



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

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17TH COAST GUARD DISTRICT  
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29 December 1975

From: Commander, Seventeenth Coast Guard District  
To: Commanding Officer, USCGC JARVIS (WHEC 725)

Subj: ALPAT Report for 4 October - 14 November 1975

Ref: (a) Your ltr 3123 of 24 Nov 75

1. Subject report has been received and is presently being circulated for Seventeenth District staff action, as appropriate. Your comments and recommendations are appreciated.

2. Broad dissemination of the report is being accomplished by copy hereof for information to Headquarters and Pacific Area commands having administrative or operational interest in Alaska Patrol operations. Comments from recipients are solicited and should be addressed to CCGD17 (oil), with a copy to CGC JARVIS.

  
P. A. YOST  
By direction

Encl: (1) CGC JARVIS (WHEC 725) ALPAT Report (4 Oct - 14 Nov 75) (copy to only)

Copy to:

COMDT (G-000-4) [2]  
COMPACAREA (Po)  
CCGD11 (o)  
CCGD12 (o)  
CCGD13 (o)  
CCGD14 (o)  
CGAIRSTA Kodiak  
CGAIRSTA Annette  
CGSUPRTCEN Kodiak  
CG COMSTA Kodiak  
CG AVTRACEN Mobile

CGC STORIS  
CGC CONFIDENCE  
CGC MUNRO  
CGC MIDGETT  
CGC MELLON  
CGC BOUTWELL  
CGC CAMPBELL  
CGC RUSH  
CGC VENTUROUS  
CGC RESOLUTE  
NMFS Juneau [2]



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
Commanding Officer  
USCGC JARVIS (WHEC 725)  
FPO San Francisco 96601

3123  
24 November 1975

From: Commanding Officer, USCGC JARVIS (WHEC 725)  
To: Commander, Seventeenth Coast Guard District (o)

Subj: ALPAT Report 4 October - 14 November 1975

Ref: (a) ANNEX E to CCGD17 OP-ORD 201-YR

1. Subject report is forwarded herein in accordance with reference (a).

  
J. C. KNIGHT

Encl: (1) ALPAT Report 4 October - 14 November 1975

## ANNEX A

1. Narrative Summary. JARVIS departed Honolulu on 21 September and shortly thereafter commenced taking a double standard section on the 157th meridian. The weather cooperated and all 44 stations were completed routinely. After the section was completed, JARVIS proceeded enroute Kodiak, and after a short SAR diversion which saw JARVIS released before arriving on scene, arrived on 2 October.

JARVIS departed Kodiak October 4th and proceeded along the 100 fathom curve towards Unimak Pass with 2 NMFS agents on board. While enroute, JARVIS intercepted a distress call from a U. S. crabber disabled off the southwestern shore of Unimak Island. The MAR DEL SUD was being blown onshore by strong winds, and JARVIS, proceeding to the scene, towed the vessel to King Cove.

After leaving Unimak Pass behind and entering the Bering Sea, JARVIS located the Japanese factory vessel NISSHIN MARU No. 2 with a fleet of 18 pair trawlers and 2 danish seiners. JARVIS conducted a courtesy boarding and received an extensive and cordial tour of the NISSHIN. Based upon a contact report from the BURTON ISLAND on 11 October, JARVIS searched for and located the Japanese factory vessel KASHIMA MARU. On October 13th JARVIS conducted a courtesy boarding of the KASHIMA and found two NMFS observers stationed on board, surveying fishing techniques. The boarding was reciprocated by giving a tour of the JARVIS to the fishing master and NMFS observers on board the KASHIMA.

On 15 October JARVIS transited Unimak Pass enroute Kodiak for refueling. After refueling in Kodiak, JARVIS conducted ten helo hoists for drill on the night of 18 October with an HH-3F from Kodiak Air Station. Searching along the 100 fathom curve enroute, JARVIS arrived in Juneau for the mid-patrol break on 20 October.

JARVIS departed Juneau 23 October with 2 new NMFS agents on board and LT GEMMEL from CCGD17(oil). Upon clearing Stephans Passage and Chatham Strait JARVIS patrolled south to the Forester Island loading zone and thence north along the 100 fathom curve to the Kayak Island loading zone. There were 3 BMRT's and a UR refrigerated transport conducting loadings at KAYAK. While approaching Kodiak from the northeast, JARVIS aided another disabled U. S. fishing vessel and towed it towards Kodiak until relieved of the tow by the commercial tug KODIAK KING.

JARVIS proceeded to patrol along the chain and entered the Bering Sea through Amutka Pass, made a quick stop in Adak for fuel on 31 October and then headed west along the chain towards Petrel Bank in hopes of finding the UR BMRT KALITVA and the fleet commander PAVLUK. Petrel Bank was empty but it saw King Neptune royally receive 115 new subjects into the domain of the Golden Dragon as JARVIS crossed the 180th meridian. On 2 November JARVIS anchored in Massacre Bay to drop a crewman at the Attu LORSTA for a flight home for emergency leave. Some necessities in short supply at the LORSTA were delivered to them also. While transiting to and from ATTU, UR fishing

activity near Agattu Island was noted.

JARVIS proceeded east along the chain in the hopes of finding fleet commander PAVLUK near Amnak Island, but was directed on 3 November to intercept the EIKYU MARU NO. 35, fleeing from the scene of a CFZ violation near Amlia Island. The EIKYU was heading northward, with an aircraft from Kodiak in hot pursuit. After 16 hours of flank speed on one turbine, JARVIS arrived on scene and relieved CGNR 1503 of hot pursuit. The EIKYU had stopped in the immediate vicinity of a Japanese fisheries agency vessel, the KONAN MARU No. 16. A boarding team was sent to the EIKYU with an agent from the JFA vessel and the boarding team recommended seizure. JARVIS escorted the EIKYU to Kodiak and kept a 5 man custody crew on board, arriving 7 November. Custody of the EIKYU was transferred to the U. S. Marshall and the Operations Officer on the JARVIS was sent to Anchorage as a witness for case presentation.

JARVIS departed Kodiak the next morning and patrolled along the 100 fathom curve towards Unimak. On 10 November an industry visit was made to the cannery at Sand Point. JARVIS was back off the coast of Kodiak on 13 November to medivac a crewman to Kodiak. The helo also delivered the Operations Officer and a patient left behind at the infirmary. Transfer was by hoist. JARVIS then proceeded southward again and terminated its patrol in OPAREA MIKE on 14 November and headed for a better climate, even though for this time of the year patrol weather was fairly mild.

## 2. Comments and Recommendations.

a. It is recommended that Support Center Kodiak look into the feasibility of acquiring a tank truck for the bulk delivery of lube oil (9250) to the 378's deployed on ALPAT. All 378's carry bulk lube oil on board, although not enough to complete an ALPAT. The cost of drum oil (9250) is \$96.00 per barrel. By being able to supply bulk lube oil the operating cost for the unit and the storage space for Support Center Kodiak would be greatly reduced.

During this ALPAT the JARVIS procured 1350 gallons of lube oil at a cost of \$96.00 per drum for a total cost of \$2619.00. Lube oil by bulk delivery is \$1.012 per gallon. The difference in cost is \$1252.80. The JARVIS is scheduled for 3 ALPATs this year and the anticipated cost of lube oil procured in Alaska by drums is \$7857.00. The difference in price, drums vs bulk oil, is \$3758.40. This price difference would reflect an overall savings of \$22,550.40 in the operating cost for all PACAREA 378's.

b. Surface search radars installed in JARVIS are not of a quality or reliability consistent with the requirements of the ALPAT patrol. Average surface radar target acquisition was on the order of 20,000 yards.

Landfall acquisition was 40 miles (Maximum range of the AN/SPS-51A). As a comparison, the EIKYU MARU No. 35 which was seized on 4 November had two surface search radars. One was an X band radar which presented relative bearing information to a maximum range of 48 miles. This radar was manufactured by OKI Electric IND CO, LTD and was designated NX-1121 the second radar was a C band radar which presented true or relative bearing information, also to a maximum range of 48 miles. This radar was also manufactured by OKI and was designated NC-092. Both radars consistently acquired landfall at 48 miles, but more importantly, surface target acquisition consistently exceeded 40 miles. During the escorted transit the custody crew on EIKYU MARU consistently picked up targets at twice the range they were detected by JARVIS. Sea return which often blanks out the SPS-51 PPI was not evident on the EIKYU's radar.

c. P A tubes for the RT-1035 have been ordered for inclusion in the JARVIS ERPAL. Recommend this addition be considered for all PACAREA 378's.

d. One JARVIS Salinometer was found to be inoperable before departing Honolulu. A replacement was borrowed from CGC MELLON. Both Salinometers used during the patrol operated acceptably although Salinometer 4611 had abnormally high sheer values, followed by a high standardization value on one occasion. This was believed to be caused by rapid change in air and sample temperatures.

The deep sea reversing thermometers were the greatest problem during the standard section. All thermometers required exercising between casts to assure a respectable percentage of usable values. One thermometer rack was lost from bottle No. 8 at station 023. This loss was attributed to personnel carelessness, but the possibility of similar accidents happening was greatly increased by the necessity to remove thermometer racks between casts to exercise thermometers.

e. The use of the Alpine PESR as a receiver for radio Wefax was impossible for most of the patrol. The Alpine machine was inoperable or undergoing repair most of the patrol. It is suggested that a facsimile recorder and radio receiver be installed in the oceanographic lab. This would provide a more efficient and convenient alternative to the use of of the Alpine PESR for Wefax reception.

f. Wind readings were noticeably distorted when the relative wind was off the port beam. It is suggested an anemometer be installed on the port yard of the foremast. This would also provide for uninterrupted service if the starboard anemometer head were to malfunction and need repair during a patrol.

g. Local weather forecasts were invariably inaccurate, and although they were never discounted or ignored were always found to predict conditions entirely different than those that actually occurred. The weather situations were reported accurately, but the forecasts and prognostications were alarmist in nature and nearly always wrong.

h. It is recommended all ALPAT units, while maintaining hot pursuit, submit SITREPS in accordance with CCGD17 OPOD 201-YR ANNEX D, Appendix II, TAB E 3.c. Course and speed changes by the pursued vessel should also be passed directly to any surface units as rapidly as possible. This would facilitate an intercept at the earliest time possible.

i. It is recommended that boarding kits from Support Center Kodiak be discontinued. An addition should be made to the allowance list providing each ship with their own boarding kit as part of the landing party equipment. This would alleviate the problem of transporting boarding kits and provide each ship flexibility to maintain and support custody crews as required.

j. Ship-Helo ALPAT Capabilities:

(1) Although JARVIS has not made an ALPAT with an embarked helo during tenure of present personnel, it is felt that a helo would have significantly enhanced the effectiveness of the ALPAT mission without noticeably limiting the range or operating areas of JARVIS. JARVIS has experienced several occasions where foreign fishing vessels may have violated treaty areas but daylight approaches gave those vessels ample opportunity to clear themselves of restricted areas. Helos would also provide for better identification of large groups of vessels and their catches without interfering with vessels fishing.

(2) It is also felt that an embarked helo could improve morale by providing:

(a) A quicker departure for medical cases and emergency leave personnel.

(b) Provide a more frequent access to mail and emergency supply items.

(3) For the greatest part of the patrol, sea conditions would not have hampered helo operations, although on several occasions fog would have precluded operations.

ANNEX B

1. Operational Data.

a. Miles cruised:

(1) Honolulu to Kodiak (21 Sep - 2 Oct)	2317
(2) Phase I (4 Oct - 20 Oct)	2817
(3) Phase II (23 Oct - 14 Nov)	5753
(4) 54-40 157-00W to Honolulu(14 Nov - 19 Nov)	2010
	Total 12,897

b. Days undersay:

(1) On ALPAT:(plus 3 days mid-patrol break)	38
(2) In transit:(plus 2 days inport pre-patrol brief)	17
	Total 55

2. Sightings by Nationality.

	<u>Phase I</u>	<u>Phase II</u>	<u>Total</u>
Japanese	52	9	61
Russian	13	27	40
United States	58	74	132
Unknown	37	57	94
	160	167	327

Note: 71 percent of sightings/contacts were indentified by nationality.

3. At 1355, 3 November JARVIS was directed to proceed at best possible speed to intercept EIKYU MARU 35 which had been fishing within the contiguous fishing zone vicinity of Amlia Island, 52-18N 173-31W. CGC IRONWOOD was also directed to scene and HC-130 CGNR 1500 from CGAS Kodiak was maintaining hot pursuit. After 18 hours JARVIS intercepted EIKYU MARU 35 in position 55-09.5N172-19.1W and relieved HC-130 CGNR 1503 of hot pursuit. JARVIS placed a law enforcement boarding party on EIKYU MARU 35 at 0908W 4 November. Following an inspection of the logs and charts EIKYU MARU 35 was seized by order of Commanding Officer CGC JARVIS at 1039W. A five man custody crew remained aboard EIKYU MARU 35 and JARVIS commenced escort to Kodiak. At 1217W 7 November JARVIS moored Coast Guard Support Center Kodiak and custody of EIKYU MARU 35 was assumed by U. S. Marshalls.

4. Boardings.

<u>Date</u>	<u>Vessel</u>	<u>Type</u>	<u>Flag</u>	<u>Type Boarding</u>
8 October	NISSHIN 2	FAC	JA	Courtesy
13 October	KASHIMA	FAC	JA	Courtesy
4 November	EIKYU 35	STRL	JA	LAW ENFORCEMENT

## 5. SAR Activities.

a. At 1055Z, 2 October 1975 JARVIS, while enroute Kodiak to commence ALPAT, intercepted distress traffic on 2182KHZ from F/V DEE DONNA J who was aground and breaking up. JARVIS proceeded on both gas turbines to assist and prepared for possible helo operations with an HH-3F dispatched from Kodiak Air Station. The helo arrived on scene, hoisted the 3 P.O.B. aboard then proceeded back to Kodiak. JARVIS provided radar and IFF tracking while the helo was within range.

b. At 1445Z 6 October JARVIS intercepted a call to COMMSTA Kodiak from the F/V TEEJIN. The TEEJIN had sighted flares at Pavlof Bay and immediately commenced a search. JARVIS maintained communications on 2670KHZ and was enroute to assist when the TEEJIN reported the flare sightings to be particles from the Pavlof Volcano (active) falling through the clouds. F/V TEEJIN was cooperative and professional at all times - a pleasure to work with. (Note - the IRONWOOD reported sighting red flares near the Pavlof Volcano shortly thereafter and the case was reopened until they also visually confirmed that the sightings were volcanic particles).

c. At 2045Z on the same day JARVIS intercepted a distress call on 2182KHZ from the F/V MAR DEL SUD, reporting that she was disabled and slowly drifting toward shoal water with 4 P.O.B. JARVIS proceeded on scene on gas turbines and took the F/V in tow, proceeding toward King Cove Cannery. Navigation at night through shoal areas became tricky when the SPS-51 radar picked that time for one of its many failures. The Benmar MR 12 got us through but with no gyro input or variable range marks and "square" PPI it leaves much to be desired. After arrival in the vicinity of King Cove Cannery, the MAR DEL SUD showed their appreciation by supplying the makings of a fine crab dinner for the crew and then were assisted to the pier by the F/V MERYLE M.

d. At 0549Z 27 October another distress was received on 2182KHZ from the F/V CROSS SOUND which was disabled and taking on water. JARVIS proceeded on both gas turbines and a helo was dispatched from Kodiak Air Station. Shortly after arriving on scene the SPS-51 radar again failed and the Benmar was put into use. A three man damage control team was put aboard the F/V CROSS SOUND in heavy seas and high winds with dewatering equipment and the F/V was pumped out and then taken in tow toward Kodiak. During this operation the antenna cover for the Benmar radar was lost due to the high winds, but through excellent cooperation of the Support Center and the Air Station another cover was purchased locally and aboard JARVIS within hours. Three and one half hours later the tug KODIAK KING relieved us of the tow and proceeded to Kodiak. After dropping the F/V at Kodiak the KODIAK KING returned the boarding party to JARVIS in Chiniak Bay

e. While homeward bound a call was intercepted on 243.0MHZ from A/C MAC 90023. The A/C had lost all H.F. transmitting equipment and was unable to give position reports, and an alert was in progress for it. JARVIS handled the comms with Elmendorf Airways until the A/C flew out of UHF range.

## 6. Communications.

a. Communications were considered good with COMMSTA Kodiak. Comms on RATT frequencies were poor at times, but using CW and utilizing COMMSTA San Francisco to relay voice kept channels open. Much thanks to COMMSTA San Francisco.

b. The need for a secure code for numeral encryption for tactical messages between aircraft and ships was demonstrated during the pursuit of the EIKYU MARU No. 35. RATT comms with Kodiak were poor, and none of the aircraft had their RATT capabilities up. Perhaps AKAC 1520 can be utilized.

c. JARVIS held comms drills with the MIDGETT and CONFIDENCE during ALPAT. Drills were satisfactory and helped emphasize proper comms procedure.

d. Communications between patrolling aircraft and JARVIS were not utilized. JARVIS was never called by passing aircraft in accordance with OCGD17 OPORD 201-YR Annex A 3.b.6. JARVIS guarded 381.8 MHZ and channels 16 and 21 VHF FM.

e. Mail was routed to JARVIS with minimal problems even though port changes shifted delivery on several occasions.

f. On the return trip to Honolulu, JARVIS shifted comms directly to COMMSTA Honolulu rather than San Francisco. Honolulu's ORESTES capability worked quite satisfactorily.

## 7. Navigation.

a. Overall navigation for the ALPAT was good to excellent. A lack of LORAN "C" charts for certain areas caused some problems. Also pink, red and violet lines on LORAN charts were impossible to see at night when red lights were being used on the bridge. The use of different colors on charts would be a great aid to OOD's and QMCW's.

b. The gyro repeaters on the bridge wings were a constant problem due to condensation on the glass covers and made the taking of bearings impossible on many occasions. These repeaters were cleaned on several occasions, but this was effective for only a day or two.

c. The "big eye" binoculars were a problem during the ALPAT. They were difficult to operate due to lack of proper lubrication design. The unit was removed and disassembled for cleaning and inspection. Upon inspection, it was noted that the brass bushing that rides on the shaft had a ridge running around the center. The gear was cleaned, and

since that time with the gear. The low temperature fogging problem mentioned in other reports was not detected by us in temperatures to the mid-twenties.

#### 8. Marine Science.

a. The JARVIS completed standard monitoring section P-2 between 21 September and 01 October 1975 in accordance with CG-410 (as amended August 1975) forty-four stations, spaced at 30 to 60 mile intervals were occupied. All were monitored for salinity and temperature with thirty-one monitored for oxygen. An expendable bathythermographic program was also undertaken during this same time period in cooperation with the Scripps Institution of Oceanography and the Department of the Navy. This program called for one bathythermograph drop every 15 minutes of latitude. In conjunction with each drop a marine surface observation was taken, along with a sampling of sea surface salinity. A total of one hundred and nine drops were made before equipment failure halted the program. A standard program of marine surface weather observations was carried out, using semi-synoptic times (0000, 0300, 0900, 1200, 1500, 1800, 2100 all GMT). A total of approximately 375 observations were made during the course of the patrol.

b. A program of hydro-carbon samplings (tar ball tows) was carried out. A total of fourteen samplings were made. The first three made, in the North Central Pacific, contained small quantities of tar balls, dark brown to black in color. The balls ranged from one millimeter to five millimeters in diameter. No tar balls were found in Alaskan coastal waters, but small fish and shrimp were abundant.

c. In addition to the other projects carried out, JARVIS also maintained a continuous log of marine biological sightings. There were a total of forty-three sightings ranging from bioluminescence and squids to killer whales. Finally a continuous log of all oil pollution sightings was maintained, no pollutants were sighted.

## ANNEX C

### 1. Engineering.

The engineering phase of the ALPAT was filled with many minor problems or casualties. Those problems considered worthy of mention to other 378's are as follows:

Numerous problems were encountered with the evaporator. Prior to deployment, cracks were discovered in both feedwater heater and the condensate cooler. These were repaired. High salinity developed one week after departure from Honolulu. A cracked nipple in the vacuum pump, probably the major cause was found and corrected, but the salinity remained high. Chemical cleaning was undertaken using sulfamic acid which resulted in a much higher output with salinity below .065 EMP. According to ship's records this was the first time that the evaporator had been chemically cleaned since commissioning and points out the importance of following the manufacturer's technical publication which recommends chemically cleaning every three to six months.

Enroute to Kodiak a part power trim of #2 main gas turbine was completed. The results were excellent, however N2 speed had to be adjusted above the trim band to achieve a smooth transition from ungoverned to governed idle. This turbine had failed to pull full power during E.O. relief in August, due to excessive TT7 spread and max TT7 limit being reached prior to full power. Later in the patrol, a part power trim was also conducted on #1 main gas turbine with the same results.

Fuel was the controlling engineering factor on ALPAT. With a maximum target of 350K gallons of fuel from time of departure to return Honolulu, single engine operations were utilized wherever possible. This allowed valuable time to work on each main diesel engine, one at a time. JARVIS fuel expenditures for the 60 day patrol were as follows:

a. Enroute ALPAT	68,918 Gallons
b. Normal ALPAT steaming	151,013 Gallons
c. SAR	11,437 Gallons
d. Intercept of possible treaty violator	25,150 Gallons
e. Return Honolulu (This contains fuel expended during full power trials, both modes).	71,101 Gallons
Total fuel consumed	<u>327,619 Gallons</u>

The use of JP-5 as fuel poses some interesting problems. Ballasting of all JP-5 tanks as fuel is used could cause certain problems which include getting rid of the oily ballast after arrival in port, contamination of the new fuel with water left from the ballasting, and the growth of micro-organisms and creation of surfactants in JP-5 fuel which cause early failures of the filter separators. Ballasting then becomes a compromise between the operating engineer's desire to never ballast and the stability expert's desire to always ballast. We maintained our fuel load near or greater than 70 percent the entire ALPAT to reduce the amount of possible water contamination through ballasting. Despite this, water contamination of JP-5 still proved to be a serious problem. It was not until we obtained

later a large quantity of water was discovered in the service tank through use of a water sensing tape. Several valves in the bilge system were found open which might also have been the cause of the contamination. Checking the transfer filter separator revealed that the drain regulator was inoperative and that water had to be bled off by hand. Emergency suction was taken. Fuel in the service tank was transferred to other tanks and the service tank was stripped. After the drain regulator was repaired the contaminated fuel was transferred through the transfer filter separator to another set of tanks and then transferred through the filter separator a second time into the service tank. The double filtering process was necessary to lower the water content to an acceptable level prior to use.

Receipt of lube oil in Kodiak continues to be a problem. There is no bulk delivery. The barrels are stored outside regardless of temperature and no barrel pump is provided so that oil can be easily struck below. We intend on procuring air driven barrel pumps and three or four barrel heaters to alleviate this problem. The cost of barrels of oil versus bulk oil also leads to some concern. This is covered in the logistics section of the ALPAT Report.

The Clayton Boilers continued to live up to their high standard of "Reliability"? Number two fuel pump failed. Although the Sta-rite pump was less than one year old, the needle bearings, pump shaft, idler shaft, and seal all failed. The failure was caused by wear, probably due to the lack of lubricating qualities of JP-5. No spare pump was held by this unit. The heating coil also failed at approximately the same time. A ruptured tube was concealed within the tube bundle and could not be repaired.

Number one boiler operated satisfactorily without a back-up in spite of a fuel pump that could not maintain the prescribed pressure. This boiler was unable to maintain full steam pressure during the hours of heavy galley and scullery use. Stocking a spare fuel pump seems in order.

Weather near or below freezing brought on another potentially serious problem. The overriding clutches on both boat hoisters failed to hold making the brake useless. The first failure of the port hoister occurred with temperatures above 32 degree f. The clutch was removed, disassembled and inspected. The oil was partially diluted by water and one bearing had lost its seal. The clutch was re-assembled and used satisfactorily for several days until it failed to hold a second time. It was put OOC. The starboard boat hoister failed at a later date in sub-freezing temperatures due to the same type clutch failure. Both winches were put back into commission by heating the clutches with an oxy-acetylene torch prior to every lowering or raising. This problem can be attributed to at least three factors:

1. Low air temperatures
2. No cover over hoister assemblies
3. Improper oil in clutches for temperature of operations. Manufacturer's Technical Publication calls for 30 weight.

During our transit back to Honolulu, a full power trial was attempted on both the main gas turbines and the main diesels. Qualification of the trials was hampered by the fact that our shaft torque meters are not calibrated correctly. Although every effort was made by ship's force to calibrate the meters according to the tech pub instructions, the results were such that it was felt they could not be depended on as being accurate enough to support a full power trial. It is felt that the calibration is now beyond the ship's force capabilities. When full power was attempted on diesels, although verification by HP meter was impossible, the diesels ran exceptionally well and it is felt that they attained, if not exceeded full power requirements. Rolls from the quartering swell and fuel restraints forced us to abort full power trial on MGT's. The trial was postponed until the torque meters can be calibrated by a technical representative.

## 2. Electronics.

On 21 September, AM-3924(P)/URT#6 had no output. Cathode resistors R-25 and R-26 in the final PA were open. Further checks revealed no other cause for the failure, so the transmitter was returned to operation on 23 September.

During routine pomsee checks on 23 September, the sweep on the MR-12 radar was found to be only half its normal length. Diode MR 404 in the timebase had shorted.

The precision echo sounding recorder (PESR) keying of the AS/UQN-4D became erratic on 23 September. The contacts on the keying cams of the PESR were out of alignment. After cam and contact alignment, the depth sounding capability of the PESR was restored on 26 September.

On 25 September, the AN/SPN-45 LORAN "C" receiver intermitantly appeared to be turned off. This only occurred when the ship rolled to starboard and pitched forward. Two possible causes for this were discovered: (a) a loose ground wire in the power supply and (b) a loose cannon plug on the frequency convertor.

The PESR would not copy facsimile on 29 September. We had good signal and PESR was working for depth sounding. Strands of the braid of the audio line were shorting to the center conductor.

The AN/SPS-51A antenna stopped rotation on 7 October. The gearing on the drive motor, 4B1, and the flexible coupling, 4MP8, were stripped. Also, the flex coupling was broken. The motor and coupling were replaced on 8 October.

Late in the evening of 8 October, the SPS-51A transmitter/receiver overloaded. Overloads were reset, but the radar would not come up. The plus three hundred volts D.C. regulator circuit had failed. Replacement of transistor Q-5 and diodes CR-45 thru CR-50 restored operation on 9 October.

On 9 October, the MR-12 antenna unit started making a grinding noise. The receiving antenna mounting screws had fallen out and the antenna slid laterally out of its mount and was jammed into the support struts for the dome.

Also on 9 October, CU-1208 for the AN/URC-51 would not tune. Opening the coupler revealed that the cover had been improperly installed with no gasket, which let water leak into the coupler causing shorts. The coupler was removed, dried out, and bad parts were replaced. A gasket was formed by laying a bead of RTV in the cover channel and letting it cure. The coupler was reinstalled and operation restored on 15 October.

On 10 October, AM-3924(P)/URT#6 again failed as described above on 21 September. The resistors were replaced and the amplifier returned to service on 11 October.

On 11 October we had no output from the AN/WRR-3B. A shorted diode was found in the power supply. It was returned to service on 13 October.

On 12 October AM-3924(P)/URT#6 again failed as on 21 September. This time the PA was torn apart and the cause of the resistor failures was discovered. Capacitors C-15 and C-16 in the screen circuit were arcing to ground. The P.A. was rebuilt and restored to operation on 16 October.

On 16 October we noted reduced power output on the AN/SPS-51A radar. The pulse forming network output was low. The magnetron was replaced, the shunt diode was replaced, and the thyration switch was replaced, all with negative results. The radar worked well on the 4MI and up ranges, however, the output was too low to allow AFC lock in the short range mode. As an interim measure, the radarmen were leaving the range switch on the control PPI in the long ranges and using the SPA-25 for short range operation. A faulty pulse forming network was suspected.

The cover for the antenna unit of the MR-12 radar blew off and over the side during the night of 26 October. The antenna unit was covered with plastic and canvas to protect it from weather. Through a phone-patch to Northern Radio in Kodiak arrangements were made for a replacement cover. Air Station Kodiak delivered the repair parts on 27 October.

T-827#6 frequency standard burned out on 28 October. A replacement module is on order.

The PESR started tearing the recording paper on 28 October. The helix and writing edge were replaced. Attempts were made to adjust tension on the writing edge with negative results.

The AN/SPS-51A radar antenna rotation failed again on 31 October. The problem this time was 4MP8 which was replaced restoring operation.

The range strobe on the control PPI of the AN/SPS-51A radar had approximately 1000 yard error on 1 November. The range strobe was re-calibrated.

The P.A. tube of the RT-1035 shorted on 4 November. No spares were available or authorized on ERPAL. A replacement tube is now on order.

On 5 November the range strobe on the AN/SPS-51A control PPI again was out of calibration and was readjusted.

On 6 November AN/SPS-51A overloaded and would not come back up and radiate. A defective 3K6 was found and replaced which restored operation.

AN/URT-23#7 would not transmit on 8 November. There was no drive to the AM-3924(P)/URT which was caused by a shorted coaxial cable between the T-827 and the AM-3924.

On 9 November the range strobe on the AN/SPS-51A control PPI was again out of calibration. The slope adjust potentiometer, R-84, was noisy. The potentiometer was replaced and the strobe recalibrated.

During the early morning hours of 10 November UHF antenna AS-390 2-1A mounting post broke loose from it's platform on the port yardarm. Later that same morning, UHF antenna #2-0 mounting post also broke loose from it's platform on the stub mast. Both of these antennas were hanging by their coaxial cables. An attempt was made on 11 November to retrieve the antennas, however, sea and weather conditions did not permit climbing the stub mast or going out on the yardarm. During the night of 11-12 November, the coax for antenna #2-0 gave way and the antenna fell overboard. Early on the morning of 13 November, UHF antenna AS-390 #2-1B mounting post also broke loose from it's platform on the starboard yardarm and hung by its coax cable. On November 13, antennas #2-1A and #2-1B were retrieved from the yardarm and the coax cables were sealed against weather.

## ANNEX D

### 1. Logistics and Administration.

a. The logistic support received during this ALPAT was outstanding from USCG Support Center, Kodiak and from U. S. Naval Station Adak.

b. The commissary supplies from Support Center Kodiak were to say the least outstanding. All items purchased during ALPAT were received in good order and no shortages occurred. When an item could not be supplied as requested a substitute was supplied. A lead time of two weeks is needed to fill all fresh produce orders.

c. Naval Station Adak filled our commissary order with only a 5 day leadtime. They normally require at least 14 days. The commissary items they supplied were all in good order and fresh.

d. Support Center Kodiak assisted the ship in procurement of emergency items on three occasions with more than a routine attitude. SKCM LOGGINS efforts were especially appreciated. The clothing and small stores were opened by request from JARVIS during other than normal working hours so the crew could purchase many needed items. The overall attitude of Support Center Kodiak was very helpful.

e. At Naval Station Adak lube oil (9250) is available by drum at the standard Navy price. All their Servmart and general stores items are the current prices contained on microfiche. In addition there is a clothing and small stores.

### 2. PIO Program.

a. Two stories were released to the Fleet Home Town News Center. The first concerned JARVIS and her mission on an ALPAT and included personal information forms. The second concerned accomplishments the JARVIS made during the patrol and information on return.

b. Four personal newsletters were sent out from the JARVIS to family and friends at regular intervals in the patrol. It is felt that these are very informative and should be considered by other units.

ANNEX E

1. Compendium.

I have found past reports by ALPAT vessels both 378's and 210's a good source of hints and clues on how to make a successful patrol, and if properly used can be a help in preventing reinvention of the wheel by each unit.

My boat winch failure for instance was accurately described by MELLON in her report of 18 April 1975, and had I acted upon her recommendation, I would not have had similar problems.

Similarly poor quality JP-5 at Kodiak has been the source of grievance time after time, and though it cannot be fully determined that water in my fuel was brought aboard at Kodiak, I did not guard against that possibility as fully as I should have and had been warned to do.

The reference material from other ships anchoring at Attu was extremely helpful, even though RESOLUTE might have been unduly alarmist. I cautiously made my approach from the southwest and proceeded to anchor in the west wire swept channel 2650 yards 341° T from Massacre Bay Pier. My fathometer conformed to charted depths and the sonar picked out rocks and pinnacles right where they should have been. I have to admit, though, it is no place for night or reduced visibility operations.

Padar! I only hope that the "tiger teams" visit JARVIS soon and that the new equipment lives up to its advance billing.

I wonder about the need for a three day mid-patrol break. I fueled four times. An overnight stay each time I fueled rather than the quick in and out might have been as beneficial as the one three day break. Mid-Patrol break at Juneau was enjoyable and a pleasure to meet the district staff, but I wonder if it was worthwhile from a fuel and transit time basis.

*oil  
consider*

Another aside is that I lost 25 enlisted men on transfer orders during the patrol. In addition, I had 7 enlisted men report on board. Instability in personnel is something I've learned to live with during the years, but at least in the past, once we sailed, except for an emergency leave or two, the crew was kept intact until the operation was finished. I can only ask whether the CAC assignment personnel have a copy of our operations schedule and whether they concern themselves with the cost of personnel following the ship all over the Aluetians. Couple this to the inconvenience to the married man who has to either return to Honolulu to move his family or let them move by themselves, and the situation becomes totally unrealistic.

*Ltr  
to  
Hdg (P)*