

US/UK/CANADIAN EYES ONLY. [REDACTED] FOR A1-7. 5TH AF FOR PEC
AFSSO.CET. 1 AFSCOF (HOLD AND PASS TO.MR. WILL. (S). AFSO.SAXSO.HOLD.
AND PASS TO.MR..J. (ETT.
CITE NSA SPO. 1752-7 [REDACTED]
[REDACTED] BY MISSION 7162

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INTRODUCTION:
① SEVERAL PULSES OF THE [REDACTED] SIGNAL HAVE BEEN
OBSERVED FROM MISSION 7162 ON R/I COLLECTION ORBIT 916
ON 23 SEPTEMBER 1967. ALL PULSES WERE OBSERVED DURING
A 90 SECOND INTERVAL BEGINNING AT [REDACTED] WHEN THE
SATELLITE WAS AT [REDACTED] DURING A DESCENDING PASS.
DISCUSSION:

② MISSION 7162 EMPLOYS RAPIDLY SCANNING RECEIVERS WITH A
BANDWIDTH OF APPROXIMATELY 5 KHZ. THIS [REDACTED] RATE
COUPLED WITH THE LOW PRR OF [REDACTED] PERPULSE, AT THE MOST, THE
INTERCEPT OF THREE P [REDACTED] ANY OTHER TYPE OF PULSE CAN
ONLY BE MADE BY THE [REDACTED] ONLY. THEREFORE, THE DETECTION OF [REDACTED]

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Handled via By [REDACTED]
To [REDACTED] [REDACTED]
Control Systems [REDACTED]

NSA 201909
Oct 1

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REPORTED IN TS/O/TKZR-E [REDACTED] TS/O/TKZ-ELT/R58-67.

④ THE PARAMETERS ESTABLISHED FROM POPPY MISSION ARE:

RF: 828 - 857 MHZ

PRF: 24.414 PPS

SCAN: 2.52 AND 5.24 AND IRREGULAR

PW: 412 USEC

MCP: POSSIBLE PHASE REVERSALS

RECENT INTERCEPTS BY THE BIT MISSION 7029 HAVE BEEN MADE ON:

23 SEP 67 FROM [REDACTED]

25 SEP 67 FROM [REDACTED]

25 SEP 67 FROM [REDACTED]

ANALYSIS BY NOW-NSA SOURCE ON THESE INTERCEPTS REVEALS THE SIGNAL STEPPING IN FREQUENCY FROM PULSE-TO-PULSE OVER A RANGE OF 865 TO 965 MHZ. THE SIGNAL PARAMETERS REPORTED ARE AS FOLLOWS:

RF: 865-965 MHZ

PRF: 25 PPS

SCAN: 3 MHZ/SEC FREQUENCY STEPPING

PW: 412 USEC

IT WAS ALSO STATED IN THE BIT MISSION REPORT THAT THE SIGNAL HAD EFFECTIVE RADIATED POWER (ERP) OF PPLU [REDACTED] WHEN THE MAIN BEAM SCANNED ACROSS THE VEHICLE. ASSUMING SITE 1, SARY SHAGAN, AS THE EMITTER LOCATION, THIS POWER ESTIMATION WAS MADE WHEN THE VEHICLE WAS AT 6 DEGREES ELEVATION AND 272 DEGREES AZIMUTH FROM THE EMITTER.

⑤ SPECIAL TAPPING OF MISSION 7104/7125 HAS REVEALED NO.

[REDACTED] NOR HAS SUCH ASSOCIATION BEEN OBSERVED ON THE BIT MISSIONS.

⑥ FROM THE MISSION 7152 DATA THE FOLLOWING PARAMETERS ARE OBSERVED:

RF: SEPARATE PULSES WERE RECEIVED AS THE RECEIVER TUNED ACROSS 828, 846, 862, 868 AND 886 MHZ. (CALL PLUS MINUS 5 MHZ)

*seen by 7162 finally after**2 1/2 yrs of Poppy ONLY**Handle V.a BUERMAN
Talent Keyhole - COMINT
Control Systems Jointly*~~Top Secret~~

1: 24.4 (4) 0000
 7: 475 PLUS MINUS 5 USEC
 SCAN: NOT AVAILABLE

WORD: DETERMINED (SEE DISCUSSION)
 PULSES: 1 (SEE DISCUSSION)

Top Secret [REDACTED] CUTIVE RECEIVER

SCANS AS INDICATED IN THE TABLE BELOW:

SCAN	NO. OF PULSES	RECEIVER FREQ (MHZ)
1	1	880
2	1	863
3	1	868
4	2	926
4	2	786
5	3	908

THE RF MEASUREMENTS WERE DETERMINED BY READING THE DIGITAL WORD CLOSEST TO THE STRONGEST PULSE RECEIVED. (THE DIGITAL WORD INDICATES THE RECEIVER CENTER FREQUENCY AT THE TIME WHEN THE WORD IS GENERATED). THE SEPARATE RF MEASUREMENTS VERIFY FREQUENCY STEPPING AS INDICATED BY THE BIT MISSION. HOWEVER, THE FREQUENCY/STEP RATIO CANNOT IMMEDIATELY BE DETERMINED DUE TO THE SMALL NUMBER OF PULSES AND THE SCANNING RECEIVER. IN SCAN 5 WHERE THREE SUCCESSIVE PULSES WERE RECEIVED IT MAY BE POSSIBLE TO MEASURE THIS RATIO. WORK IS CONTINUING IN THIS AREA.

② THE PULSE RECEIVED WHEN THE RECEIVER WAS TUNED TO 786 MHZ IS A MATTER OF CONCERN AS IT IS BEYOND THE RF RANGE INDICATED BY THE BIT MISSION. THE 786 MHZ PULSES WERE RECEIVED DURING THE SAME RECEIVER SCAN IN WHICH PULSES WERE RECEIVED AT 936 MHZ. SINCE THE DIFFERENCE BETWEEN 936 MHZ AND 786 MHZ IS 150 MHZ, EXACTLY TWICE THE RECEIVER IF, AND THE LOCAL OSCILLATOR IN THE RECEIVER TRACKS HIGH, THERE IS A GOOD POSSIBILITY THAT THE 786 MHZ PULSES ARE A RESULT OF IMAGE RECEPTION.

③ THE DATA IS QUITE NOISY, THUS SPECTRAL ANALYSIS, PRESENTLY

Top Secret [REDACTED]

*Handle Via BYEMAN
 Talent-Keyhole-Comint
 Control Systems Group*

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INCEWAY, IS REQUIRED TO DETERMINE THE EXISTENCE OF MODULATION ON PULSE, NOT NOW READILY APPARENT.

9. THE MISSION 7162 DATA VERIFIES THE [REDACTED] PARAMETERS AS OBSERVED IN THE PREVIOUS MISSIONS, WITH THE EXCEPTION OF XOP.

10. IT IS FELT THAT THE RF LIMITS REPORTED FROM THE BIT MISSION ARE VALID, AND THE DISCREPANCY BETWEEN THAT MISSION AND THE 7104/7105 REPORTS IS A RESULT OF THE HIGH POWER OF THE EMITTER. IN OTHER WORDS, A STRONG ENOUGH SIGNAL CAN BE INTERCEPTED BY MISSIONS 7104/7105 IN THE SKIRTS OF THE FILTER WHICH HAS A 3 DB DOWN CUT-OFF OF 857 MHZ, BUT A MINUS 23 DB CUT-OFF OF 880 MHZ. [REDACTED] AS REPORTED BY THE BIT INTERCEPT IS OF SUFFICIENT SIGNAL STRENGTH TO BE INTERCEPTED WELL DOWN IN THE FILTER SKIRTS OF MISSION 7104/7105.

11. AS IN THE BIT (7079) AND POPPY (7104/7105) MISSION INTERCEPTS, THERE IS NO ESTABLISHED CORRELATION BETWEEN [REDACTED] AND THE HEN HOUSE; HOWEVER, ON MISSION 7162,

THE [REDACTED] WAS INTERCEPTED APPROXIMATELY FIVE MINUTES PRIOR TO THE [REDACTED]

[REDACTED] THE ORIGIN OF THIS HENHOUSE SIGNAL HAS BEEN DETERMINED AS [REDACTED] BASED ON HORIZON LIMITS OF THE SATELLITE AT THE TIME OF INTERCEPT.

12. THE LOCATION OF MISSION 7162 AT THE TIME OF INTERCEPT IS WITHIN THE HORIZON OF SITE 1, [REDACTED]

THE 90 DEGREE SECTOR WHICH IS ONLY ONE OF THE 225 DEGREE AZIMUTH FROM SITE 1 (REF: [REDACTED])

13. THIS ELINT TECHNICAL REPORT CONTAINS INFORMATION RELAYED TO VALIDATED CONSUMER [REDACTED]

CLASSIFICATION: SECRET

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