(TICKLER)

2.

NRL SPECIAL PROJECTS CONTROL NUMBER NRL B-146-75

~~TOP SECRET~~ - HANDLE VIA BYEMAN TALENT KEYHOLE SYSTEMS JOINTLY

DATE: 14 MAY 75

ORIGINATOR	SERIAL NO.	ENCLOSURES
PME 106	BYE 59,461-75	(1) AGENDA (2) LIST OF ATTENDEES (3) 7107 STATUS ($) COLLECTION HIGHLITES (5) PROCESSING HIGHLITES (6) 7107 ENGINEERING EVALUATION

DATE REC'D	TICKLER DATE	COPY NO.	RECEIPT NO.
5/30/75		13	h/c

SUBJECT

POPPY TECHNICAL OPS GROUP (TOD) MEETING: REPORT OF

DIST INFO

☐ BASIC DOCUMENT ON R/S _____

☐ BASIC DOCUMENT NOT HELD. DESTROY.

ROUTE TO	*	CY NO.	W/ ENCL	SIGNATURE	DATE OUT	DATE RETURN
1000						
4000						
7000						
7030		13		[signature]	6/3/75	
1020		~~13~~				
7032				[signature]	6/11/75	
7033				[signature]	6/11/75	
Tom L				T F		6/30/75
Ed F				[signature]		6/6/75

CODES HAVING PRIMARY INTEREST CHECK ONE

☐ RETAIN INDEFINITELY. (REFERENCE VALUE).

☐ RETAIN _____ MONTHS. (INFO MATERIAL HAVING ONLY TEMPORARY REFERENCE VALUE).

☐ DESTROY AFTER ROUTING. (NO FURTHER REFERENCE OR INFORMATION VALUE).

DESTRUCTION REPORT NO.	FINISH FILE
	7.2

REMARKS

NRL INCOMING DOCUMENT

B146-75

13

BYE-59461-75

Transferred 8-22-05 AMS

*A-ACTION
I-INFORMATION
C-COMMENT
R-RETAIN
E-EVALUATION

RETURN THIS ROUTE SLIP TO NRL SPECIAL PROJECTS OFFICE, ROOM 222, BLDG. 43.
DO NOT ROUTE TO OTHER SECTION OR BRANCH.

ACTION TAKEN BY

NRL CONTROL RECORD NDW-NRL-5216/1005 (REV. 3-72)

CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~ ~~EARPOP~~ ZARF

HANDLE VIA BYEMAN CONTROL SYSTEM

NAVY SPACE PROJECT OFFICE

HANDLE VIA BYEMAN-TALENT-KEYHOLE CONTROL SYSTEMS JOINTLY

~~(S)~~ NATIONAL RECONNAISSANCE OFFICE, PROGRAM C

WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

PME-106-543/pt

MAY 14 1975

TOP SECRET/EARPOP

MEMORANDUM FOR CHIEF OF NAVAL OPERATIONS (OP955)
COMMANDER, NAVAL SECURITY GROUP COMMAND
DIRECTOR, NATIONAL SECURITY AGENCY (A81, R24, W2, W34)
DIRECTOR, NRO STAFF (SS4, SS4A, SS7)
DIRECTOR, CENTRAL INTELLIGENCE AGENCY (OSI)
DIRECTOR, NAVAL RESEARCH LABORATORY (1000, 7030)

Subj: POPPY Technical Operations Group (TOG) Meeting; report of

Encl: (1) Agenda
(2) List of Attendees
(3) 7107 Status
(4) Collection Highlights
(5) Processing Highlights
(6) 7107 Engineering Evaluation

1. A POPPY TOG Meeting was held at the Naval Research Laboratory at 0930 on 24 April 1975. The agenda and a list of attendees are forwarded as enclosures (1) and (2).

2. The following specific topics were discussed:

A. Turnover. (SPO)

[redacted] announced that this TOG meeting marked the completion of [redacted]s two and one-half years assignment as the POPPY Project Officer. [redacted] is slated for transfer to Point Mugu, California. He will be relieved as POPPY Project Officer by LCDR Potts.

B. Mission 7107 Status. (NRL)

Enclosure (3) was provided by NRL. The submission contains a summary of recen[redacted] difficulties with commanding Mission 7107 satellites. There is a possiblility that TRANSIT associated transmissions could be a source of interference. NRL will make a procedural recommendation to NSG via TWX to restrict commanding to times at which no TRANSIT interference is expected. The 150 nautical mile upper bound for spacing of 7107C/D is expected to be reached in approximately fifty days.

HANDLE VIA BYEMAN-TALENT-KEYHOLE CONTROL SYSTEMS JOINTLY

59,461-75

HANDLE VIA BYEMAN CONTROL SYSTEM

NRL B-146-75

CLASSIFIED BY BYEMAN COM 1 EXEMPT FROM GENERAL DECLASSIFICATION SCHEDULE OF EXECUTIVE ORDER 11652 EXEMPTION CATEGORY 5B2 DECLASSIFY ON IMP DET.

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CONTROL NO
COPY 13 OF 14 COPIES
PAGE 1 OF 2 PAGES

PME-106-543/pt

Subj: POPPY Technical Operations Group (TOG) Meeting; report of

C. Field Site Status. (NSG)

The NSG representative reported that all sites are up and working. The [redacted] installation is underway at [redacted] Manning strength is down a [redacted] training. Some interruptions in [redacted] operations are anticipated due to [redacted] installation and security precautions.

D. Collection Highlights. (NSG)

Enclosure (4) was submitted by the NSG representative. Both ocean surveillance operations and current special tasks are described. [redacted] received a well done message from CINCLANTFLT for recent support.

E. Processing Highlights. (NSA)

The NSA representative submitted Enclosure (5) which contains details on a number of unidentified signals undergoing analysis and research.

F. 7107 Engineering Evaluation. (NRL)

Enclosure (6) was submitted by NRL. Planning for the evaluation is still underway.

3. The next TOG Meeting is scheduled to be hosted by the SPO on 29 May 1975.

R. T. DARCY
Deputy Project Manager

~~TOP SECRET EARPOP~~ ZARF

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AGENDA

Satellite Status

Ground Site Status

Collection Highlights

Processing Highlights

Engineering Evaluation

HANDLE VIA
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CONTROL SYSTEMS JOINTLY

Enclosure (1) to BYE-59,461-75

~~TOP SECRET EARPOP~~ ZARF

~~TOP SECRET~~ ~~EARPOP~~ ZARF

LIST OF ATTENDEES

SPO: [redacted]
LCDR Potts

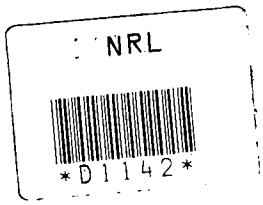
NRO/
SOC: [redacted]

NRL: Mr. Lawton [redacted]

NSG: CDR Cole

CNO: [redacted]

NSA: [redacted]



Enclosure (2) to BYE-59,461-75

HANDLE VIA
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CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~ HANDLE VIA BYEMAN-TALENT-KEYHOLE CONTROL SYSTEMS JOINTLY ~~EARPOP~~ ZARF

7107 STATUS

There have been a number of significant developments since the last TOG meeting. On 28 March, [redacted] received the DELTA payload normally on rev. 16465 at 0725:55Z. At 0728:08Z both analog and PCM were lost. [redacted] was commanding 7107C at the time of the data loss. Telemetry ON (TM ON) commands were sent at 0730:39Z, 0731:03Z, 0735:42Z, and 0735:56Z with negative results. The payload was commanded on by [redacted] at 1909:31Z on rev. 16472, seven revs. later. When telemetry was received, BOOM MOTOR indicator ON and CHG CONT was LOW. Items were commanded OFF and HI at 1914:17Z and 1911:54Z respectively. Boom length word (1-12) was at 4.72 volts FULL EXT (60') - when telemetry was received. Prior to rev. 16465 the word was 3.02 volts = 41'. It has also been noted that Bravo Data Link has been turned off.

There have been several instances when [redacted] was not able to reset 7107A. This resulted in low voltages of 10.486, 10.580, and 10.569. As a result of these problems, NSG sent out two messages, CITE 551 and 555, expressing concern over the situation. Command problems have existed at [redacted] on 7107CD on revs. with EOX's of 102-115° E. These revs. are low in elevation and NSG's message (CITE 555, para. 5) indicated a discontinuation of command/collection until a satisfactory solution was found.

NRL sent out a message (CITE 918) indicating that the problems were probably the result of local external interference. NRL sent some crystals up to [redacted] yesterday and they will hopefully be installed soon. The message also pointed out that revs. with EQX's of 102-115° could be commanded by [redacted] NRL also will coordinate with NSG to arrange a test to determine the ERP of the command transmitter at [redacted]

Reindeer 41 message covering period 5-11 April (NSG CITE 558) indicates a problem occurred on 7107D. "On Rev. 16642(D) C52, payload arrived reset. When 07C was keyed, 07D's address was turned on with loss of TM and activation of several data links. Due to lack of TM and time/position factor, reset both payloads at 0504:04Z. TM regained after reset." [redacted] readouts indicate 7107D was being commanded.

On 19 April, rev. 16772, during [redacted] commanding, PCM TM went off and came back on when a reset tone pair was commanded. These problems concerning telemetry being turned off are probably RETEP being put on channel 12. There is only a slight difference between this command and the command to turn on DL 8 (and DL 15). DL 8 is commanded on almost every rev and there is no other command

for DL 8 because of the bad third-tone pair problem. Fortunately, when the telemetry is turned off by this command, a simple reset will bring the telemetry back on.

NRL has determined that Transit, a navigational satellite system with [redacted] stations, a primary site in [redacted] plus back-up sites at [redacted] transmits data which could interfere with our system. Since Transit transmits for fifteen seconds before the even minute (e.g., 0745:45 to 0746:00Z) [redacted] have been instructed not to interrogate the vehicles during this time period. (It should be noted that the Transit system does not transmit every two minutes but this precaution eliminates the necessity of determining and keeping track of their orbital parameters).

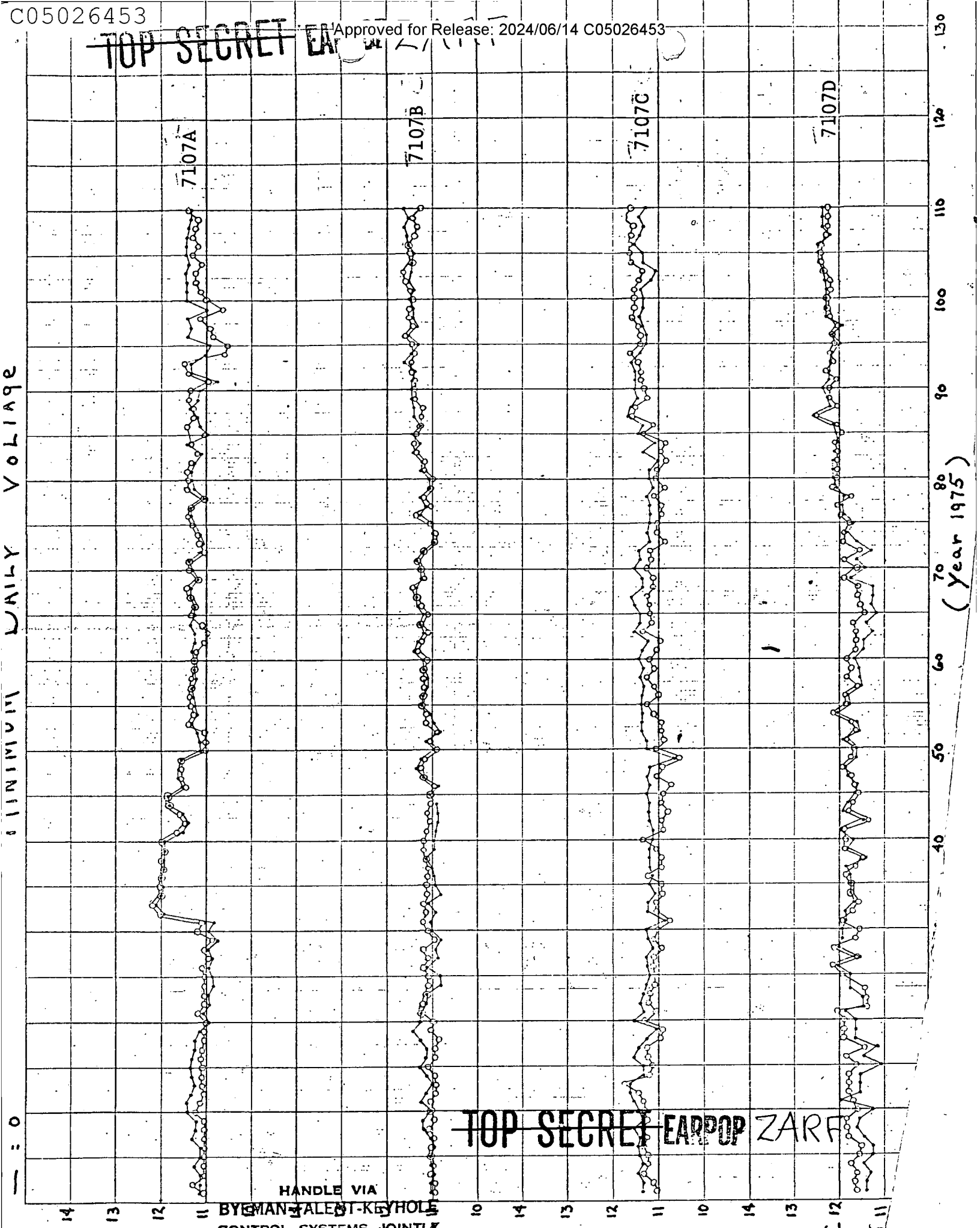
Another precaution that [redacted] should take is that before sending any commands, site personnel should be certain that the ordnance system is turned off. This can be accomplished by checking their PCM gear (170 series POM PCM TM digital input table - section 2.4 PCM digital inputs). This will help prevent the commands from entering a potentially dangerous mode.

Care must also be exercised with the batteries as there are bad cells (14 and 12) in 7107A's negative battery. NRL engineers are monitoring the health on a daily basis. All spacecraft voltages should be checked regularly.

Today's sunlight reading is 77%. The spacecraft are near the center of a long 100-day eclipse period.

Current spacing is: [redacted]

~~TOP SECRET~~ EA[illegible]



~~TOP SECRET~~ EARPOP ZARF

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CONTROL SYSTEMS JOINTLY

R-146-75

~~TOP SECRET EARP~~ ZARF

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COLLECTION HIGHLIGHTS

Ocean Surveillance: (25 Mar. - 21 Apr. 75)

Since the last TOG meeting, there have been a total of four thousand eight hundred seventy nine [redacted] locations. One thousand two hundred seventy seven of these were equated to major combatants and/or auxillaries. Seven hundred seventy seven intercepts were associated, but could not be correlated to a specific hull. Eighty seven [redacted] emitters were intercepted, with two being OOA in the North Pacific. Two thousand seven hundred thirty eight intercepts of merchant associated radars were reported.

1. [redacted] activity was at a high level in the Sea of Japan, and low to moderate in all other fleet areas prior to exercise OKEAN 75. Activity was extremely high in all fleet areas during the exercise.

2. SSOCS KOROLEV transited from the Caribbean to the North Atlantic, and then transited to a position off the West Coast of Africa.

3. KASHIN DLG SMETLIVYJ returned to the Black Sea from the Mediterranean.

4. SVERDLOV CLCP ZHDANOV and KASHIN DLG SKORRY transited from the Black Sea to the Mediterranean.

5. KARA CLGM OCHAKOV, KASHIN DLG OBRAZTSOVYY, and KILDIN DDGS BEDOVYY, coming from the Mediterranean, held operations in ~~the~~ Atlantic with KRIVAK DDGSP SILNYY, which came out of the Baltic Sea.

6. KRESTA II CLGM ADMIRAL NAKHIMOV and ADMIRAL MAKAROV, KRIVAK DDGSP DOSTOYNYY, and KANIN DDG ZORKIY, coming from the Barents, held operations in the Norwegian Sea, and were later joined by KASHIN DLGM SMYSHLENYJ, which also came from the Barents.

7. KRIVAK DDGSP SVIREPYJ and STORORSCHEVOY, returning from the Caribbean, held operations in the Norwegian Sea with several units from the NORFLT.

8. SVERDLOV CLCP ZHDANOV, KYNDA CLGM CROZNYY, KASHIN DLGM SDERZHANNYY, and KASHIN DLG DKORRYY held operations in the area of Corsica Island and the Tyrrhenian Sea.

9. SVERDLOV CL SERDLOV exited the Baltic Sea and held operations in the Norwegian Sea with other units.

10. KASHIN DLG STEREGUSHCHIY, coming from the Sea of Japan, held operations in the Philippine Sea.

Enclosure (4) to BYE-59,461-75

11. KRESTA II CLGM ADMIRAL OKTYABRSKIY and MARSHALL VOROSHILOV, KOTLIN DDG DKRYTNYY, and DESNA AGM CHAZMA and CHUMIKAN held operations SE of Petro in the Northern Pacific.

12. The exercise has terminated with all units returning or nearing home waters, with the exception of the KASHIN DLG STEREGUSHCHIY in the Philippine Sea.

13. The KRIVAKS SVIREPYJ and STOROSCHEVOY, which were Baltic fleet units, have split in the Norwegian Sea, with the SVIREPYJ apparently returning to the Baltic Sea, and the STOROSCHEVOY making a fleet transfer to the Barents.

14. The POPPY System was the first to intercept both the KRESTA II CLGM ADMIRAL OKTYABRSKIY and MARSHALL VOROSHILOV in Petro, after their apparent EMCON transit from the Sea of Japan.

15. POPPY also had the first intercept tip-offs on the KRIVAKS REZUIMNYY (5 Apr.), and SILNYY (7 Apr.), when they exited the Baltic Sea. KRIVAK REZUIMNYY remains in the Cape Verde Islands area.

16. One intercept of a [redacted] was made by [redacted] on 15 Apr. 75, and geolocated to the Barents Sea (6922N/03505E). PRF was 1122.346 and equates to the 288th divisor of the 323.2 KHz crystal.

17. Special Task Project MOUSEHOLE: Implemented on 28 Mar. 75 for [redacted] to use special task groups on all passes and report all target emitters impacting in Cambodia and South Vietnam. Reporting is by Operational ELINT Report (OER) until further notice.

18. Project GALLANT SHIELD: Implemented on 11 Apr. 75 to cover a period from 16-22 Apr. 75. Purpose was to provide POPPY coverage of U.S. Army field exercise GALLANT SHIELD at Fort Bliss, Texas. Since OKEAN 75 came up at the same time, [redacted] was giving GALLANT SHIELD 1st priority on south bound passes. During the task, two hundred and ninety six emitters were located in the seven days of tasking, with eighty five emitters impacting in the area of interest. Of the eighty five emitters delivered to the Army personnel, fifty eight were reported (N308Z - 47, N459Z - 3, and N616Z - 8). With the occurrence of both GALLANT SHIELD and OKEAN 75 at the same time, [redacted] became backlogged on both projects. On 19 Apr. processing of OKEAN 75 was caught up.

19. During the exercise OKEAN 75, both [redacted] were on full ocean surveillance coverage.

20. BRAVO ZULU: [redacted] received a BZ from CINCLANTFLT (ADM R.W. Cousins) for their outstanding support provided during

the recent SOVNAV Caribbean deployment. Timely provision of [redacted] coverage enabled CINCLANTFLT to save considerable time in VP flight hours. Early tips of the KRIVAKS movements via direct circuitry enabled CINCLANTFLT to optimize flight coverage while the Soviet ships were in Cienfuegos, and timely and accurate fix data permitted the aircraft to locate the targets in minimum time when the ships got underway.

~~TOP SECRET~~ EARPOP ZARF

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CONTROL SYSTEMS JOINTLY

NRL

D1145

PROCESSING HIGHLIGHTS

1045Z is the unidentified I Band signal emanating from the Chang-chia-k'ou area of the PRC with the following characteristics:

9100-9600 MHz
2497-2498 PRF
4.0-4.3 Hz sector and steady scan

Past and present, Mission 7107 is still the only collector known to have intercepted this signal. To date a total of ten intercepts of have been collected and reported by All available sources have been queried in an effort to obtain a candidate emitter for this signal. However, to date all results have been negative. As mentioned at the last TOG all available photographs of the target area have been searched with negative results. However, the results of this search are considered unsatisfactory based on time of collection and/or photograph resolution/ quality. Plans are to request tasking on results of upcoming medium resolution payload coverage of the target area.

is the unidentified 60 Hz signal operating in the 815-970 MHz region. No additional intercepts since last TOG. Current postulation is that the signal is the result of a transmission. NRL is currently conducting tests to evaluate the collectors response to a type signal. Analysis of all available intercepts will be complete pending the results of the NRL tests.

Analog Tape Analysis

Due to manpower limitations is now forwarding all analog tapes to NSA. Tapes are now on order and analysis will be initiated upon receipt of these tapes.

is the unidentified 3600-4050 MHz signal that displays parameters indicative of Analysis is currently being conducted on all available digital tapes. To date, numerous intercepts have been obtained on this signal of which several have been collected in SLM. No geoposition has yet become available. To obtain location of signal types utilizing vertical sector scan the payloads must fly directly toward the emitter. This condition then produces payload geometry unfavorable for locating any type signal. Some analysis results should be available by the next TOG.

Enclosure (5) to BYE-59,461-75

[redacted] is an unidentified I Band signal reported by [redacted] Since September 1974 to date [redacted] has reported seven intercepts of this signal, none of which were located. The signal had been considered high interest based on the fact it displayed a highly stable PRF which equated to the 40th countdown of the Soviet 1KM crystal.

9340-9400 MHz Receiver Band
3746.4 PRF
Irregular scan

Based on digital analysis the actual scan was identified as a bi-directional sector at a 28 second rate. A plot of all payload radio horizons during intercept indicated [redacted] as the probable point of origin. Also, one LOP derived by digital analysis supports this postulation in that it passes through [redacted] and the intersecting radio horizons [redacted] appears to be a signal emanating from the [redacted] battlefield surveillance radar. This emitter utilizes parameters compatible to those intercepted by [redacted].

STATUS OF SPECIAL TASKS

1. Excellent results were obtained from SLM collection this report period. SLM data were intercepted from target emitters on twenty four occasions. SLM data were collected on target emitters [redacted]

2. Ten intercepts were reported in support of Project FLAVOR. All reflected SA-6 activity from [redacted] The intercepts reflected the use of both the domestic and export equipments of the SA-6 system.

3. [redacted] supported OUTLAW HAWK during period 19 Feb. - 29 Mar. 75. OUTLAW HAWK was an allied Naval exercise conducted from the U.S. West Coast to the Hawaiian Islands. [redacted] intercepted a total of two hundred fifty nine U.S. shipborne emitters in support of task. Of the two hundred fifty nine intercepts, one hundred thirty two were associated to either an individual unit or an arbitrary designator.

INTERCEPTS - SPS-10 (109)
SPS-40 (62)
SPS-43 (27)
SPS-29 (17)
SPS-37/43 (25)
SPS-37 (1)
SPN-43 (17)
SPS-31 (1)

EQUATIONS -

USS HANCOCK CVA19 SPS-43	(3)
USS MASON DD852 SPS-29	(1)
USS HORNE DLG30 SPS-43	(21)
USS JOUETT DLG29 SPS-40	(13)
USS KITTY HAWK CV63 SPN-43	(17)
USS PONCHATOULA A0148 SPS-10	(1)
USS KIRK DE 1078 SPS-10	(4)
ARB 5018 SPS-10	(4)
ARB 5628 SPS-10	(10)
ARB 5628 SPS-40	(29)
ARB 5237 SPS-40	(3)
ARB 5015 SPS-10	(13)
ARB 50004 SPS-10	(3)
ARB 5645 SPS-10	(1)
ARB 5387 SPS-10	(2)
ARB 5387 SPS-40	(2)
ARB 5047 SPS-43	(2)
ARB 5545 SPS-10	(2)
ARB 5019 SPS-10	(1)

4. [redacted] commenced full collection coverage of Project MOUSEHOLE on 28 March. Task requires time critical reporting of select landbased and shipborne emitters when located to Cambodia/South Vietnam or coastal areas of North and South Vietnam. Due to the nature of landbased targets (fire control and missile associated) few intercepts have been geolocated. Two intercepts of AN/FPS-6 radars were geolocated to the Saigon area and reported under the task.

5. Ten intercepts of light unidentified emissions were reported.

6. All sites continue to use the low yield L task groups on ALPHA/BRAVO payload [redacted] during darkness. Implementation of the low yield task groups has been instrumental in the system being able to maintain product reporting on time critical signals of interest without endangering payload health. Low yield task groups compatible with SLM tasking were implemented to maintain full SLM collection against target emitters during periods of darkness.

7. On 6 April the mission at [redacted] was reduced to a digital operation only. Analog operations were reduced to on-line tip-off only to support digital operations. All analog tapes are being forwarded to NSA for in-depth search and analysis. Site could not maintain a full operational load with the small number of personnel available. Site is attempting to maintain reporting of time critical SOI's through computer search. Only those unidentified signals that can be easily recognized on-line during collection are being processed and reported.

8. Trouble was encountered with the ALFA/BRAVO payload at [redacted] NRL inhibits to work other payloads prevented [redacted] from resetting the payloads before southbound loss of signal thereby allowing payloads to remain active and causing heavy drain on the ALFA batteries. To prevent NRL inhibit of [redacted] while NRL is working other payloads, the [redacted] site was authorized to by-pass NRL inhibit on all revs. with EQX's of 140-180 degrees east. On these horizons [redacted] can see the payloads longer than [redacted] will effect backup reset on all payload pairs with EQX's less than 140 degrees east as they have a longer look time than [redacted] All other [redacted] revs. pass into [redacted] horizons and need not be reset.

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CONTROL SYSTEMS JOINTLY

7107 ENGINEERING EVALUATION

Mission 7107 Engineering Evaluation Phase 1X is scheduled for [redacted] in late May. All band options will be checked. Emphasis will be placed on 7107D since one transmitter, B, has been turned off since the last evaluation. A list of revs. (down time) will be requested when ephemeris data becomes available. Three sets (A through D) of revs. per day will be requested. Approximately five days will be required. Site personnel, equipment and computer time will be required as in the past.

Enclosure (6) to BYE-59,461-75