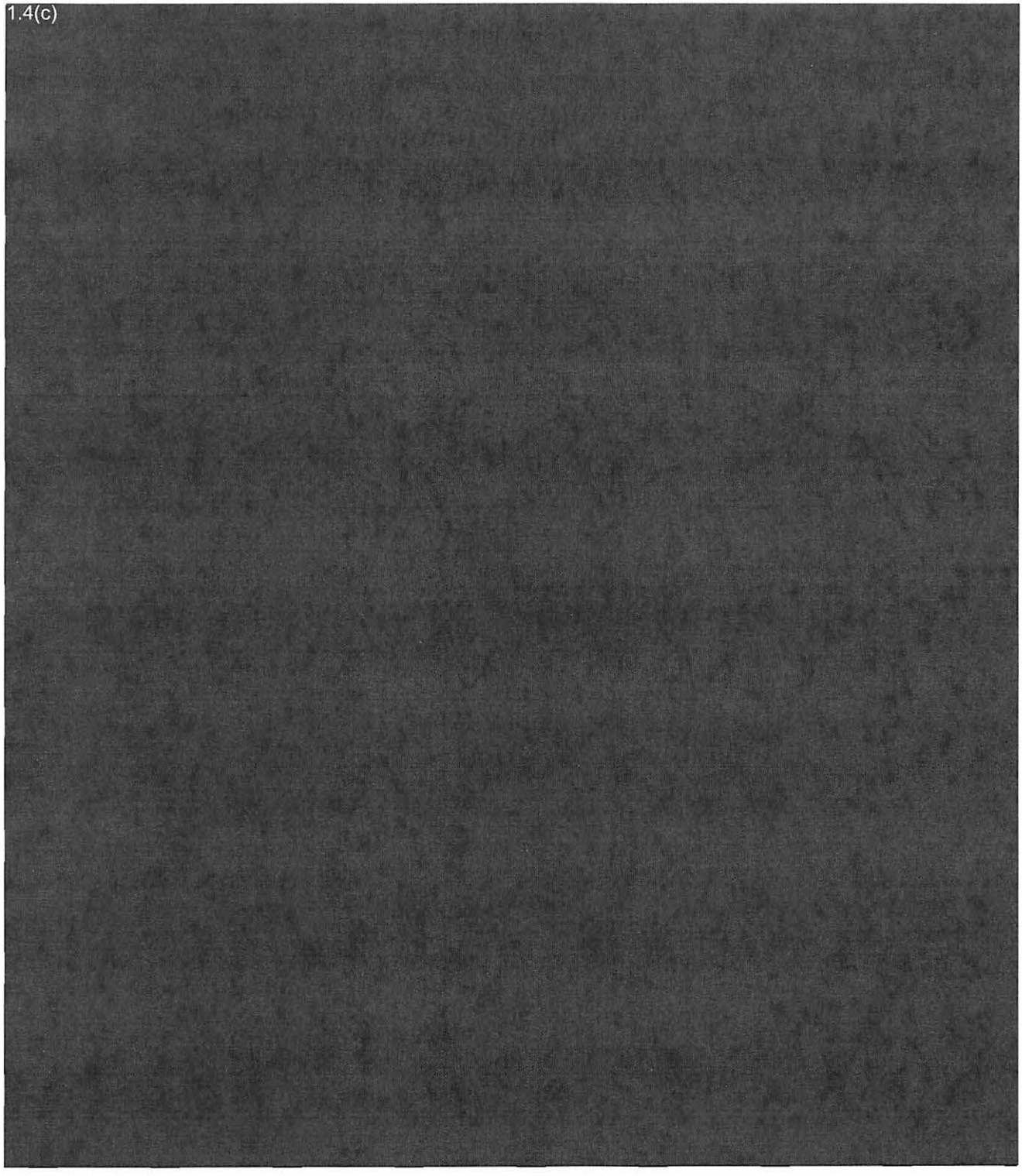
~~SECRET//NOFORN//X1, X6~~

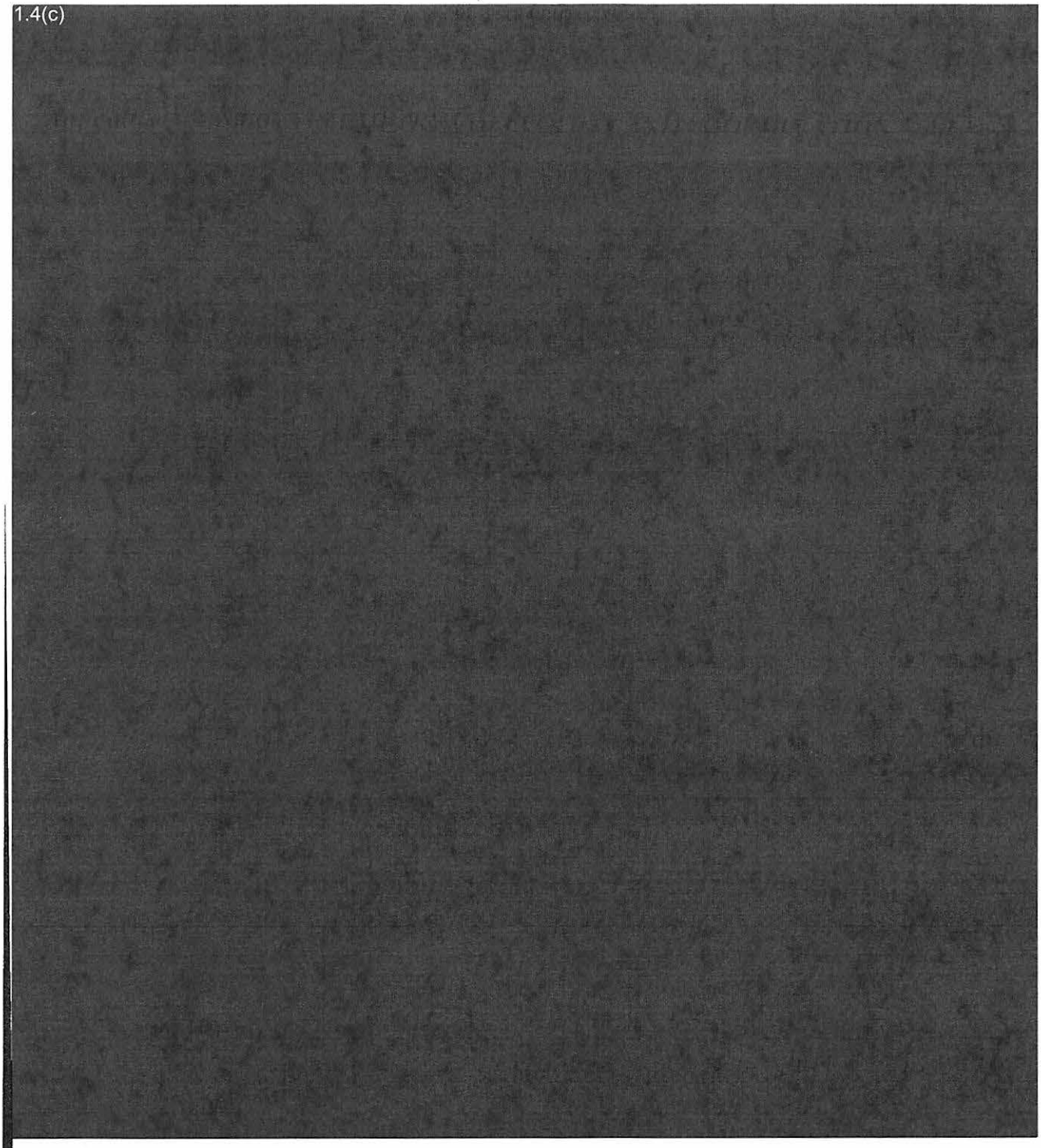
Appendix A – 1950s/1960s TELEMETRY COLLECTION AND COORDINATION ASSETS

1.4(c)



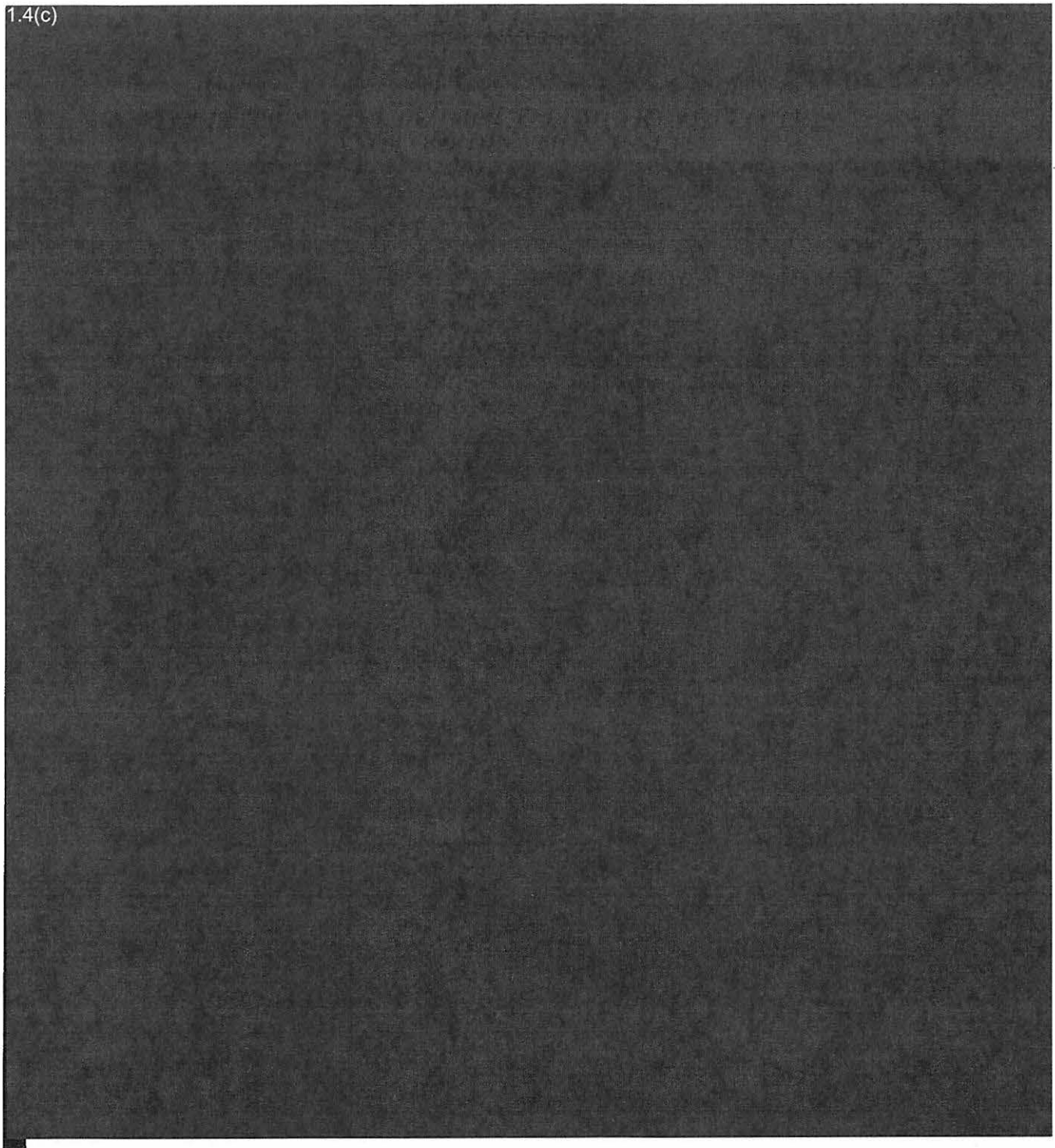
Appendix A – 1960s TELEMETRY COLLECTION AND COORDINATION ASSETS

1.4(c)



Appendix A – 1950s/1960s TELEMETRY COLLECTION AND COORDINATION ASSETS

1.4(c)



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(U) Appendix B
1950s/1960s Selected TELINT Asset Descriptions

Description No.	Description Title	Page
1	~~(S)~~ ANDERS (ANFRR-81) – Land-Based SIGINT – Shemya, Alaska	76
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13	~~(S)~~ STONEHOUSE – Land-Based SIGINT – Asmara, Ethopia	88
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16	~~(S)~~ TACKSMAN II – Land-Based TELINT – Meshed, Iran	91

Description 1
~~(S)~~ ANDERS (AN//FRR-81) – Land-Based SIGINT – Shemya, Alaska

SYSTEM TYPE: Telemetry/SPACOL

OPERATOR: CGUSASA

NAMES USED: ANDERS

LOCATION: 52.43N 174.05E Shemya, Alaska

CLASSIFICATION: SECRET

EQUIPMENT: AN/FRR-81

MISSION and

1.4(c)

[redacted]

~~SECRET//NOFORN//X1, X6~~

Description 2
~~(S)~~ ARIS – Seaborne (2 ships) Multi-INT – Usually Western Pacific

SYSTEM TYPE: RADINT/Telemetry/Photographic

OPERATOR: Air Force Eastern Test Range (AFETR)

Advanced Range Instrumentation Ship I (ARIS I) USNS *General N. H. Arnold*, T-AGM-9, formerly PL 86-36/50 USC 3605 Sierra. Advanced Range Instrumentation Ship II (ARIS II) USNS *General H. S. Vandenberg* T-AGM-10, POLL COUNT, TANGO. Reference Operational Directive 0079.

NAMES USED: PL 86-36/50 USC 3605

LOCATION: Varies according to operating location – home port Port Kennedy, Florida

CLASSIFICATION: SECRET

EQUIPMENT: C, L, and UHF Band Radars, QRC 467B Telemetry Equipment, Boresight, IFLOT FIXED and SLAVED Cameras, Univac 1206 Digital Computer.

MISSION and

1.4(c)

Description 3
~~(S)~~ BRIGHT CRESCENT – Seaborne (4 DE Ships)
Multi-INT Usually Western Pacific

SYSTEM TYPE: ELINT, COMINT, RADINT, Photography, Debris/Water Sample Collection

OPERATOR: Commander-in-Chief Pacific (CINCPAC), Commander Task Force 92 (CTF-92)

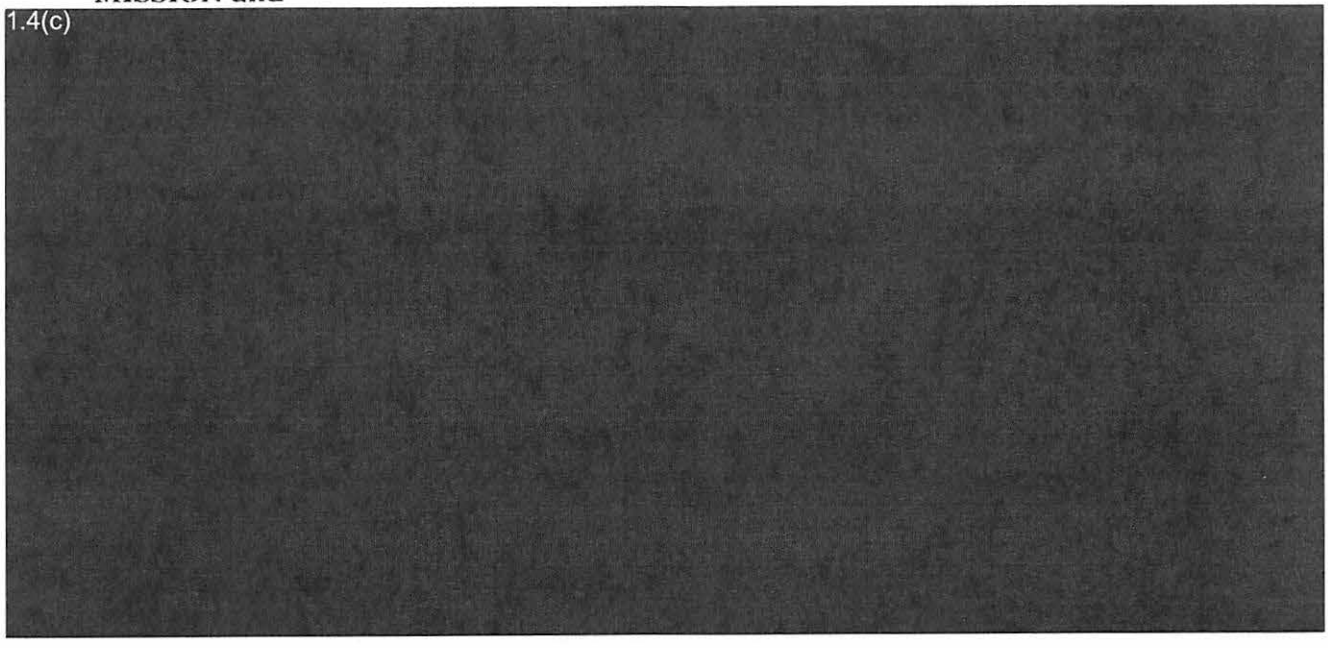
NAMES USED: BRIGHT CRESCENT (U)

CLASSIFICATION: SECRET Group-3

EQUIPMENT: USS *Claude Jones* (DE-1033) CTF 92.2.4 USS *Charles Berry* (DE-1035) CTF 92.2.1 USS *John R. Perry* (DE-1034) CTF 92.2.3 USS *McMorris* (DE-1036) CTF 92.2.2

MISSION and

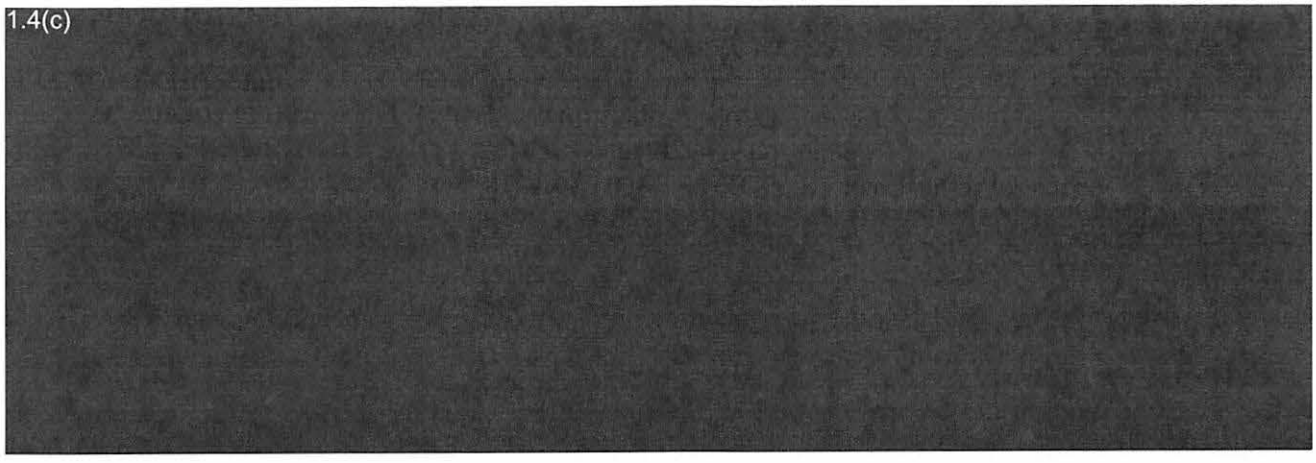
1.4(c)



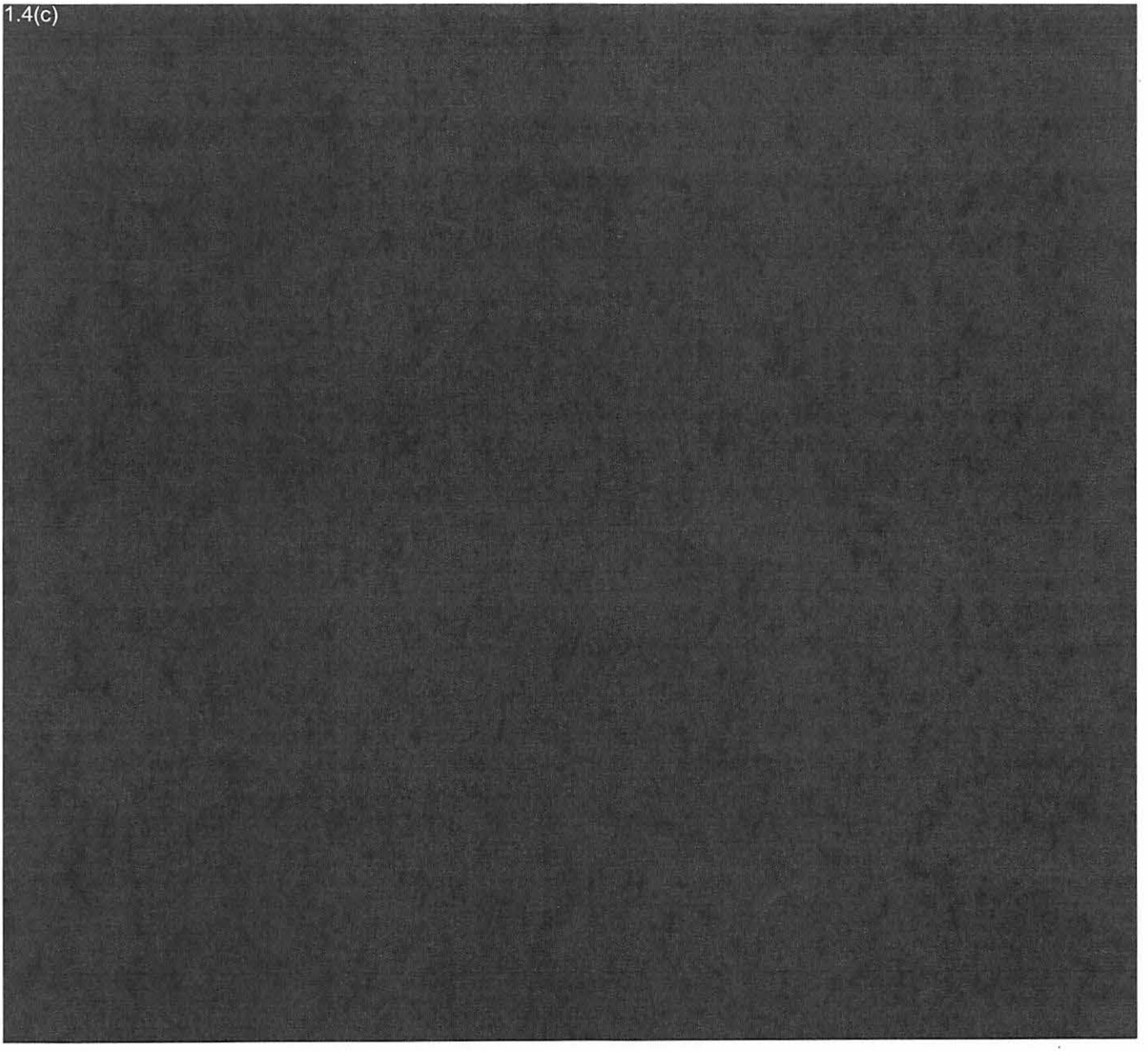
Description 4
~~(S)~~ COBRA BALL – Airborne Multi-INT – Usually Western Pacific

SYSTEM TYPE:	OPINT/Telemetry
OPERATOR:	Detachment 1, 6th Strategic Wing, 15th Air Force, Strategic Air Command (SAC) Contractor Ling-Temco-Vought (LTV)
NAMES USED:	COBRA BALL, BURNING STAR
LOCATION:	52.73N 174.10E Stages primarily from Shemya, Alaska, and secondary from Eielson AFB, Alaska.
CLASSIFICATION:	SECRET Group-3
EQUIPMENT:	RC135S
MISSION and CAPABILITIES:	OPINT – BC101 Ballistic Streak Camera. TELEMETRY – RAVEN 1-4 positions COMMUNICATIONS – URC53, HF Receiver for Broadcast

1.4(c)



1.4(c)



~~SECRET//NOFORN//X1, X6~~

~~(S)~~ 1.4(c) – *Description 6 Transportable TELINT* – 1.4(c)

SYSTEM TYPE: Telemetry

OPERATOR: US AIR FORCE

NAMES USED: PL 86-36/50 USC 3605

LOCATION: Transportable

CLASSIFICATION: SECRET

EQUIPMENT: N/A

MISSION and

1.4(c)

~~SECRET//NOFORN//X1, X6~~

~~(S)~~ 1.4(c) [redacted] *Description 7 Land-Based TELINT* – 1.4(c) [redacted]

SYSTEM TYPE: TELEMETRY

OPERATOR: AFETR Patrick AFB Florida

NAMES USED: PL 86-36/50 USC 3605 [redacted]

LOCATION: 1.4(c) [redacted]

CLASSIFICATION: SECRET

EQUIPMENT: Semi-automatic – equipped with a signal recognizer, a 14-track recorder, and 6 receivers (4 CEI-970, 4 CEI-416 and 1 R390)

MISSION and

1.4(c) [redacted]

~~SECRET//NOFORN//X1, X6~~

1.4(c)

[redacted]

Description 9
~~(S)~~ HIPPODOME – Land-Based TELINT – Sinop, Turkey

SYSTEM TYPE: Telemetry/SPACOL

OPERATOR: CGUSASA

NAMES USED: HIPPODROME

LOCATION: 42.10N 35.11E Sinop, Turkey

CLASSIFICATION: SECRET

EQUIPMENT: AH/FRR-69

MISSION and

1.4(c)

[redacted]

~~SECRET//NOFORN//X1, X6~~

(S) PL 86-36/50 USC 3605 – *Description 10 Land-Based TELINT – Chitose, Japan*

SYSTEM TYPE: Telemetry/SPACOL

OPERATOR: USASA Field Station Chitose

NAMES USED: PL 86-36/50 USC 3605

LOCATION: 42.51N 141.44E Chitose, Japan

CLASSIFICATION: SECRET

EQUIPMENT: AN/FRR-82

MISSION and

1.4(c)

[redacted]

~~(C)~~ 1.4(c) *Description 11 Transportable TELINT* – 1.4(c)

SYSTEM TYPE: Telemetry (SPACOL)

OPERATOR: PL 86-36/50 Transportation SPACOL facility, U.S. Army Security Agency (USASA)

NAMES USED: PL 86-36/50 USC 3605

LOCATION: 1.4(c)

CLASSIFICATION: SECRET

EQUIPMENT: AN/MSQ-90 (V) Monitor System

MISSION and

1.4(c)

Description 12
~~(S)~~ SEABRINE –Airborne TELINT –Usually Western Pacific

SYSTEM TYPE: Telemetry

OPERATOR: AIRCRAFT: U.S. Navy, INTERCEPT CREW: CGUSASA

NAMES USED: SEABRINE

LOCATION: Mobile

CLASSIFICATION: SECRET

EQUIPMENT: AN/MSQ-90 (V) Monitor System

MISSION and

1.4(c) [redacted]

Description 13
~~(S)~~ STONEHOUSE – Land-Based SIGINT – Asmara, Ethiopia

SYSTEM TYPE: Telemetry SPACOL

OPERATOR: CGUSASA

NAMES USED: STONEHOUSE

LOCATION: 15.35N 38.91E Asmara, Ethiopia

CLASSIFICATION: SECRET

EQUIPMENT: N/A

MISSION and CAPABILITIES: Provides collection, analysis and passive tracking of all signals (telemetry, standard data transmission, communications, etc.) emanating from foreign deep space vehicles

1.4(c) [redacted]

Description 14
~~(S)~~ 1.4(c) [redacted] *– Land-Based SIGINT –*
1.4(c) [redacted]

SYSTEM TYPE: TelemetrySPACOL

OPERATOR: Naval Research Lab. and NSG

NAMES USED: 1.4(c) [redacted]

LOCATION: 1.4(c) [redacted]

CLASSIFICATION: SECRET

EQUIPMENT: N/A

MISSION and

1.4(c) [redacted]

Description 15
~~(S)~~ TACKSMAN I – Land-Based SIGINT – Behshahr, Iran

SYSTEM TYPE: TELEMETRY/BEACONRY

OPERATOR: Central Intelligence Agency (CIA)

NAMES USED: TACKSMAN I (TMAN)

LOCATION: 36.45N 53.38Z, Behshahr, Iran, Elevation 650 feet

CLASSIFICATION: SECRET

EQUIPMENT: N/A

MISSION and

1.4(c)

[redacted]

Description 16
~~(S)~~ TACKSMAN II – Land-Based TELINT – Meshed, Iran

SYSTEM TYPE: ELINT/TELEMETRY/BEACONRY

OPERATOR: Central Intelligence Agency (CIA)

NAMES USED: TACKSMAN II (TACKS), PL 86-36/50 USC 3605

LOCATION: 37.17N 58.55E (TACKS), Meshed, Iran, Elevation 5,645 Feet

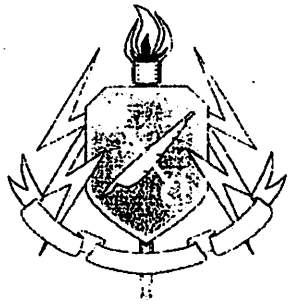
CLASSIFICATION: SECRET

EQUIPMENT: N/A

MISSION and

1.4(c) [redacted]

(U//FOUO) Mr. Bernard is a consultant and volunteer in the NSA Center for Cryptologic History. He is a retired NSA Senior Executive with over thirty years' experience in SIGINT, primarily as a program manager and executive for developing field collection and processing systems. He began his career at NSA as a USAF second lieutenant in 1953 in computer engineering. He became an NSA civilian employee in 1954.

(U//FOUO) After transferring to an R&D Office in 1960, Mr. Bernard held staff positions until he joined the R&D organization responsible for developing the fledgling set of systems, called SPACOL systems, to obtain telemetry from the rapidly emerging Soviet missile and space program. He was the project manager for 1.4(c) [redacted] 1.4(c) [redacted] *and for many other new systems and upgrades to several other field systems. Mr. Bernard then continued to plan and develop many COMINT, ELINT, and TELINT Line-Of-Sight field systems over the next several years; he became office chief and then deputy group chief of NSA line-of-sight system development organizations. In 1980 he became director of the Defense Special Missile and Astronautics Center (DEFSMAC) and held that position for three years. Mr. Bernard has an electrical engineering degree and a Master of Engineering Administration degree. He is professionalized as an Electronic Engineer and was a charter member of the NSA Senior Cryptologic Executive Service.*

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