(TICKLER)

NRL SPECIAL PROJECTS CONTROL NUMBER

NRL B-332-74

~~TOP SECRET~~ - HANDLE VIA BYEMAN CONTROL SYSTEM

DATE: NOV 13

ORIGINATOR	SERIAL NO.	ENCLOSURES
PME 106	BYE 59,959-74	(1) AGENDA (2) LIST ATTENDEES (3) MINIMUM DAILY VOLTAGE PLOT (4) COLLECTION HIGHLIGHTS (5) PROCESSING HIGHLIGHTS

DATE REC'D	TICKLER DATE	COPY NO.	RECEIPT NO.
11/26/74		11,12	WA 89769

SUBJECT: POPPY (TOG) MEETING: REPORT OF

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1225		11				
7032				RH	12/3/74	
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Frankovich						

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BYE-59959-74

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GROUP 1
Excluded from automatic downgrading and declassification

NAVY SPACE PROJECT OFFICE
~~(S)~~ NATIONAL RECONNAISSANCE OFFICE, PROGRAM C
WASHINGTON, D.C.

OFFICE OF THE DIRECTOR
EARPOP ZARF

PME-106-5
NOV 13 1974

MEMORANDUM FOR: COMMANDER NAVAL SECURITY GROUP
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)
CHIEF OF NAVAL OPERATIONS (OP955)

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

Ref: (a) CONQUER 181857Z Oct 74 CITE 0364 (NOTAL)
(b) CONQUER 201554Z Aug 74 CITE 0305 (NOTAL)
(c) [redacted] 201015Z Oct 74 (NOTAL)

Encl: (1) Agenda
(2) List of Attendees
(3) Minimum Daily Voltage Plot
(4) Collection Highlights
(5) Processing Highlights

1. A POPPY TOG meeting was held at the National Security Agency (NSA) at 0930 on 31 October 1974. The Agenda and a List of Attendees are forwarded as enclosures (1) and (2).

2. The following specific items were discussed:

A. Status. (NRL)

The 7107 satellites remain healthy and functioning normally, with loss of capability only as discussed in previous meetings. Because of continued low sun exposure (75 percent today), voltages have dropped below the nominal value of 11v. on A,B and C on several occasions over the past month (see enclosure (3)). The low power has led to malfunctions in band options and to unreliable operation of the payload timer. Timer problems have caused a temporary halt in the delayed tasking of 7107A for the [redacted] site and have led to the procedure that timers not be used to RESET the satellites outsite the field of view of ground stations.

[redacted] operators have experienced some difficulty in activating the satellites since this site was reactivated on 19 October (after approximately two month of MILCON for [redacted] - see reference (a)). A partial explanation for this difficulty is that the atmosphere over the northeastern U.S. contains

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Subj: POPPY Technical Operations Group (TOG) Meeting; report of considerable noise that interferes with [redacted] POPPY satellite interaction.

With approximately two months remaining before the next period of 100 percent sun exposure, great care must be taken to avoid excessive power drain on the satellites. The NRL representatives stated that [redacted] would continue to monitor the satellites closely and asked that the NSG sites also continue to be aware of the health status.

The NSG representatives stated that [redacted] would probably be activated in accordance with the previously stated schedule, on approximately 1 December 1974 (see reference (b)).

Current satellite spacing is: ...

[redacted]

B. Collection Highlights. (NSG)

Enclosure (4) was presented by the NSG representatives.

The NSA W group representatives added the following amplification:

(1) The 9GHZ signal reported as [redacted] unident 27-200 has been reported by the URSALA system on several occasions. Project DEPARTURE is analyzing POPPY data to determine the function, which is tentatively postulated to be a GCA radar.

(2) While the collection highlights indicate that SLM collection is often performed without acquiring data on the specific, intended emitters, collaterally collected signals are often very fruitful, such as:

- some SLM on an AI radar,
- [redacted] in an unusual scanning mode,
- [redacted] SLM that reinforces data from MABELI system, and
- SLM on other emitters not now of high enough interest to generate tasking.

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

C. Processing Highlights. (NSA)

Enclosure (5) was presented by the W34 representatives.

Mr. Gallagher added that W group is assisting NSG by developing a software routine for use on an SEL 810 that will calculate crystal countdown frequencies. This effort will aid in the [redacted] analysis, particularly. Some discussion on the [redacted] was generated in which it was pointed out that the POPPY data on this correlation matches that obtained from the SNCP (Special Navy Collection Program), which first uncovered the individuality of this emitter.

D. Miscellaneous.

(1) [redacted] relayed that Project MAGNIFIER, the POPPY software support effort, deployed an SEL 810 upgrade package in early October and will deploy another SEL 810 package in early December 1974. These upgrades are the result of recommendations made by the field sites at the Seminar in late June.

(2) [redacted] has reported, by reference (c), on the September deployment of the PAPS/SEL86 automated communications interface and subsequent evaluation. One request from [redacted] has to do with combining the land-based emitter reports into one format - the Supplementary Location Report format being preferred because its' generation is already automated in PAPS. The R244 (NSA) representatives stated that further staffing was underway to determine what universal format should be used. The introduction of reports on land based emitters is to be standardized and automated. It was stated that a "universal" format would probably be neither the Supplementary Location format nor the UNITRAN format. More information should be available at the next TOG meeting.

(3) 7107 CD collection band tasking was discussed. Since the failure of a part of the ELINT payload command system in 7107D, it has not been possible to activate some bands and some band combinations. Because two satellite intercept is required for geolocation, 7107C operation is also affected. [redacted] asked that NSA representatives coordinate in resolving some new combinations, to which [redacted] of SSSC agreed.

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

3. The next TOG meeting is scheduled for 21 November 1974 and will be hosted by the NRL.

R. K. GEIGER

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AGENDA

STATUS

COLLECTION HIGHLIGHTS

PROCESSING HIGHLIGHTS

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Enclosure (1) to
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LIST OF ATTENDEES

PME 106/SPO: [redacted]

NSG: CDR Cole [redacted]

NRO/SOC: [redacted]

NRL: Mr. Lawton
Mr. Frankovic

NSA: [redacted]
Mr. Gallagher (W34)

[redacted]

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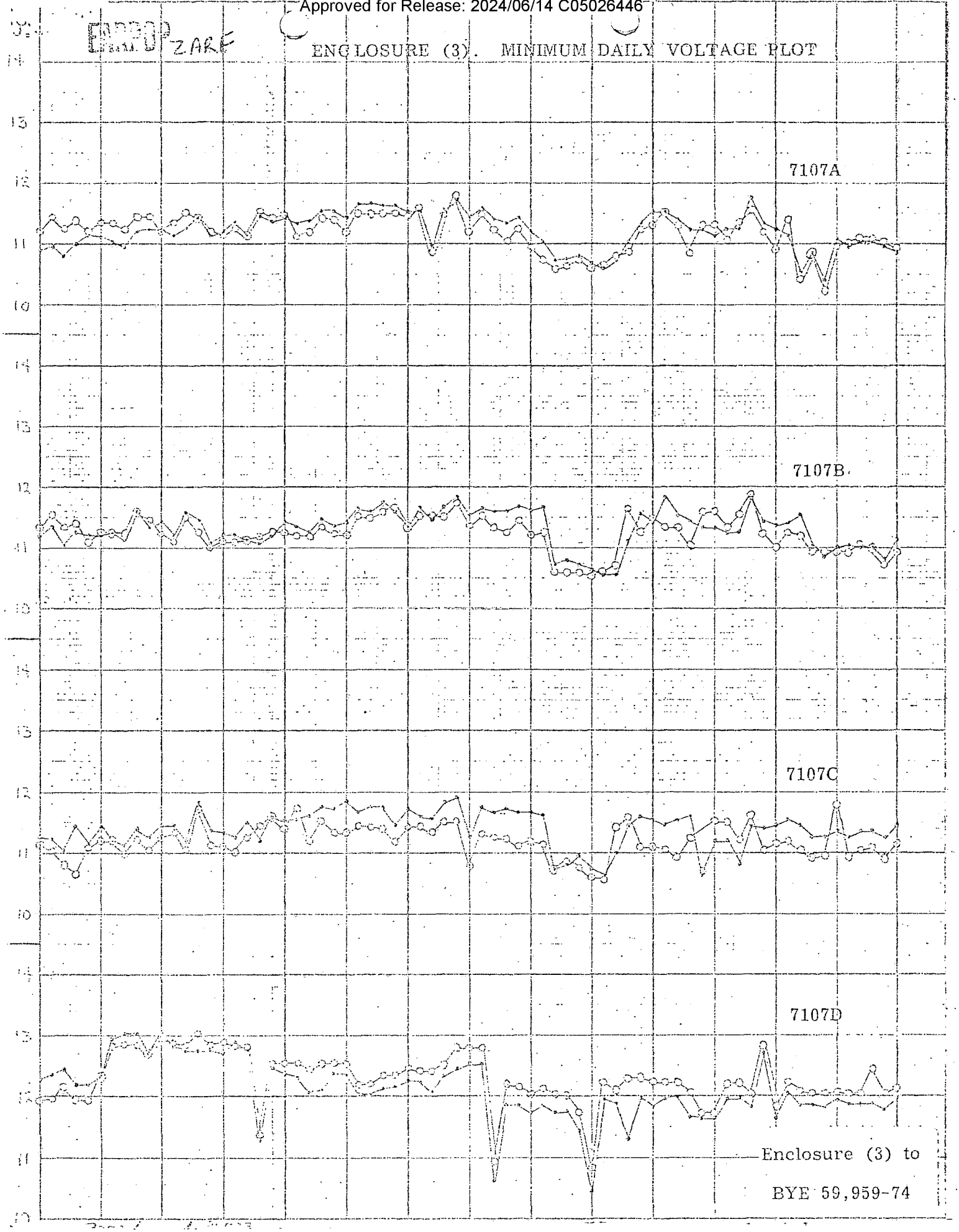
Enclosure (2) to
BYE 59,959-74

ENCLOSURE (3). MINIMUM DAILY VOLTAGE PLOT



Enclosure (3) to

BYE 59,959-74

COLLECTION HIGHLIGHTS

OCEAN SURVEILLANCE: (24 Sep - 29 Oct 74)

Since the last TOG meeting, there have been a total of six thousand forty four [redacted] locations. Five hundred of these were equated to major combatants and/or auxillaries. Seven hundred seven intercepts were combatant associated but could not be correlated to a specific hull. Thirty one intercepts were of [redacted] emitters, including one OOA on 29 Sep in the Atlantic (4922N/00752W). Four thousand eight hundred six intercepts of Merchant associated radars were reported. The increase in merchant radars was a result of several Projects described below. Significant events for this period are:

1. Project Backscratch: (10 Sep - 11 Oct 74) Task was levied by CINCLANTFLT against merchant type radars for tip-off of Soviet movement in an area of [redacted] A total of five hundred sixty four intercepts were reported in the area of interest during the period.

2. Project Baltops: (6 - 11 Oct 74) Task was implemented to observe Soviet surface reaction to the USS Sarsfield conducting operations in the Baltic Sea. No unusual reaction was noted.

3. Project Silver Fox: (6 - 11 Oct 74) Task was implemented to observe Soviet reaction to U.S. ships holding operations in the Black Sea. There were no major combatants intercepted in surveillance of this operation. Possible navigational radars were intercepted, but not correlated to specific ships.

4. Upon termination of the NATO exercise "NORTHERN MERGER" on 29 Sep, Kresta II CLGM Kronstadt and Kashin DLGM Ognevoy returned to the Barents Sea, and Krivak DDGSP Bditel'nyj returned to the Baltic Sea.

5. On 24 & 25 Sep, an undetermined exercise took place in the Eastern Black Sea. Approximately ten major combatants participated in this exercise.

6. Kara CLGM Nikolaev and Kashin DLG Krasnyj Krym exited the Black Sea and held exercises south of Crete, and then returned to the Black Sea.

7. Kynda CLGM Groznyy returned to tbe Black Sea from the Med.

8. On 28 Sep, [redacted] intercepted the Kresta II CLGM Oktyabriskiy in the Indian Ocean. This was their first intercept of this unit. During the month of Oct, [redacted] monitored the transit of the Kresta II CLGM Oktyabriskiy from the Indian Ocean to the Sea of Japan. All positively correlated intercepts came from the South China Sea.

9. Kynda CLGM Varyag, Kanin DDG Gnevnyy, and AOR Kolyechitskiy returned to the Sea of Japan from the Pacific after their transit around the Hawaiian Islands.

10. Kashin DLG Komsomolets Livitiy (Sea of Japan) has been confirmed through visual sightings as wearing new name "ODARENNYY".

11. With collection and processing capability restored at [redacted] on 19 Oct, we are again capable of intercepting units in the Caribbean area (Kresta II CLGM's Admiral Nakhimov and Makarov), and various AGI's and SSOCS's along the U.S. East Coast and Atlantic area.

12. On 14 Oct, [redacted] intercepted a probable [redacted] located in the White Sea (6507N/03309E). Ellipse was 133 NM/36NM with an orientation of 170 degrees. PRF was 1122.345 and equates to the 288th divisor of the 323.2 KHZ crystal. Research of [redacted] intercept data base has revealed seven intercepts of probable [redacted] All were geolocated to the Barents. Sites are now reporting intercepts of [redacted] to us that cannot be located. This will allow for accumulation of a larger data base on the unique [redacted] and allow for further analysis of crystal value distribution.

13. Black Sea Fleet Combatant HULTEC: [redacted] holds HULTEC data on all but two Black Sea fleet units equipped with the [redacted] EW radar. These two units are the last construction Kashin (BLK XV, "Bezuprechnyy", only unit built from keel as DLGM), and the second mod Kilden (name unknown). PRF ranges are established on Black Sea units from OOA deployments. These units have not yet deployed OOA. Identification confidence on [redacted] ntercepts from Black Sea is somewhat lower than that o [redacted] intercepts from OOA vessels.

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This is due to the usually large number of [redacted] carrying combatants in the area coupled with the fact that many of the vessels operate at or near the same PRF range. The newer construction vessels (CHG's and Kara's) are easily recognized as they are fitted with the newer generation [redacted] which has consistently exhibited a highly stable pulse train. The advent of the new highly stable [redacted] has allowed POPPY sites to correlate intercepts to the Moskva, Kara, and Kresta II class vessels on initial in-area shakedowns, whereas, positive correlations to vessels fitted with the unstable [redacted] cannot normally be attained until the vessel is isolated OOA.

TECHNICAL INTELLIGENCE AND EOB:

Project FLAVOR: 7107 system reporting has increased somewhat over the last report period. Thirty six intercepts were reported in support of task: Twenty two SA-6's were geolocated to [redacted] eight to [redacted] Four [redacted] were geolocated to [redacted] and one [redacted] was geolocated to [redacted]

[redacted] intercepted a [redacted] an early warning/GCI radar geopositioned to [redacted] The position was credited with Soviet equipment, but not this specific emitter.

Two intercepts of [redacted] were accomplished. One intercept exhibited an eight element, eight position PRI stagger. The [redacted] may be on the Soviet carrier KIEV.

There was one intercept attributed to the CHEKOV radar that exhibits parameters similar to [redacted]

There was one intercept of an SA-6 from [redacted]

A [redacted] SA-N-3 missile target tracking signal was intercepted and correlated to the Kresta II Oktyabrskiy.

Unident airborne emission, [redacted] was reported 24 October by [redacted]

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[redacted] intercepted and geolocated an unidentified signal [redacted] to Chang-Chia-Kow, PRC (40-55N,115-01E). Signal operates in the 9100-9340 MHZ band with a 2500 pps prf and a 4-5 HZ complex scan (poss unidirectional). Characteristics of signal suggest a possible association to a missile system.

[redacted] has accomplished intercepts of [redacted] (SA-8) which indicate emitter may be using a multiple level scan.

Fourteen intercepts of nine different unidents were reported.

Forty six revs were collected for SLM data on specific emitters. No target emitters were noted.

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PROCESSING HIGHLIGHTS

1. 17-200

Since August 1970 Mission 7107 Ground Stations [redacted] have been reporting an unidentified signal in the 3600-4050 MHZ band (now designated 17-200) with parameters similar to E-Band Soviet signals. PRF's to date have been 187, 332, 360, 374 and 428 PPS. Scan on all intercepts has been 1.8 seconds per sector.

A review of our SEDSCAF data base revealed numerous intercepts from conventional collectors (from Europe and PAC areas) with identical parameters which were being identified as [redacted] family. All intercept RF's did fall within the 3600-4050 MHZ range mentioned above.

Both EUDAC and IPAC were querried as to their opinion of the validity of these signals from conventional collectors and any data they may have had available from their master ELINT intercept file on signals of this type.

EUDAC has provided the only response to date and consisted of the following.

Signals similar to those mentioned by W34 have been noted during the last year in their efforts to identify [redacted] emissions. They believe the high RF may be caused by feed-through of the RX system by [redacted] etc. Careful monitoring of Northern Third Party Collector's Data/Operator logs shows no evidence of [redacted] [redacted] etc., operating in this RF range. They find it interesting that other collectors are observing similar operation and will conduct further study and will advise W34 of any additional data/conclusions.

Upon receipt of IPAC's response this signal will be forwarded to Project Departure for analysis and reporting.

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Enclosure (5) to
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2. [redacted]

The following information is provided as a result of the Project Departure Task to scan analog tapes from [redacted]

As a result of this task, intercept of the ABM associated signal [redacted] was recovered from Mission 7107 data collected by Ground Station [redacted] The signal, located at Launch Complex F Sary Shagan, is used as the missile tracker for a new ABM system being developed by the Soviets.

To date this is only the second intercept of [redacted] collected by Mission 7107. This intercept is of high interest due to the fact the signal was collected with the Signal Level Measurement (SLM) system activated. Most important is the fact that this is the very first intercept of the signal utilizing a scanning mode.

All available data will be turned over to Project Departure for further analysis and reporting.

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3. [redacted] ERP and Beam Structure Analysis

Ref: Project DEPARTURE Report 34-74 (Attached)

(Report is now in review by W22 [redacted] pending completion will be issued as ELINT Technical report)

SUMMARIZED PARAMETERS:

RF:	3640 or 3950 Mhz
PRF:	797.8697 PPS +/- .0001 PPS
PRI:	1253.3375 USEC +/- .0001
SCAN:	4.966 +/- .005 SPR (Circular)
	5.031 +/- .007 SPR (Circular)
(DBW) ERP:	84.9 +/- 1.3 db at 3640 Mhz
	86.2 +/- 1.3 db at 3950 Mhz
ERP:	316 Megawatts
Beamwidth:	Vertical: 10.0 +/- .5 degrees at 3640 Mhz
	9.6 +/- .5 degrees at 3950 Mhz
	Horz: 1.22 +/- .03 degrees

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