn Bell, Enso's president. But the EPA's Alan B. Rubin argues that the amount of liquid chlorinated wastes produced annually has been greatly underestimated. "No one's going to want to store that in the ground for 100 years until someone learns how to turn it into cottage cheese," he says.

U.S. and Canada Agree to Study Dam Project

By MICHAEL T. KAUFMAN

Special to The New York Times

OTTAWA, Nov. 24 — United States and Canadian officials met here last week and agreed to set up a joint commission to try to resolve Canadian ecological concerns over a dam construction project in North Dakota.

The agreement last Tuesday followed Canada's submission on Oct. 3 of a formal note of protest to the United States about "the potentially damaging features" of the project, which, after 18 years of study and debate, is moving toward the ground breaking stage.

The first phase of the North Dakota project calls for the creation of the Lone Tree reservoir in an area that lies between the watersheds for two river systems.

The Canadian protest expressed Ottawa's underlying fears about the project, which are shared by many environmentalists in the United States.

Risk of Mixing Waters

Essentially, the Canadians are worried that the project runs the risk of mixing waters from one side of the Continental Divide, now draining north to Hudson Bay, with waters from the other side, that now empty through the Missouri and Mississippi Rivers into the Gulf of Mexico.

These two separate freshwater networks sustain two distinct ecologies with different species of fish, algae and flora, and the Canadian fear is that with the development of the dam and canal network south of the border, aquatic life from the United States will infiltrate and eventually dominate, subdue and destroy fish that sustain Manitoba's fishing industry.

The issue has become highly political with almost everyone in Manitoba opposed to the plan, while in North Dakota the project has generated enthusiastic support.

The plan was first proposed in the 1940's as compensation for fertile lands that were inundated by a series of dams built to prevent flooding of the Missouri River downstream in Iowa and Kansas.

One aspect of the agreement reached here Tuesday that was welcomed by both sides was the inclusion in the review process of people from Manitoba and North Dakota and their involvement in the negotiations.

A note approved after the meeting here declared that "both sides agreed that the talks had been constructive, had closed the gap on some technical concerns and set the stage for very substantial progress on this issue."

Basically, the two sides agreed to set up a joint committee composed of technical representatives of the two Federal Governments as well as from Manitoba and North Dakota. The group is to spend five months compiling lists of aquatic life in the two river systems, establishing which species are found in which river system and which are common to both.

After reporting back, the joint body would consider whether to build a \$40 million fish screen between a canal and a reservoir in the North Dakota project. This would act as a safety de-

vice to make sure that fish or larvae from the Missouri waters do not back up into watersheds for the rivers draining into Hudson Bay.

According to the two sides in the talks, the joint technical group would also monitor features under design and construction and review Canadian technical concerns, such as prohibition of fishing, canal construction and wildlife movements.

The 15-member United States delegation was led by James M. Medas, Deputy Assistant Secretary of State for

Canadian Affairs and Garrey E. Caruthers, Assistant Secretary of the Interior for Land and Water Resources. The 15-member Canadian team was led by Derek Burney, Assistant Deputy Minister in the Department of External Affairs.

The meeting, both sides agreed, has eased one of the more contentious issues within the wide range of Canadian-United States relations at a time when the overall relationship has suffered one of its periodic declines.

THE NEW YORK TIMES, SUNDAY, NOVEMBER 26, 1983

Irradiated Forest Sustains Unusual Damage

KNOXVILLE, Tenn., Nov. 26 (AP) — A Georgia forest exposed to radiation in an experiment 20 years ago has failed to replenish itself, and some surviving trees are not growing normally, a University of Tennessee ecologist says.

Only a few seedlings have sprung up in the affected 40 acres on the grounds of the Savannah River National Laboratory, Dr. Frank McCormick, who led the research team that irradiated the forest with gamma rays in 1964, said this week. He now teaches ecology at the University of Tennessee-Knoxville.

The few seedlings are less than four years old, and researchers said they were not sure why the recovery was delayed, Dr. McCormick said.

When researchers returned to the forest last spring for the first time in 15 years, they were "shocked because re-vegetation seems to have stopped" after the first five years after exposure, he said.

Nearby Trees Died Quickly

Pine trees within about 25 yards of a radiation machine invented for the experiment were killed. Some browned and died before the eight-day exposure was completed, Dr. McCormick said.

Farther away from the radiation source, some trees died after several years, some became sterile and others developed three or four trunks after buds on top of them were killed, he said.

The amount of radiation emitted over the eight days was more than six times what scientists estimate would kill a human, he said.

Researchers monitored the forest for the first five years after it was exposed, and recovery seemed to be progressing normally, Dr. McCormick said. "Initial recovery was rapid and predictable," he said. "Honeysuckle and trumpet vines began moving in. It was expected that pine seedlings would move in next to replenish the site. That didn't happen."

The weeds may have grown thicker because of the radiation and may have cut off light so the seedlings could not grow, he said. Or, he added, the trees might not have been able to reproduce.

"Maybe there is more uncertainty about the ecological effects of radiation" than scientists thought 20 years ago, he said, adding, "We need to reduce that uncertainty."

He said other sites on Federal land were tested in the mid-1960's, and he has asked the Government to let him examine the land. Those sites include a mountain rain forest in Puerto Rico, a forest in Rhinelander, Wis., and a forest at the Department of Energy's Oak Ridge National Laboratory, about 25 miles west of Knoxville.

The Oak Ridge forest was not exposed by his machine but has received continuous radiation from nearby nuclear reactors used for research, Dr. McCormick said.

The Government has agreed to finance a study on the biological effects of radiation, Dr. McCormick said, and he has asked the Department of Energy to award a grant so he can put together a research team to study the other sites.

Dr. McCormick said the study was not designed to show the full environmental effects of nuclear war because it did not take into account the sub-freezing temperatures or blocking of sunlight scientists think would occur after a full-scale nuclear war.



Oregon coast is threatened by more oil from freighter

Newport, Ore.

Waves pounding a Japanese freighter wrecked off the coast Saturday threatened to break up a main fuel tank and spread more oil on a contaminated estuary where endangered brown pelicans and other birds were killed by oozing crude.

The oil slick of 3,000 gallons from the 350-foot Blue Magpie spread 4 miles up the coast and 5 miles up the Yaquina River.

THE CHRISTIAN SCIENCE MONITOR
NOVEMBER 23, 1983

Sea minerals found at shallowe

By Floyd K. Takeuchi

Advertiser Staff Writer

An exhaustive, year-long scientific expedition has discovered potentially valuable deposits of strategic minerals relatively close to the surface in the central Pacific Ocean. The findings could have



Howell

important implications for Hawaii if commercial sea mining becomes a reality.

David G. Howell, a U.S. Geological Survey branch chief stationed in Menlo Park, Calif., yesterday said: "We've discovered regions which are very rich in (high-grade) cobalt."

The largest concentrations of a "crust" of cobalt and manganese are near Johnston Atoll, a U.S. possession about 900 miles southwest of Oahu. Another promising site is Palmyra, an American-controlled atoll some 1,100 miles south of Honolulu.

Howell spoke at a press conference sponsored by the Circum-Pacific Council for Energy and Mineral Resources.

The council is a 12-year-old, non-profit group that sponsors research on regional mineral and oil resources. It met in Hawaii this past week.

Howell said the 2- to 4-inch crust is between 2,000 and 3,300 feet below the ocean surface. That is closer than the 16,500 feet where most manganese and cobalt nodules are found.

That difference probably makes sea mining more economically feasible, and could be

r depths at Johnston, Palmyra

a critical factor for Hawaii, said council chairman and founder Michel T. Halbouty.

"I do believe that (Hawaii) will be a focal point" if ocean mining develops, said Halbouty, a geologist and petroleum engineer. The establishment of such enterprises "will eventually enhance the industrial complex of the state of Hawaii," he added.

Howell said the United States imports from African countries 99 percent of the cobalt used by industry for sophisticated metallurgy and in nuclear power generation.

Information on the mineral-

rich crust was gathered by the U.S. Geological Survey research ship Samuel P. Lee. It began its voyage, called "Operation Deep Sweep," last summer in San Francisco and has gone as far north as the Chukchi Sea and as far south as Antarctica's McMurdo Sound.

The council supported the Antarctic and South Pacific por-

tions of the Lee's voyage.

The research ship was in the Solomon Islands yesterday and was scheduled to sail either yesterday or today for Papua New Guinea. Since October, the Lee's scientific crew has been from the University of Hawaii's Hawaii Institute of Geophysics.

The Lee is scheduled to return to Honolulu in mid-August.

MAY 9, 75 Star-Bulletin

Johnston Isle Rabbits Pull Hazardous Duty

By Robert C. Miller
Honolulu UPI Bureau Chief

JOHNSTON ISLAND (UPI) — Dogs may be man's best friend, but at this central Pacific arsenal of America's war gas, rabbits are your life insurance policy.

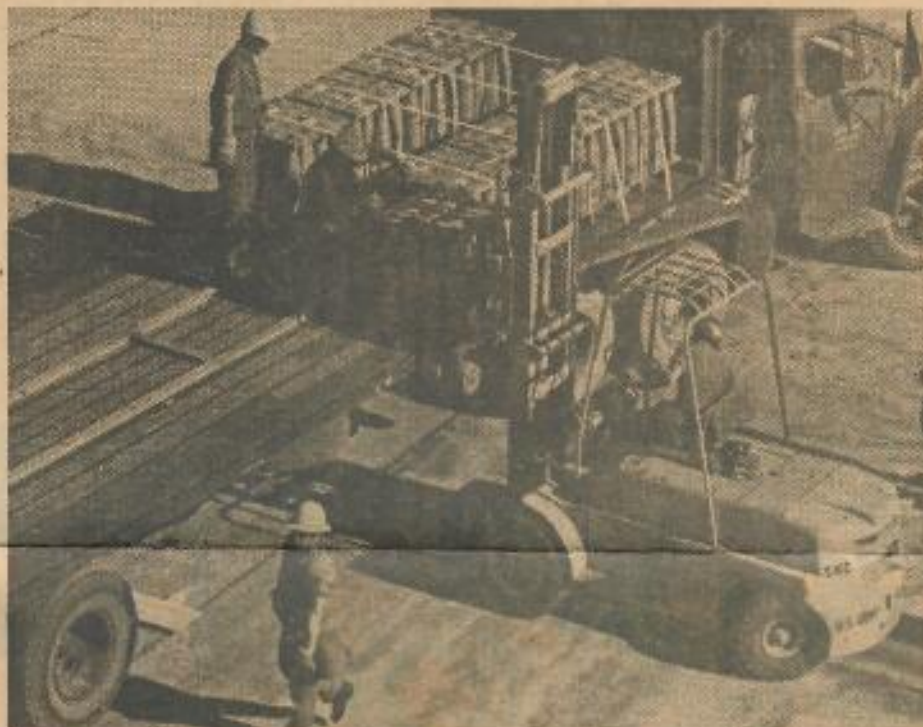
Tons of nerve gas and mustard gas are stored in concrete and coral-banked igloos on this womanless island 825 miles southwest of Honolulu. Every mechanical safety device and precaution is used to protect the 550 civilian and military residents, but none is more reliable than the 35 or more rabbits whose peculiar respiratory system makes them far more susceptible to toxicants than humans.

Caged white rabbits are carried by every red-hatted Army chemical team that enters a gas storage area.

The rabbits are put inside the igloos and storage buildings before anyone enters. Then they are examined for symptoms of gas exposure. If they show excessive salivation, muscle twitching or dilated pupils, the area is known to be hazardous.

"THE RABBITS found a way out of their cages in one igloo," said Sgt. Richard A. Roberts, "and they messed up our planned parenthood program. We now have a few unplanned litters."

Johnston, which was a mere 60 acres of coral and sand when it was dis-



TOUCHY CARGO—Unloading mustard gas at Johnston Island.

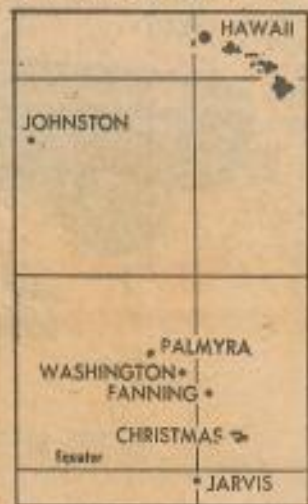
covered by British sea captain James Johnston 167 years ago, has been expanded to more than 600 acres and has all the amenities of Mainland living—except women.

There is a golf course, a television station, two radio stations, three bars and a restaurant that justifiably boasts of serving the best food "between Honolulu and Hong Kong."

Johnston has had more governments than a South American republic. After the British came the Americans. Then Kamehameha IV made it part of Hawaii.

The Navy put the first

gold braid on the atoll just prior to World War II, and used it as a submarine refueling base, fighter field



and communications center.

It was shelled early in the war, but the Japanese never made an attempt to capture it.

THE AIR FORCE ran Johnston during the Korean War, and during the atmospheric atomic tests in 1958 and 1962, it was ruled by the commanders of Operations Hardtack and Dominic.

The island is now managed by the Defense Nuclear Agency with Air Force personnel handling the housekeeping chores.

Johnston is the storage area for at least two types of nerve gas, and a must-

Turn to Page A-9, Col. 1

MAY 9, 75 Star-Bulletin

Rabbits Sniff Out Danger

Continued from Page One

tard gas, all of it housed in 43 munitions structures, the vast majority of them steel and concrete bunkers covered with a minimum of two feet of coral.

Also on the island are 25,000 drums of the defoliant Herbicide Orange,

tentatively scheduled to be destroyed by a special Dutch incinerator ship.

All of the chemicals came to Johnston from Asia, and until the 1.4 million gallons of Herbicide Orange is removed, no women will be stationed on Johnston.

IN 1970 THE surgeon general's office said there was a possibility the defoliant could cause birth defects in women of child-bearing age.

All the supplies were then removed from Vietnam where the defoliant had been used for months to destroy ground cover and possible ambush sites.

The toxic gases arrived in November and December of 1971 after Japan requested the United States to remove them from Okinawa.

The Okinawans and the world first learned the gases were being secretly kept there after several workmen were gassed in

an accident revealed by the Wall Street Journal.

There were protests in Honolulu when the decision was made to move the nerve gas to Johnston, but there is little or no apprehension among the 550 men who share the 625 acres with one of the world's largest supplies of toxic gases.

"THE THOUGHT of it scared the hell out of me at first," admitted T/Sgt. Arthur E. Duverger, "but we all got used to it, and I'm convinced now that there is little or no danger living with the stuff."

Every resident has his own protective mask and its thoroughly briefed on how to use it and the accompanying gas antidotes a few minutes after he steps off the weekly flight from Hawaii. Officials say there has never been an injury nor a death from the gas since it was brought here.

The storage area is on the southern corner of the

atoll where any escaped gas would be swept out to sea and away from the island by the prevailing trades which sweep the island 90 per cent of the time.

When the winds change or stop, everyone is required to keep his protective mask with him until the trades return.

GAS DRILLS are held periodically in case of an emergency, and an evacuation plan has been worked out whereby all residents would gather at the northeastern end of Johnston for evacuation.

The population was evacuated two years ago when a hurricane brushed the island and damaged some of the frame buildings. None of the igloos was weakened, nor was any of the gas lost.

Although the amount of gas on Johnston is classified, the Army has allowed the storage areas and projectiles to be seen and photographed.

Insulted, harassed by EPA officials in dioxin inquiry, scientists testify

By Paul Magnusson
Knight-Ridder Service

WASHINGTON — Career scientists of the Environmental Protection Agency testified yesterday that they were subjected to insults, intimidation and repeated interference from top agency officials while studying discharges of poisonous dioxin by the Dow Chemical Co.

They told a House investigations subcommittee that the EPA subsequently squelched much of the scientific study because top-level bureaucrats here feared it would "inflame the public, which is already sensitive about the dioxin problem," and because it implicated Dow in the contamination of a portion of Lake Huron.

That conflict about the report pitted career scientists in EPA's Chicago regional office against EPA's headquarters staff, including acting EPA chief John Hernandez Jr. and other Reagan administration appointees.

As a result, evidence before the subcommittee shows that some references in the report to Dow and to dioxin-related birth defects, skin disorders, liver damage, miscarriages, infertility and cancer, and contamination of fish in two Michigan rivers

and Lake Huron, were deleted from the report.

Valdas Adamkus, the EPA regional administrator, said he was called in May 1981 by Hernandez and told that the draft report on dioxin was "trash."

Adamkus and other EPA scientists, called here from Chicago to testify yesterday before the subcommittee, said it quickly became clear that top EPA officials were doing Dow's bidding.

During a series of three telephone calls from Hernandez, Adamkus testified, he was "instructed" to "consider" all suggestions made by Dow for rewording the report.

Adamkus, who said he thought the orders were "unethical," testified that he had been told by Hernandez to expect a telephone call from a Dow vice president, Etcyl Blair.

In that and a subsequent call, scientists from the Midland, Mich., company raised a series of objections to the 30-page report, ranging from the report's title to its conclusions that Dow was "the primary contributor to contamination of the Tittabawassee and Saginaw rivers and Lake Huron."

In testimony last week, Hernandez admitted that he gave Dow Chemical a draft report of the dioxin study and allowed Dow to comment on it directly to EPA scientists.

Hernandez, who only the week before became acting administrator after Anne Burford's resignation, defended the action but conceded that he should have given it "wider dissemination."

However, Hernandez denied ordering EPA scientists to follow Dow's dictates.

A spokesman for Dow said yesterday that he felt that day's testimony showed that the company had done nothing wrong because any changes in the report were ordered by EPA officials in Washington and not by Dow.

Yesterday's testimony did not include any allegations by witnesses that Dow was able to censor the sensitive report directly.

But EPA scientists did testify repeatedly that suggestions first made by Dow later came to them as orders from EPA headquarters.

"I understood from headquarters that we had to accommodate Dow or else the report would not be released," Adamkus told the subcommittee, which is headed by Rep. John Dingell, D-Mich. Dingell termed the testimony of the Chicago EPA officials "courageous and straightforward" and warned that the EPA had better not attempt retribution against them.

Hurricane

Storm 1



Map and forecast based on NWS analysis; satellite photo courtesy of NOAA-NESDIS

Satellite weather map



- cold front
- warm front
- frontal remnant
- high pressure center **H**
- low pressure center **L**
- surface wind
- jet stream / upper level wind

the weather

Honolulu weather at a glance: Sunny this morning turning mostly cloudy in the afternoon with a few interior showers. Highs in the upper 80s. Variable winds 5 to 15 mph.

Photo notes and forecast: At 2 p.m. yesterday Hurricane Keli was 875 miles southwest of Honolulu and 195 miles southeast of Johnston Island, moving northwest at 11 mph. At that time tropical storm Kenna was 770 miles southeast of Hilo and was nearly stationary. Neither is an immediate threat to the Hawaiian Islands. The shower area (SA) off the Big Island is expected to pass to the south of the island. The outline of the thin high clouds also outlines a high-level band of westerly winds with an axis of low pressure indicated east of the islands. At the surface weak trade winds have broken down into variable winds that are mostly land and sea breezes. The sea breezes will cause afternoon cloudiness over the land with a few interior showers.

today's oahu surf

from the National Weather Service

North shore — 2 to 4 feet.
South shore — 2 to 4 feet.

Note: Surf heights are measured from trough to crest. By comparison to an average adult, 2 to 3 feet is waist high, 5 to 6 feet about head high, etc.

For the latest National Weather Service recorded forecast for Honolulu, call 836-0234 for Oahu, 836-0121; for surf, 836-1952; for Hawaiian waters 836-3921. For complete weather information 24 hours a day, tune in the continuous weather broadcast on NOAA Weather Radio at 162.40 or 162.55 MHz. For more information about NOAA Weather Radio, call 836-1831.

The Air Force began evacuating "most if not all" of about 375 military and civilian personnel from Johnston Island as Hurricane Keli bore down packing winds of 115 mph.

The two planes were dispatched to carry the personnel to Honolulu 715 miles to the north-east. They were expected to arrive late last night, according to Col. Marv Bramen, a spokesman for the U.S. Pacific Command (CINCPAC).

Meanwhile, tropical storm Kenna has become a potential (but not an immediate) threat to the Hawaiian Islands.

The National Weather Service said last night that tropical storm Kenna was about 770 miles southeast of Hilo, where it was moving west at 9 mph with winds up to 50 mph.

The National Weather Service said Keli had become a "definite threat" to Johnston, a military chemical weapons storage site containing at least 13,000 tons of lethal gas.

The hurricane was expected to pass 150 miles southwest of the tiny island last night. The hurricane had slowed to 9 mph but increased to 15 mph late last night with maximum sustained winds of 115 mph in a small area around its center, said Ed Manning of the weather service.

"It looks like it will just sort of graze the island," said Manning. "Our analysis indicates if it stays 150 miles away the island should get gale-force winds of 40 mph."

Military officials have said it is "almost inconceivable that any combination of circumstances" could result in any hazard to human or other life on Johnston or Hawaii due to leaking of gas, which is stored in earth-covered bunkers on 41 acres of the island.

In
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islat

Temperatures — rainfall	Jacksonville	stormy	75	88	London 1 a.m.	clear	64
Honolulu Airport Weather Station	Johanna	rain	52	59	Paris 1 a.m.	clear	68
	Kansas City	sunny	68	86	Peking 8 a.m.	cloudy	71
Highest temperature (a record) 91	Las Vegas	stormy	69	83	Rome 1 a.m.	clear	64
Lowest temperature 51	Los Angeles	partly cloudy	72	83	Stockholm 1 a.m.	over	59

aims at Johnston Island

now poses a potential threat to Hawaii

was evacuated to Honolulu to wait out the storm, apparently the first time a major U.S. base was left unguarded.

Meteorologists said Kenna poses a potential threat to the islands if it starts moving northwest and intensifies. They urge Hawaii residents to listen for advisories from the Hurricane Center and Civil Defense offices.

Kenna was expected to remain stationary last night before continuing its westward

track early this morning. The storm had been moving at 6 mph early yesterday. The slow movement and the storm's location are two hints that the storm may intensify, meteorologists said.

Forecasters have been hampered by the recent failure of the GOES-East satellite that monitored weather over the eastern part of the country which forced the National Oceanic and Atmospheric Administration (NOAA) to

move the Pacific weather satellite eastward.

As a result, Hawaii is now on the fringes of the satellite's weather photos, making it more difficult for meteorologists to keep track of the movement of storms in the area.

The weather service also reported a record high Honolulu temperature of 91 degrees for yesterday. The previous high at Honolulu Airport was 90 degrees, set in 1974, 1979 and 1983.

Only two hotels on Maui have
won the AAA Five Diamond Award.

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Kamaaina Rate.

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And you can stay here at our special \$69 Kamaaina Rate, which qualifies you for special golf and tennis discounts at Wailea.

For reservations, call 524-8500 from Honolulu. Or see your travel agent.

1972 Hurricane Celeste
ed the island with 45 foot
es and 150 mph winds. The
id's population of about 580

**Stouffer
Wailea Beach Resort**

A-2

Hono. Adv.

8-21-84

AUG.

2 storms pose less of threat than feared

The threats of two storms that have had the central Pacific on alert were reduced substantially last night, according to the National Weather Service.

Tropical Storm Kenna was downgraded to a depression yesterday, reducing its threat to the Hawaiian Islands.

And Hurricane Keli veered slightly west, reducing prospects of major damage on Johnston Island, where the Army

stores thousands of tons of nerve gas and other chemicals.

About 700 miles southwest of Hilo, winds from Kenna slowed from 40 to 35 mph, the weather service here said.

They expected the depression to continue west, passing south of Hawaii with little change in strength.

If Hurricane Keli continues on its northwesterly course, its 100-mph winds should pose no threat to Hawaii, the weather service said.

Sunday night, Johnston's entire population of 370 was evacuated to Hawaii aboard two Air Force C-141 transport planes, according to Maj. Terry McCann, Pacific Command spokesman.

Weather service meteorologist Saul Price said yesterday.

"The center of the hurricane is now passing 80 to 90 miles from Johnston, instead of 50 miles away, so its effects will be less."

370 flee from Johnston Island

HAWAII TRIBUNE HERALD AUG 20, 1984

HONOLULU (UPI) — Hurricane Keli today headed toward Johnston Island, a top-secret U.S. military installation housing tons of lethal chemical weapons, forcing all 370 people on the island to evacuate and leave the base unguarded.

Two C-141 aircraft carried the military and civilian evacuees to Honolulu, 715 miles to the northeast, as the hurricane spun within 170 miles with winds of 115 mph, Pacific Command spokesman Commander Joe McGrath said.

"We were planning to leave a small contingent on the island," he said, "but based on the weather estimate — that the storm was going to come closer than expected and the winds would be higher than anticipated — we decided to pull everyone off."

In 1972, Hurricane Celeste struck the island with 45-foot

waves and 150 mph winds, forcing the evacuation of 580 people to Honolulu. A U.S. Pacific Command spokesman said at the time it was apparently the first time a major top-secret U.S. base was left unguarded.

"This is the second time," McGrath said.

Of those evacuated this time, 110 were members of the Army Western Command's 267th Chemical Company assigned to guard the weapons and 221 were civilians employed by Holmes and Narver, which maintains the facilities on the island.

Also carried to safety were employees of the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and a Coast Guard LORAN station. All 370 military and civilian personnel had arrived by 11:12 p.m. yesterday.

The National Weather Service said Keli had become a "definite

threat" to the tiny atoll, a military chemical weapons storage site containing at least 13,000 tons of lethal mustard and other gas.

At least two types of nerve gas, GB and VX, developed during and after World War II, are so potent, a drop the size of a pinhead inhaled or absorbed through the skin can be fatal, officials said.

The hurricane moved within 170 miles of the island by 8 p.m. Sunday HST (2 a.m. today EDT) and was expected to pass 150 miles southwest of the island.

Johnston, an atoll 2 miles long and one-half mile wide, has been a top-secret nuclear outpost for many years. In 1958 it became the site for American atmospheric nuclear weapons testing.

Some 13,000 tons of lethal gas from Okinawa were moved to the island for storage in 1972, including 150 tons of steel artillery shells filled with mustard gas which is fatal if inhaled.

Hurricane aims at Johnston Island

Storm now poses a potential threat to Hawaii

The Air Force began evacuating "most if not all" of about 375 military and civilian personnel from Johnston Island as Hurricane Keli bore down packing winds of 115 mph.

The two planes were dispatched to carry the personnel to Honolulu 715 miles to the east. They were expected to arrive late last night, according to Col. Marv Bramen, a spokesman for the U.S. Pacific Command (CINCPAC).

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"It looks like it will just sort of graze the island," said Manning. "Our analysis indicates if it stays 150 miles away the island should get gale-force winds of 40 mph."

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In 1972 Hurricane Celeste lashed the island with 45 foot waves and 150 mph winds. The island's population of about 580



University of Guam

GRADUATE SCHOOL and RESEARCH

UOG Station, Mangilao, Guam 98913

Cable: "UnivGuam" Telex: 721 6275

Phone No. (671) 734-3676

August 27, 1984

Dr. George H. Balazs
National Marine Fisheries Service
Honolulu Laboratory
P.O. Box 38830
Honolulu, Hawaii 96812

Dear George:

I have received your report entitled "A Baseline Assessment of Marine Turtles at Johnston Atoll" and a copy of Chuck Birke-land's letter to you. I find that Chuck has said everything well, and there is very little I can add to his comments.

The subject matter is certainly appropriate for MICRONESICA, but the manuscript cannot be published in its present form. It should be completely rewritten and condensed considerably, with many of the tables deleted and others greatly shortened. For example, the section on cholinesterase can probably be dropped entirely and probably several other sections as well. Recommendations should be downplayed, possibly dropped entirely, but certainly be made less specific to Johnston Atoll. The emphasis of the paper should not be on Johnston per se but on aspects of turtle biology which are of general interest. The manuscript should be put into the MICRONESICA format, including Abstract; please familiarize yourself with the Instructions for Contributors on the inside back cover of the journal. Note that color plates can be published only at the author's expense.

Again, I will be happy to consider a rewritten manuscript in MICRONESICA format. It would, of course, be sent out to external reviewers at the time it is resubmitted.

Thank you for your interest in our journal, and best wishes. (You may remember that we met at HIMB a few years ago.)

Sincerely,

Jim Marsh

JAMES A. MARSH, JR.
General Editor, MICRONESICA

P.S. I found your paper to be well written as a technical report and quite interesting.



University of Guam

MARINE LABORATORY

UOG Station, Mangilao, Guam 96913

Cable: "UnivGuam" Telex: 721 6275

August 16, 1984

Dr. George H. Balazs
National Marine Fisheries Service
Honolulu Laboratory
P.O. Box 3830
Honolulu, Hawaii 96812

Dear George:

I received your copy of "A baseline assessment of marine turtles at Johnston Atoll". I am passing it on to Dr. James A. Marsh, Jr., Dean of Graduate School and Research, University of Guam, UOG Station, Mangilao, Guam 96913, because he is now the General Editor of MICRONESICA. However, he is off-island until August 20 so I will make a few comments on his behalf.

I believe the subject matter is quite appropriate for MICRONESICA, but it needs to be greatly condensed. The report does not have an abstract or a summary, so I do not see the main conclusions. The recommendations are too particular for Johnston Atoll. Most of the tables could be condensed to descriptive statistics or, in the case of some such as Table 9, eliminated. What I think you should do is outline your main conclusions in an abstract, then condense the paper to include only materials that are directly related to the story, and finally prepare the manuscript in the correct format for MICRONESICA. With a major condensation and clarifying of major conclusions, this material would be quite appropriate for MICRONESICA, in my opinion. I will pass this material on to Jim Marsh.

By the way, I hear that green sea turtles on a protein-enriched diet in captivity (Archies Carr) can reach sexual maturity in about 9 years, Caribbean green sea turtles in nature reach sexual maturity in about 15 years, while those in the central and south Pacific take as long as 50 years (Col Limpus pers. comm.). Dr. Fritts told me that some people have suggested that green sea turtles apparently grow and mature more slowly in the central and south Pacific because they eat more algae and less seagrass than in the Caribbean where they eat mostly seagrass and mature more quickly. Does this seem reasonable?

Sincerely yours,

CHARLES BIRKELAND
Professor

cc: General Editor, MICRONESICA



University of Guam

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UOG Station, Mangilao, Guam 96913

Cable: "UnivGuam" Telex: 721 6275

Phone No. (671) 734-3676

September 10, 1984

Dr. George H. Balazs
National Marine Fisheries Service

Dear George,

Thanks for the reprints and your note, which arrived today. I realized (almost after the fact) that your turtle report was sent for preliminary comments on an informal basis. In rereading my letter to you, I also realized that I had not made this understanding clear. Anyway, we are on the same wavelength now, and I look forward to hearing from you in the future.

Best regards.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim", written over the typed name.

James A. Marsh, Jr.
General Editor, MICRONESICA

September 20, 1984

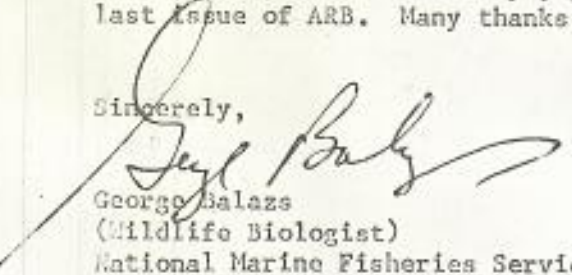
Dr. Raymond Fosberg
Editor, Atoll Research Bulletin
Smithsonian Institution

Dear Dr. Fosberg:

I am sending you the enclosed for the purpose of obtaining an informal and preliminary review to determine if this report can be made suitable for Atoll Research Bulletin. For starters, I fully realize that many of the tables should be dropped or condensed, and far fewer photos should be used. Also, I should mention that it should be entirely possible for our agency to pay "page charges" if the paper is published during the coming fiscal year.

I was very pleased to see my paper on Tokelau turtles turn out so well in the last issue of ARB. Many thanks again for all your help and support.

Sincerely,



George Balazs
(Wildlife Biologist)
National Marine Fisheries Service-Honolulu lab
PO Box 3830
Honolulu, HI 96812

ABSTRACT

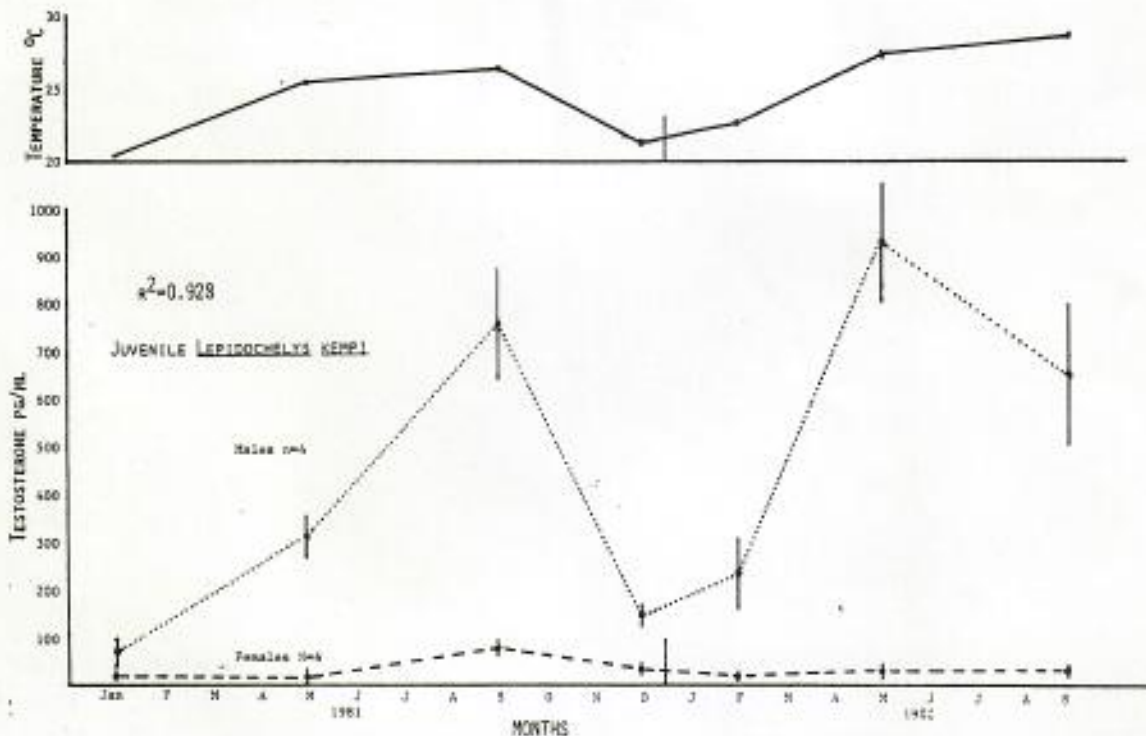
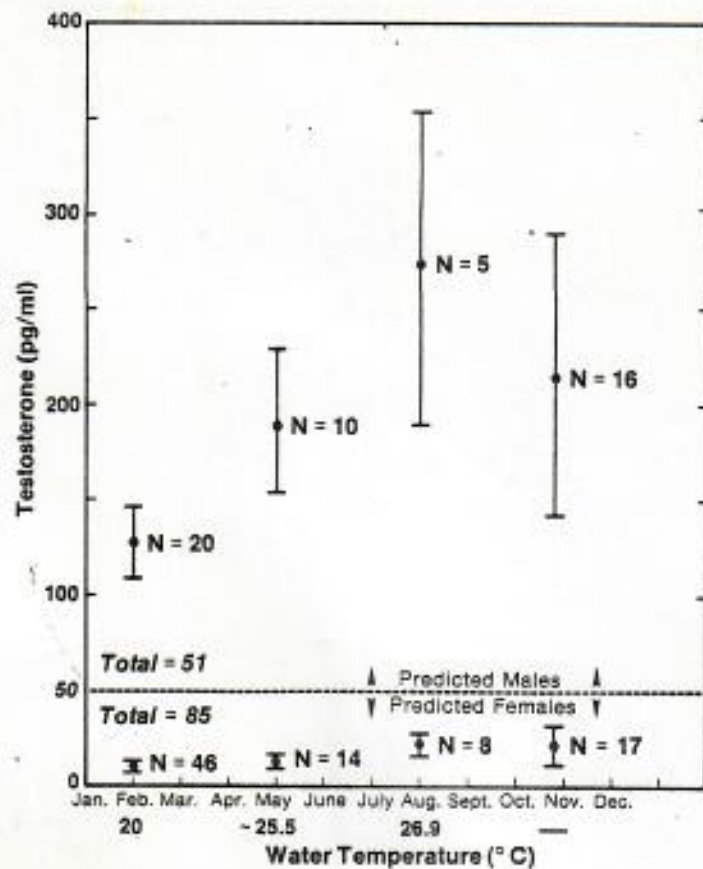
SEX RATIO OF A SEA TURTLE POPULATION: TECHNIQUES AND OBSERVATIONS

MARINE TURTLES, LIKE MANY OTHER REPTILES, EXHIBIT A TEMPERATURE DEPENDENT COMPONENT IN THEIR SEX DIFFERENTIATION PHYSIOLOGY. IN LABORATORY STUDIES AND UNDER HATCHERY CONDITIONS, MARKEDLY SKEWED SEX RATIOS HAVE BEEN OBSERVED. HOWEVER, WE STILL DO NOT KNOW IF SKEWED SEX RATIOS OCCUR IN NATURAL POPULATIONS, OR FOR THAT MATTER, WHAT THE ECOLOGICALLY EFFECTIVE SEX RATIO OF NATURAL POPULATIONS MIGHT BE. FURTHERMORE, STUDIES OF THE SEX RATIOS OF HATCHLINGS FROM A GIVEN YEAR OR FROM A SUBPOPULATION AT THE NESTING BEACH WOULD BE EXPECTED TO BE INACCURATE DUE TO INHERENT SEX DISTRIBUTION BIASES. ON THE OTHER HAND, THE SEXES OF A SAMPLE OF LARGE IMMATURE ANIMALS WHILE AT A FEEDING GROUND SHOULD OVERCOME BIAS PROBLEMS AND ACCURATELY REPRESENT THE EFFECTIVE SEX RATIO. WITH NATIONAL MARINE FISHERIES SERVICE SUPPORT, SUCH A POPULATION OF LOGGERHEADS HAS BEEN STUDIED AT CAPE CANAVERAL, FLORIDA. SINCE SEX CAN NOT BE DETERMINED BY EXTERNAL OBSERVATIONS, THE RELATIVE CIRCULATING LEVELS OF TESTOSTERONE WERE USED TO PREDICT SEX FROM A SAMPLE OF 172 TURTLES. THIS ENDOCRINE METHOD OF EVALUATING SEX WAS VERIFIED TO BE COMPLETELY ACCURATE BY CONDUCTING LAPAROSCOPIC EXAMINATION OF THE GONADS IN 21 INDIVIDUALS. THE TECHNIQUE WAS ALSO FOUND TO BE ACCURATE IN EACH SEASON OF THE YEAR AT AMBIENT WATER TEMPERATURE BETWEEN 19° AND 27°C. A METHOD OF PREDICTING SEX BY USE OF CAREFUL TAIL MEASUREMENTS WAS NOT ACCURATE. THE 67 MALES AND 105 FEMALES INDICATES A SEX RATIO OF 1 MALE: 1.57 FEMALES, WHICH IS SIGNIFICANTLY DIFFERENT FROM THE COMMONLY ASSUMED 1:1 RATIO SEEN IN SOME SPECIES.

WE CONCLUDE:

- A. THAT THE TESTOSTERONE BASED SEX DETERMINATION TECHNIQUE IS VALID FOR CONSERVATION USE ON NATURAL SEA TURTLE POPULATIONS.
- B. THAT THE LOGGERHEAD SEA TURTLE POPULATION STUDIED MAY HAVE A NEED FOR SIGNIFICANTLY MORE FEMALES THAN MALES.

BY: DAVID WM. OWENS, YUKI A. MORRIS AND THANE R. WIBBELS
TEXAS A&M UNIVERSITY, BIOLOGY DEPARTMENT, COLLEGE STATION,
TEXAS, 77843 U.S.A.



Top Figure: Testosterone levels in the serum of loggerhead turtles compared to time of year and ambient sea water temperature. Males are easily distinguished from females in this immature-wild population.

Bottom Figure: Similar data for head-started Kemp's ridleys hatched in 1978 as part of the joint Mexico-U.S. ridley recovery program.

3 JUNE AM

George —
"This is cleaner"
draft — throw
other away.
Doris

TO: Dick Wass, Remote Refuge Manager
FROM: Doris Alcorn, NMES NIPS, Honolulu

SUMMARY OF HAWAIIAN MONK SEAL AND GREEN TURTLE RESEARCH
AT JOHNSTON ATOLL, 16-23 May, 1985

I. METHODS

One researcher (D.A.) was present on Johnston Atoll 16-23 May 1985. Research consisted of censusing, and interviewing residents and visitors to obtain sighting information up to and including the research week. The last time turtle research was conducted at Johnston Atoll by this office was November 1983; seal research had not been conducted since November 1984 when the nine seals were transported from Laysan Island.

A total of 18 censuses (3 entire atoll and 15 partial) were conducted. Two of the partial censuses were conducted at night (one on Johnston Island and one on Sand Island). Censusing was done on foot, bicycle, motor vehicle, and by boat. For entire atoll censuses, the beach areas of Johnston Island and Sand Island were visited by land, and Akau (North Island) and Hikina (East Island) were circled by boat. The beach areas of North and East Islands were walked once to check for signs of seals (tracks and scat) and turtles (tracks and pits); nesting bird colonies were not disturbed. In addition to looking for turtles during censusing, on four afternoons the coral head areas off the east and south sides of Johnston Island were viewed from land for periods up to 2 hours.

II. RESULTS

Seals. Only one monk seal was seen, (ID="A"), during the research week. The last reported sighting of other seals was end of April or early May when three seals (A, X, and one unidentified) were seen on Sand Island. Seals have been seen on all four islands, but during the research week seals (and tracks or scat) were seen only on Johnston Island and Sand Island. This may be an artifact since there was better coverage of these two islands.

Turtles. Turtles were seen only in the water; there was no sign of tracks or nesting pits on any of the islands. Turtles were seen during the week in the waters along the entire southern side of Johnston Island, and in the channel midway between Johnston and Sand Island. Turtle viewing conditions were poor, (overcast, and choppy seas), so it was difficult to get a good count, but based on one afternoon when viewing conditions were good (and 11-14 turtles were seen on the south side of Johnston Island) I had the "feeling" they were abundant, at least in that area. Only large turtles (subadult and adult size) were seen, although there was a recent report of a small (20-24 inch) turtle.

Other.

A. The Refuge sign which cautions people to avoid bird nesting areas was okay on North Island, but the one on East Island was covered with bird droppings and was unreadable. A wooden "roof" (similar to the one on the large wooden Lisianski Refuge sign) would be helpful.

B. Two cattle egrets were seen on Sand Island. (Brian Schenkat, USCG, said they had been there about 8 months). There was "talk" of a falcon recently seen on Johnston Island. I saw an unusual incident of two tropic bird chicks (of disparate size) occupying a single nest site (on Johnston Island). They had been placed there following the accidental destruction of their individual sites; J.I. personnel had provided potted plants as shade for them, and the chicks were resting against each other when I saw them...apparently adults have been regularly feeding both chicks (for the 1 1/2 week the chicks have been together).

cc: W. G. Gilmartin, Leader, Marine Mammals and Endangered Species, NMPS
Lt. Col. Predovich, USAF, Base Commander Johnston Atoll

Heavy metal concentrations (ppm wet weight) in the bone and fat of the green turtle, *Chelonia mydas*, at Johnston Atoll.

Tag No.	Straight carapace length (cm)	Copper		Nickel		Cadmium		Chromium		Lead		Zinc	
		Bone	Fat	Bone	Fat	Bone	Fat	Bone	Fat	Bone	Fat	Bone	Fat
7451	100.1	0.447	--	0.268	--	0.000	--	0.030	--	0.060	--	0.171	--
7485	95.9	6.390	43.70	1.208	11.15	0.002	0.000	0.031	0.000	0.210	0.557	1.588	5.147
7565	92.5	0.847	3.665	0.344	1.423	0.001	0.000	0.013	0.000	0.120	0.091	0.252	1.044
7461	90.9	1.061	--	0.288	--	0.001	--	0.006	--	0.053	--	0.395	--
7590	89.7	1.131	9.905	0.458	3.410	0.001	0.000	0.015	0.000	0.131	0.239	0.295	2.615
7500	89.5	--	22.41	--	10.09	--	0.000	--	0.016	--	0.136	--	6.133
7512	89.0	10.70	12.73	1.841	4.359	0.000	0.000	0.300	0.000	0.320	1.080	2.040	4.239
7468	88.2	1.210	--	0.165	--	0.001	--	0.011	--	0.011	--	0.384	--
7560	87.0	1.534	0.646	0.479	0.258	0.000	0.000	0.010	0.000	0.110	0.015	0.304	0.164
7473	84.0	0.780	--	0.240	--	0.000	--	0.000	--	0.010	--	0.183	--
7521	83.7	4.624	6.878	0.709	2.081	0.000	0.000	0.169	0.006	0.200	0.018	0.327	1.435
7517	83.3	0.197	0.111	0.033	0.155	0.000	0.000	0.000	0.000	0.014	0.016	0.052	0.078
7495	82.9	8.443	38.96	2.046	9.614	0.003	0.003	0.020	0.008	0.228	0.585	1.588	>10.00
7555	79.1	1.853	3.475	0.525	1.524	0.001	0.000	0.000	0.007	0.002	0.146	0.911	1.076
7476	77.2	5.922	--	0.615	--	0.000	--	0.006	--	0.084	--	1.217	--
7505	75.2	--	2.373	--	1.249	--	0.000	--	0.002	--	0.106	--	0.873
7551	75.2	1.769	5.686	0.475	2.079	0.000	0.000	0.008	0.028	0.099	0.152	0.324	1.660
7481	72.8	8.539	6.825	1.154	2.873	0.002	0.000	0.042	0.000	0.212	0.237	2.224	1.802
7466	57.4	4.585	6.825	1.381	2.873	0.000	0.000	0.032	0.000	0.033	0.237	1.601	1.802

AIR FORCE ELEMENT
Defense Nuclear Agency
Field Command
APO San Francisco 96305

REC'D
MAR 8 1972

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: Tom Hadden

Address & Tel. No. (optional): APO 96305 Box 407

Date: 3/6/72 Time: 1030 Location (indicate on chart): SW Side

Observation made from: L shore; ___ boat; or while ___ skin ___ SCUBA diving.

Estimated size (shell length): 1-30" in carapace 2 D-"20"

Turtle seen on: L surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.):

yellowish green shell - thought to be a green sea turtle

Other comments: _____

THANK YOU FOR YOUR COOPERATION



Date: 3/6/72 Time: 1030 Location (indicate on chart): SW Side

Observation made from: ✓ shore; boat; or while skin SCUBA diving.

Estimated size (shell length): 1-30" in car 2 1/2" 20"

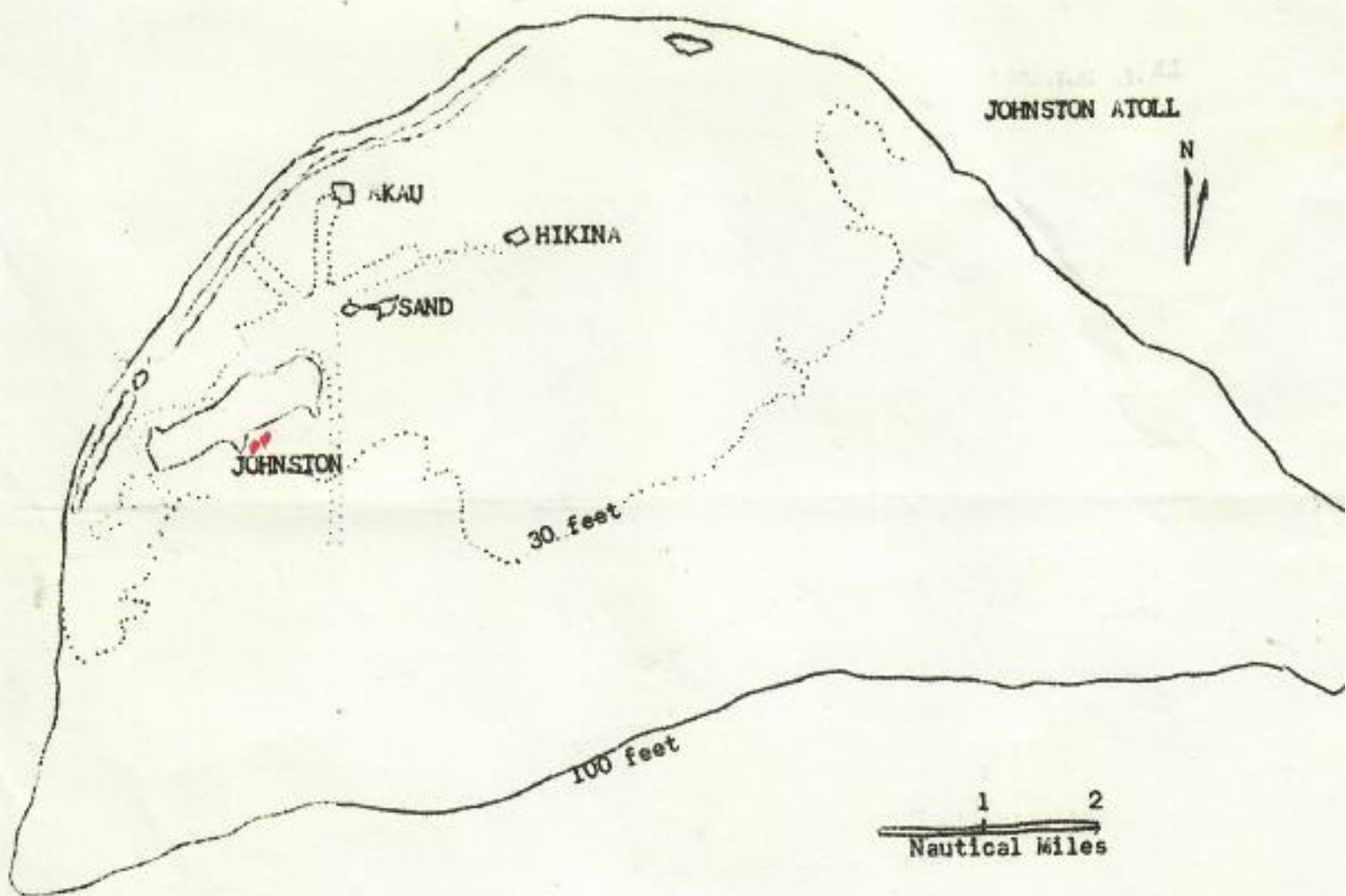
Turtle seen on: ✓ surface; or at depth of approx. ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.):

yellowish green shell - thought
to be a green sea turtle

Other comments:

THANK YOU FOR YOUR COOPERATION



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: R. J. REYNOLDS & E. SMITH

Address & Tel. No. (optional): _____

Date: 3-7-78 Time: 2100 Location (indicate on chart): _____

Observation made from: shore; boat; or while skin SCUBA diving.

Estimated size (shell length): 30-36 INCHS

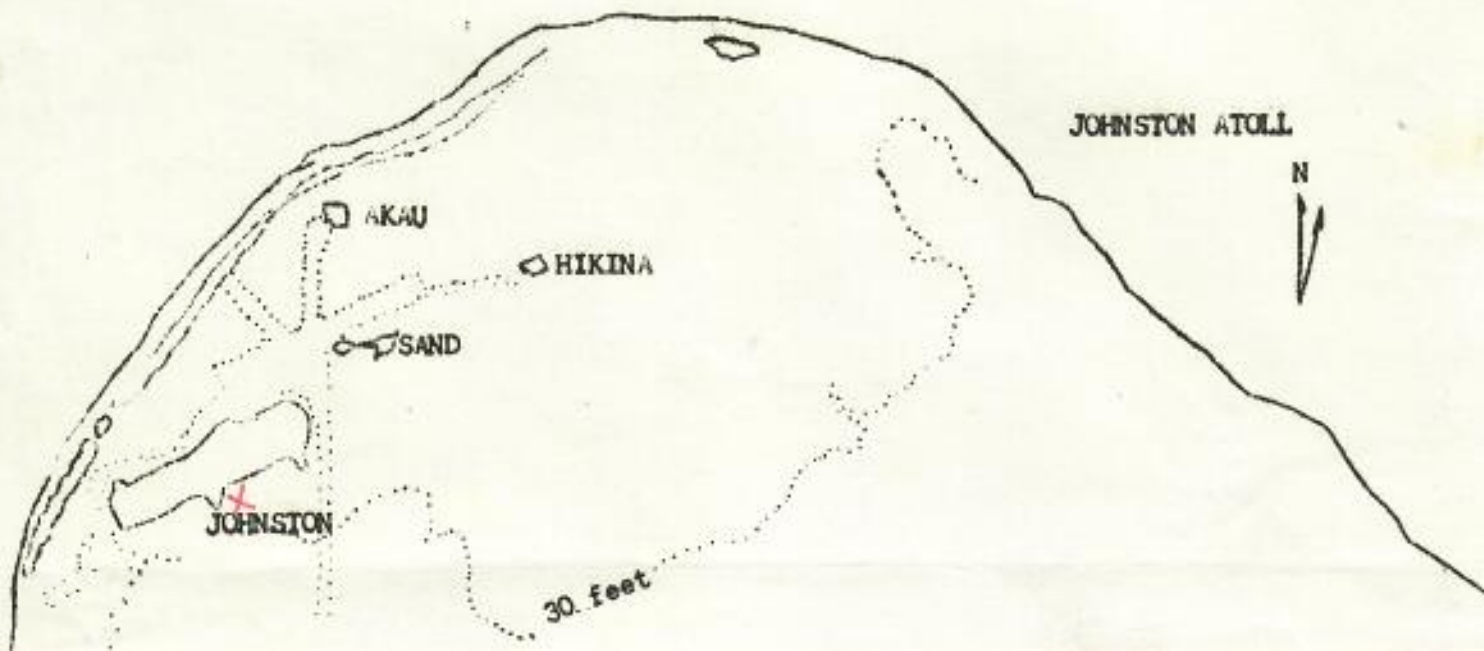
Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): _____

Other comments: PROBABLY GREEN (3)

STAY UNDERWATER FROM 3 TO 5 MINUTES

THANK YOU FOR YOUR COOPERATION



Date: 3-7-78 Time: 21000 Location (indicate on chart): _____

Observation made from: shore; boat; or while skin SCUBA diving.

Estimated size (shell length): 30 - 36 INCHS

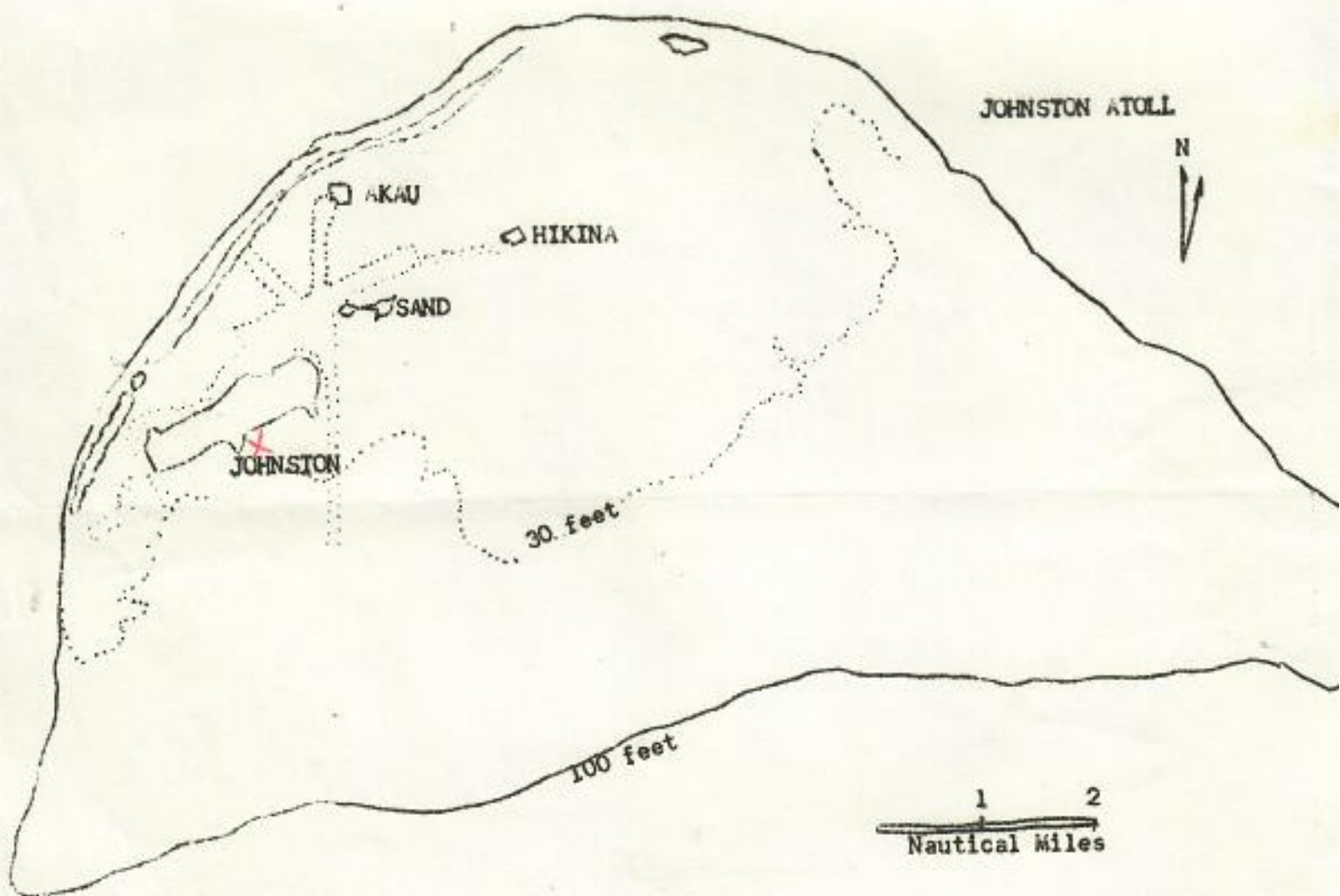
Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): _____

Other comments: PROBABLY GREEN (3)

STAY UNDERWATER FROM 2 TO 5 MINUTES

THANK YOU FOR YOUR COOPERATION



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-8631)

Observation made by: Lew Kopera

Address & Tel. No. (optional): Bx 334 267th Chem Co
APO SF 96305 autovon 315-441-3330
ext 3766/2763

Date: 15 Jul 78 Time: 0800 Location (indicate on chart): _____

Observation made from: _____ shore; boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 4 ft

Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color,

tags, injuries, etc.): green (sea) turtle

observed approx 70 meters from boat

Other comments: _____

AIR FORCE ELEMENT
Defense Nuclear Agency
Field Command
APO San Francisco 96305

THANK YOU FOR YOUR COOPERATION



Date: 15 Jul 78 Time: 0800 Location (indicate on chart): _____

Observation made from: _____ shore; boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 4 ft

Turtle seen on: surface; or at depth of approx. _____ ft.

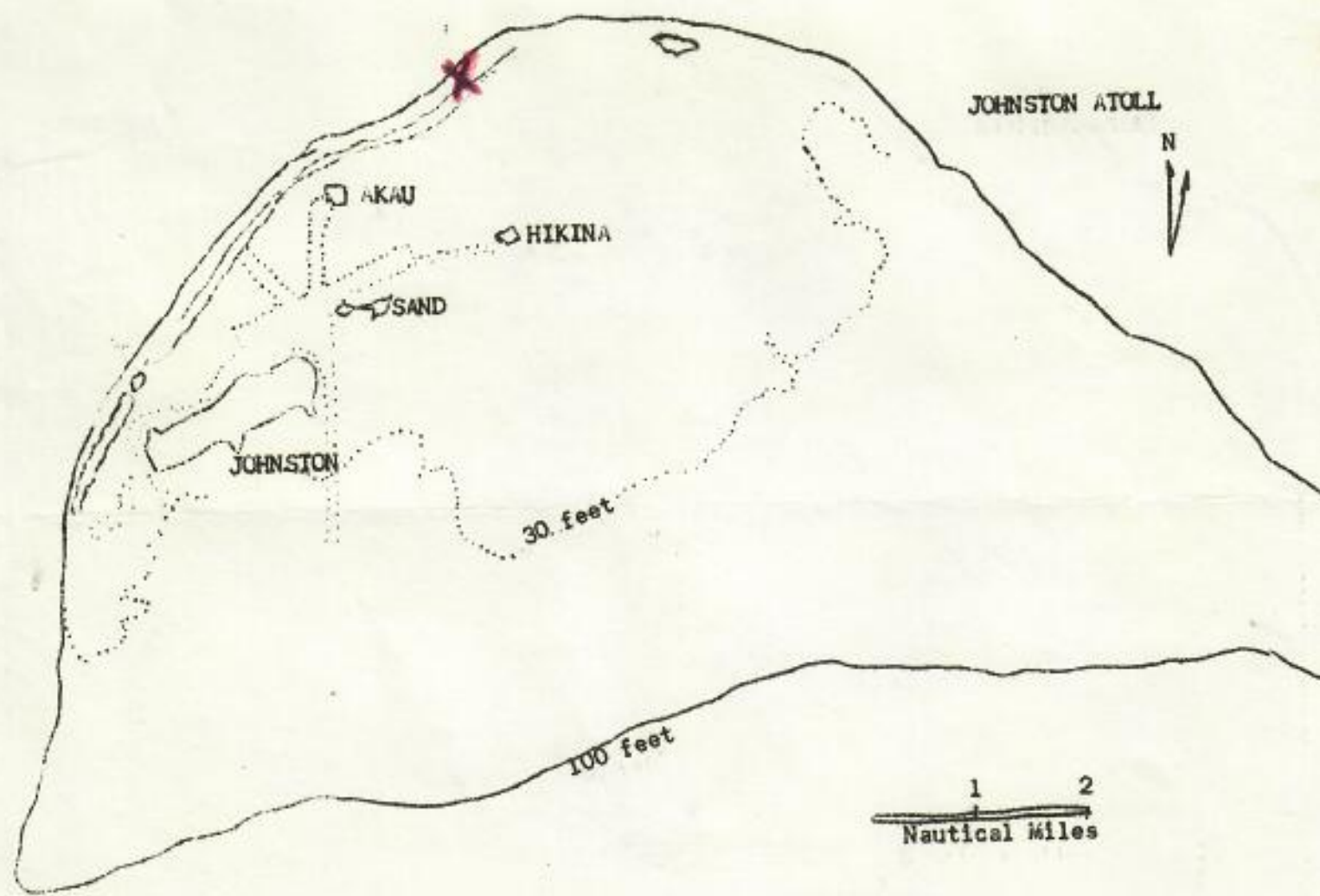
Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.):

green (sea) turtle
observed approx 70 meters from boat

Other comments: _____

AIR FORCE ELEMENT
Defense Nuclear Agency
Field Command
APO San Francisco 96305

THANK YOU FOR YOUR COOPERATION



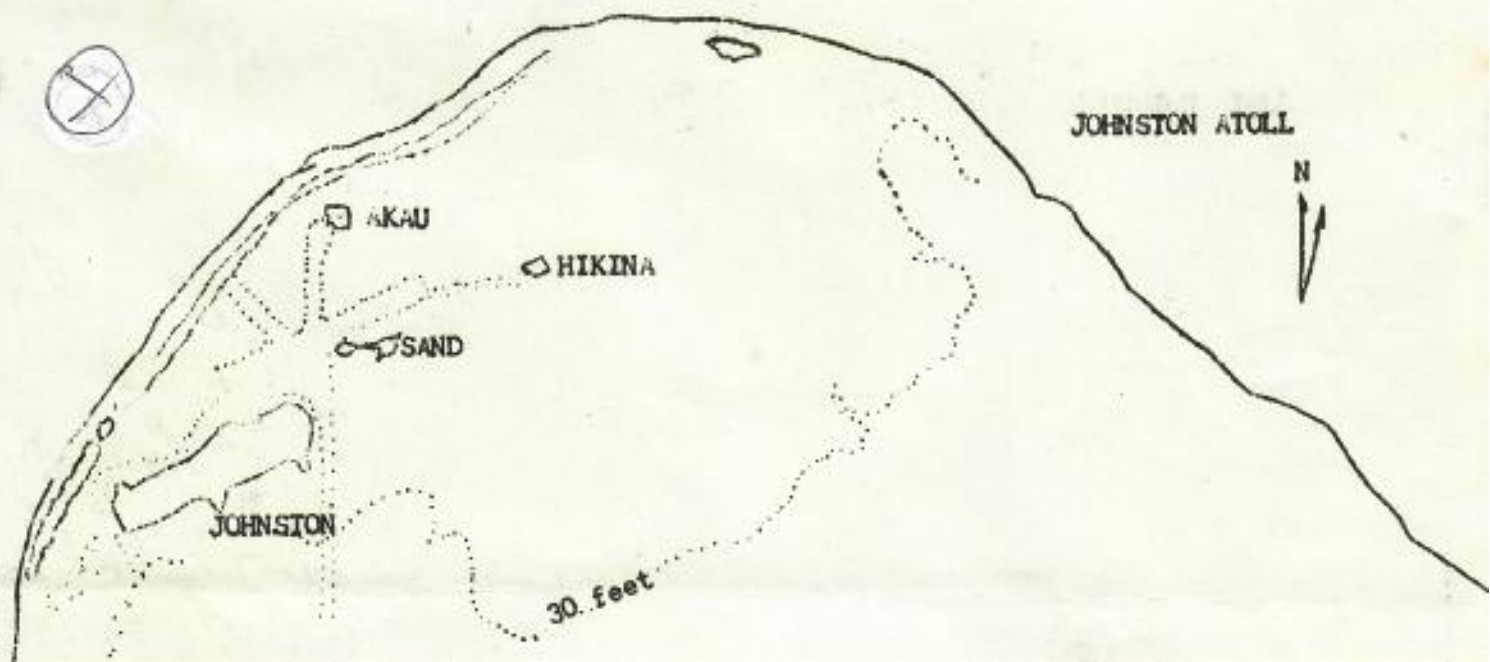
AIR FORCE ELEMENT
Defense Nuclear Agency
Field Command
APO San Francisco 96305

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: C.B. Coerle ? Boat crew
Address & Tel. No. (optional): Johnston Atoll 2000
Date: 11 JAN 79 Time: 1:30pm Location (indicate on chart): _____
Observation made from: _____ shore; boat; or while _____ skin _____ SCUBA diving.
Estimated size (shell length): 5 1/2 FEET
Turtle seen on: surface; or at depth of approx. _____ ft.
Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): Sharks were eating. The
TURTLE WAS JUST KILLED NO I.D. WAS
NOTED
Other comments: _____

THANK YOU FOR YOUR COOPERATION



Date: 11 JAN 71 Time: 1:30pm Location (indicate on chart): _____

Observation made from: _____ shore; X boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 5 1/2 FEET

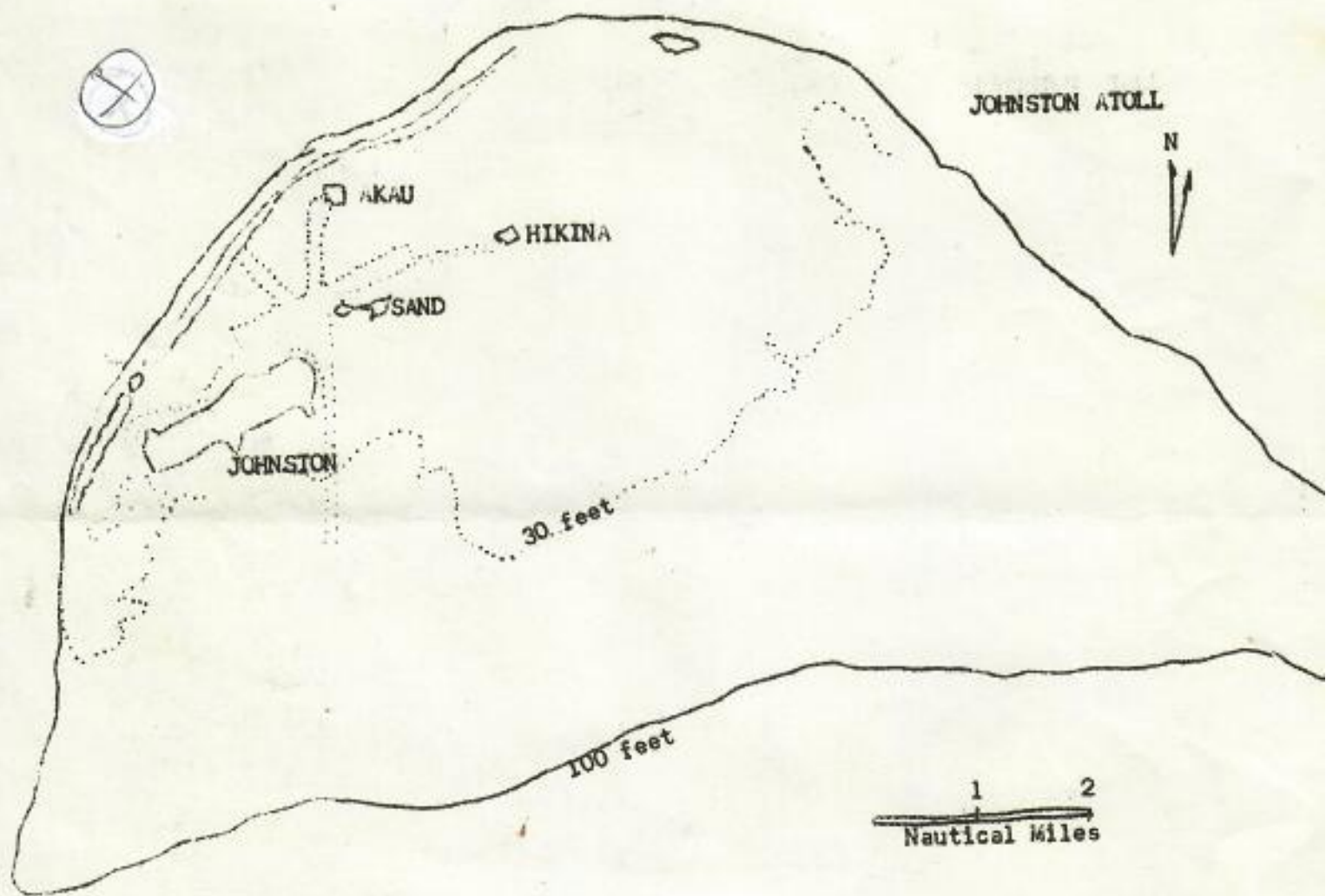
Turtle seen on: X surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): SHARKS WERE EATING. THE

TURTLE WAS JUST KILLED NO I.D. WAS
NOTED

Other comments: _____

THANK YOU FOR YOUR COOPERATION



SPECIAL SERVICES
Hedges & Narver, Inc.
Johnston Atoll
APO SF 96305

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: S. W. PHILLIPS
Address & Tel. No. (optional): 3035 / JOHNSTON ATOLL / FCJE
Date: 10 Aug 1979 Time: 1420 Location (indicate on chart): OFF WEST PERIMETER
Observation made from: shore; boat; or while skin SCUBA diving.
Estimated size (shell length): 3 FT
Turtle seen on: surface; or at depth of approx. _____ ft.
Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): PALE GREEN / BROWN
Other comments: BASKING (presumably at the surface)

THANK YOU FOR YOUR COOPERATION



Date: 10 Aug 1979 Time: 1420 Location (indicate on chart): OFF WEST PERSIAN

Observation made from: shore; boat; or while skin SCUBA diving.

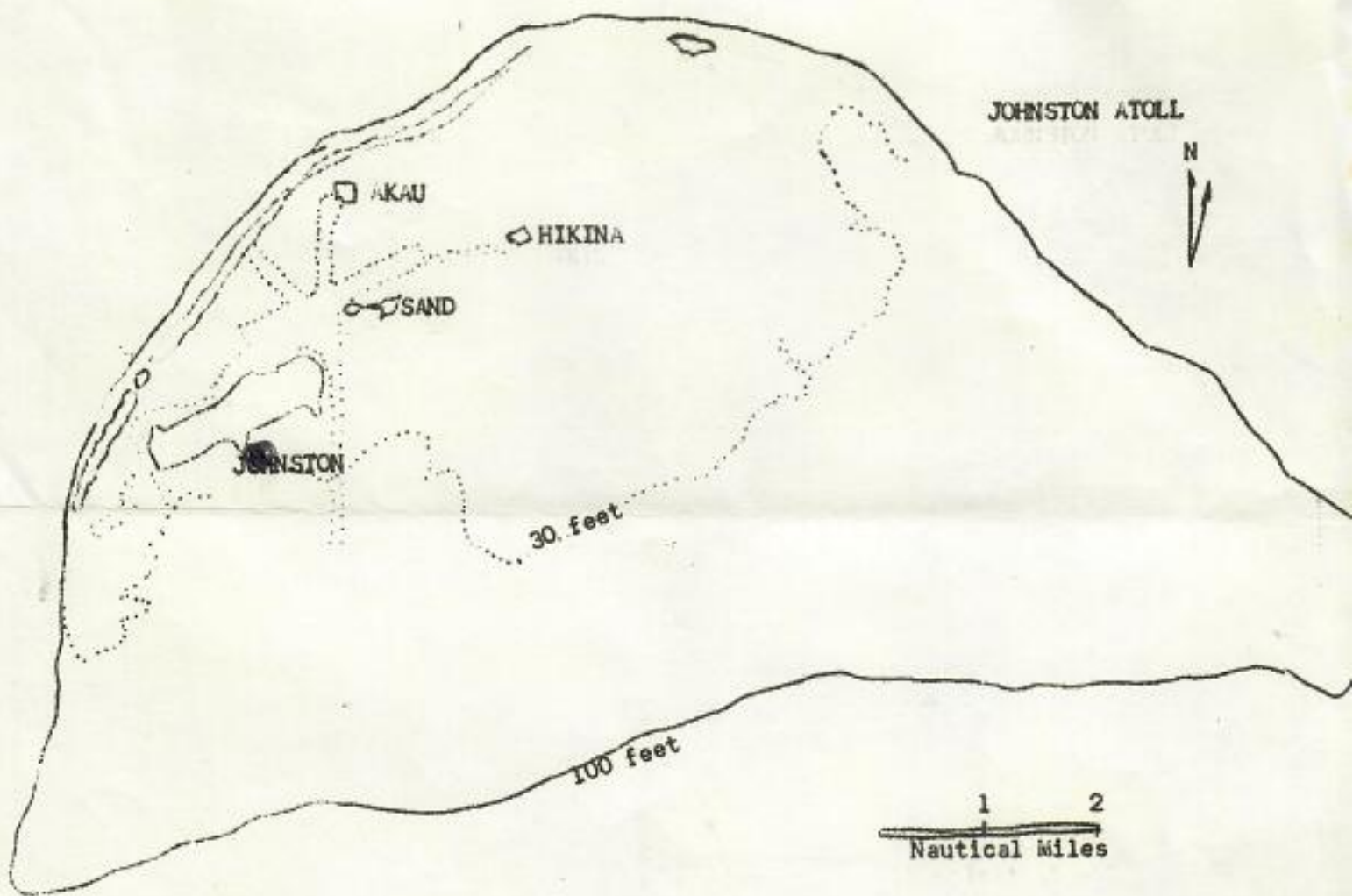
Estimated size (shell length): 3 FT

Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): PALE GREEN/BROWN

Other comments: BASKING (presumably at the surface)

THANK YOU FOR YOUR COOPERATION



DAVID BOLLIS
P.O. BX 13
APO SAN FRAN CA
96305

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: DAVID A BOLLIS

Address & Tel. No. (optional): 732 WILLIAMSON RD. MEADVILLE PA 16335

Date: 6 NOV 79 Time: 8:00 AM Location (indicate on chart): _____

Observation made from: _____ shore; boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 3 FEET

Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): BRIGHT GREEN SHELL

Other comments: THE TURTLE DIVED BEFORE WE COULD
GET VERY CLOSE

THANK YOU FOR YOUR COOPERATION



Date: 6 NOV 79 Time: 8:00 AM Location (indicate on chart): _____

Observation made from: _____ shore; boat; or while _____ skin _____ SCUBA diving.

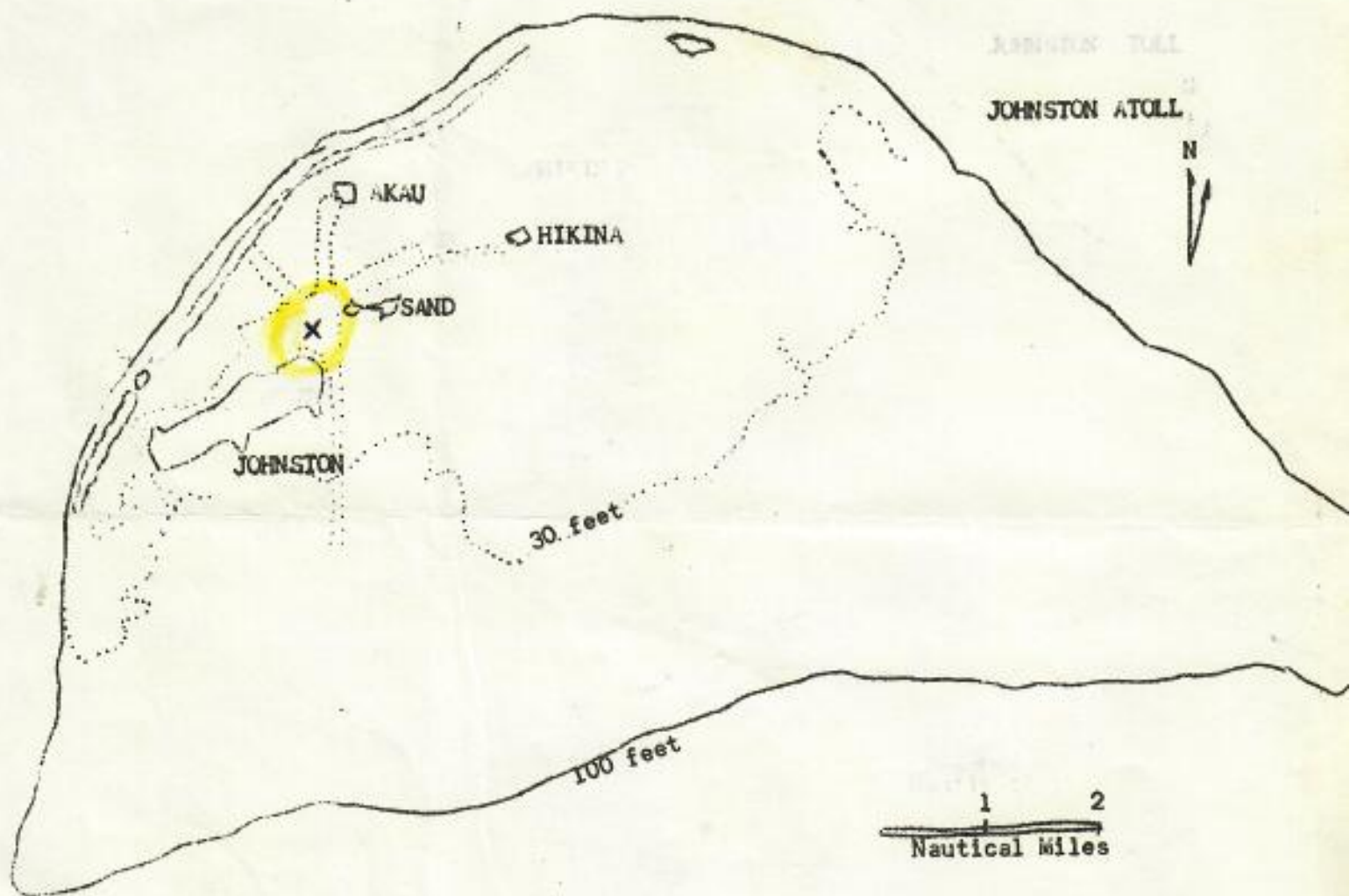
Estimated size (shell length): 3 FEET

Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.) BRIGHT GREEN SHELL

Other comments: THE TURTLE DIVED BEFORE WE COULD GET VERY CLOSE

THANK YOU FOR YOUR COOPERATION



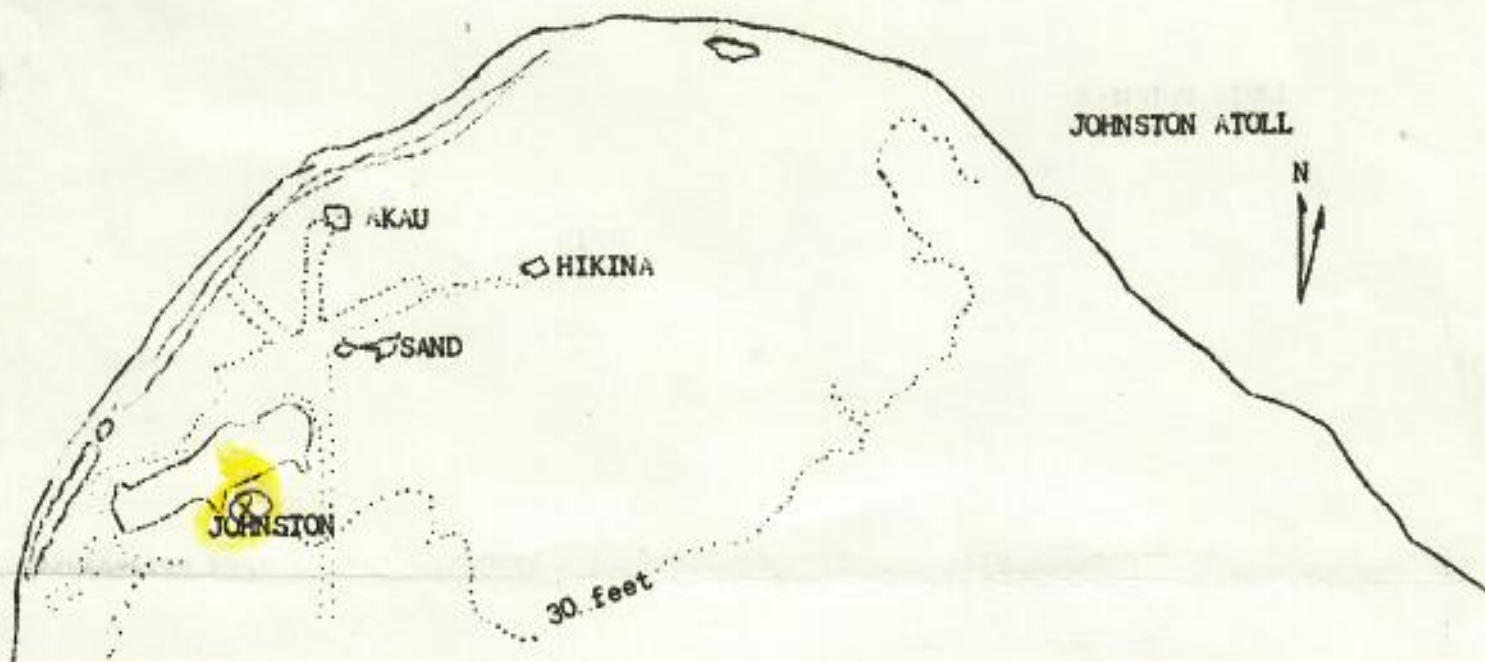
SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: S. W. PHILIPPI
Address & Tel. No. (optional): 3035, JOHNSTON ATOLL / FCJE
Date: 10 AUG Time: 4:20 Location (indicate on chart): OFF WEST PENINSULA
Observation made from: shore; boat; or while skin SCUBA diving.
Estimated size (shell length): 4 FT
Turtle seen on: surface; or at depth of approx. _____ ft.
Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): PALE BROWN / GREEN

Other comments: BASKING ON SURFACE

THANK YOU FOR YOUR COOPERATION



Observation made from: shore; boat; or while skin SCUBA diving.

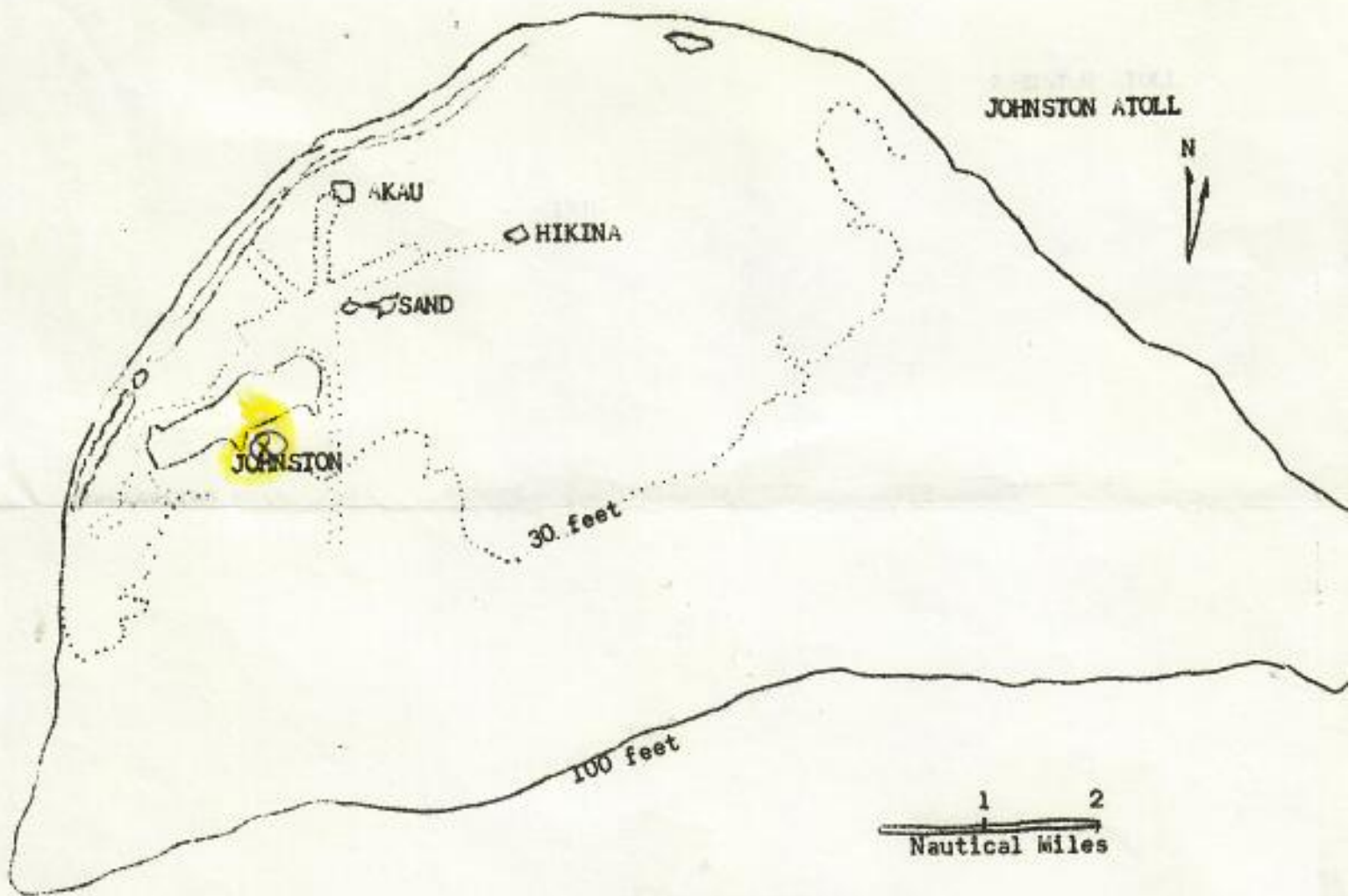
Estimated size (shell length): 4 FT

Turtle seen on: surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): PALE BROWN/GREEN

Other comments: BASKING ON SURFACE

THANK YOU FOR YOUR COOPERATION



Isolated Unit Fund
Johnston Atoll
APO San Francisco, CA, 96305

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: ROBERT J. NOVAK

Address & Tel. No. (optional): WSO JOHNSTON ISLAND EXT 2310

Date: 9-2nd 9-3 Time: 1400-1600 Location (indicate on chart): NORTH END BY HOLE #1

1980
Observation made from: shore; boat; or while skin SCUBA diving.

Estimated size (shell length): 2 FEET

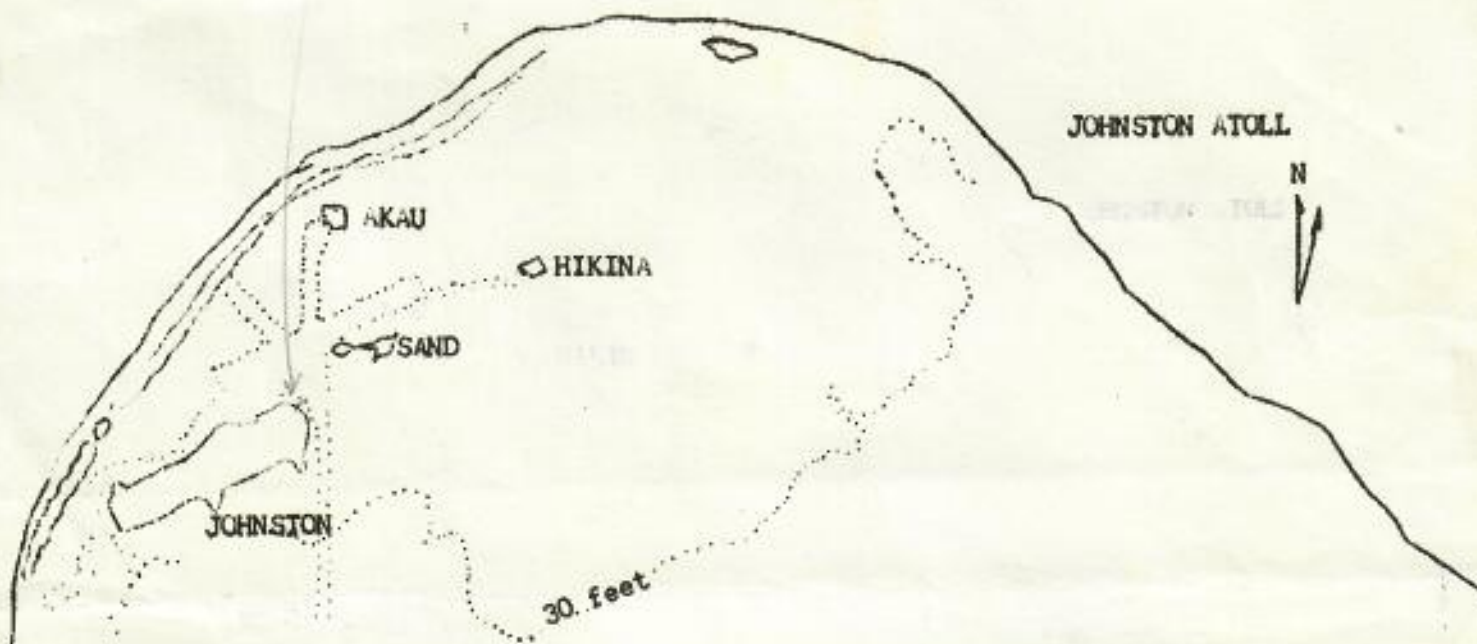
Turtle seen on: surface; or at depth of approx. 4 FEET ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): HAWKSBILL

Other comments: Seen by 4 others

MUST MEAN
GOLF COURSE
HOLE

THANK YOU FOR YOUR COOPERATION



Address & rel. N. (optional): W20 JOHNSTON ISLAND CRT 2310

Date: 9-2 & 9-3 Time: 1400-1600 Location (indicate on chart): North End Big Hole #1

1980
 Observation made from: shore; boat; or while skin SCUBA diving.

Estimated size (shell length): 2 FEET

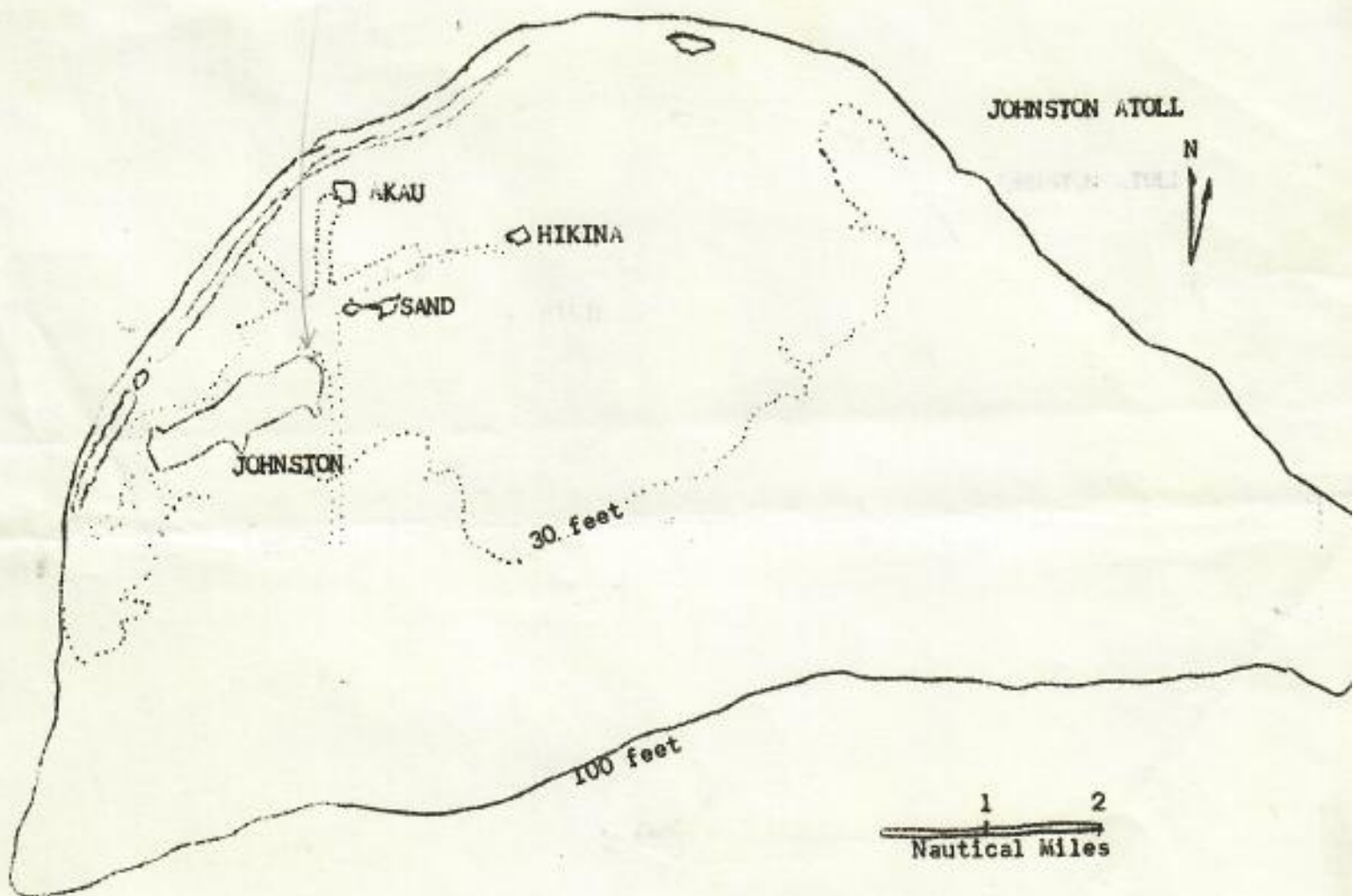
Turtle seen on: surface; or at depth of approx. 4 FEET ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): HAWKSBILL

Other comments: Seen ^{by} 4 others

MUST
 MEAS
 Golf
 COURSE
 HOLE

THANK YOU FOR YOUR COOPERATION



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: R. J. Novak

Address & Tel. No. (optional): WSO Johnston Island

Date: ^{9/13 & 9/14} ~~9/23~~ ¹⁹⁸⁰ Time: 1400-1500 Location (indicate on chart): _____

Observation made from: X shore; _____ boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 2 1/2 FEET

Turtle seen on: surface; or at depth of approx. 2-3 FEET ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color,

tags, injuries, etc.): ALL (4) ARE (LANKS BILLS), APPARENT

Feed place - BELIEVE ALL THE SAME AT ALL SIGHTINGS

Other comments: (4) TURTLES

THANK YOU FOR YOUR COOPERATION



Date: 9/23 Time: 1400-1500 Location (indicate on chart): _____

1980
Observation made from: X shore; _____ boat; or while _____ skin _____ SCUBA diving.

Estimated size (shell length): 2 1/2 FEET

Turtle seen on: surface; or at depth of approx. 2-3 FEET ft.

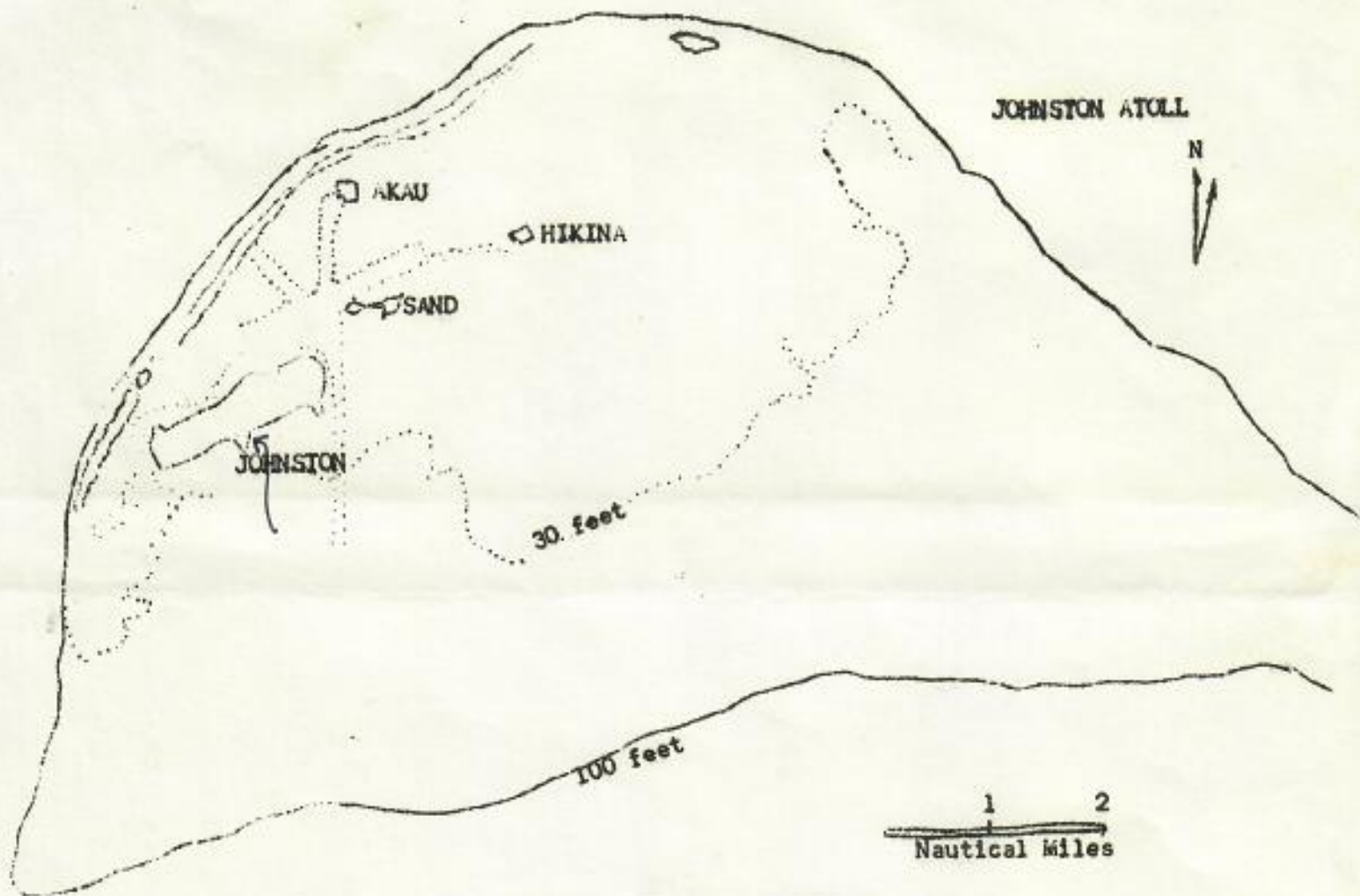
Distinguishing characteristics (species I.D. if known, long tail, shell color,

tags, injuries, etc.): ALL (4) ARE (HAWKS-BILL), APPARENT

Feed place - BELIEVE ALL THE SAME AT ALL SIGHTINGS

Other comments: 4 TURTLES

THANK YOU FOR YOUR COOPERATION



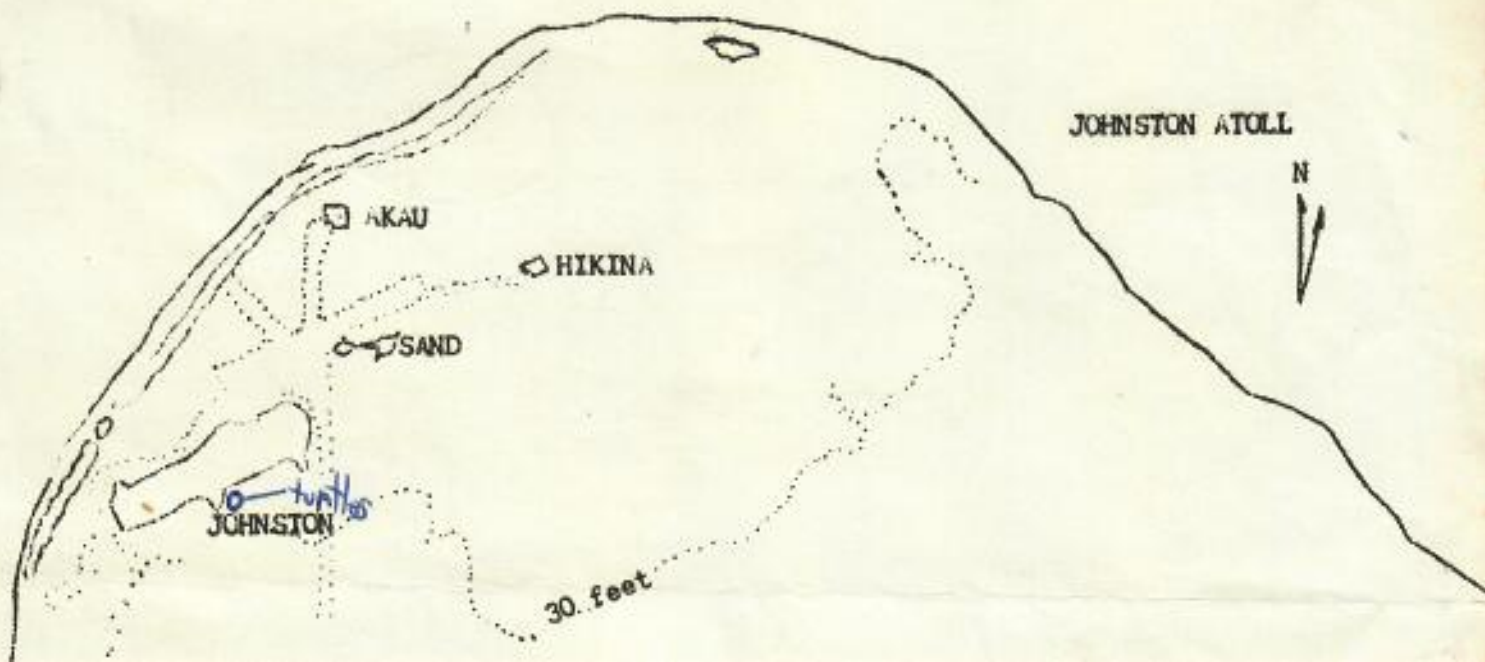
Isolated Unit Fund
Johnston Atoll
APO SF 96305

SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;
Hawaii Institute of Marine Biology;
P. O. Box 1346; Kaneohe, HI 96744;
Tel. 247-6631)

Observation made by: James T. Gibbs
Address & Tel. No. (optional): PSC Box 27 APO SF 96305
Date: 2 Feb 71 Time: 1600 Location (indicate on chart): 50-250 ft. offshore
Observation made from: shore; boat; or while skin SCUBA diving.
Estimated size (shell length): 3 feet
Turtle seen on: surface; or at depth of approx. _____ ft.
Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): possibly hawksbill; had long neck, brown shell
underside of neck was lighter brown or yellowish.
Other comments: turtles stretched neck up for air then dove again.
approx. 12-15 turtles

THANK YOU FOR YOUR COOPERATION



Date: 2 Feb 81 Time: 1600 Location (indicate on chart): 50-250 ft. offshore

Observation made from: X shore; ___ boat; or while ___ skin ___ SCUBA diving.

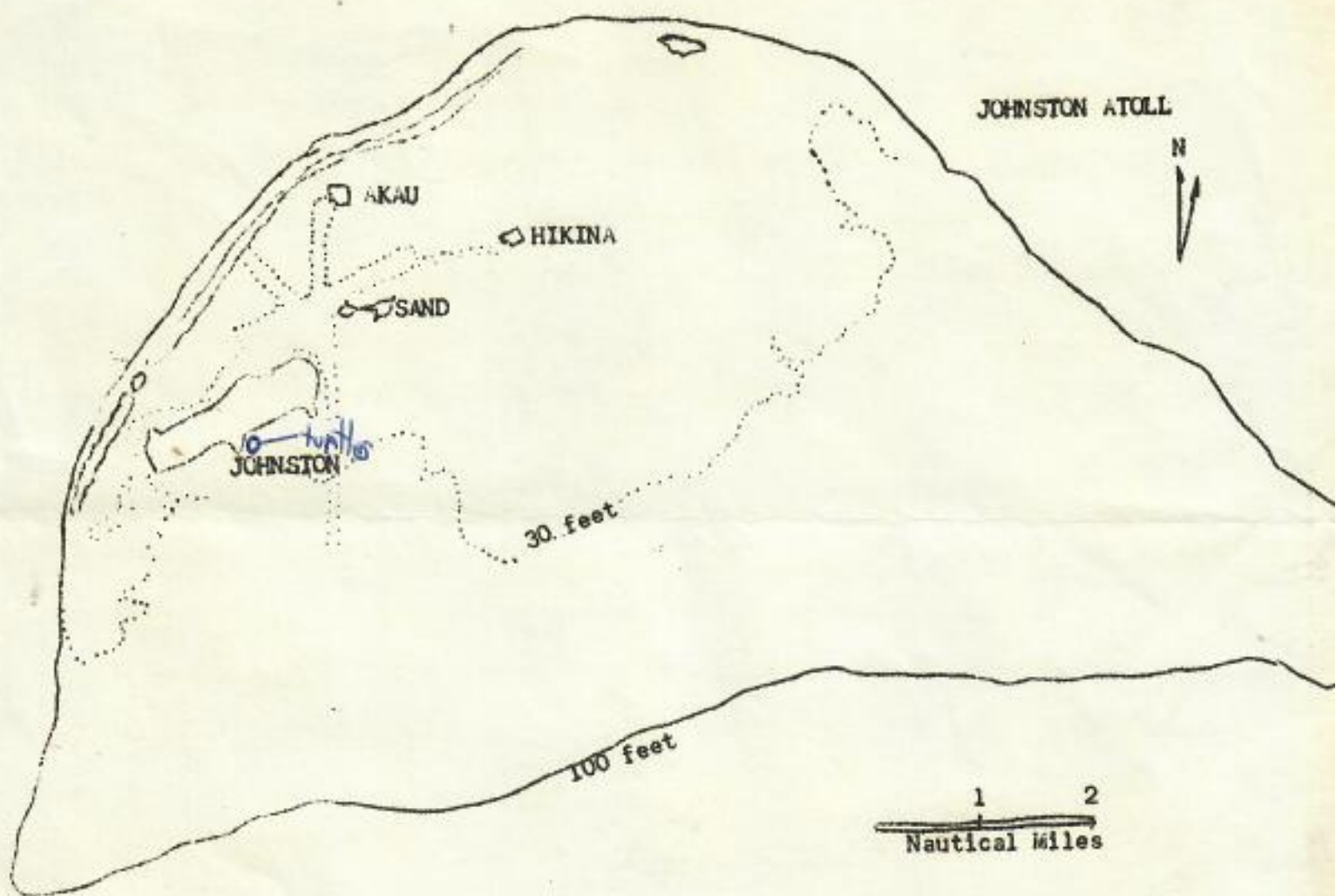
Estimated size (shell length): 3 feet

Turtle seen on: X surface; or at depth of approx. _____ ft.

Distinguishing characteristics (species I.D. if known, long tail, shell color, tags, injuries, etc.): possibly hawksbill: had long neck, brown shell
underside of neck was lighter brown or yellowish.

Other comments: turtles stretched neck up for air then dove again.
approx. 12-15 turtles

THANK YOU FOR YOUR COOPERATION



tanks, 100mm artillery, anti-tank missiles and 18 troop-carrying helicopters.

Okinawa in about two weeks in an emergency. Officials said the Marines will

of 20 ships generally in the Arabian

Turn to Page A-4, Col. 6

Trio Survives 40 Terrifying Days Lost and Adrift in the 'Little Ark'

By Murry Engle
Star-Bulletin Writer

Blair 836-1131
K2

A Honolulu man who, with his son and a crewman, survived 40 harrowing days lost at sea aboard a 35-foot converted Navy lifeboat, says the Coast Guard did not conduct an adequate search and treated his distress calls like a "hoax."

The Coast Guard conceded it did suspect the calls were a hoax because they contained improper terminology and conflicting position reports, but a spokesman in Honolulu said a "more than adequate" search was conducted.

John Liebespeck, skipper of the Little Ark, said in an interview that he and his son Martin, 19, had set out from Honolulu (Nov. 24) with a French crewman, Christian Gullmotto, on what was to be an 18-day trip to Majuro Atoll, by way of Johnston Island.

Marshallese President Amata Kabua and his nephew Michael Kabua of Kabua-Runyon Inc. had asked the senior Liebespeck and his associate, Berlin Blair, president of the Hawaiian and International Seafood Co. of Hawaii, to help develop the Marshallese economy.

IT WAS THE younger Liebespeck's first sea voyage and he enjoyed it — until the first storm hit Nov. 30.

That night at 8:30, as his father and Gullmotto slept below, the seas were running 20 feet. Martin Liebespeck was fighting the wheel when suddenly it spun easily in his hands and the boat ran wild.

Minutes later, all three men were on the pitching stern with flashlights.



Amusements ... H-8	Editorials..... A-14
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Dear Abby H-2	Weather A-3

"Couldn't see a damn thing," John Liebespeck said, "but I knew we were in real trouble," which was confirmed in the morning. The rudder was gone.

"It was catastrophe, the worst thing that can happen to a boat," the skipper said. He had confidence in the Little Ark, however. The 18-inch space between its double-wall construction was filled with polyurethane foam when it was built for the Navy, and before the trip, they'd added four inches of styrofoam insulation throughout the deck for extra buoyancy in case of emergencies.

"We were where we should be, 450 to 550 miles from Johnston Island, but drifting off course," skipper Liebespeck said. "The engine was useless because we couldn't steer."

THEY IMMEDIATELY went on tight rations and the skipper started signaling on a Position Indicator Radio, but it was malfunctioning. He also began transmitting radio Mayday calls "and did every day thereafter," he said. "In the beginning, several hours a day and then three times a day. I always knew where we were."

The Little Ark was due at Johnston Island. Turn to Page A-2, Col. 1

NOTICES SEEN 4/29/80

836-1131
8332

13 FEB 1980
REFER TO P34 Daily Log A-1

A-2 STAR-BULLETIN

Lost and

Continued from Page One

ston Island Dec. 2. On Dec. 3, Blair, in Honolulu, called the Coast Guard and asked them to check with Johnston.

Blair said the Coast Guard had received CB messages from two different operators — one from Ogden, Utah, and another from Paradise Park, Calif. The boat's name was misunderstood. But the Ogden operator got the boat's registration numbers right and misunderstood HA for Hawaii to be AK.

Blair has copies of the messages and said they were "close enough but the Coast Guard was treating the messages as a hoax."

Coast Guard spokesman Bob Baeten in Honolulu said the Coast Guard in San Francisco "decided the calls might be a hoax" because of the wrong terminology and conflicts in the position reports.

THE SEARCH didn't begin until after Blair's call to the Coast Guard.

"Seven days before, we tried to file a float plan with them," Blair said. "They said to file it with relatives or friends." Baeten agreed that this was the "proper procedure."

Baeten said "more than an adequate area was covered" in the Dec. 3 and 4 search — 19,500 square miles the first day and 135,600 the second day.

The search was in three areas, one west of Honolulu and south of Midway, one between Honolulu and



FORTY DAYS ON THE ARK—Skipper John Liebespeck and his son, Martin, 19, were lost in the Pacific with another crewman for 40 days aboard the disabled Little Ark, a converted Navy lifeboat. —Star-Bulletin Photo by Alexis Higdon.

Adrift for 40 Terrifying Days

Johnston, and one south of Honolulu, but closer to Palmyra — all "above the clouds," Baeten said, "trying to pick up the Emergency Position Indicator," which was malfunctioning.

The senior Liebespeck criticized the Coast Guard for dropping its search so soon. He said he was sure there would be a search of "at least seven days. I knew they knew, this being a naval lifeboat, that it wouldn't sink that easy," he said.

"I THOUGHT they might even continue to search longer. I would have searched harder for a lost hound dog. I'm not happy at all. If they had done low-level flying below the clouds I know they would've found us," he said.

Baeten said the two-day search limit was due to the "errors in positions in which computers were used to account for drift."

"Based on the information we had, they should have been there," Baeten said. He said the Coast Guard also monitored three CB channels and two VHF channels as late as Dec. 2.

A Coast Guard news release dated Jan. 3 also noted that a C-130 conducted a day-long search Dec. 5 and a 6th Dec. 6 on the way back to Honolulu.

A Coast Guard study will be made later, Baeten said.

John Liebespeck is angry, nevertheless because his son had to take many dangerous risks, including

nailing 10-foot long 2-by-4s to the deck to extend over the "thundering water," then crawling to the end to tie the jib to catch the wind.

"WHEN THE WIND changed, he had to do the same thing on the other side," the elder Liebespeck said. "Never sailed before, but he rigged all that up himself. It was quite a thing."

They ran out of the storm pretty well and tried to head southwest, in the direction of the Gilbert, Phoenix and Society islands, a direction in which there was heavy shipping.

But another storm with higher seas hit Dec. 9. The boat started taking on water. Martin discovered an 18-inch gash where rivets holding the keel under the mast ripped loose.

The three took turns bailing 24 hours a day, only to be hit by a third storm Dec. 15, which opened the 18-inch gash to four feet.

ALL THE FOOD and clothes were lost and the boat sank to deck level.

The skipper saved one chart, his log, a plastic bag to keep them in and a kerosene stove.

"We held hands and huddled close together in our life preservers on a little spot on the bow that surfaced every once in a while as the boat rolled. She set down at an angle and we realized she was going to float," John said.

The only food they had were flying fish that landed on the wet deck and sharks that they caught with the fish heads.

They were in stormy weather from the time of the first disaster until early January, always cold, always wet, but praying for wind for their sails and rain for drinking and fresh water baths.

CHRISTMAS WAS "hilarious," the skipper said with no trace of a smile. The three drank a can of beer that Martin Liebespeck dove six feet below deck to get.

"Somehow we never gave up, despite knowing we couldn't survive any more storms," the skipper said. "Martin sometimes saw airplanes in the sky where there were none. We slept close to keep warm, but still almost froze to death."

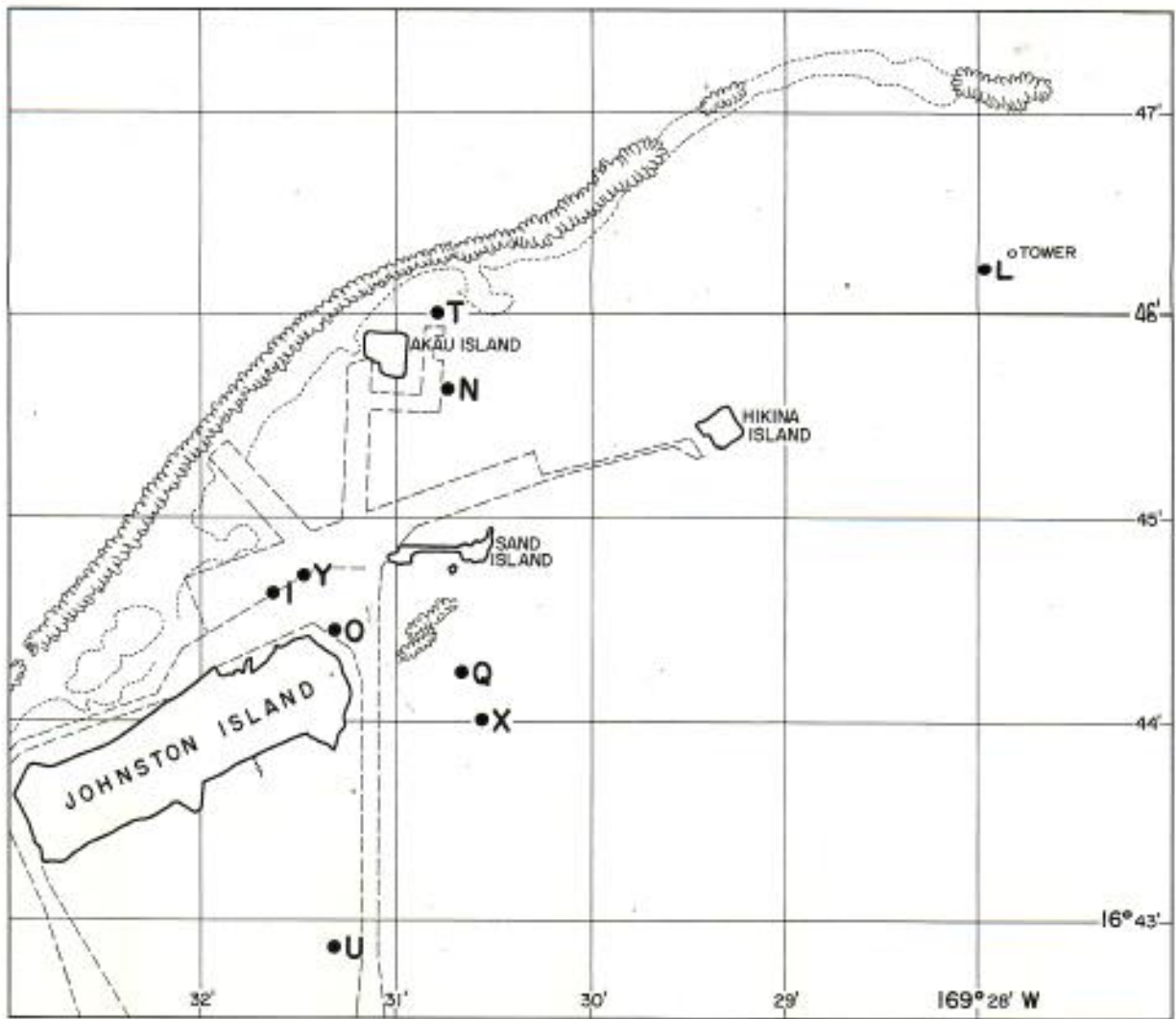
One morning, the Peruvian cargo ship Tello, off course herself to avoid the last storm the Little Ark had encountered, came over the horizon and the captain saw a life vest they'd hoisted to replace the tattered distress flag.

John Liebespeck almost collapsed on the cargo ship's ladder but made it up.

After they had hot coffee and soup, the ship's doctor examined them.

John Liebespeck, who started the trip weighing 175 pounds, was down to 120. His son had gone from 140 pounds to 118.

The rescue took place 1,400 miles south of Honolulu on Jan. 10, 40 days after the Little Ark had lost its rudder. As far as the crew knows, she's still out there fighting her storms.





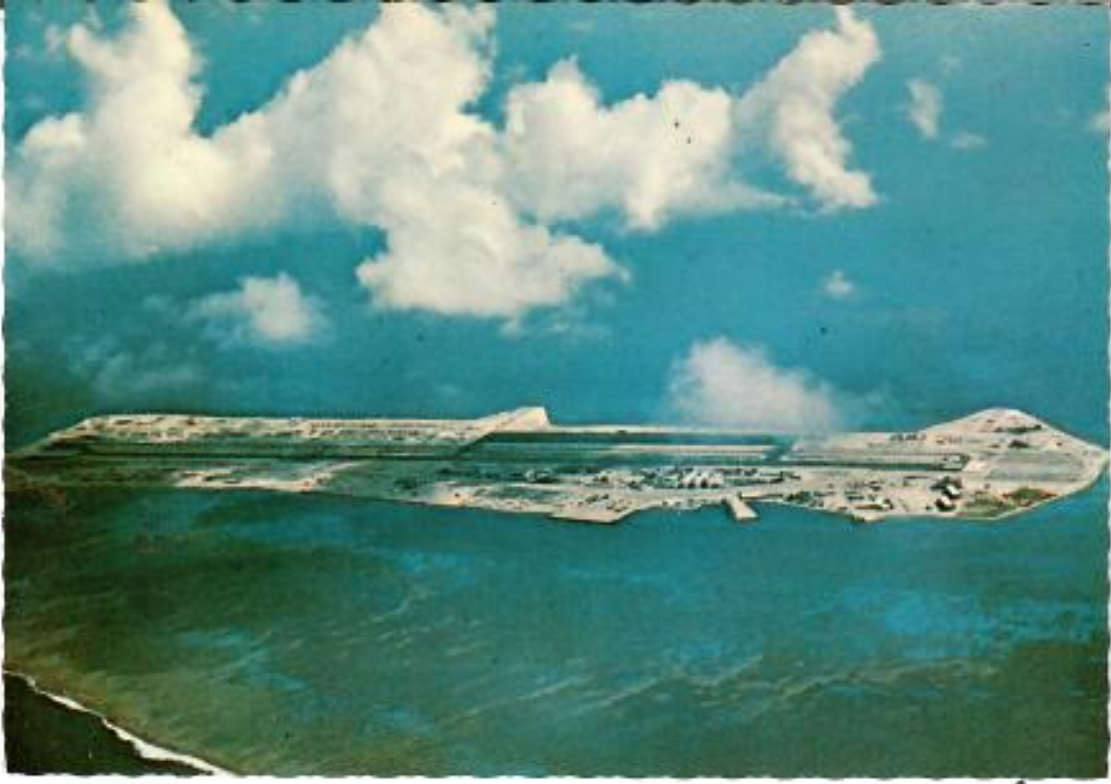
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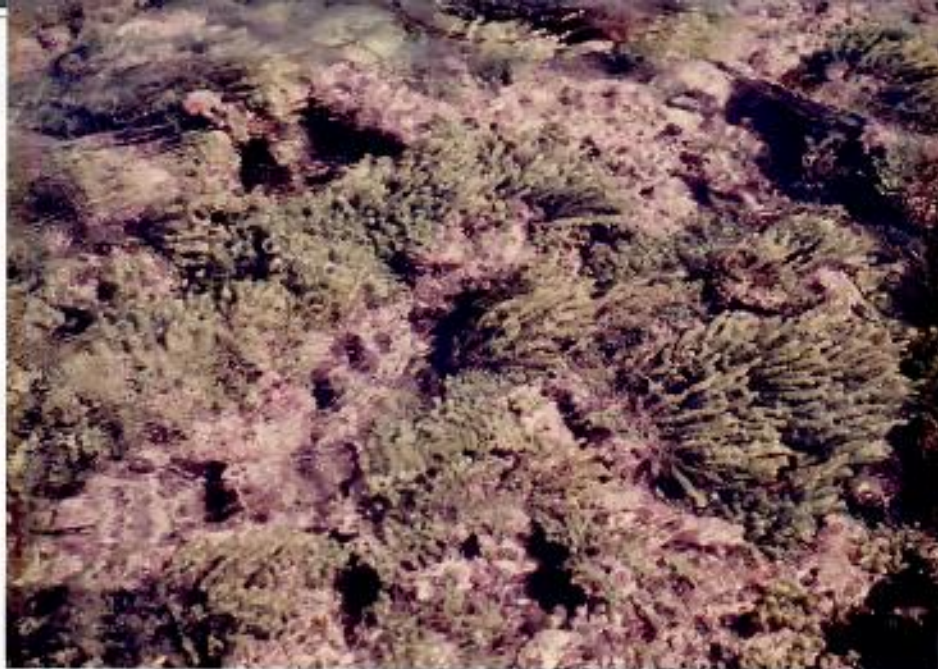
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On the final approach to Johnston Island. The island is two miles long by three-fourths of a mile wide and located 700 miles south-west of Honolulu, Hawaii.

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