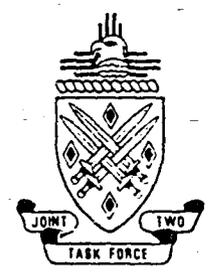


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No 9215

SC-M-68-702
October 1968



JTF-2 REPORT

JOINT TASK FORCE TWO
TEST 4.4
F-4C Aircraft
Data Book (U)
Part 1 of 8

Department 9210

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
1 st Review Date: <u>3-26-96</u>	Determination (Circle Numbers):
Authority: <input type="checkbox"/> ADC <input checked="" type="checkbox"/> ADD <u>W. Layne</u>	1. Classification Retained
Name: _____	2. Classification Changed to: <u>U</u>
2 nd Review Date: <u>4/4/96</u>	3. Contains No DOE Classified Information
Authority: ADD <u>Penny Jones</u>	4. Coordinate With: _____
Name: _____	5. Contains UCAI? _____
	6. Comments: _____

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
CONTAINING INFORMATION DECLASSIFICATION STAMP	
CLASSIFICATION CHANGED TO: <u>U</u>	AUTHORITY: <u>Penny Jones</u>
PERSON CHANGING MARKING & DATE: <u>Emelda Septh 05/21/96</u>	RECORD ID: <u>96SN248</u>
PERSON VERIFYING MARKING & DATE: <u>W-C Payne 6-20-96</u>	DATED: <u>4/4/96</u>

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SC-M-68-702

JOINT TASK FORCE TWO
TEST 4.4
F-4C AIRCRAFT
DATA BOOK (U)
PART 1 OF 8

DEPARTMENT 9210

OCTOBER 1968

Sandia Laboratory, Albuquerque, New Mexico

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FOREWORD

1. Joint Task Force Two (JTF-2) was organized by the Joint Chiefs of Staff to conduct a series of coordinated and integrated tests to determine the capabilities and vulnerabilities of offensive and defensive weapons systems in the low altitude flight regime. Test 4.4, Target Acquisition, Tactical Air Reconnaissance with Test 2.1 Penetration-Operational Systems, was the fourth test in the series.

2. Joint Task Force Two Test 4.4 investigated the relationships among aircraft, altitude, speed, environment, and the air-to-ground tactical air reconnaissance task for representative operational aircraft and aircrew combinations. Additionally, through the incorporation of a low altitude navigation course, corollary objectives of Test 2.1, Penetration-Operational Systems, were investigated.

3. In the conduct of Test 4.4 extensive instrumentation data were collected, some of which were not directly related to the tactical air reconnaissance objectives. This volume presents those data which are reliable over a majority of the test sorties and of possible interest to agencies, other than those concerned with the target acquisition problem.

4. This volume contains plots of the aircraft position track in the target area. There are also plots of the aircraft altitude above the terrain, normal accelerations, roll angle, pitch angle and slant range from the navigation check points and the targets to the aircraft. These data are presented in volumes, by aircraft type, with a separate volume for each type.

5. A supplemental volume of data summaries lists the results of each target engagement for each sortie. Operational data which include speed, altitude, and closest approach distance to each target are given. Reconnaissance performance data includes target acquisition, target location error, and accuracy and completeness of description scores.

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SECTION 1

INTRODUCTION

1.(U) BACKGROUND

a. Joint Task Force Two Test 4.4, Target Acquisition, Tactical Air Reconnaissance, was the fourth in a series of coordinated and integrated tests designed to obtain factual operational and technical data on low altitude offensive and defensive weapons system operations.

b. Test 4.4 was a test of visual and sensor target acquisition capabilities at low altitudes of representative aircraft weapons systems. It was designed to investigate the relationship between the air-to-ground tactical air reconnaissance task and aircraft type, altitude, speed, and environment for representative operational aircraft and aircrew combinations. Included were ancillary excursions to investigate hunter-killer operations and the ability to acquire and convert to attack of certain selected targets.

c. In conjunction with the target acquisition test, a navigation test was conducted for tactical strike and tactical reconnaissance aircraft, in which aircrews flew a low altitude navigation course into the target complex. This portion of the test was that part of JTF-2 Test 2.1, Penetration-Operational Systems, pertaining to navigation ability over rolling terrain. Results of analysis of the navigation portion will be reported in a separate volume.

d. The test was conducted sequentially in three parts: controlled flight observations (CFO), the field test, and simulator extensions. Results of the CFO are reported in JTF-2-4.4 Volume 2. In the field test, aircraft and aircrews provided by operational units of the Army, Navy, and Air Force flew missions against a spectrum of field army targets typical of the kind that are distinctly visible from the air. The targets were deployed along three test courses at locations not known to the test subjects. A total of 623 sorties was flown by six aircraft types: three tactical strike aircraft (A-4C/E, A-6A and F-4C), one tactical reconnaissance aircraft (RF-4C), and two observation/surveillance aircraft (O-1E and UH-1B). Of the 623 total sorties, 508 were successful for test purposes. Special 70-mm motion picture imagery of the test courses and targets was collected for use

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in a dynamic simulator to extend the knowledge gained in the field test. However, the simulator tests were not conducted due to the disestablishment of JTF-2.

e. Target acquisition tasks for aircraft, aircrew, and photo interpreter combinations included search, detection, inspection, identification, and the collecting and reporting of information. Emphasis was on target acquisition associated with the reconnaissance or information-gathering phase of air-to-ground operations against typical field army targets of unknown location.

f. The principal reconnaissance data collection sources consisted of aircrew voice target reports recorded on tape recorders (real time reports), postflight air intelligence officer (AIO) debriefing reports (near real time reports), and photo (imagery) interpreter reports.

g. The Test 4.4 report consists of a series of bound volumes, each addressing a particular facet of the target acquisition, tactical air reconnaissance test. All volumes will bear the title: Low Altitude Test 4.4, Target Acquisition, Tactical Air Reconnaissance, Volume _____: (Identifying subtitle). Table 1-1 is a tabulation of the documentation.

Volume	Identifying Subtitle
1	Field Test Description
2	Controlled Flight Observation
3	Field Test Initial Analysis
4	Field Test Detailed Analysis
5	Navigation Over Rolling Terrain (Test 4.4/2.1)
6	VISTRAC, PHOTOTRAC, and ITRAC models Data Books by aircraft type Data Summary Book across all aircraft

Table 1-1 (U) Component Documentation for Total Test 4.4 Report

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2.(U) PURPOSE OF THE DATA HANDBOOK

a. Provide those data collected during Test 4.4 which are considered pertinent in evaluating the participating weapons systems performance in visual target acquisition and other areas.

b. Assemble these data, by weapon system type, into volumes which will facilitate data retrieval and application.

3.(U) TEST DESCRIPTION

a. Test objectives. The objectives of Test 4.4 were to:

(1) Determine the capability of representative tactical aircraft and aircrew combinations to obtain and report, both with and without the aid of reconnaissance sensors, intelligence information concerning a variety of targets, while penetrating at low altitude under visual flight conditions for two clearance altitude realms.

(a) Current operational low altitudes trained for and used by the military services. (Because of reduction in scope of the test as initially conceived, those current operational altitudes above 900 feet were investigated only to a limited degree.)

(b) Low altitude bands of 0-400 feet and 500-900 feet.

(2) Measure the relative capability to collect visually acquired and voice reported (real time and postflight debriefing) reconnaissance information and information acquired through the use of sensor equipment requiring processing and interpretation (photography, infrared radiation (IR), and side looking radar (SLR) in terms of:

(a) Quantity of information as compared to ground truth.

(b) Quality of information as compared to ground truth.

(c) Accuracy of information as compared to ground truth.

(d) Time of availability of information. Side-looking radar imagery was subsequently deleted from the test based on recommendation

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of the Tactical Air Command because of nonsuitability of SLR for the nature of the targets and at the low altitude programmed for Test 4.4.

(3) Determine the capability of representative tactical aircraft/aircrew combinations to perform armed reconnaissance against specified targets while penetrating at low altitude to:

(a) Acquire, convert to attack, and perform an attack maneuver on a target of opportunity, and

(b) Acquire, convert to attack, and perform an attack maneuver on a target identified by a simulated hunter aircraft.

(4) Develop and validate a mathematical model that will aid in:

(a) Developing tactical air reconnaissance doctrine, tactics, techniques, and equipment;

(b) Determining the relative probabilities of low altitude reconnaissance mission accomplishment or effectiveness; and

(c) Predicting results beyond the physical scope of the test.

(5) Determine the capability of representative tactical aircraft/aircrew combinations to acquire a prebriefed target comparable to those used in Test 4.1.

(6) Attain the specific major objectives of that part of Test 2.1, Penetration-Operational Systems, pertaining to navigational ability over rolling terrain that are to:

(a) Determine the distribution of navigation error to a terminal point over rolling terrain, including collection of descriptive statistics on acquisition of both intermediate check points and time of arrival at, and lateral displacement from, intermediate and final navigational check points.

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(b) Determine the suitability of prechosen visual/radar check points used for navigation over rolling terrain, and

(c) Determine how low specified aircraft/aircrew combinations will fly over rolling terrain while performing navigational task.

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b. TEST AREA DESCRIPTION. The test area included four test courses: a navigation course, a point-to-point reconnaissance course over rolling, wooded terrain, a road reconnaissance course over relatively flat, wooded terrain, and an area search reconnaissance course which was incorporated within the limits of the point-to-point course. Figure 1-1 is a map of the test area.

(1) Target Description. The targets emplaced within the reconnaissance courses were typical of those kinds of targets in a field army which would be distinctly visible from the air. Targets hidden among foliage or buildings and camouflaged targets were not included. Some of the emplaced targets were actual military equipment, but most were wood and metal mockups.

(2) Navigation Course. Reconnaissance sorties flown by tactical aircraft were preceded by a navigation mission approximately 150 nautical miles in length. Two separate navigation courses were established. Both started at Norfolk Reservoir in northeastern Arkansas (start point was designated as point Alfa) and extended in a generally southwesterly direction, terminating at final control checkpoints near the entry points to the point-to-point and road reconnaissance courses.

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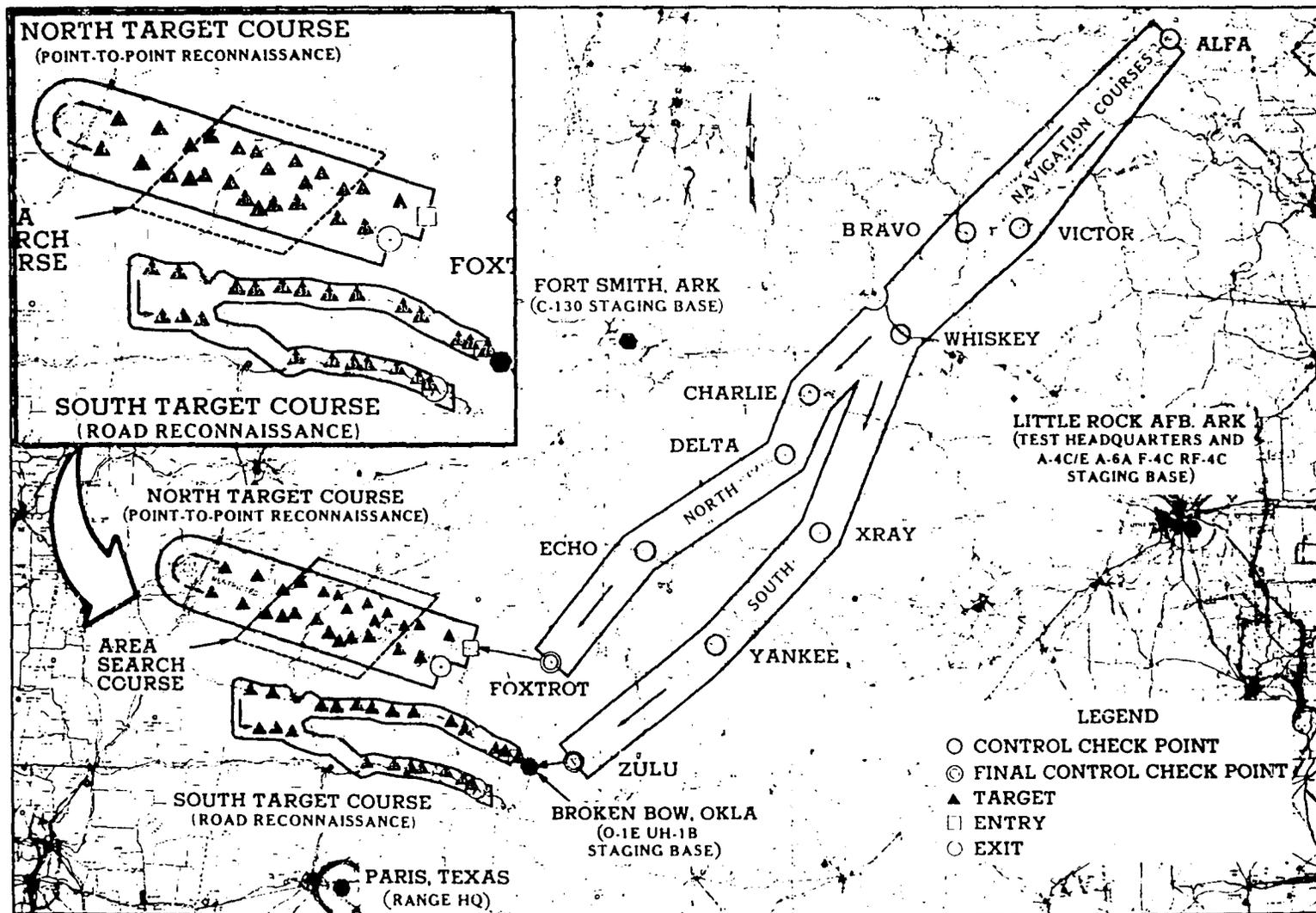


Figure 1-1 (U) JTF-2 Test 4.4 Test Area

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(3) Point to-Point Course. The point-to-point reconnaissance (north) course consisted of two parallel legs, each about 50 nautical miles in length. Each leg had clearly defined entry points (N-1 and N-3) and exit points (N-2 and N-4). Twenty-five targets were deployed along the two legs at varying distances from the flight path, ranging from 7 yards to 3960 yards. Figure 1-2 shows the general layout of the north course and Table 1-2 gives a brief description of each target on the course.

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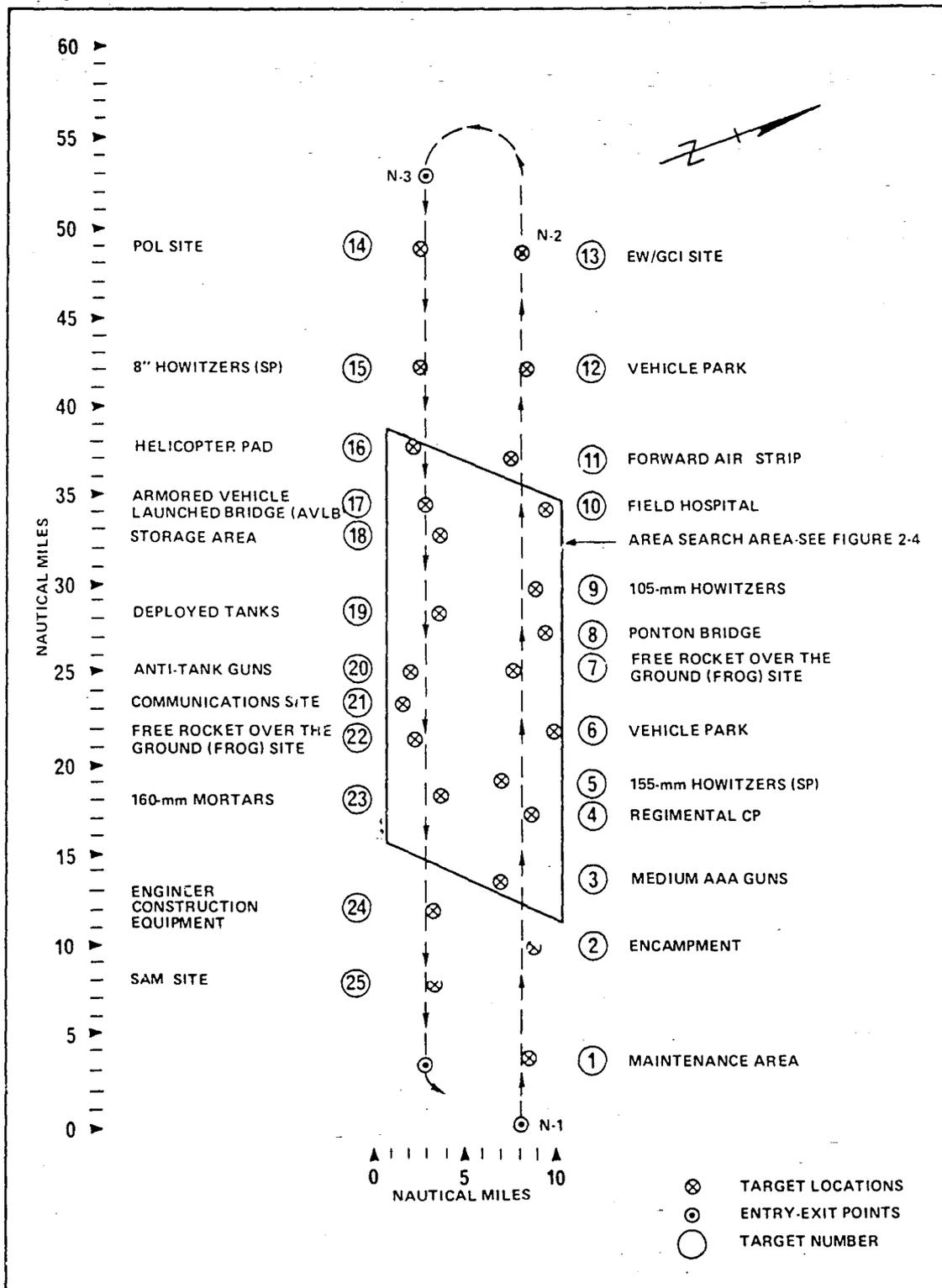


Figure 1-2 (U) Point-to-Point Reconnaissance Course

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Target Number	Target Name	Description
1	Maintenance Area	1 tank retriever; 2 medium general purpose (GP) tents; 1 each 2-1/2 ton truck; 1 each 10 ton wrecker; 1 large grease platform.
2	Encampment	10 medium GP tents (2 rows of 3 tents and 1 row of 4 tents).
3	Medium AAA Guns, Towed	6 positions in AAA site occupied by 3 each 57-mm guns in triangular arrangement. All position revetted.
4	Regimental Size Command Post*	2 small GP tents; 5 jeeps; 1 each 3/4 ton truck with radio van.
5	152-mm Howitzers - Self-Propelled (SP) (US 155-mm)*	4 guns (6 positions - 2 positions unoccupied) deployed in defilade; partial revetment.
6	Vehicle Park	13 each 2-1/2 ton trucks parked in relatively open area.
7	Free Rocket Over the Ground (FROG) (US Honest John) Site	1 missile on launcher; 3 each 2-1/2 ton trucks; 1 jeep.
8	Ponton Bridge	Bridge (10 pontoons) approximately 150 feet long.
9	122-mm Howitzers (US 105-mm) Deployed*	6 guns; 6 each 2-1/2 ton trucks; 1 jeep.
10	Field Hospital	3 large GP tents; 2 each 3/4 ton ambulances; helipad with 1 helicopter; items marked with red crosses.
11	Forward Air Strip	2500 foot graded earth air strip; 1 medium GP tent; 1 flatbed truck; 1 petroleum oil and lubricant (POL) tank truck; 2 van type trailers; wind sock.
12	Vehicle Park (Mechanized)	12 armored personnel carriers (APC); 2 each 2-1/2 ton trucks; 2 jeeps.
13	Early Warning/Ground Control Intercept (EW/GCI) Site	2 generator trailers; 2 truck vans; 1 V-beam radar; 1 height finder radar; 1 backup radar for high cover; 1 long range EW radar; 1 low-level radar.

Table 1-2 (U) Target List, North Course (Area and Point-to-Point)
(Part 1 of 2)

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Target Number	Target Name	Description
14	Petroleum, Oil and Lubricant (POL) Site	300 each 55-gallon drums; stacked in two rows; 1 flat-bed truck; 1 jeep.
15	203-mm Howitzers - SP (US 8" How)	2 SP How; 1 APC, revetted.
16	Helicopter Pad	2 light helicopters; 50 each 55-gallon POL drums.
17	Armored Vehicle Launched Bridge (AVLB)*	1 AVLB in launch position w/transporter detached and parked in area; 1 each 2-1/2 ton truck parked in center of bridge; 1 each 2-1/2 ton truck on approach end.
18	Storage Area	Open storage of stacked supplies; 5 stacks varying in size up to 30 feet x 10 feet x 6 feet; 1 each 2-1/2 ton truck.
19	Tanks, Deployed	4 medium tanks in partial revetment; in line.
20	Anti-Tank Guns	2 auxiliary powered anti-tank (APAT) guns; partial revetment, 2 each 2-1/2 ton trucks.
21	Communications Site	3 each 2-1/2 ton truck vans; 3 UHF (fly-swatter type) antennas; 1 jeep.
22	FROG (US Honest John) Site*	1 surface-to-surface missile on launcher; 4 each 2-1/2 ton trucks; 1 jeep.
23	160-mm Mortars	6 each 160-mm mortars deployed on line; 2 each 2-1/2 ton trucks parked in area.
24	Engineer Construction Equipment	2 dump trucks; 2 flat-bed trucks; 1 road grader; covered storage; 3 dirt piles; 1 front loader; 1 equipment trailer.
25	Surface-to-Air Missile (SAM)	6 SAM missiles on launchers; 1 missile control radar; 3 van type trailers; 7 truck vans.

*Denotes real equipment targets; others were fabricated.

Table 1-2 (U) Target List, North Course (Area and Point-to-Point)
(Part 2 of 2)

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(4) Road Reconnaissance Course. The road reconnaissance (south) course also consisted of two legs, each following a state highway. These had clearly defined entry points (S-1 and S-3) and exit points (S-2 and S-4). Twenty-three targets were deployed alongside the highways at distances up to 700 yards from the center line of the highway. Figure 1-3 shows the general layout of the south course. Table 1-3 gives a brief description of each target along the course.

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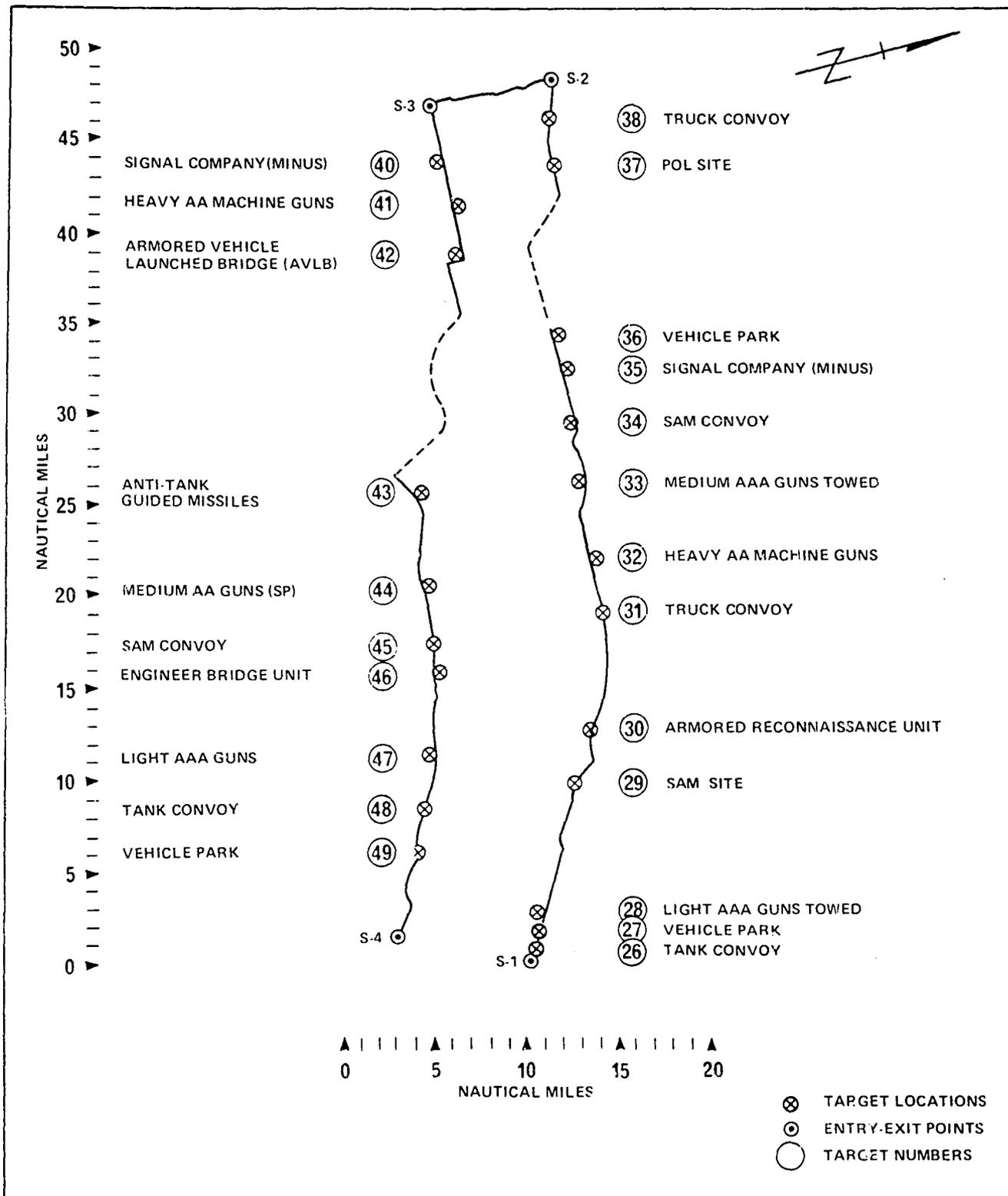


Figure 1-3 (U) Road Reconnaissance Course

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Target Number	Target Name	Description
26	Tank Convoy*	5 medium tanks parked along road, 100 meters separation.
27	Vehicle Park	13 each 2-1/2 ton trucks parked in relatively open area, 50 meters off the road.
28	Light AAA Guns - Towed	4 towed 37-mm guns revetted, with connecting personnel trench.
29	SAM Site	4 positions with 2 missiles on launcher; 1 guidance radar; 2 each 2-1/2 ton truck vans; 2 generator trailers.
30	Armored Reconnaissance Platoon	3 medium tanks, 3 APC's.
31	Truck Convoy*	6 each 2-1/2 ton trucks parked along road; 100 meters separation.
32	Heavy AA Machine Guns	2 quad mounted .50 caliber machine guns, revetted.
33	Medium AAA Guns - Towed, w/Radar	4 each 57-mm AAA guns (6 positions - 2 unoccupied) in circular pattern; 1 fire control director; 1 fire control radar; all revetted.
34	SAM Convoy	3 missiles on truck transporters parked along road; 100 meters separation.
35	Signal Company (Minus) (Communications Site)	3 each 2-1/2 ton truck vans; 1 each 3/4 ton radio truck; 1 jeep; 1 small GP tent; 1 UHF antenna.
36	Vehicle Park	13 each 2-1/2 ton trucks parked in relatively open area, 50 meters off the road.
37	POL Site	300 each 55-gallon drums (100 stacked and 200 not stacked).
38	Truck Convoy*	2 each 10 ton trucks w/semi-trailers; 4 each 2-1/2 ton trucks; 1 jeep. Parked along road, 100 meters separation.
39	Target deleted from test.	

Table 1-3 (U) Target List, South Course (Road Reconnaissance)
(Part 1 of 2)

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Target Number	Target Name	Description
40	Signal Company (Minus) (Communications Site)	3 each 2-1/2 ton truck vans; 1 each 3/4 ton radio truck; 1 jeep; 1 small GP tent; 1 UHF antenna.
41	Heavy AA Machine Guns	3 quad mounted .50 caliber AA machine guns in box pattern. One position unoccupied, revetted.
42	Armored Vehicle Launched Bridge (AVLB)	2 AVLB in assembly. Bridges on transporters.
43	Anti-Tank Guided Missile (ATGM)	2 ATGM launcher vehicles with 3 missiles on each launcher, defending road approach.
44	Medium AAA Guns - SP	2 medium 57-mm AAA guns deployed near road junction in revetted position; 1 each 3/4 ton truck (ammo carrier) to rear of guns.
45	SAM Convoy	3 missiles on truck transporters parked along road, 100 meters separation.
46	Engineer Bridge Unit	5 each 27-foot flat-bed trucks loaded with pontoons and treadway; all vehicles located in assembly area 50 meters off road. Approximately 30 meters between vehicles.
47	Light AAA Guns	3 each 37-mm AAA weapons in triangle position. All positions revetted. Interconnecting communication trenches between weapon positions.
48	Tank Convoy*	4 medium tanks; 1 tank retriever. Parked along road, 100 meters between vehicles.
49	Vehicle Park	4 each 2-1/2 ton trucks; 3 APC's (towing 3 each 122-mm How); 3 each 122-mm How towed by 2-1/2 ton trucks; 2 medium tanks, 20 meters between vehicles.

*Denotes real equipment targets; others were fabricated.

Table 1-3 (U) Target List, South Course (Road Reconnaissance)
(Part 2 of 2)

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(5) Area Search Course. The area search reconnaissance course established for the low-speed observation/surveillance aircraft (O-1E and UH-1B) was a 10- by 20-mile area contained within the north course. The aircraft flew an area search mission by flying six different specified tracks through this area. Two of the legs were 20-nautical mile sections of the point-to-point legs; the other four legs were established by offsets of 1 nautical mile to either side of the point-to-point legs. The legs were flown in a racetrack pattern, starting in a westerly direction on the north leg of the point-to-point course. Figure 1-4 shows the general layout of the area search course and the search pattern established for the aircraft.

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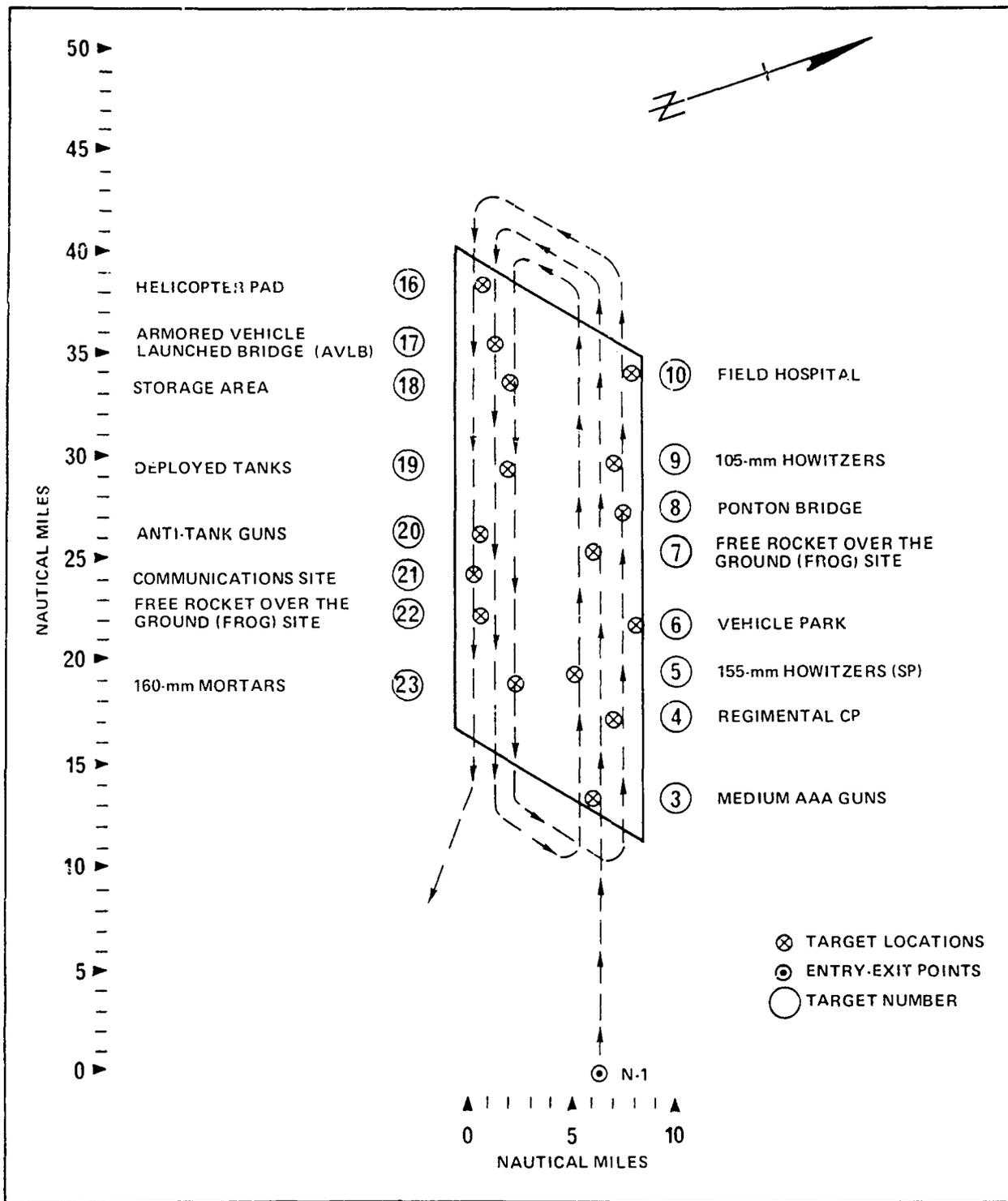


Figure 1-4 (U) Area Search Course

4. (U) INSTRUMENTATION.

a. Description. The instrumentation system for Test 4.4 included three C-130 aircraft (IA) instrumented to measure information as reported by the test aircraft pilot by voice communication, and to receive and record pulse coded modulated (PCM) telemetry (TM) data from ten instrumented pods simultaneously. The system also included fourteen instrumentation pods, seven distance measuring equipment (DME) ground stations, ten ground site instrumentation packages (GSIP), a radar ranging system a central timing system, a data playback station, and associated support equipment.

b. Principles of Operation.

(1) The instrumentation system was capable of tracking ten pod-carrying aircraft simultaneously. Positions of the three C-130 aircraft were determined by slant range data from DME ground transponder stations, the positions of which were known. (Slant range is the radius of a sphere, the center of which is the DME ground transponder station.) Ordinarily, the intersection of three spheres would indicate the location of the C-130 in space, but a total of six of the seven DME ground transponder stations were used to obtain better accuracy for each C-130 position.

(2) In addition to seven DME ground transponder stations, a ground radar transponder was positioned under one of the straight line legs of each C-130 orbit. Once during each orbit, slant range from the C-130 to the ground radar transponder was measured to provide a more accurate determination of C-130 altitude. The DME slant ranges from the C-130 IA to the test aircraft were used to calculate the x-y position of the test aircraft. In this case, slant range was the radius of a sphere the center of which was one of the C-130 IA. The intersection of these three spheres located the test aircraft. Clearance altitudes for the test aircraft were measured by radar altimeters in the pods.

(3) Slant range data, telemetry from the pod, telemetry from the GSIP stations, real time voice reconnaissance information from the test aircraft, and airborne operational communications were recorded on magnetic tape in the C-130 aircraft. All data were time-correlated with the IRIG-B time code. The communications and control complex at Little Rock AFB and at Paris, Texas, provided communication facilities between all aircraft and ground units and with other units not in the test area.

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(4) Data tapes (other than voice tapes) from the C-130 aircraft were taken to the data playback station at Fort Smith, which converted PCM data on magnetic tape from the C-130 IA to a format ready for use by the data reduction center in Albuquerque. Voice tapes were sent directly to the data reduction center for transcription. The transcriptions were used by the scoring teams to determine performance measures.

(5) Real time voice reconnaissance information was also recorded by airborne recorders in the pods carried by the test aircraft. Tape from the recorders was removed as soon as the test aircraft returned to the staging base, after completion of sorties. Tapes were delivered immediately to the debriefers to be used in debriefing of the crew.

5.(U) DATA DESCRIPTION.

a. Data Collection and Processing.

(1) Introduction. The electronic field test data for Test 4.4 collected on board three C-130 instrumentation aircraft were partially processed on the playback station at Fort Smith, Arkansas before being sent to Albuquerque. The reconnaissance data were collected via aircraft sensors, voice recordings, and pilot debriefing sessions.

(2) Data collected.

(a) The data collected on Test 4.4 were from three major sources: reconnaissance data, electronically recorded data, and questionnaire data.

(b) The reconnaissance data consisted of real time reconnaissance data, near real time reconnaissance data, and sensory imagery data. The real time data was from inflight recorded voice reports (tape), a literal transcription, and the scoring books. The near real time data resulted from the AIO debriefings and included inflight recorded voice reports, a reconnaissance map, the AIO debriefing and the AIO scoring book. The sensory imagery data consisted of imagery from a panoramic camera, a forward oblique camera and an infrared camera. It also included three imagery interpreter (II) reports: the 1-, 3-, and 5-hour reports.

(c) The electronically recorded data were recorded on magnetic tape in the C-130 aircraft. These data consisted of DME range data, TM data from the MA-9B instrumentation pod, and the GSIP data.

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(d) The questionnaire data consisted of aircrew and imagery interpreter (II) personal data, mission performance information, and human factors interview results.

(3) Data processing.

(a) Electronically recorded data.

1 As indicated by the flow chart of Figure 1-5, the raw pulse code modulated (PCM) data, recorded on magnetic tape in the IA, were processed through the playback station. An SDS-925 computer converted the encoded parallel PCM data to decoded serial data which were compatible for processing on a CDC-3400 computer. Data were also processed and passed to the DME plot facility which provided quick-look analog plots.

2 The primary reduction and preanalysis sequences were performed on two CDC-3400 computers. Sortie identification was merged with test tracking and telemetry data in the primary reduction sequence.

3 The output of the primary reduction sequence was a series of data files, one per sortie for telemetry and position data and one for visibility data. Each file contained an identification record of 16 words followed by a series of data records. The ID record contained the following: ID block, operational day, generating program, sortie number, aircraft type, altitude code, speed code, course identifiers, weather code (not used), pod ID, aircraft tail number, pilot code, test range, sortie start time (target area), number of words per point, and number of points per record.

4 Telemetry data records included: time, radar altimeter information, vertical accelerations, longitudinal accelerations, lateral accelerations, pilot-recorded event information, gyro (bank), gyro (pitch), gyro (yaw relative), slant range (C-band radar), and pod status variables (temperature, voltage).

5 Position data records included: time, x, y, z (edited and corrected), x, y, z (smoothed), and velocity vectors.

6 Visibility data records included: time, site number, box-sky (photometer above horizon), telephotometer (looking into a black box), photometer downcourse, photometer background, illuminator G_1 , illuminator G_3 , V_m (visibility index), sky/ground ratio, shadow contrast, illuminator sun.

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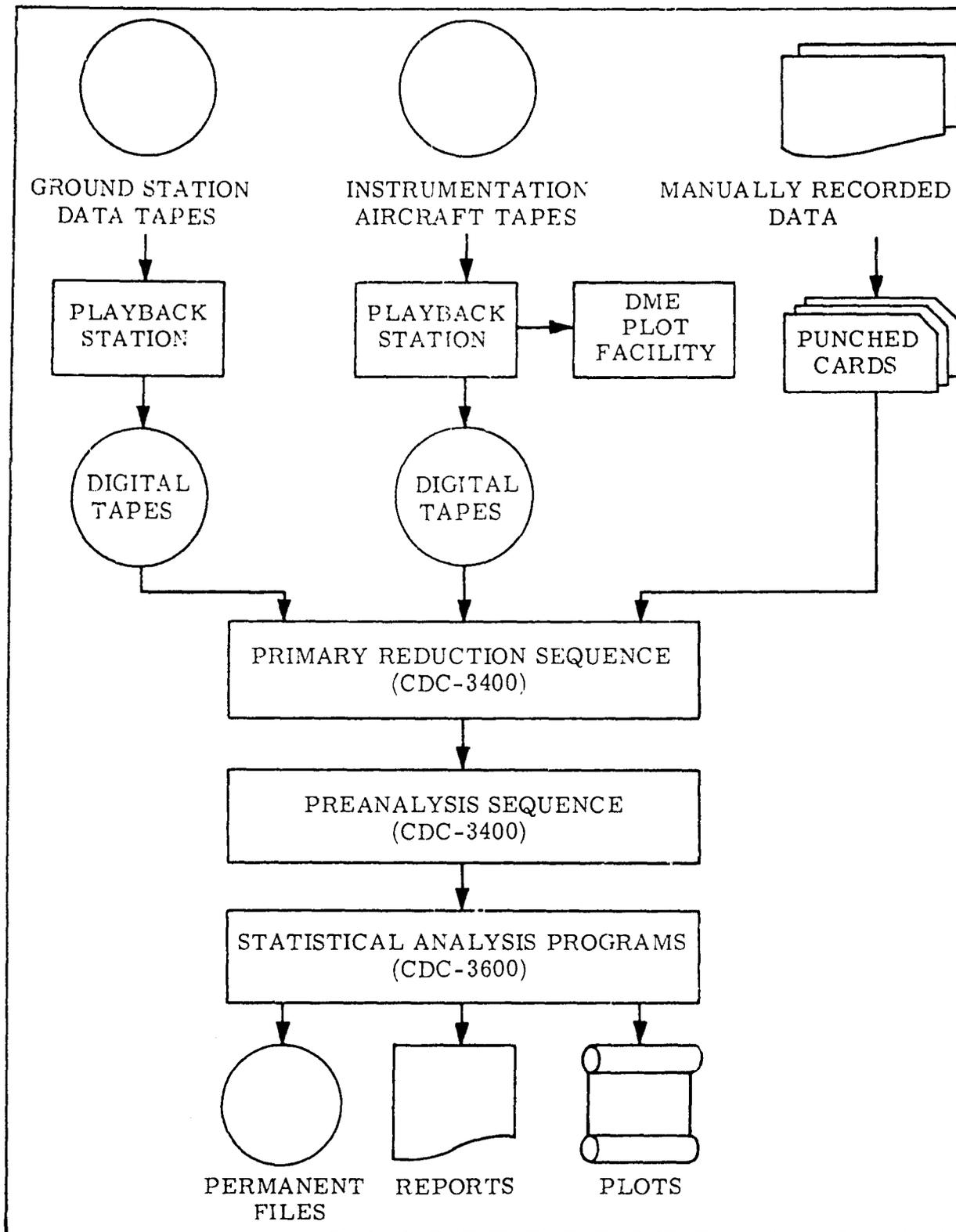


Figure 1-5 (U) Data Reduction and Analysis Block Diagram

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(b) Reconnaissance data were scored by a scoring team, and put on punch cards for computer processing.

b. Data Accuracies.

(1) Aircraft position data.

(a) The x-y position plots were obtained from the DME system which included an instrumented pod on the aircraft, three C-130 aircraft orbiting the test area, and seven DME ground transponder stations. The raw DME data were processed by an electronic computer with considerable quality control by a man in the loop at various stages during the processing to obtain the final smoothed x-y plots presented. A detailed description of the DME instrumentation and data processing system may be found in Reference a of the List of References.

(b) The accuracy of the x-y position plots is ± 200 feet of the actual positions.

(2) Terrain clearance.

(a) The data are obtained from a radar altimeter located in the aircraft instrumentation pod. A vertical gyro directed the radar altimeter antenna directly downward. The antenna gimbals had a range of ± 45 degrees so that when the aircraft roll angle exceeded this limit the antenna would range off terrain not directly under the aircraft. Therefore, aircraft roll angle data should be considered when using radar altimeter data.

(b) The resolution of the terrain clearance rate is five feet. The nominal accuracy is ± 20 feet.

(3) Normal acceleration.

(a) The aircraft's normal acceleration data shown is the acceleration on an axis perpendicular to the plane of the aircraft's lateral and longitudinal axis. Positive values indicate increasing velocity upwards.

(b) The data are obtained from a standard accelerometer located in the aircraft instrumentation pod. Its resolution is 0.012 g and advertised accuracy is ± 0.15 g. In using these data it should be remembered that the measuring instrument was located on a main structure of the pod,

which was connected to the aircraft by two mounting lugs generally at the standard bomb attachment station, and the mechanical coupling between the aircraft and pod is unknown.

(4) Roll and pitch angle.

(a) The roll and pitch angle data shown are the aircraft's angle change about its longitudinal and lateral axis, respectively, versus central daylight time. Positive values indicate clockwise roll angle and nose rising pitch angle.

(b) The angle is measured by the appropriate gimbal outputs on a vertical gyro mounted in the instrumentation pod. The roll angle has a resolution of 0.36 degrees and an accuracy of ± 2 degrees. The pitch angle has a resolution of 0.17 degrees and an accuracy of ± 2 degrees. If the aircraft made a maneuver over ± 85 degrees about its lateral axis, the gyro would hit its gimbal stops and tumble. This would cause the gyro to lose its reference, after which the readings could be invalid for the remainder of the flight.

(5) Slant range.

(a) The slant range data are the slant range from the test aircraft to selected navigation check points and targets (these targets are noted by a "c" on the x-y position plot). Each of these check points or targets had a ground based C-band radar transponder which excited a transponder located in the aircraft instrumentation pod.

(b) The data collection system had a maximum range capability of 50,000 feet. However, the range of the radar system was limited to approximately 32,000 feet. The accuracy of the system was 50 feet \pm 0.2 per cent of the actual range.

(6) Other.

(a) Details on the collection and accuracy of other data gathered during this test are available in Reference a of the List of References.

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c. Data Format

(1) Data plots.

(a) The aircraft position data are presented in a series of seven or more plots.

1 The first plot is the track of the test aircraft over one of the reconnaissance courses starting with the last portion of the navigation course (Figure 1-6). Each square represents a distance of 60,000 feet or approximately ten nautical miles.

2 The remaining plots represent the same data as the first except on an expanded scale (Figure 1-7). Each square represents a distance of 12,000 feet or approximately two nautical miles. Time marks in Central Daylight Time (CDT) are provided for convenient cross reference to the telemetered data. The data points are plotted at the rate of one per second.

3 All plots show the actual path of the subject aircraft. The symbols on each map represent the following. (See Figures 1-6 and 1-7 with notes).

a x = The location of a target (Note A).

b c = The location of a target which has a radar transponder at the site to provide slant range data (Note B).

c N or S = The entry and exit for each leg of the course. Note C indicates exit from leg 1 of the south course and Note D indicates entry of leg 2 of the south course.

d F or Z = The final control check point at the end of the navigation leg (Note E), prior to entering the target area.

4 The direction of travel of the test aircraft may be determined by observing the time notations on the expanded plots. A vertical time mark is inserted each minute in the flight track. Figure 1-7 contains an example of the various ways in which the time marks can occur.

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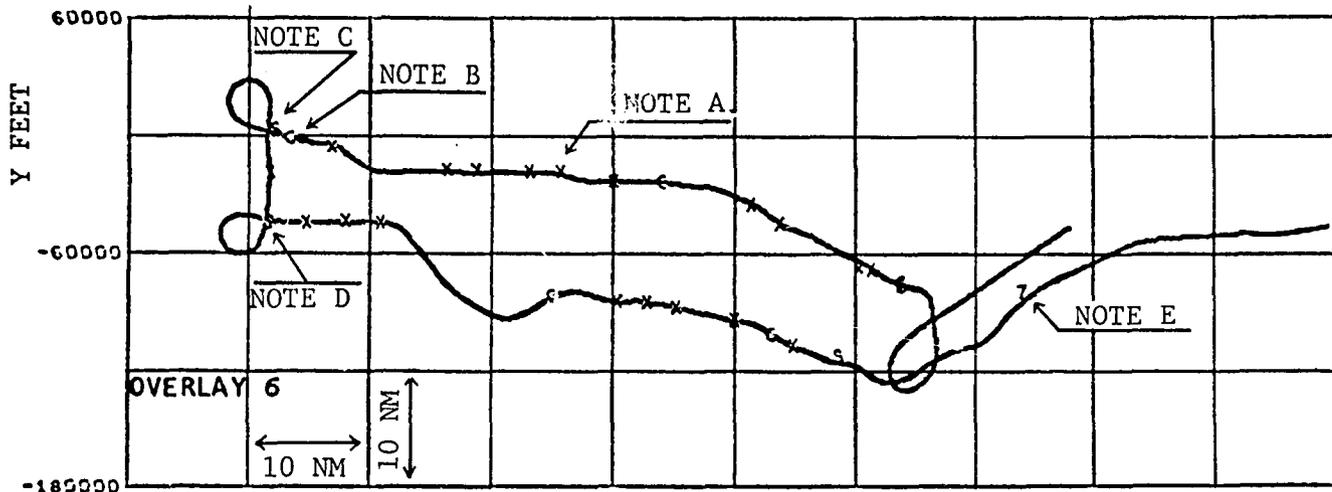


FIGURE 1-6 (U) Sample of Overall Aircraft Position Data Plot, Road Reconnaissance (South) Course

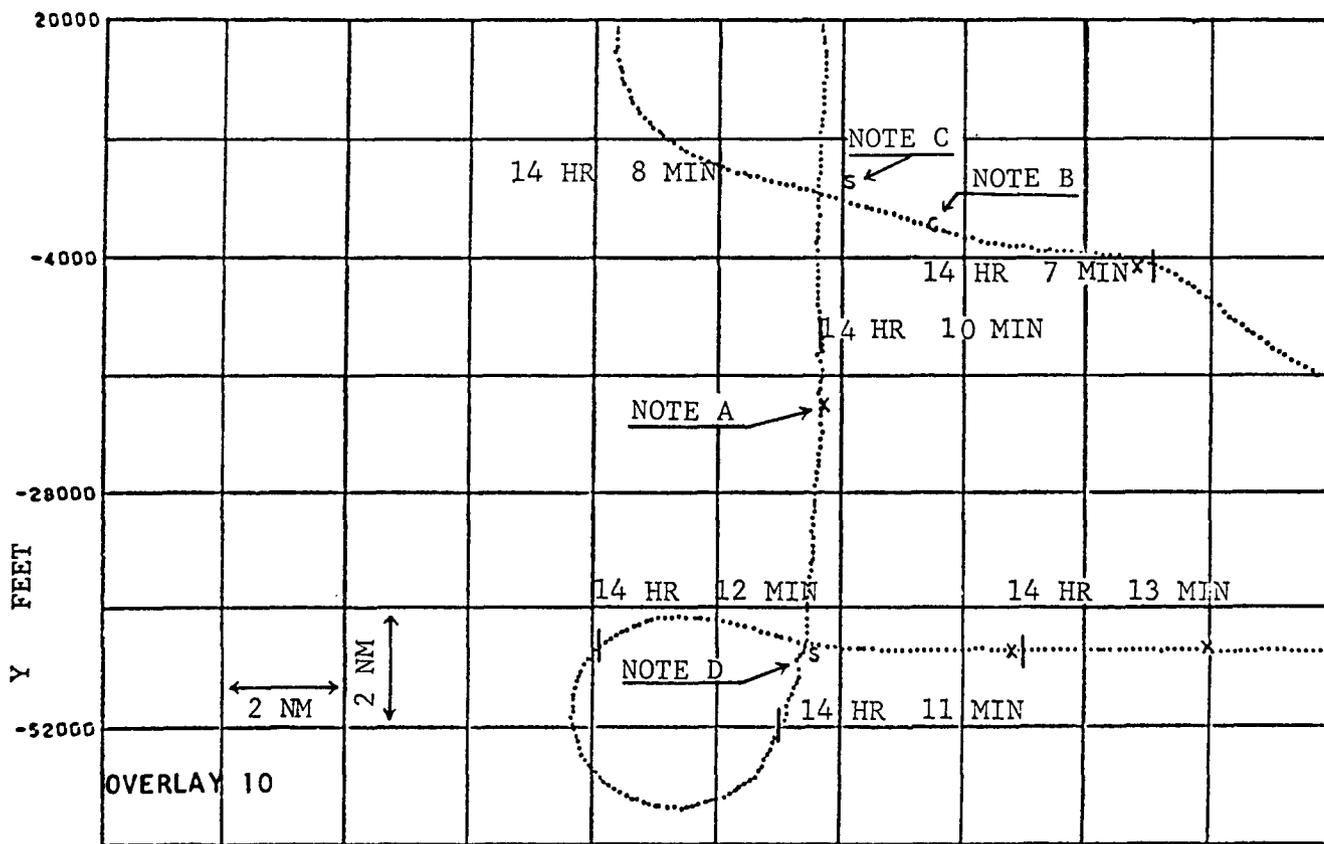


FIGURE 1-7 (U) Sample of Expanded Aircraft Position Data Plot, Road Reconnaissance (South) Course

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a The 14 HR 7 MIN time mark occurs in the normal manner.

b The 14 HR 8 MIN time mark lies directly on a grid line.

c The 14 HR 9 MIN time mark does not appear because it occurs off of the plot.

d The 14 HR 10 MIN time mark lies within the data plot, making it difficult to distinguish.

5 Transparent overlays are furnished for use on each of the plots. The correct overlay to use is indicated on the plot. Some elongation in the horizontal direction may be noted. This is an unavoidable product of the process by which the plots were reproduced and is not present on the original microfilm.

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(2) The telemetered data are also presented in a series of consecutive plots. Each page covers a time period of ten minutes and data are plotted at the rate of 4 points per second. The time scales on each plot are coincident for convenient comparison of the parameters. Figure 1-8 is a sample of these plots and covers a portion of the sortie shown in Figures 1-6 and 1-7.

(a) The mean and sigma for each variable are given below their respective plots. These figures cover only the portion of the data shown on that page.

(b) The plot of normal acceleration indicates that this instrument was malfunctioning. There is a bias of approximately 0.4 g in the negative direction as well as a lack of normal variations. These cases comprise only a small percentage of the data.

(c) A positive value of roll angle indicates a roll to the right and a negative value indicates a roll to the left.

(d) A positive value of pitch angle indicates a nose up attitude. An average value of greater or less than zero, as in the sample plot, does not indicate a malfunction but is a function of pod attitude relative to the aircraft axis.

(e) The slant range plot indicates that at approximately 14 hr 07 min 30 sec (Note A) the test aircraft flew directly over a radar transponder. This may be verified by referring to Figure 1-7 where Note B indicates the target overflowed.

(3) Real time voice recording. This is a transcription of the aircrew conversation as taken from the voice recorder. The time of each entry is noted. When a target was acquired, the notation in the left columns indicate the order in which the targets were reported and the actual acquired. The letter F indicates that a false target was reported. Unintelligible portions of the recording are noted on the transcript with an underlined space and censored portions are recorded with the symbol (****).

Handwritten signature or initials

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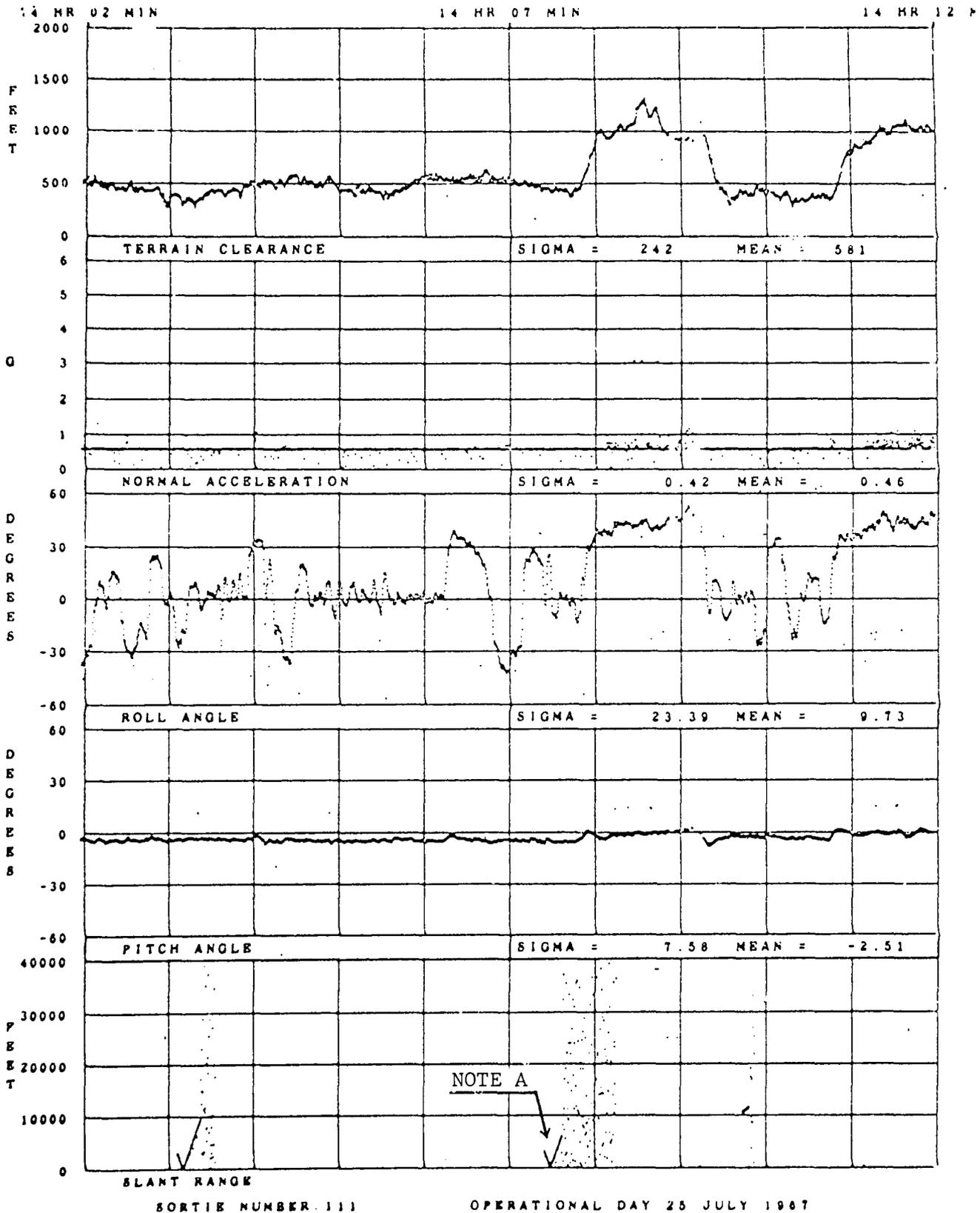


FIGURE 1-8 (U) Sample of Telemetered Data Plot

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(4) General.

(a) Sorties are arranged within aircraft type according to the data cell in which they were placed. The variables which determined a cell were course, assigned speed, and assigned altitude.

1 The course was either north (point to point) or south (road reconnaissance).

2 Assigned speeds were:

a Speed 3 = 320 knots ground speed.

b Speed 4 = 420 knots ground speed.

c Speed 5 = 550 knots ground speed.

3 Assigned altitudes were:

a Altitude 1 = 400 feet or less above terrain.

b Altitude 2 = 500 to 900 feet above terrain.

c Altitude 3 = 2500 to 2900 feet above terrain.

(b) It should be remembered that the data presented in this Handbook are raw data. In gathering the large quantities of data presented, a small percentage will be invalid due to malfunctions in the sensing, transmitting, or recording equipment. Close inspection of the data will disclose such areas of poor quality data. An example of this would be a plot of normal acceleration which consistently averages greater or less than one g or a roll angle indicating a continuous turn. Such anomalies are included for completeness and potential value to the user.

6.(U) HUMAN FACTORS DATA. The human factors questionnaires used during Test 4.4 are summarized in these paragraphs. The data resulting from these questionnaires may be obtained at the JTF-2 Low Altitude Data Bank.

a. Preflight/Postflight Navigation Questionnaire. This questionnaire asks the pilot to describe the navigation method he planned to use and

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the percentage of targets he expected to acquire. After the mission was flown he was asked to report any deviations from his plan. The questionnaire contained 3 questions.

b. Postflight Questionnaire. The postflight questionnaire asks the pilot to describe his mission in detail. He is requested to evaluate the aircraft, targets, and navigational aids, and to answer questions regarding his ability to perform assigned tasks while flying at low altitude. The tactical aircraft questionnaire contained 73 questions, the night flights 85 questions, and the area search 62 questions.

c. Mission Abort Questionnaire. The questions relate to acquisition and performance of mission prior to abort and the reasons for the abort. This questionnaire contains 19 questions.

d. Aircrew Experience. This questionnaire obtained data pertaining to rank, pilot and observer experience, current aircraft experience, and amount of low level experience. There are 43 questions. The first 18 contain the data on aircraft types and the remaining on low level experience.

e. Observer Interview Form. This form contains the scores of the laboratory vision test and information on the observer's smoking, drinking, and sleeping habits.

f. Confidential Interview Form. The civilian scientist interviewer used this form in asking questions of the pilots as to their opinions of the test, their navigational and reporting techniques, combat experience, etc.

g. Record Form for Sighting Report Quantification Scale. A form used to obtain data to quantify statements such as a bunch of guns, a group of tanks, etc.

h. Air Intelligence Debriefing Form. This form contains data obtained by the debriefing officer while reviewing the voice tape with the pilot. Data such as target name, number of units at target, and target details were recorded.

i. Air Intelligence Format Questionnaire. This form contains 8 questions on the clues the pilot used in acquiring a target and the ease or difficulty in acquiring the targets.

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j. Imagery Interpreter Postmission Questionnaire. The questionnaire was in two parts, first and second mission. The questions asked the II about his use of briefing materials and interpretation aids and techniques as well as his opinion of task loading and other factors which affected the imagery interpretation. First mission questionnaire contains 34 questions; the second contains 38.

k. Imagery Interpreter Experience Form. This form contains 52 questions relating to education and experience of the photo interpreter personnel.

l. Image Interpreter Reporting Form. This form was used by the interpreters to describe the target observed on the film and its coordinates.

7.(U) AVAILABILITY OF ADDITIONAL DATA.

a. All data collected in connection with JTF-2 tests have been catalogued and stored. These data include computer tapes, microfilm plots and written questionnaires. Access to these data can be arranged through WSEG, who is to be custodian of the JTF-2 Low Altitude Data Bank. Detailed instructions, for obtaining all or particular portions of the data stored, are available in the data cataloging documentation.

b. For convenience a volume containing data summary listing has been prepared. This volume, classified Secret, is furnished in conjunction with this and other handbook volumes.

8.(U) LIST OF REFERENCES.

a. Low Altitude Test 4.4, Target Acquisition, Tactical Air Reconnaissance, Volume 1: Field Test Description; JTF2-4.4, Report to the Joint Chiefs of Staff; February 1968 (OUO).

b. Low Altitude Test 4.4, Target Acquisition, Tactical Air Reconnaissance, Volume 2: Controlled Flight Observation; JTF2-4.4, Report to the Joint Chiefs of Staff; May 1968 (OUO).

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c. Low Altitude Test 4.4, Target Acquisition, Tactical Air Reconnaissance, Volume 3: Field Test Initial Analysis; JTF2-4.4, Report to the Joint Chiefs of Staff; February 1968 (Secret).

d. Low Altitude Test 4.4, Target Acquisition, Tactical Air Reconnaissance, Volume 4: Field Test Detailed Analysis; JTF2-4.4, Report to the Joint Chiefs of Staff; October 1968 (Secret).

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SECTION 2

F-4C CELL 1 DATA

1. (U) DESCRIPTION.

a. This section contains data from F-4C sorties with the following flight parameters:

- (1) North course, point to point
- (2) 420 knots ground speed
- (3) Altitude, 0 to 400 feet above terrain

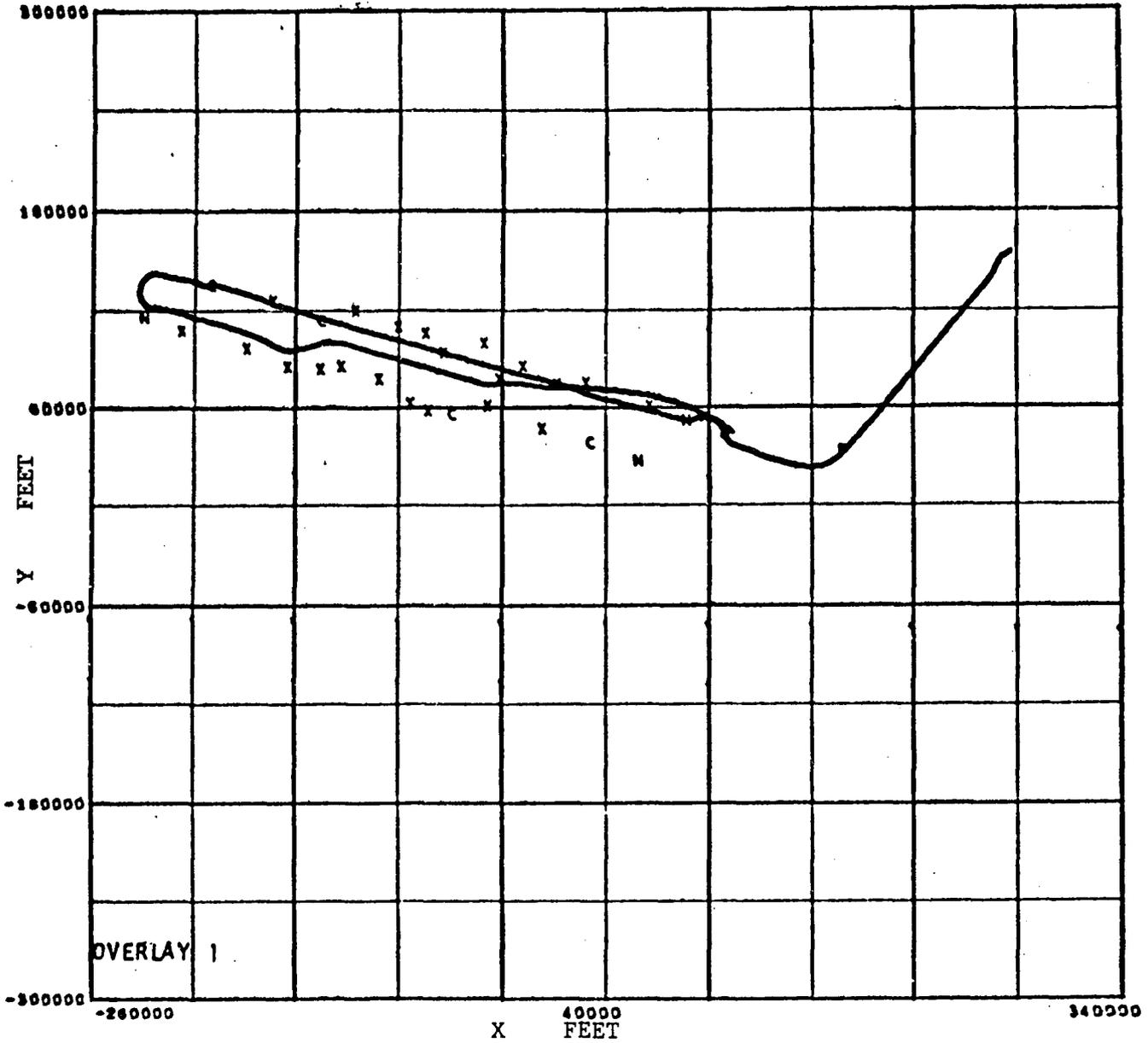
b. The data are presented as described in the Introduction, Section 1 and are arranged as listed below.

2. (U) CELL 1 FIGURE NUMBERS.

<u>Sortie</u>	<u>DME Plots</u>	<u>TM Plots</u>	<u>Voice Transcript</u>
359	2-1	2-2	2-3
368	2-4	2-5	2-6
374	2-7	2-8	2-9
414	2-10	2-11	2-12
415B	2-13	2-14	2-15
421	2-16	2-17	2-18
423A	2-19	2-20	2-21
428	2-22	2-23	2-24
442	2-25	2-26	2-27
452E	2-28	2-29	2-30
461C	2-31	2-32	2-33
466C	2-34	2-35	2-36
468B	2-37	2-38	2-39
468C	2-40	2-41	2-42
473A	2-43	2-44	2-45
480	2-46	2-47	2-48
512	2-49	2-50	2-51

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SORTIE NUMBER 359

OPERATIONAL DAY 23 AUGUST 1967

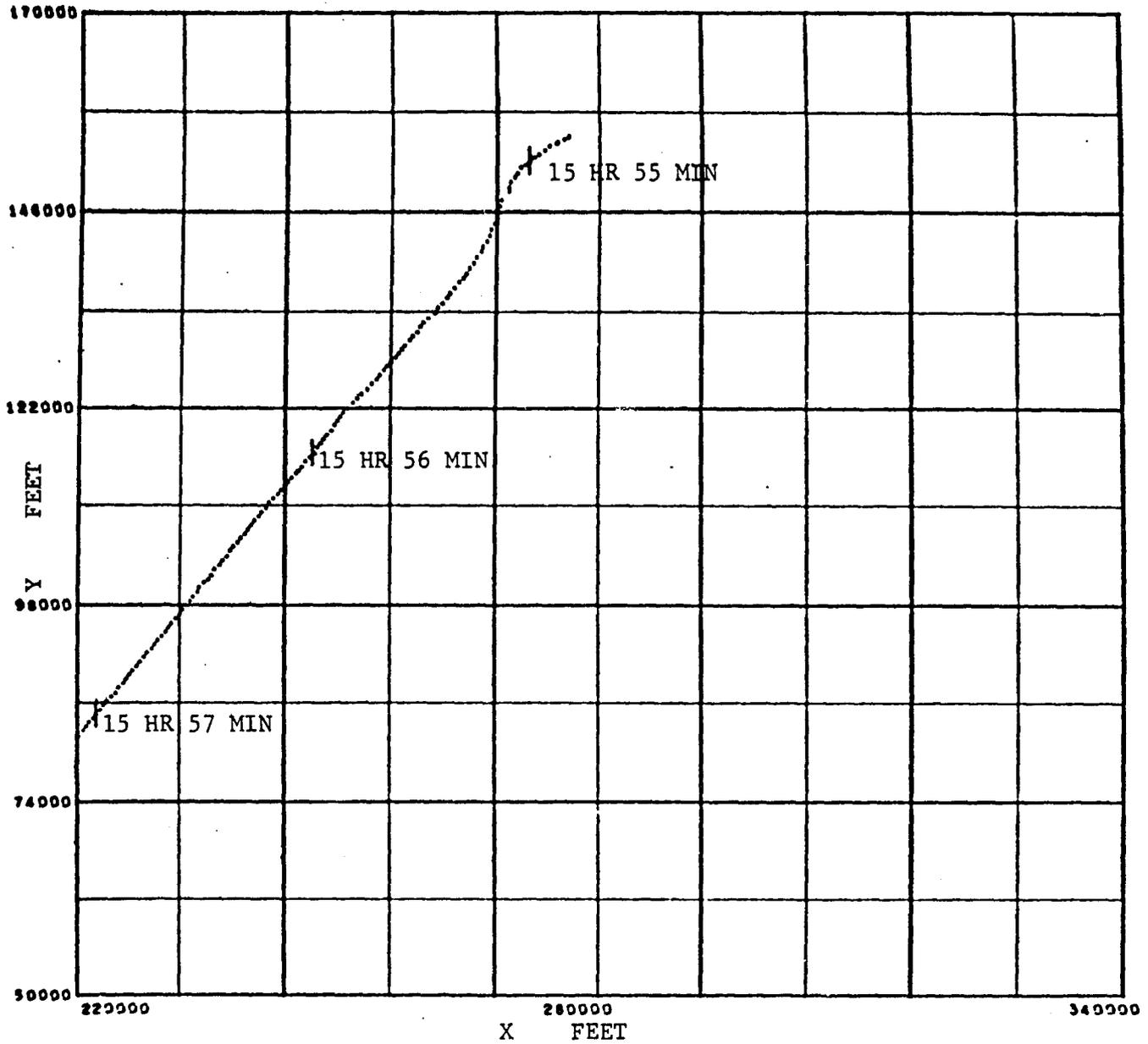
NORTH COURSE

FIGURE 2-1

AIRCRAFT POSITION DATA (U) 1 OF 8

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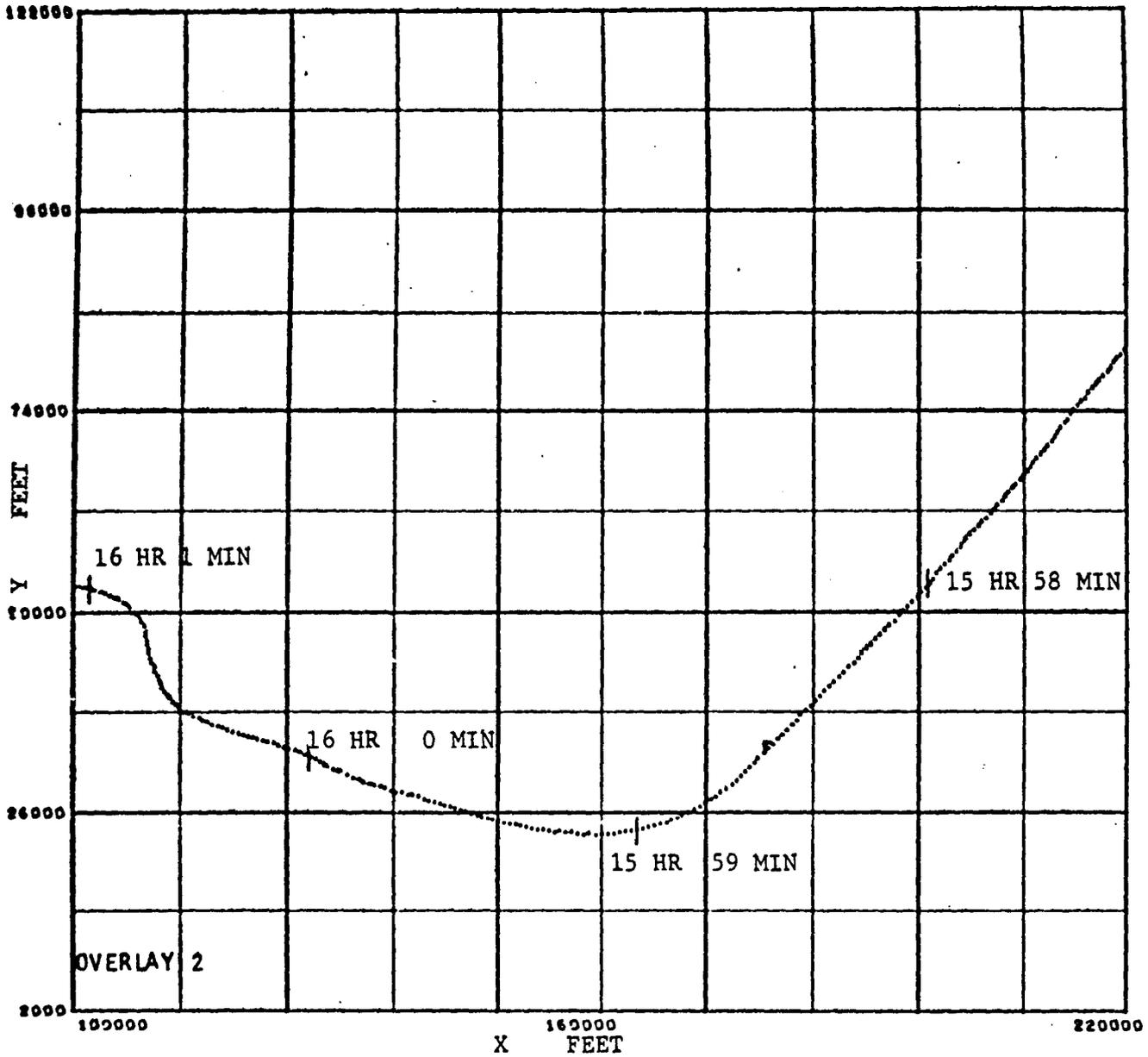


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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 2 OF 8

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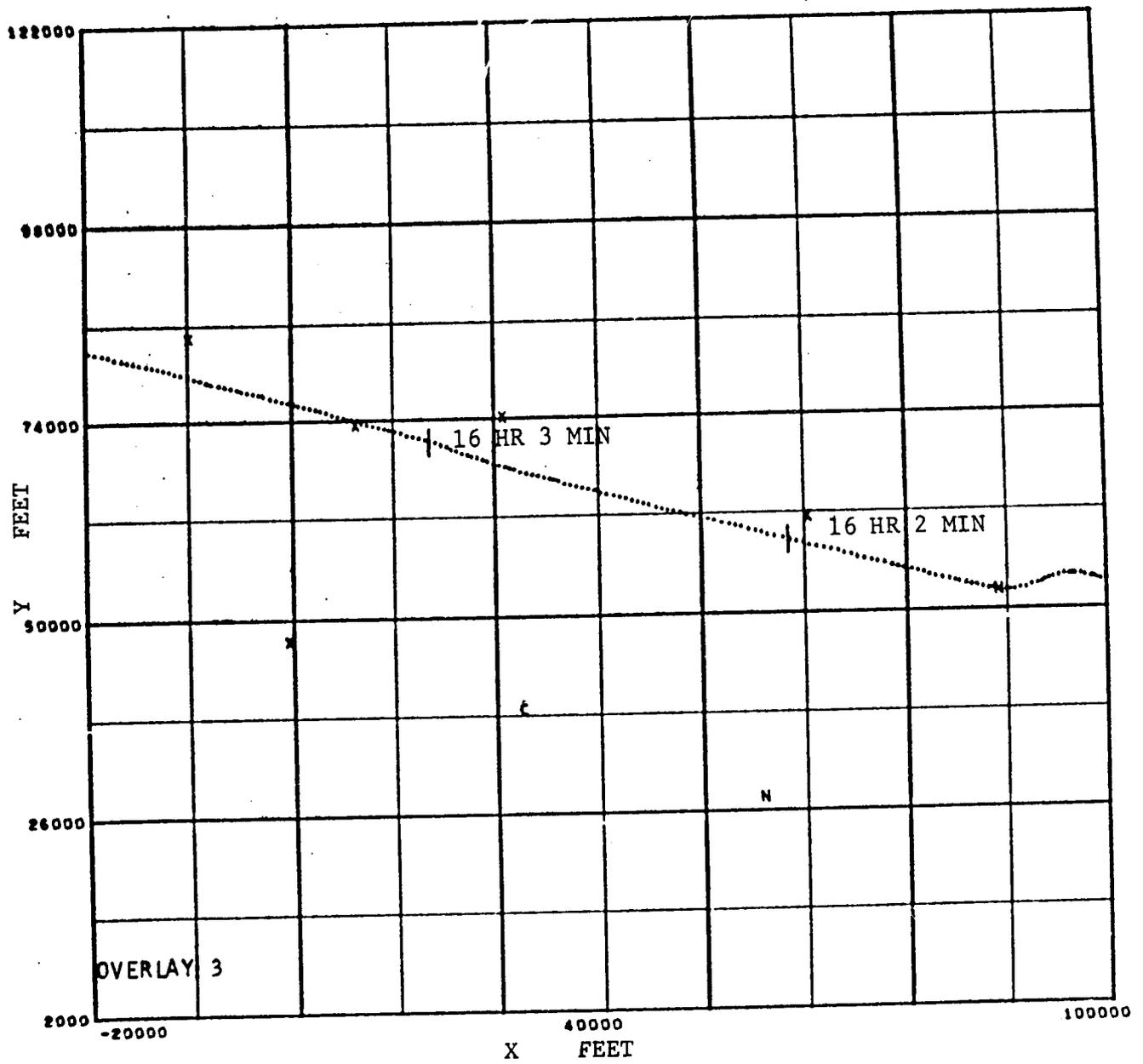


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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 3 OF 8

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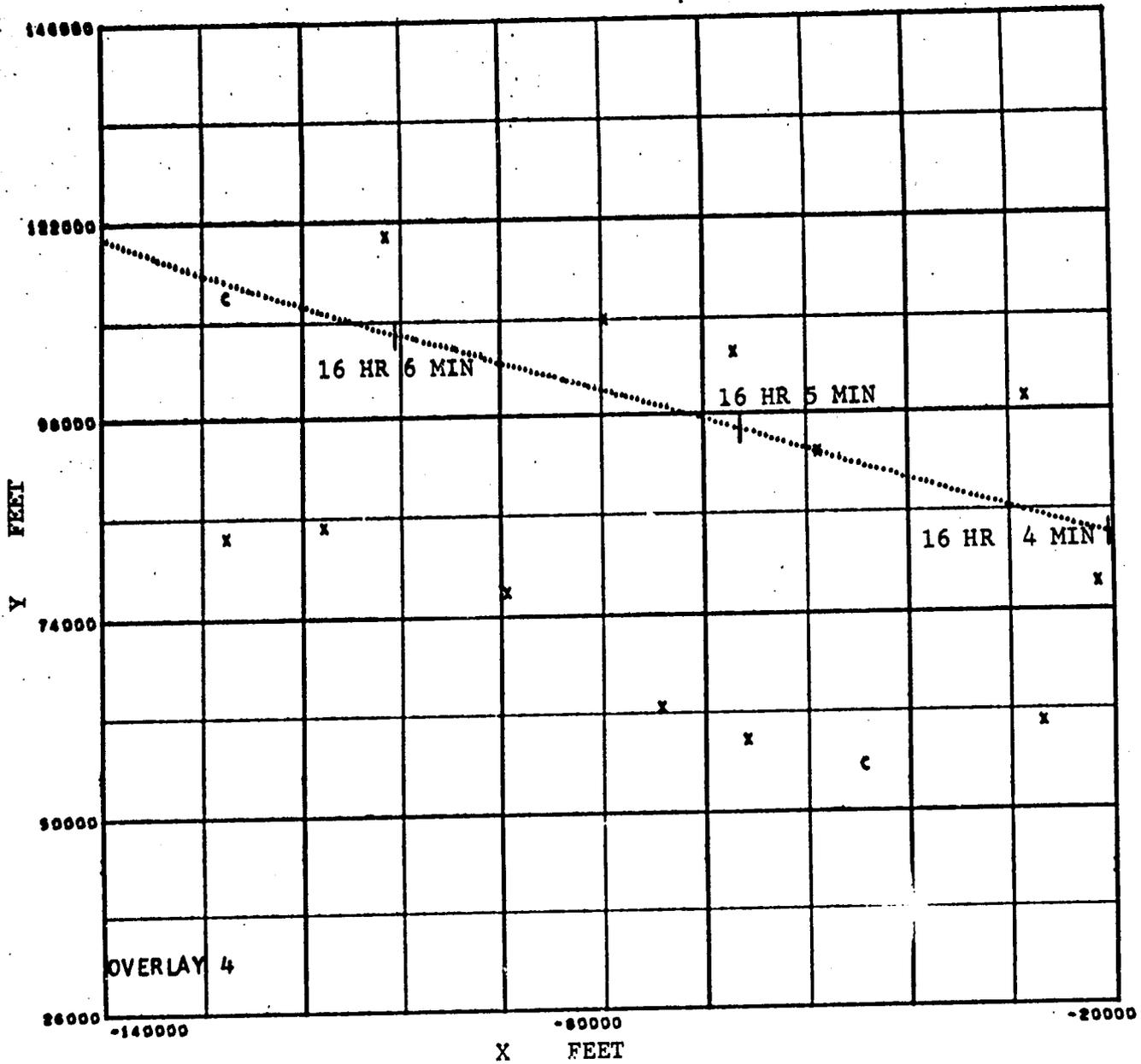


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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 4 OF 8

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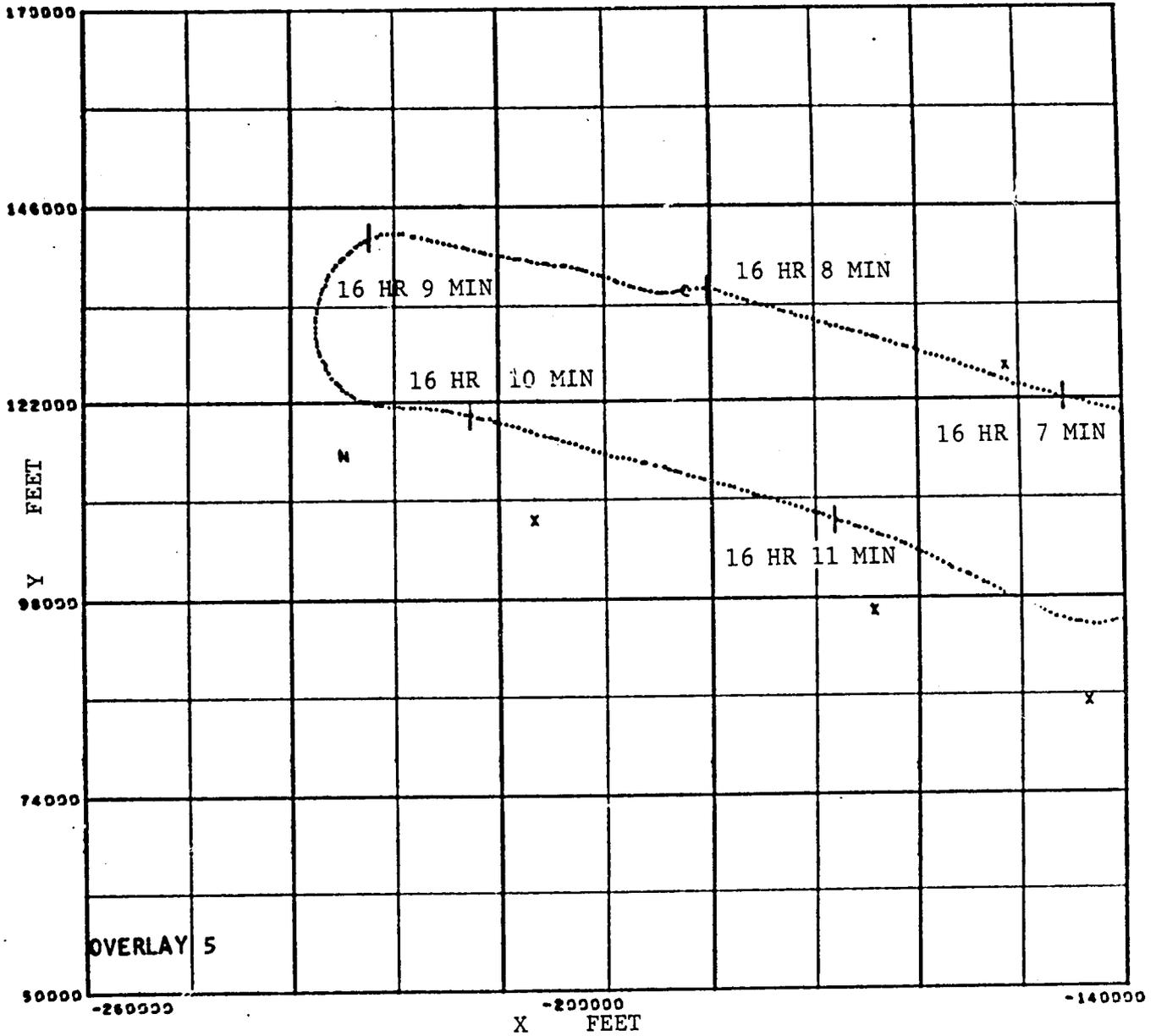


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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 5 OF 8

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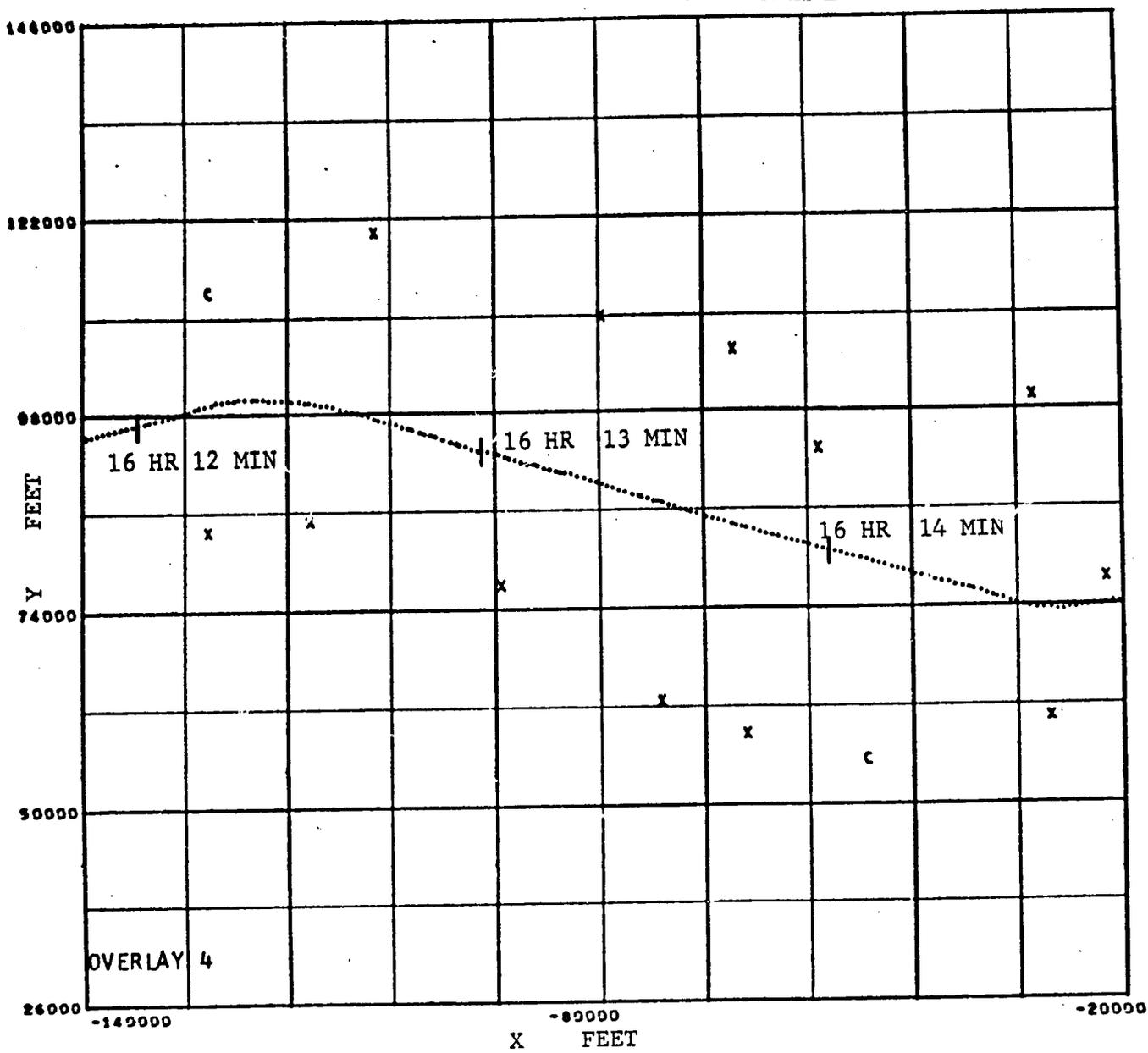
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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 6 OF 8

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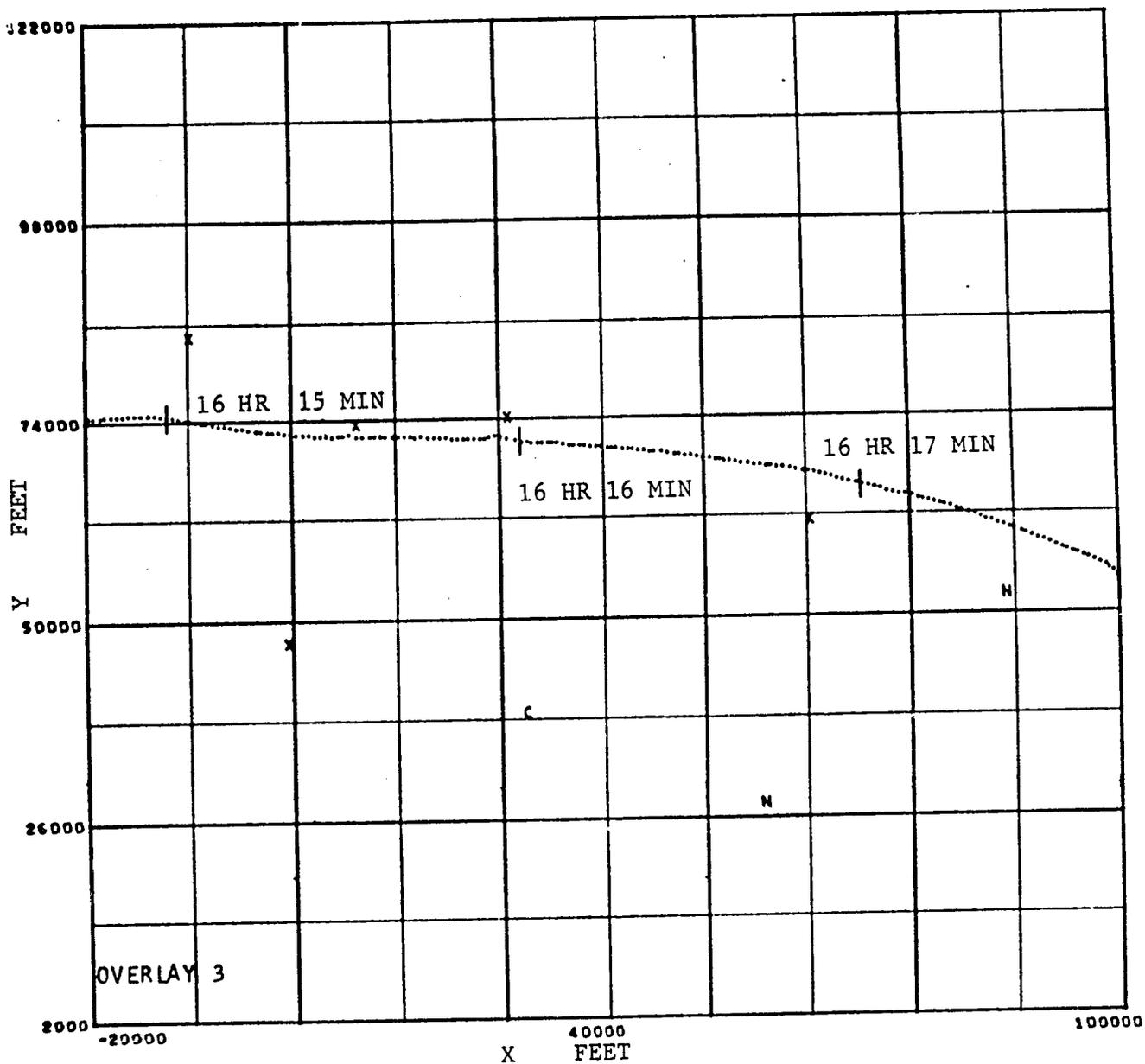
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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 7 OF 8

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FIGURE 2-1
AIRCRAFT POSITION DATA (U) 8 OF 8

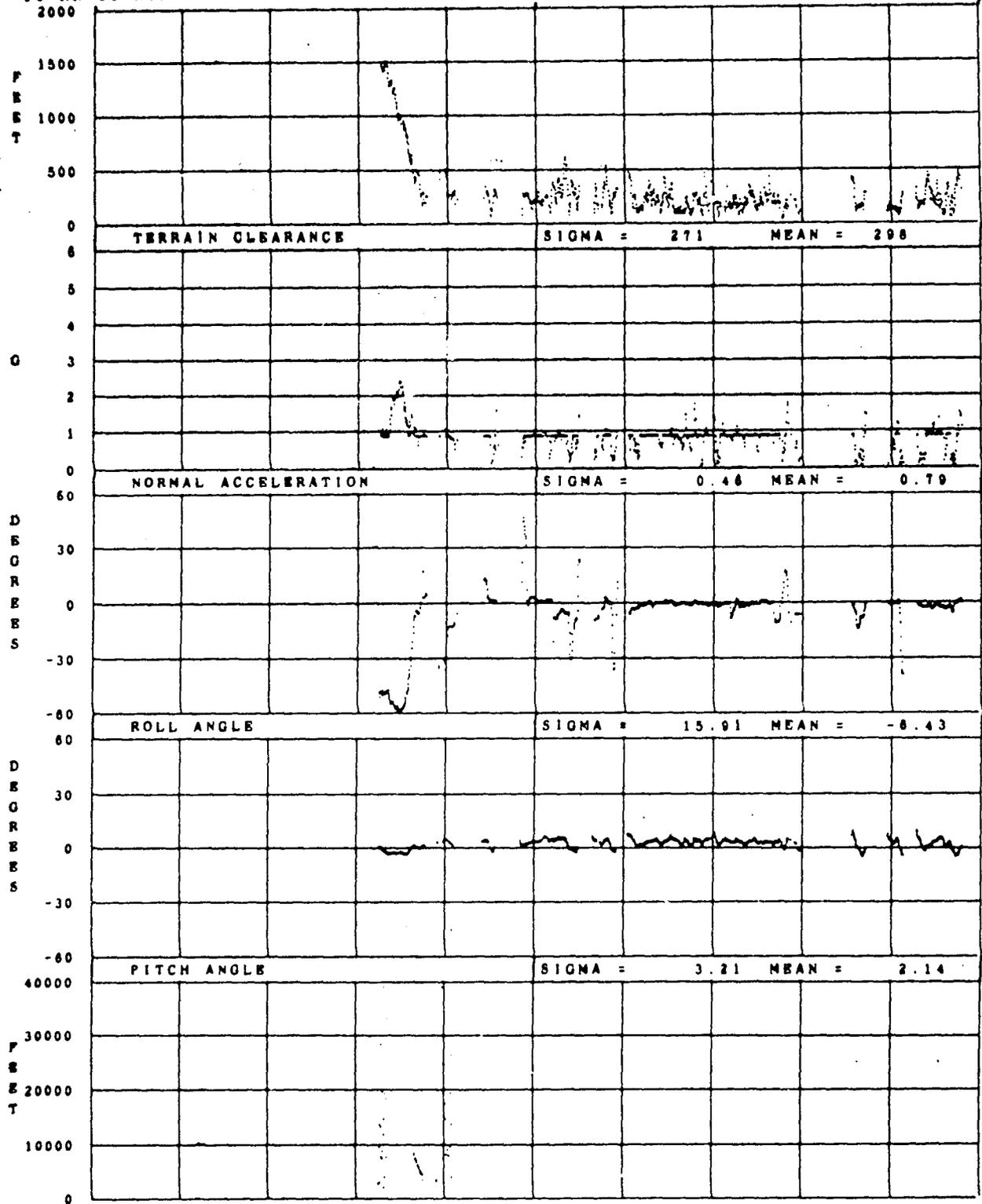
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FIELD

16 HR 31 MIN

36 MIN

16 HR 41 MIN



SLANT RANGE

SORTIE NUMBER 359

OPERATIONAL DAY 23 AUGUST 1967

FIGURE 2-2 (U) TELEMETERED DATA (1 OF 4)

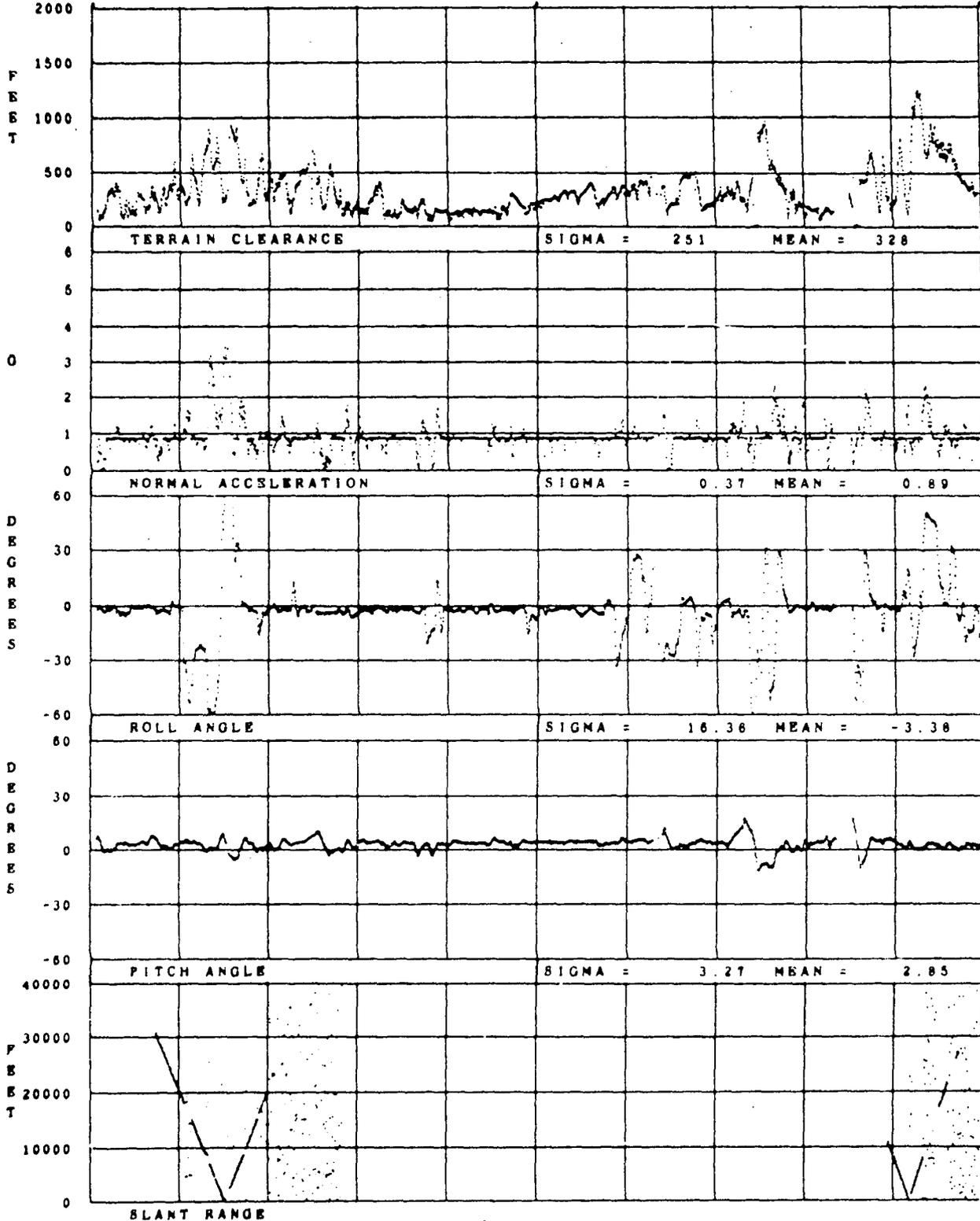
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16 HR 41 MIN

16 HR 48 MIN

16 HR 51 MIN



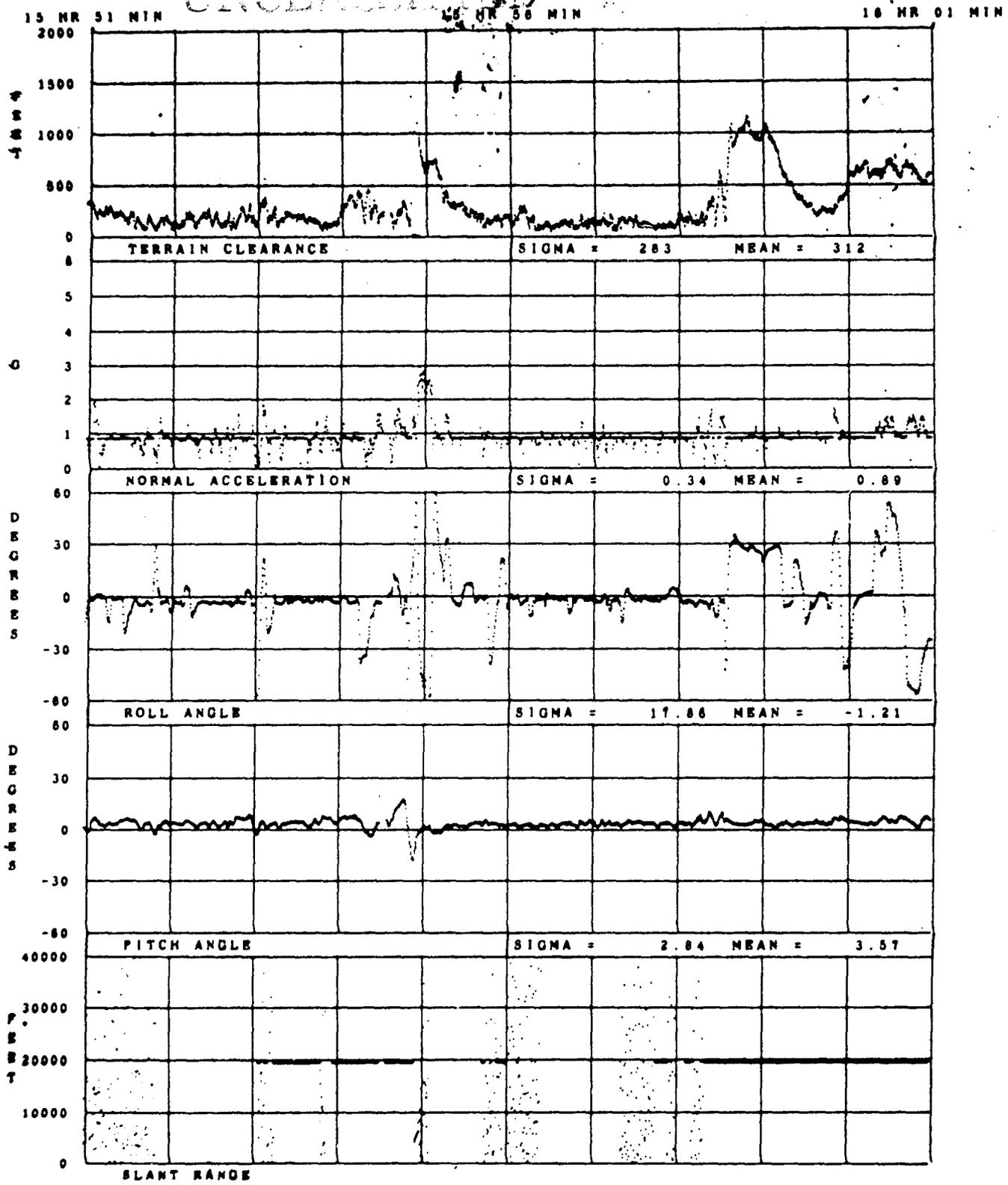
SORTIE NUMBER 359

OPERATIONAL DAY 23 AUGUST 1967

FIGURE 2-2 (U) TELEMETERED DATA (2 OF 4)

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SORTIE NUMBER 359

OPERATIONAL DAY 23 AUGUST 1987

FIGURE 2-2 (U) TELEMETERED DATA (3 OF 4)

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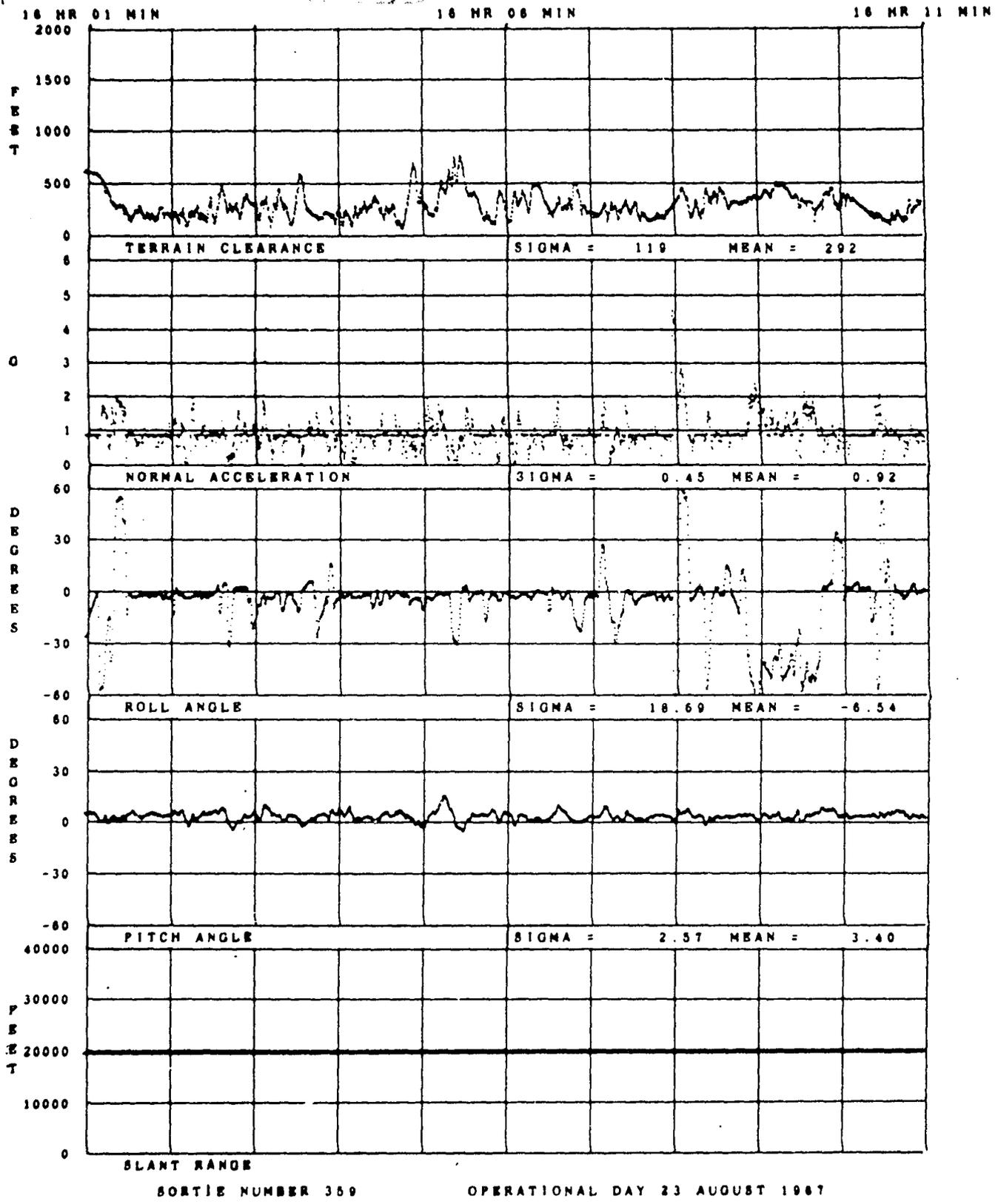


FIGURE 2-2 (U) TELEMETERED DATA (4 OF 4)

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RPT TG/TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 359
				DATE 8-23-67
		16:01:08	Ok, there's the red smoke right there. Roger. Red smoke. Need some air speed. What's that first heading. Ah, going to be 279. Ok, you're supposed to pickle. Roger.	
		16:01:25	Ok, we're over N1. Right (static).	
		16:01:28	Timber 1, Phantom 49 is N1.	
		16:01:34	Ok, say now, if you, you acquire any targets, you want me to take it or. Rog.	
		16:01:45	Roger, we got smoke. You call, did you call.....no, go ahead and tell them. Rog, we had smoke. 420 knots. (****). That a boy. Acquire any targets, are you kidding me?	
		16:02:41	Ooooooh, a getting too high.	
		16:02:56	Ok, looks good now. Going over that stream right. In the right place it looks like. Ya.	
		16:03:04	Ok, there's no. I thought I saw some vehicles in there, but....	
		16:03:13	Anti-aircraft position. You got the airplane. Rog, I got it. Minute and 45 seconds on top of a hill.	
1	3	16:03:20	Phantom 49 has anti-aircraft position 37 millimeter weapons at least 3, partially revetted on top of a hill. Charlie George 7-4. (16:03:30)	
		16:03:32	I have the bird. Rog, do you have it?	
		16:03:47	Nope.	
		16:04:26	We're right on time. Hold, what you got?	
2	5	16:04:48	Ok, artillery position. I've got it.	
		16:04:51	Phantom 49 I have an artillery position. Ridge top. You have the airplane? Rog. I have it. (16:05:01)	
		16:05:05	Baker George....a, make it Baker George 5-3. Ah, 1, 175 millimeter gun. 2-1/2 ton truck in a small open field. That's all I saw.	
		16:05:23	I have the airplane. Rog, you have it.	
		16:05:33	And, some more....(mumbling).	
		16:05:50	Ground speed? We're looking good.	
		16:06:10	Ok, this is going to be the 7 minute leg. Rog.	
		16:06:25	Ok, coming up on 5 minutes and a highway. Ok, let's close it up (mumbling). Should be something out here in these fields. Somewhere.	
		16:06:29	Ok, 2 vans and a tent, it's a chopper pad, no, it's an air strip. You have the airplane? Rog, I have it. Climb it, there's a cliff in front. Rog. Ok, Bravo Echo.	
3	11	16:06:40	Phantom 49 has a tactical airfield at Bravo Echo ah, 7-7. Ah, 1, GP medium tent. International orange wind sock. 1, trailer covered van. No other equipment noted.	
		16:07:03	Ok, I have... Rog, you have it. Let's take a look over there. Describe it on the mike, would you?	
		16:07:10	That's an armored company.	
4	12	16:07:12	Phantom 1, has armored company. That's about 10 trucks and a....these are APC's about 12 armored APC's. You get the position? Ok, take the airplane, I'll get the coordinates. Right, I got it. Ok, that's at a (mumbling) open field there. Ok, Alpha Delta and 8-3 (16:07:42)	
		16:07:45	Ok, I've got the airplane, here's the big tower coming up on our left, and ahead. We're 6 minutes and 50 something seconds away. Ok, got to have it right behind the (GCI?) GP site?. Ok, it's right behind us, right? Supposed to be anyway.	
		16:07:58	There it is, right there. Oopooooh I pickle right now. Ahhhh. _____(mumbling) through there.	
		16:08:06	We're supposed to make a report on that? No, we don't have to do anything but pickle.	
		16:08:16	Ok, now, you want to come back around through...I didn't pickle when I saw it. I pickled when I would have dropped an r. bomb. Come back around through 0,9,8. Ok, I want to go passed that tower a little ways, though. Don't miss my next checkpoint. I'm going across the highway.	
		16:08:33	We'll cross the highway in about 15 seconds. We'll start a 45 degree left bank, turn. Ok.	
		16:08:49	Ok, right about in here's good enough. Keep my air speed up.	
		16:09:06	They're supposed to have smoke on N3, too, aren't they? Rog. They are.	
		16:09:20	Timber 1, Phantom 49. We're approaching N3. Is there smoke there?	
		16:09:38	Watch your air speed. Rog. Ok, we're coming up on the highway here. Just crossed the highway.	
		16:09:50	Oh, I don't believe smoke's there. Oh, I wonder if that was it. That we crossed. We crossed it. I didn't see it. Ok, we're on our heading. I know it. We're only approximately on course now.	
		16:10:09	Start the clock, I almost forgot it. All right. We're going to have to look hard for targets. They're going to be down the course a while, I hope. Still haven't seen the SAM site either. Naw.	
		16:10:27	(Mumbling)	
		16:10:38	Timber 1, Phantom 49. Passed N3 about 30 seconds ago.	
		16:10:53	Ok, coming up on 1 minute. Take, take the airplane. Rog, I have it. You have it. See that smoke out here at 1 o'clock? Don't get too low so we can see what's under. Ok, we should cross another road here. With an intersection just on our right. Ok, here's a road and an intersection, but it's on our left.	
		16:11:21	Phantom 41. Ok, (mumbling)-----has a-----no, that's civilian stuff.	
		16:11:34	Ok, and that was at 1-1/2 minutes. Ok, let me have the airplane back. You have it. We're right of course. Ahhhhh.	
		16:12:43	Ok, take the airplane. Rog. I have it. Hold 098 on the heading. -----(mumbling) 3 minutes. Ok, take a look at this ridge line. We should be between. Yep, we are between 2. -----ridge with a ----- in the middle. Goes for miles in both ways, damnit.	

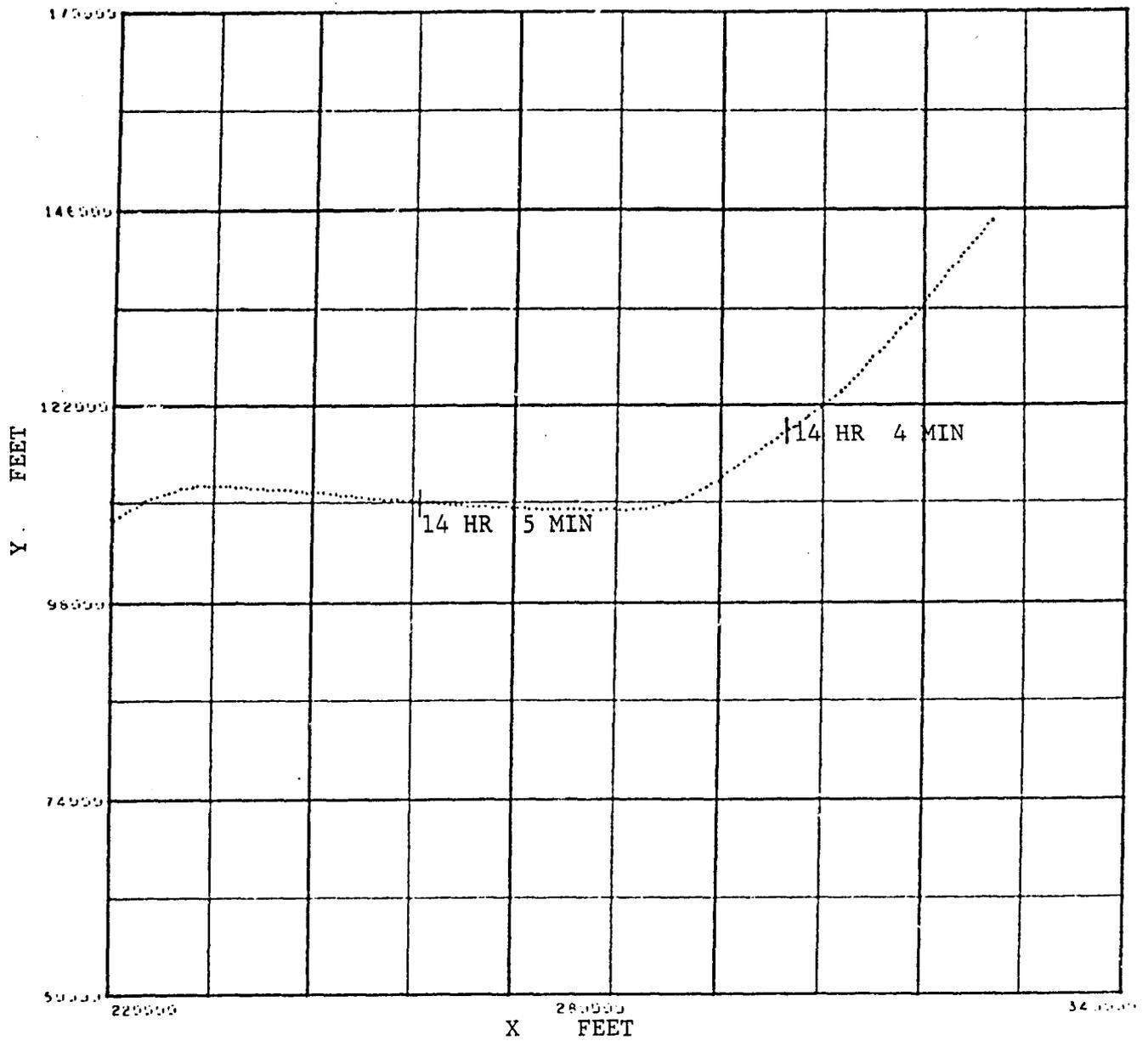
FIGURE 2-3 (U) VOICE TRANSCRIPT (1 OF 2)

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RPT Read TG/TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 359 cont. DATE 8-23-67
		16:13:12	Ok, ok, ease it now so I can look around here for a minute. Ahhh.	
		16:13:24	Yep, that SAM site? No, no.	
		16:13:32	Well, we're right on time. We crossed that road, but I didn't have a definite check point. There was a stream off to the left there. Ya, it went under us too. Ok, we're close to it. Hold your heading pretty close, there. Right.	
		16:14:02	I'm on 4 minutes. Just crossed a stream coming in. There is the stream right there. See it?	
		16:14:21	Big stream. 4 minutes and 14 seconds. We ought to be over another one. There's a big road. Rog, I got the bridge. Ok. Let me have the airplane. Rog, you have it. I think I know where we are now. Take a look at this little settlement down here to the left, and see if you see anything you recognize. That should be.	
		16:14:43	Ok, there's an anti-aircraft site. Where? Right off to the left wing. Roger. Ah, no that's artillery, I believe. Ok. Take her on around to 098. Rog, and hold it. We're on course now.	
		16:14:59	I've got the airplane. All right.	
		16:15:03	We're just on the west side of the road. So that about ah, Charlie Echo.	
5	20	16:15:10	Phantom 49, has dug in self-propelled artillery position. I saw 3 guns. How many did you see there? 4, 4 guns Rog. At Charlie Echo 9-9, in an open field. The guns are pointed north. (16:15:27)	
6	23	16:15:29	Ok, there's another one. Roger. Keep her down. Anti-aircraft----- Looks like ah, small cannon or heavy machine guns. 3 guns. At ah...let's see....(static)... I'd say Delta Echo 4-8. Three anti-aircraft guns, not dug in. Small clearing. Top of a knoll. (16:16:08)	
		16:16:17	Ok, I gave the wrong coordinates on the anti-aircraft position. They're about 6 miles further down track than I gave them.	
		16:16:44	Ok, turn right just a little bit. We ought to be coming up on our tower, now. -----(mumbling) 7 minutes.	
		16:16:59	Ok, I've got the airplane. Rog, you have it.	
		16:17:06	We're looking for N4 now. It should be in sight.	
		16:17:18	(Mumbling)----- There, no. We're in the immediate vicinity of N4. We just crossed a paved road.	
		16:17:32	We might have already passed N4. We have now, that's for sure. Ok, Ok, here's a city right here. Just passed N4. Looks like -----right now. Ok, you have the airplane Rog. Want me to call ----- the ---- Rog. We passed N4 about 45 seconds, ago. You have the airplane. Rog.	
		16:17:57	Phantom 49, ah Timber 1, Phantom 49. We passed N4 about ah, 40 seconds ago. We're going POE Option 1.	
		16:18:11	End of transmission.	

FIGURE 2-3 (U) VOICE TRANSCRIPT (2 OF 2)

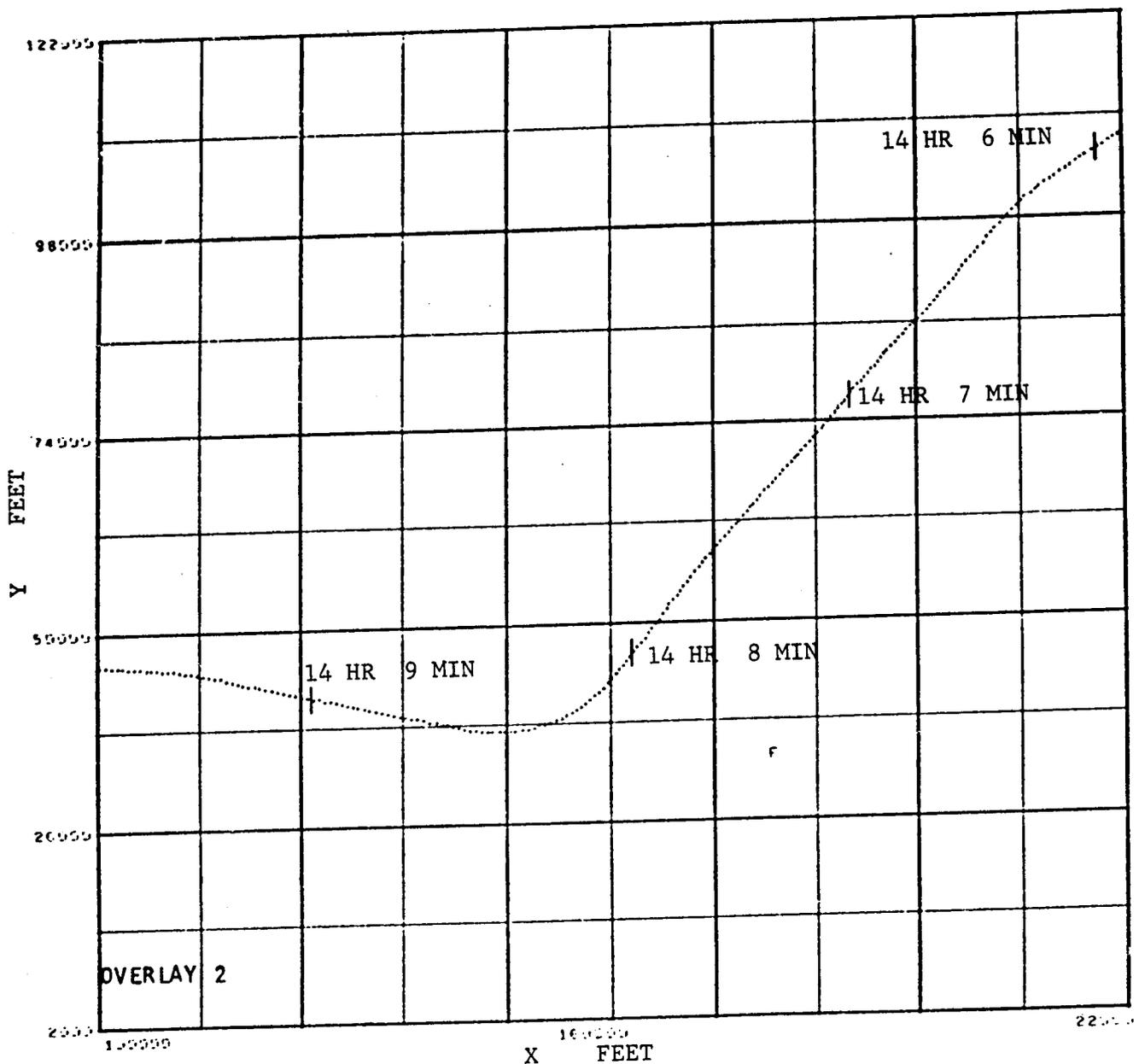
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SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 2 OF 8

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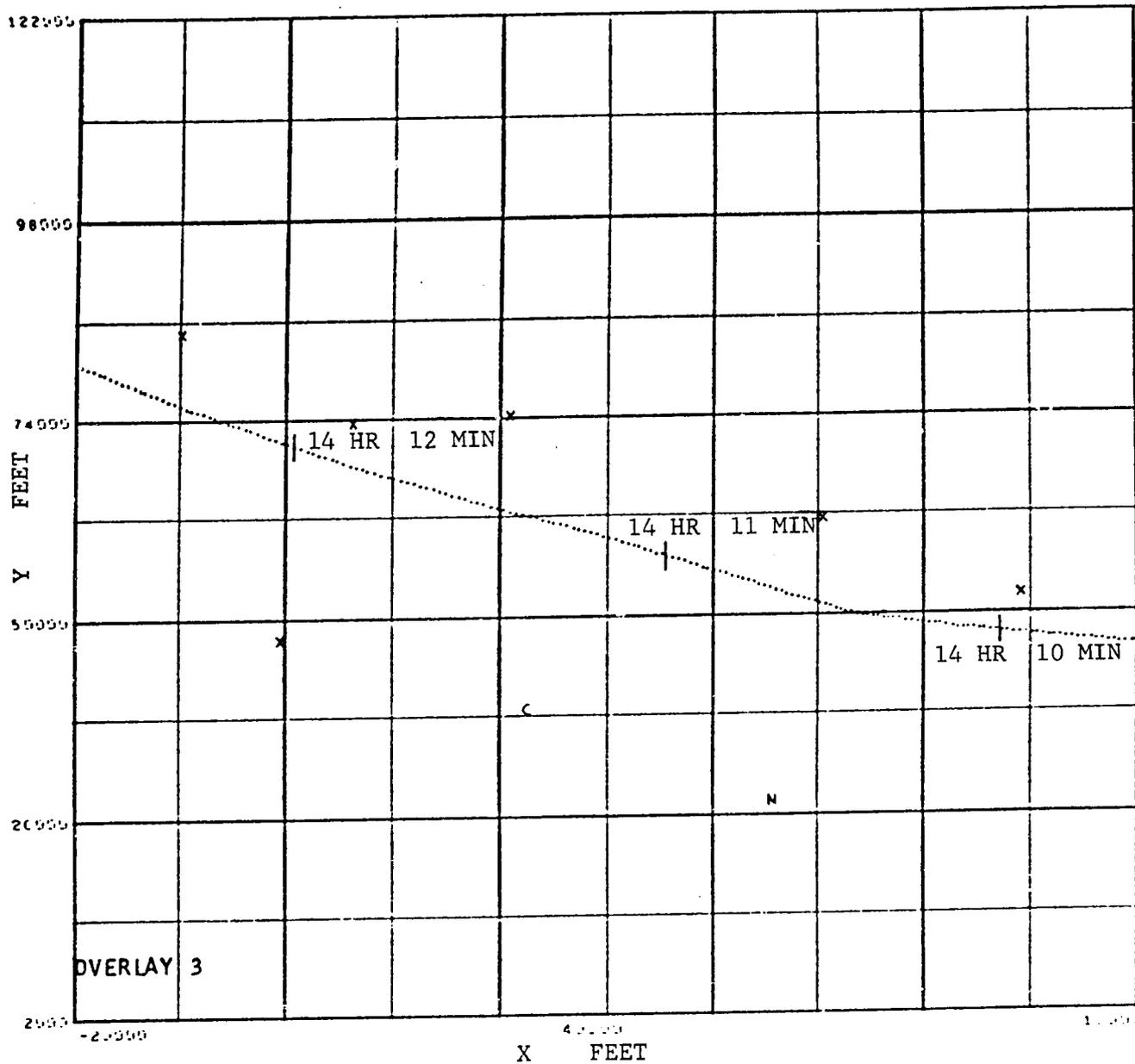
OVERLAY 2

SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

UNCLASSIFIED

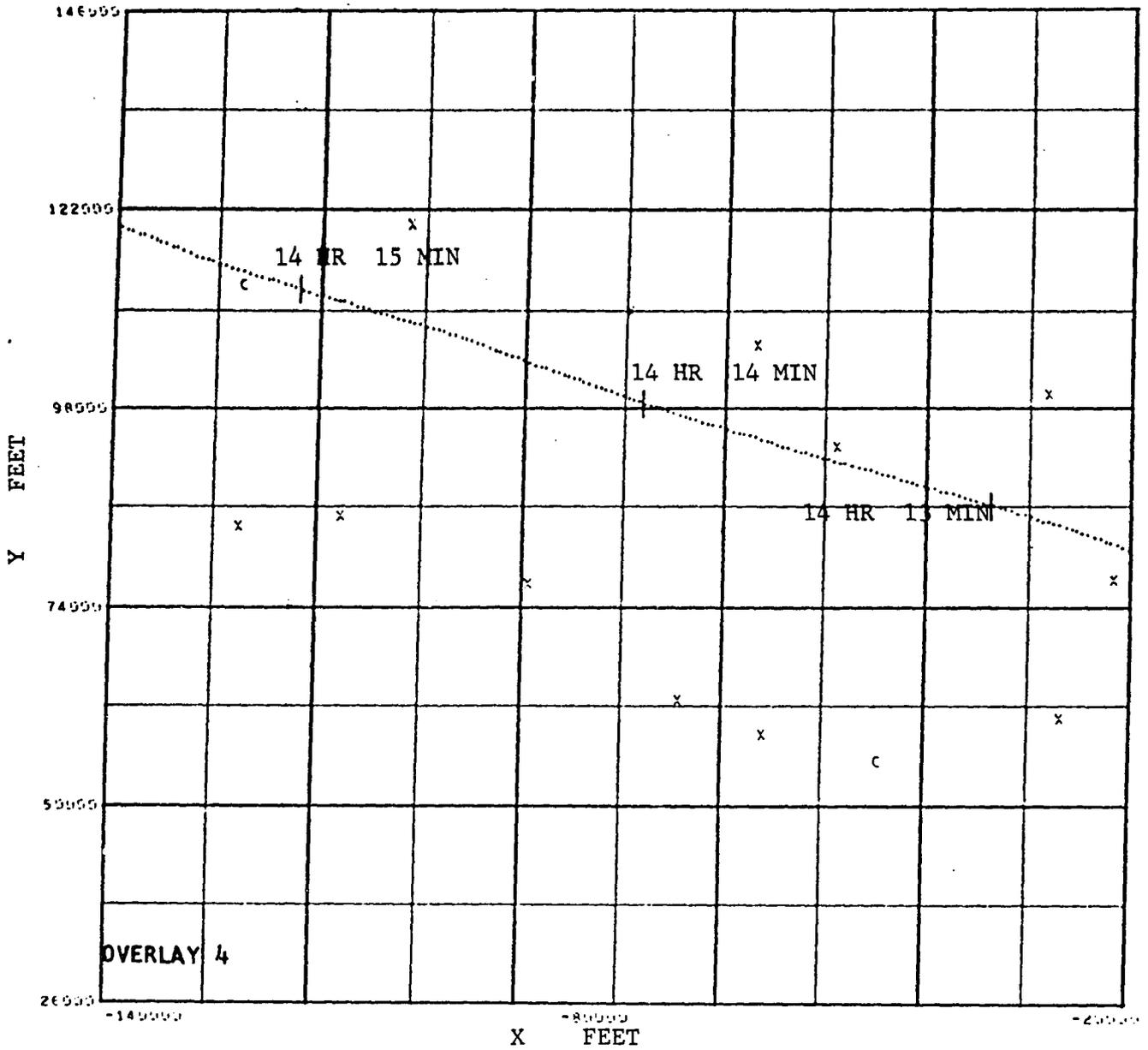


SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

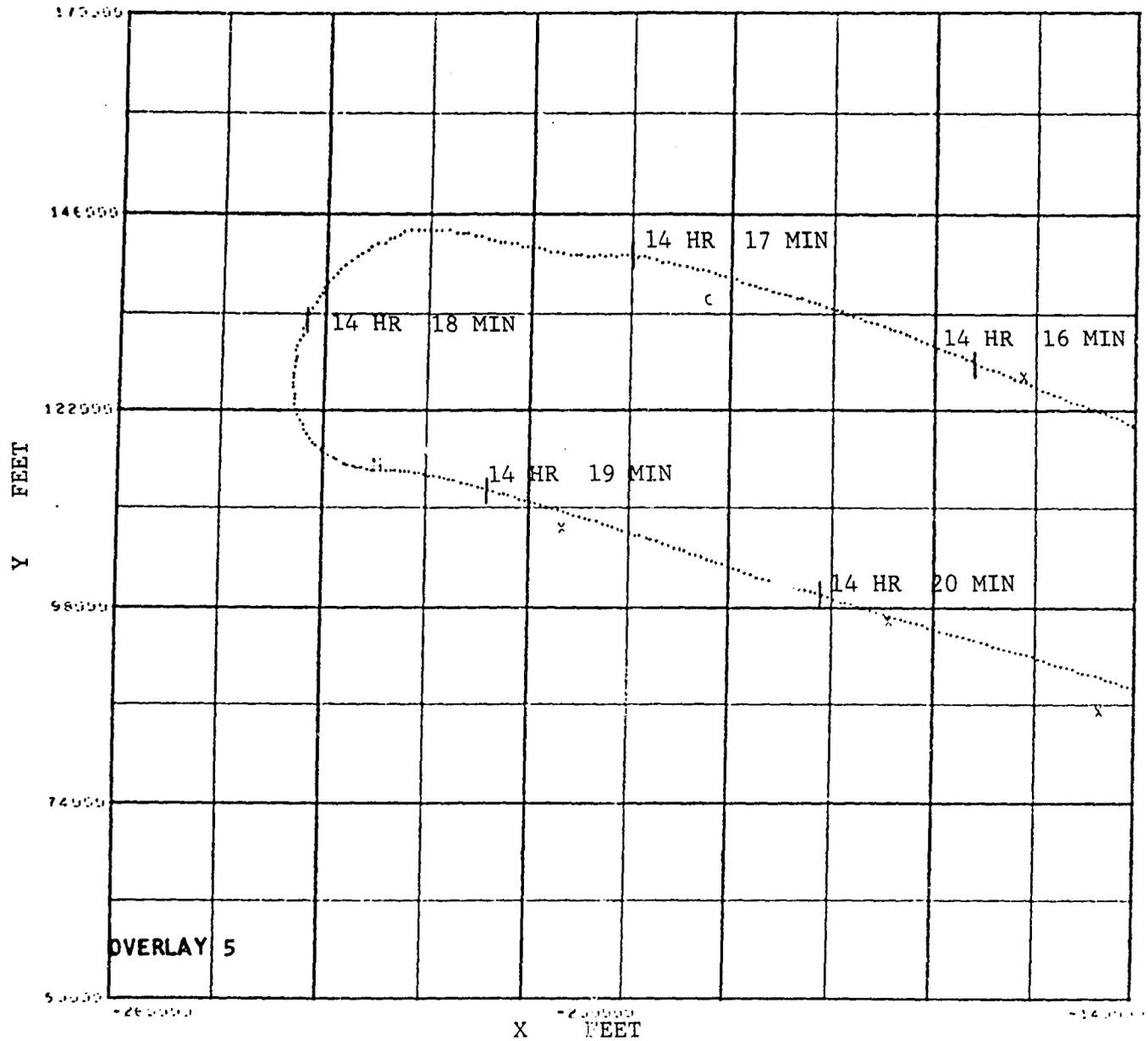


SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

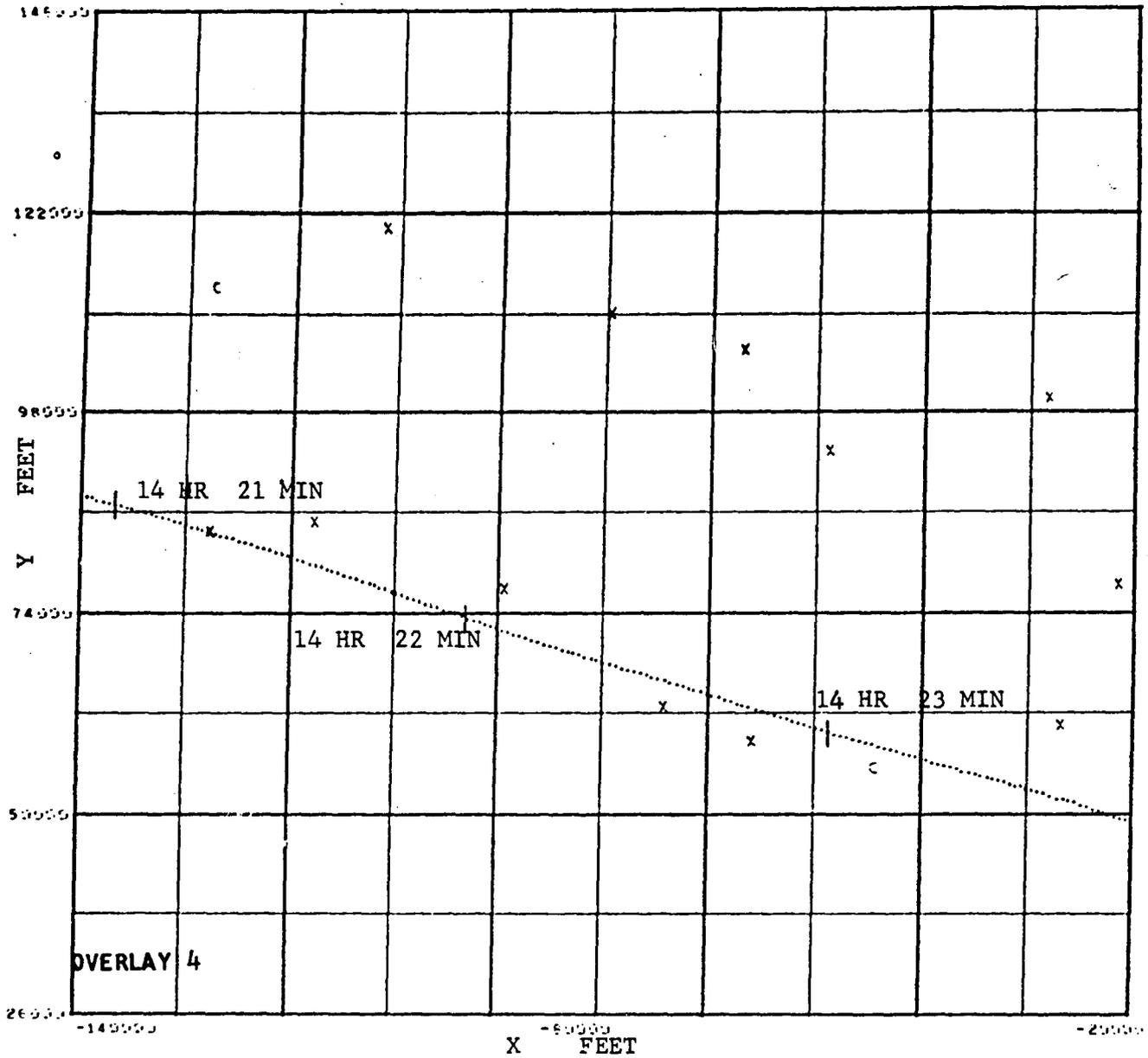
UNCLASSIFIED



SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 6 OF 8

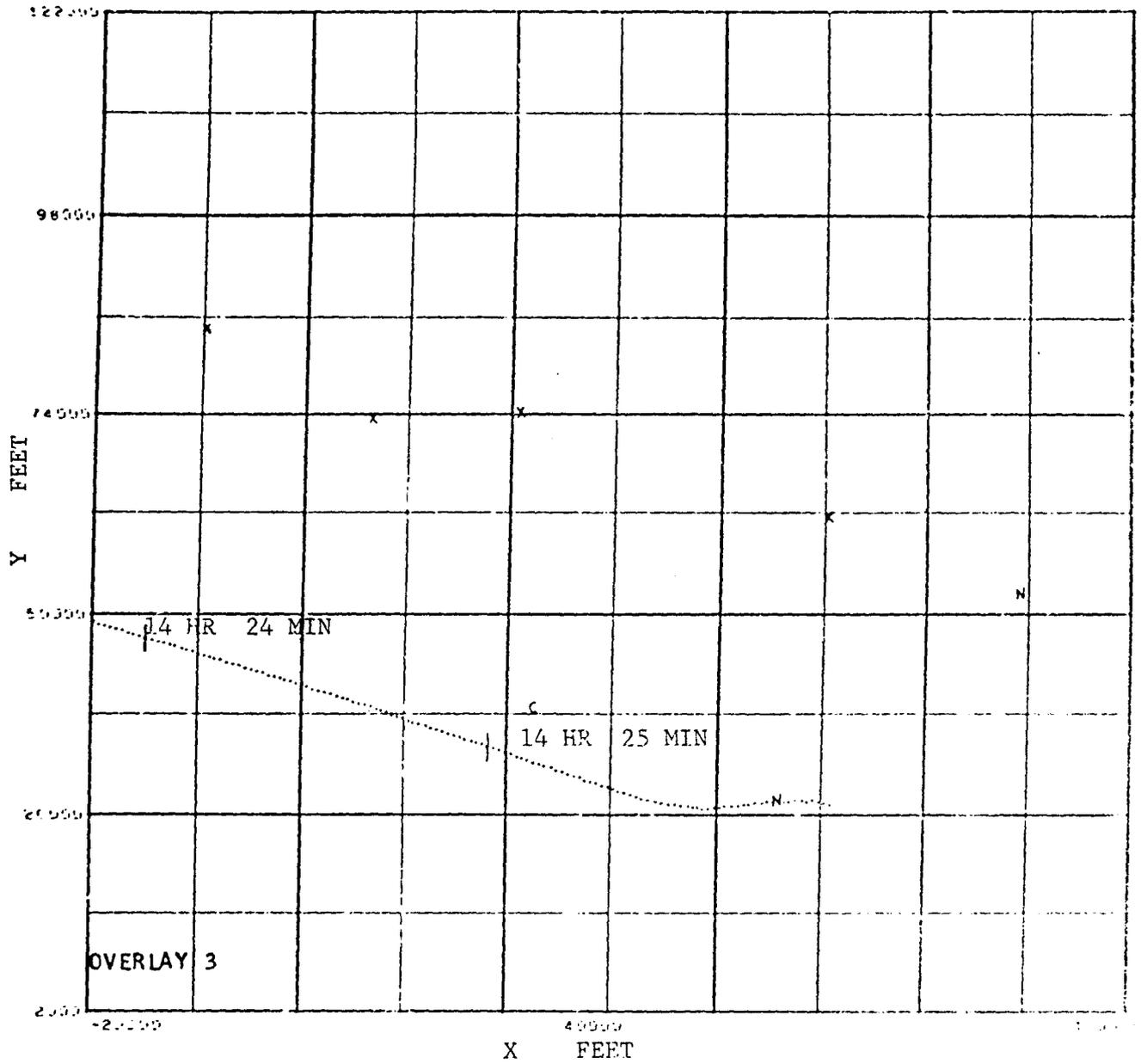
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SORTIE NUMBER 368

FIGURE 2-4
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

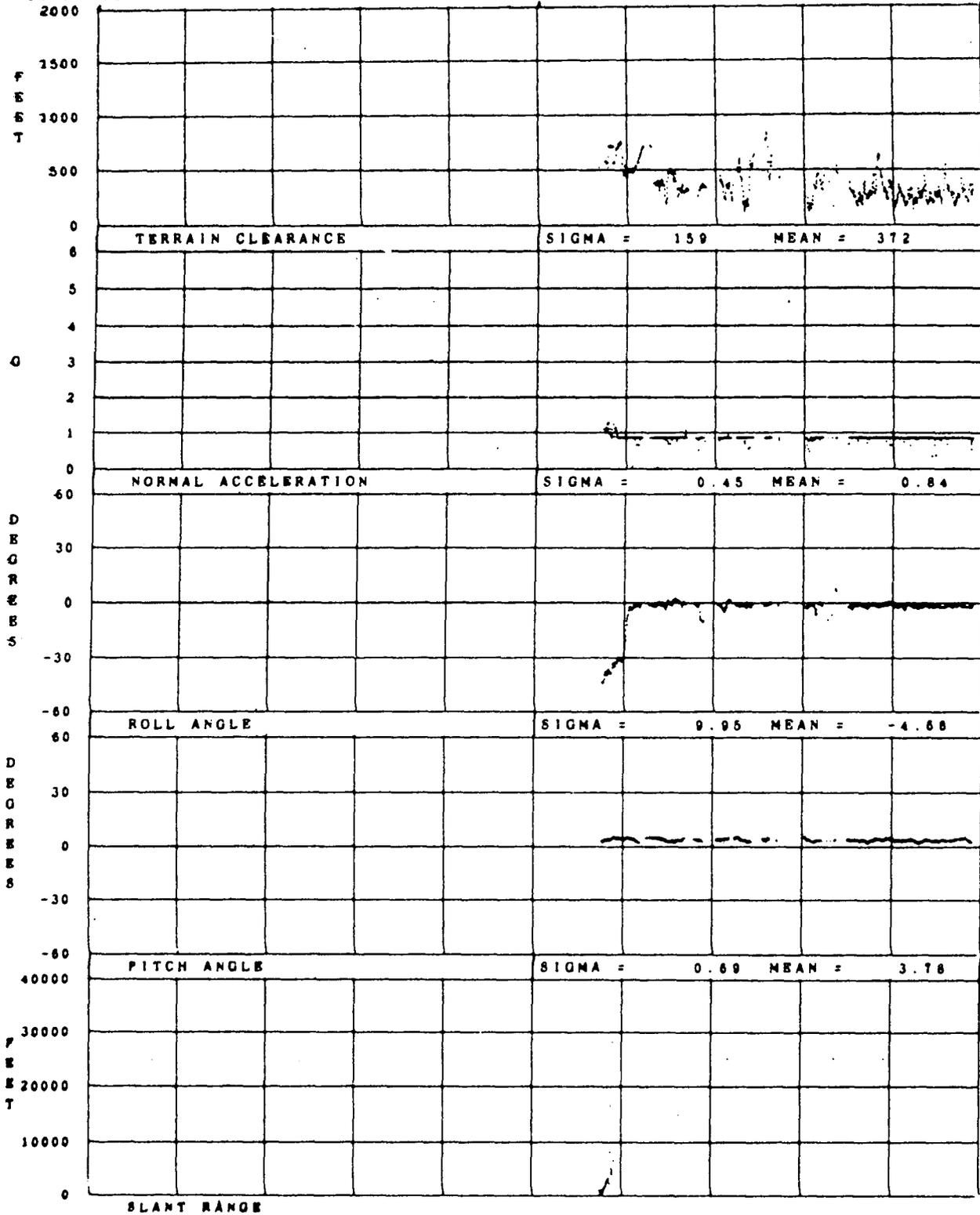


SORTIE NUMBER 368

FIGURE 2-4

AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED



SORTIE NUMBER 366

OPERATIONAL DAY 26 AUGUST 1967

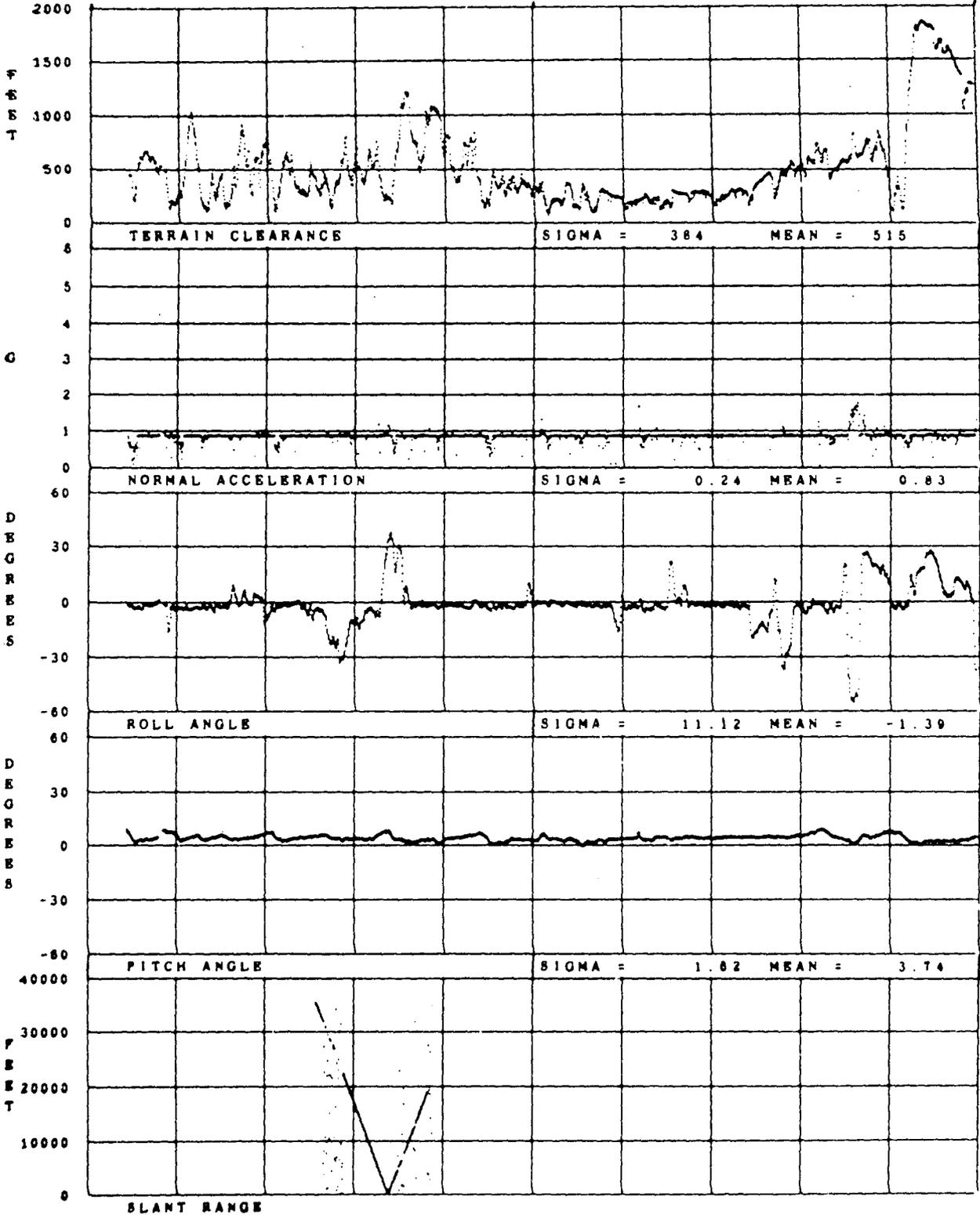
FIGURE 2-5 (U) TELEMETERED DATA (1 OF 5)

UNCLASSIFIED

13 HR 48 MIN

13 HR 53 MIN

13 HR 58 MIN



BORTIE NUMBER 368

OPERATIONAL DAY 24 AUGUST 1967

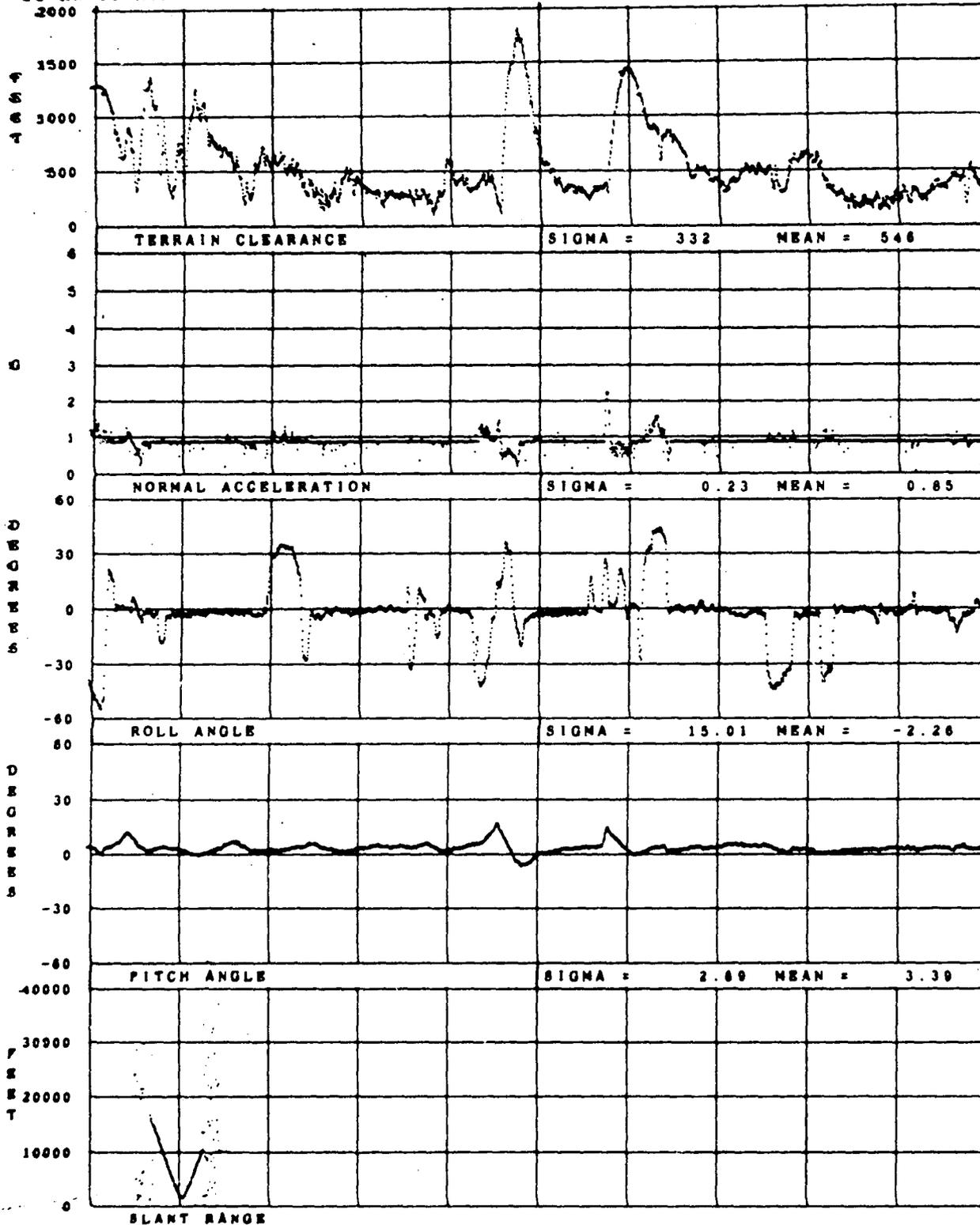
FIGURE 2-5 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

23 HR 58 MIN

14 HR 03 MIN

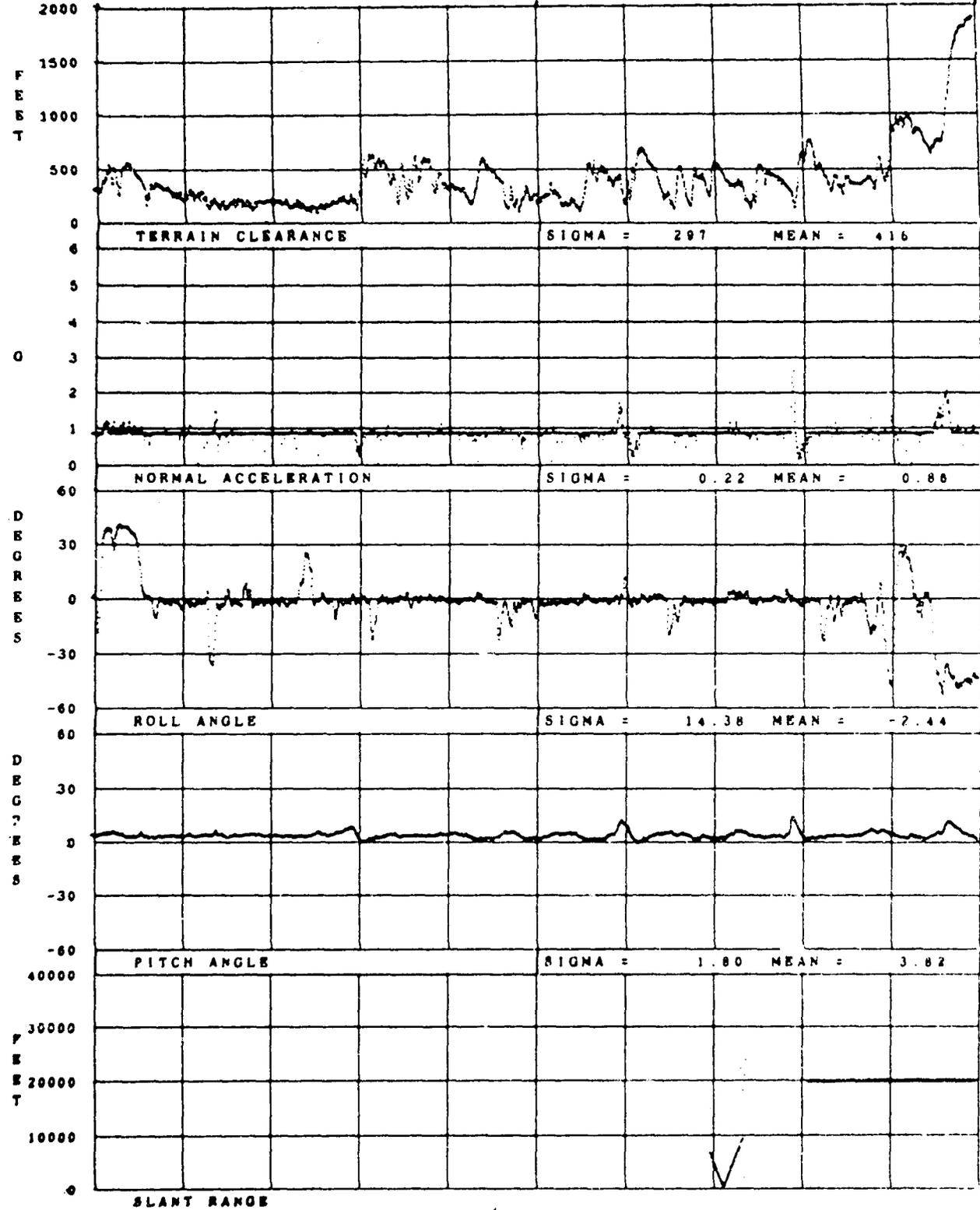
14 HR 08 MIN



SORTIE NUMBER 366

OPERATIONAL DAY 24 AUGUST 1967

FIGURE 2-5 (U) TELEMETERED DATA (3 OF 5)



SORTIE NUMBER 388

OPERATIONAL DAY 24 AUGUST 1967

FIGURE 2-5 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

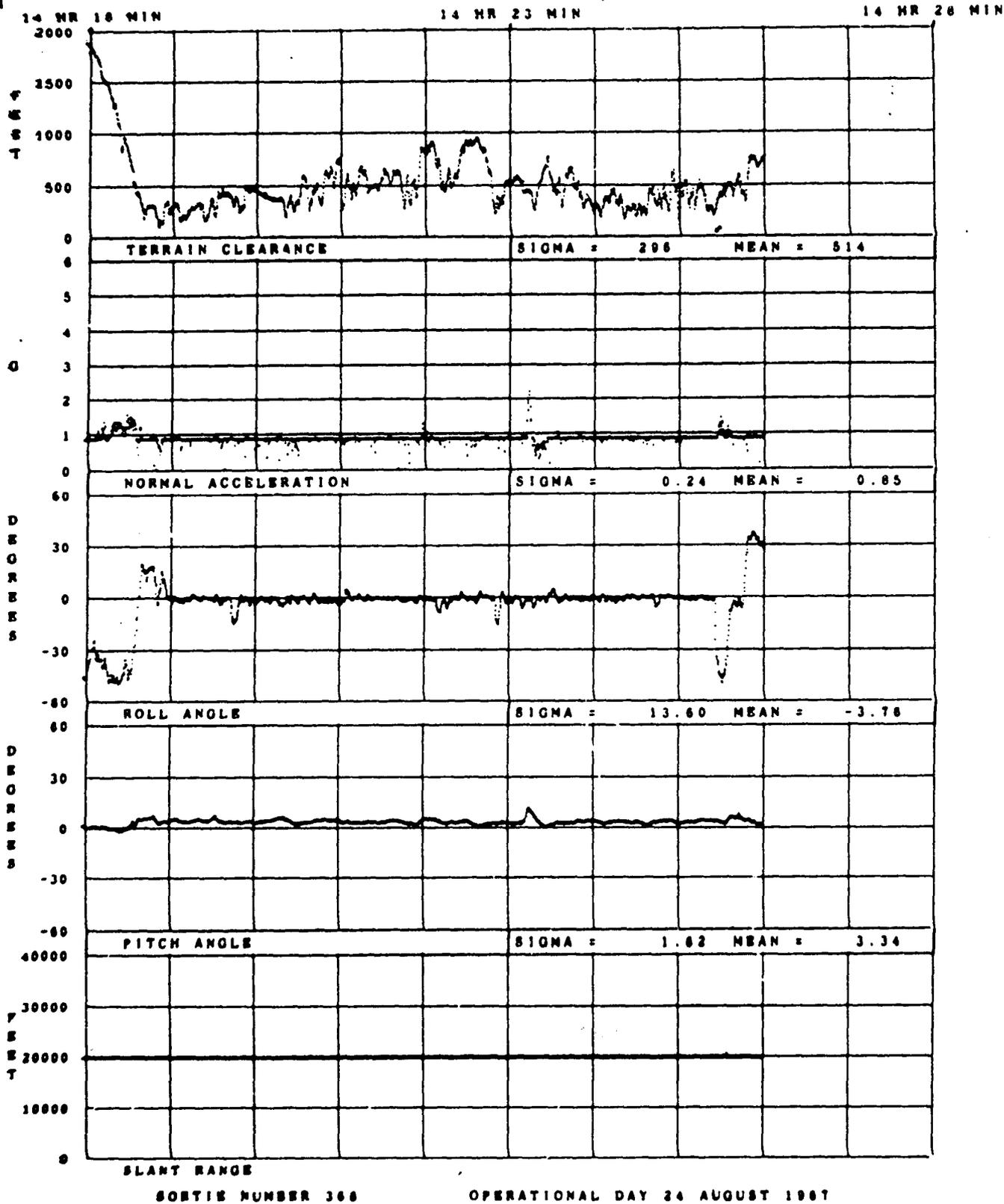


FIGURE 2-5 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT TG/TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 368
			DATE 8-24-67
	14:10:01	Do you see anything at all? Negative.	
	14:10:18	Roger. What is our, what is our heading? 279. Okay I guess this is where we looked for the target, huh?	
	14:10:41	I thought we were looking for ah	
	14:11:03	For (****) sake if you see anything let me know about. I have no idea where we are. Just hold 279. Just glue to that baby.	
	14:11:25	If you see anything tell me. Because I sure as (****) don't see anything.	
	14:11:39	We've got a stream there.	
	14:12:10	Okay looks like we're coming across a (****) valley here anyway. Yea, there's a valley off here to our right. We should come across some railroad tracks and, ah, Okay. Let's see here what it looks like. Okay I we'll start from an intersection of a road. Okay which one are we going to hit first? Okay we're looking like we're in good shape. We want to. Okay the road, now, and I don't see no damn railroad. That was not the one with the road. The railroad and the railroad one is further up. Further up, okay. We look like we're on course. Hold 279 just glue to that baby. Okay. I want a power line through the mountains here. I think I know just about where we are again. Okay. Come across another road there it is. There's a minor road. Not that ridge stuff. Okay next will be ah road. We should cross the road, the railroad crossing up here and then the creek of course in the same place. Should be coming right up here. I don't have any reference to time at all. Na, I don't either.	
	14:13:31	Okay here's a saddle back going down. Un. Okay we're coming into this valley. There's the creek.	
	14:13:52	How about a road and a railroad. A road and then a railroad. Is that the way we're suppose to cross them? Right. 279 straight route. Let's find some targets. I can tell them where we are now in case we find something here. I hate to think we're doing this all for nothing.	
	14:14:17	How's the gas? 7 over 87. Ok we're a little ahead of schedule. Yea, we got more than we planned for so. Yea, 2's are a little bit high anyway.. Ok 429 ground. Okay. Seems like to me we're to the left of course just a little. No we're okay.	
	14:14:45	Another. Going to enter another valley here.	
	14:14:58	I've got a road. Ok here's a road coming down. Yea. Is this where N2 is now? There's an intersection of a road and a small highway.	
	14:15:10	Looks like a dirt strip there to the left of us. I sure didn't see nothing around it. Had a wind sock up. That was a target by the way. It was? Must of been. There were no airplanes, no activity, just a vacant strip.	
	14:15:32	Okay there's 3 ponds and a road. Ok. There's ah, some kind of a site.	
112	14:15:48	There's the site over there. Okay. There's N2.	
	14:15:49	Okay. Phantom 35. We got, ah, about 10 APC's and some trucks about, ah, 4 semi's, I guess that's 10 ton trucks. AC 55.	
	14:16:09	Okay now we're going to look for the road here. Okay. We're just a tad right of track. Let's swing out before we start our turn here anyway. Okay. There's a farm house. I don't see anything around it though. There's a tower we're looking for. You got it? Where at? 11:00. 11:00? 10:00. Okay what kind of tower is it? 11:00. We're not going to a tower on this leg are we? I thought (overtalk) No that's the tower that's beyond the lake. Remember we were going to go on until we passed the tower on the road and then turn down the road to find N3. Okay. Oh it's a left turn. Right? Right. The road should be in this valley here. Okay the road should be in this valley somewhere huh? Right, there it is. Okay, yea. I think I've got it at, ah, 10:00 up there. I got that buildings they want. I'm not sure though. Y in the road.	
	14:17:25	Okay we're going to swing back now. Okay let's, I see the damn lake there now. Let's climb up here and see if we can get any visibility on anything. Okay here's a road. Okay we started at the smoke. The road is back there to the left. That's not the road that we want.	
	14:17:56	You see that roof down there, that barn roof or something? Yea. That's about where we want to head I think. We want the railroad bridge and the pylon and he's putting up smoke, believe it or not. Okay I sure don't see what he wants yet. I don't see any smoke yet. There's a perpendicular road coming into us there, is that right? 099. Correct. Phantom 35 go ahead. Negative. Okay there it is. Tally on 1. Rog. Got the <u> </u> . Tally on N3. 099. Roger got the smoke just as I went by. 099. Roger passing N3. Okay let's cling to the heading here. That seem to be our best.	
	14:19:10	Okay we got 7 over 79. Okay we're, we're all clear for fuel. Find some targets and hold 099. Okay.	
	14:19:40	Okay there's going to be, coming over the ridge here, there will be a valley and a road. An old barn.	
	14:20:07	The road off to the right. We're going to cross it, okay? Okay, yea we should. Church house. <u> </u> over there in the yard? That must be a service station down there rather than a. Yea well they have all kinds of yellow truck. I doubt if that is the target. I don't think it looks like civilian trucks.	
	14:20:40	Heading looks good. Ground speed is 7 knots high. Ok. Got 4:15 (plus?) Pigs, pigs and cows down there.	
	14:21:08	Okay we should cross another road here shortly. 7600 pounds fuel. What do you estimate the visibility is? Not much over 2 miles. May be 2-1/2, 3 at the best. Gal says it is suppose to clear up down there. Yea. It's as bad as it was up yonder at the dam. It's worse over here. Yea. Coming over a ridge line here. It's 2 minutes and 45. Okay let's see what we can see in here. I don't see anything in that valley.	
	14:22:24	(Huge truck on the?) road here Jim. Heading looks good. Ground speed is about 10 knots high. Okay. Pull it back just a little here.	
	14:22:54	Ok this is probably the valley or something here.	

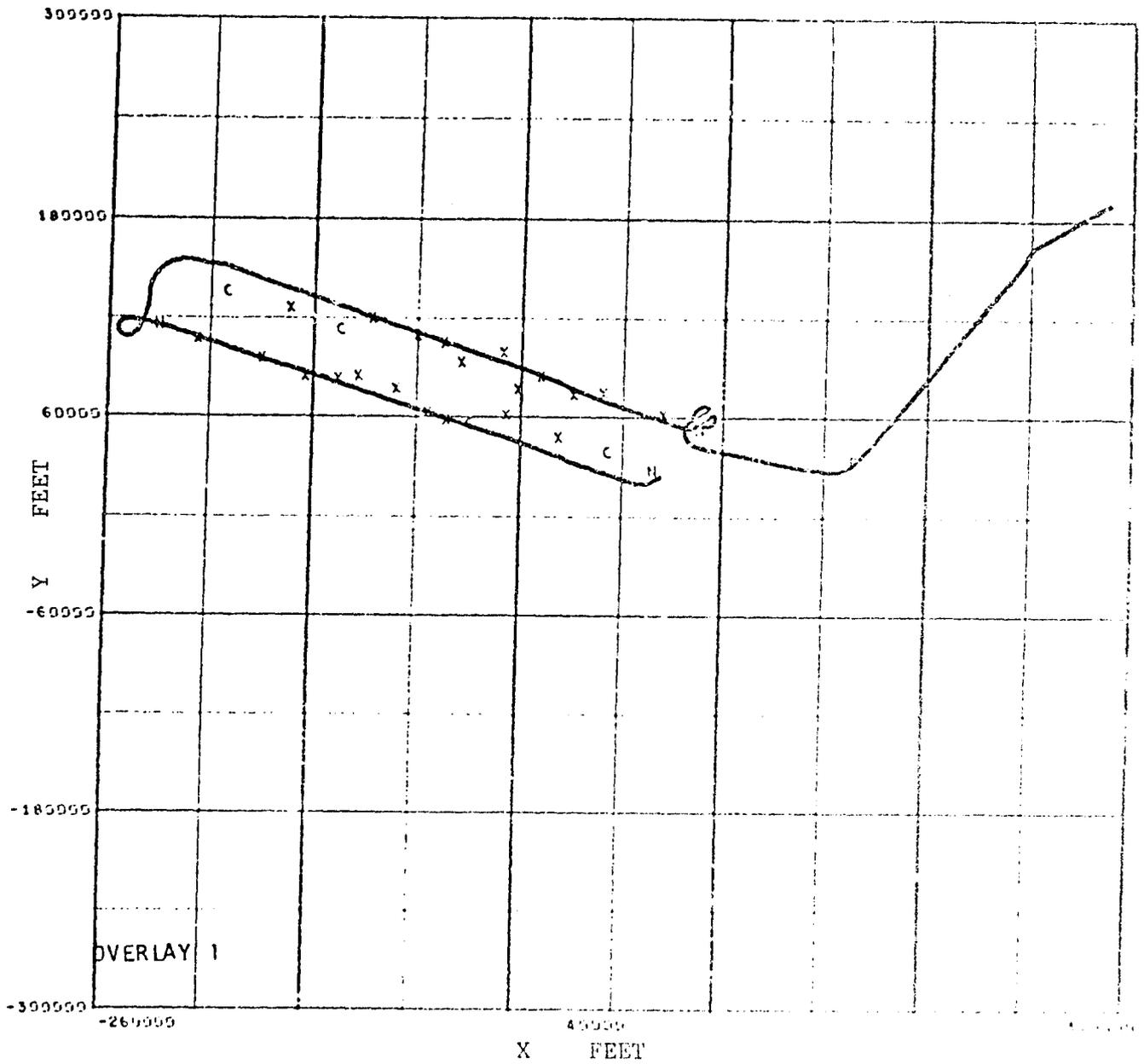
FIGURE 2-6 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 368 cont. DATE 8-24-67
2 22	14:23:06	Okay I got, ah, 1, 2, 3, 4, 5, 6, 7 trucks over there. Where are they? Out on the right over there. Okay. Okay that's in Cocco Cocco about 76. And they were, looked like pretty good size trucks.	
	14:23:34	Just after we crossed the road there, wasn't it? Uh huh. They were on the other side of the road, parked (north?) (our?) side of the road now. Just right side of us, huh? Were they across the road or? Ah, yea. East of the road, they were west of the road. West of the road, okay. Turn back to Charlie Cocco 56 then. (14:24:00).	
	14:24:08	Slow the heading we're coming up on 5 minutes. We _____ 5 minutes now. Okay. Should cross the	
	14:24:43	Start looking for a signal mountain tower in about 15, 20 seconds. Okay. Here's a river. Rog. There's so many rivers on this little damn map that you can't tell one from another.	
	14:25:23	Okay there's the tower up on top of that mountain. Got it? Okay. On the top. Yea, are we suppose to go, over that? Rog. That's it. That's it huh? That's the end.	
	14:25:44	There's a house right to the right of you. Where? Give them a call.	
	14:25:54	Phantom 35 point N4.	
	14:26:03	Tone begins.	

FIGURE 2-6 (U) VOICE TRANSCRIPT (2 OF 2)

UNCLASSIFIED



SORTIE NUMBER 374

OPERATIONAL DAY 25 AUGUST 1967

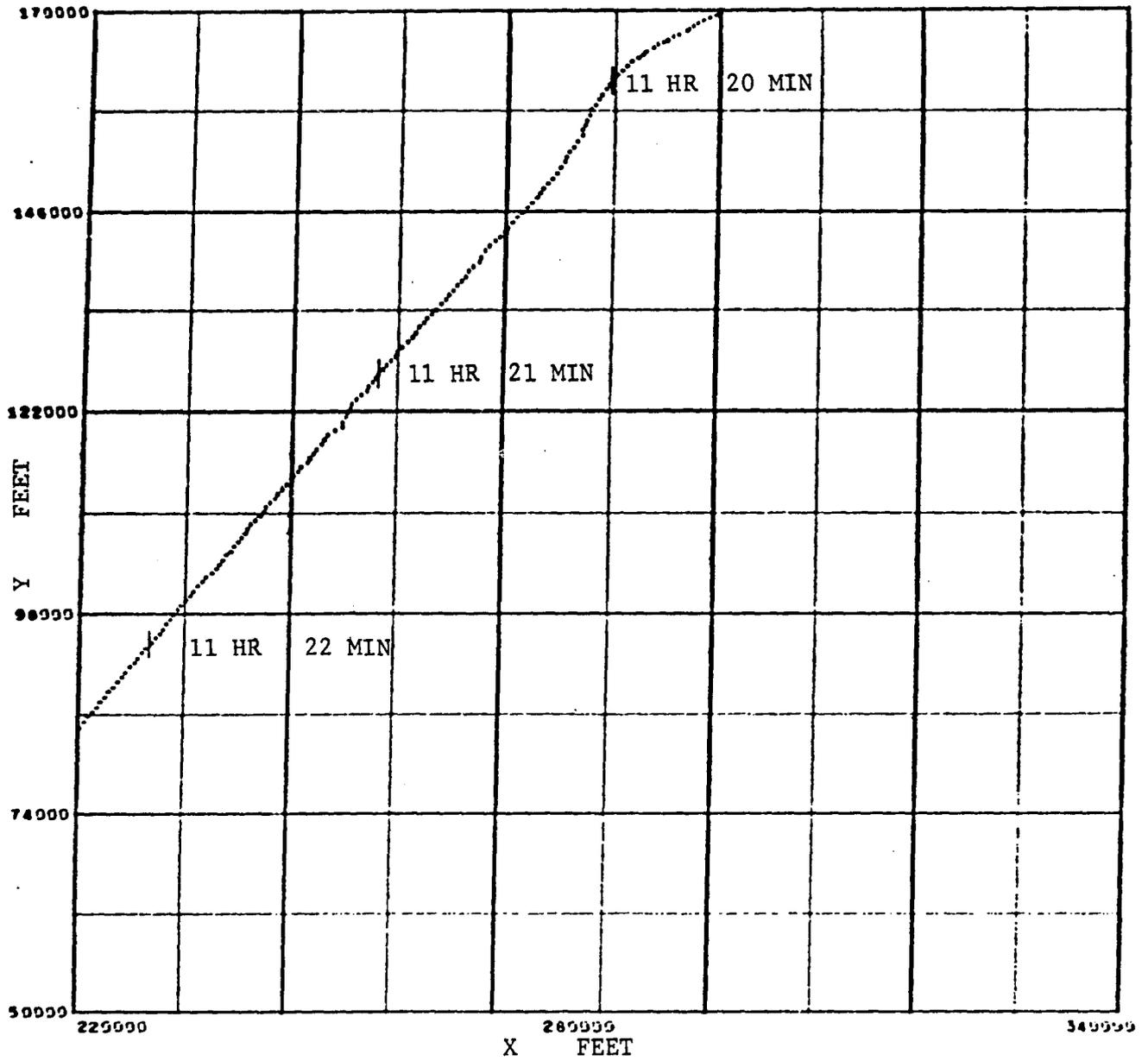
NORTH COURSE

FIGURE 2-7

AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

UNCLASSIFIED

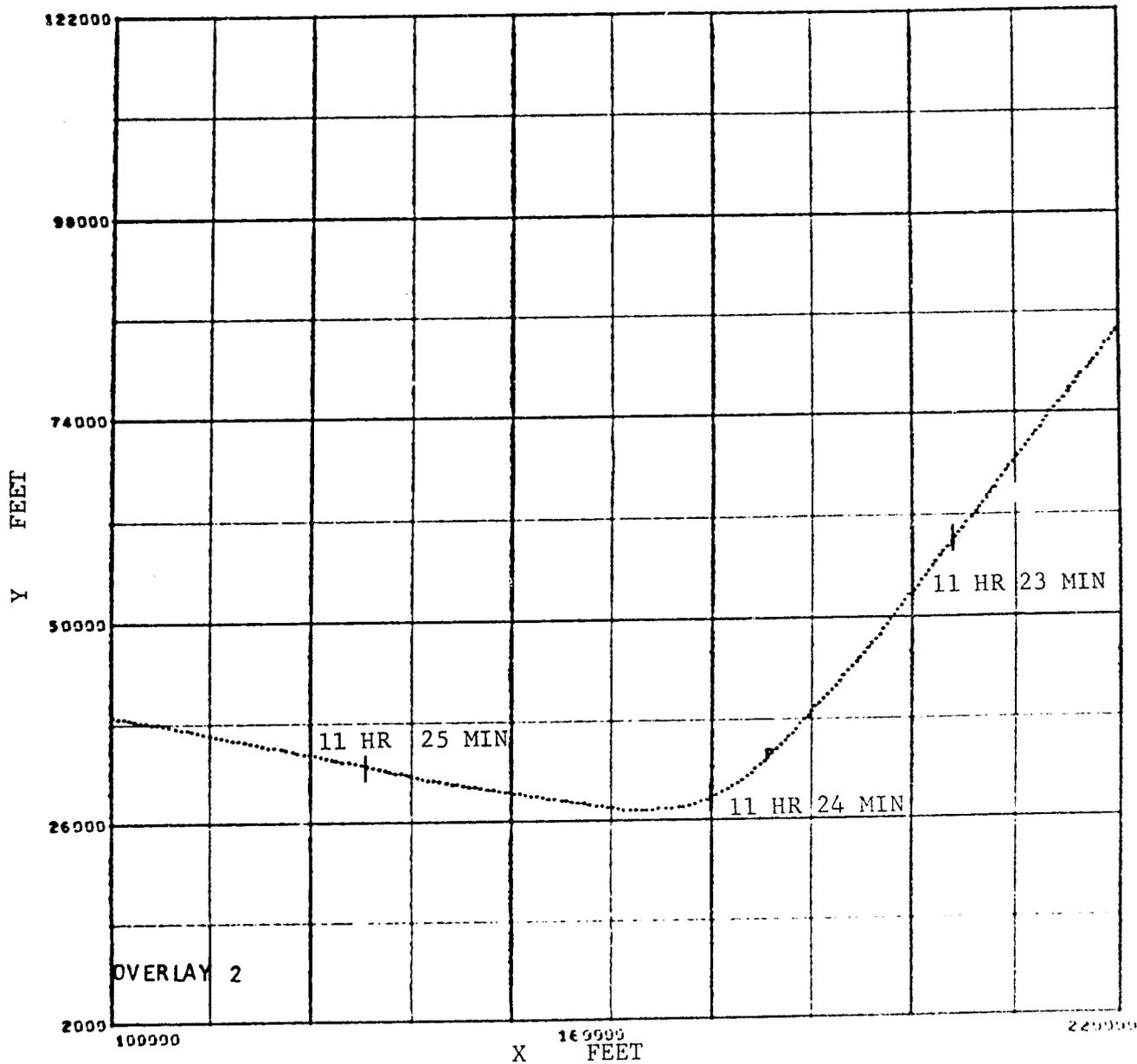


SORTIE NUMBER 374

FIGURE 2-7
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED



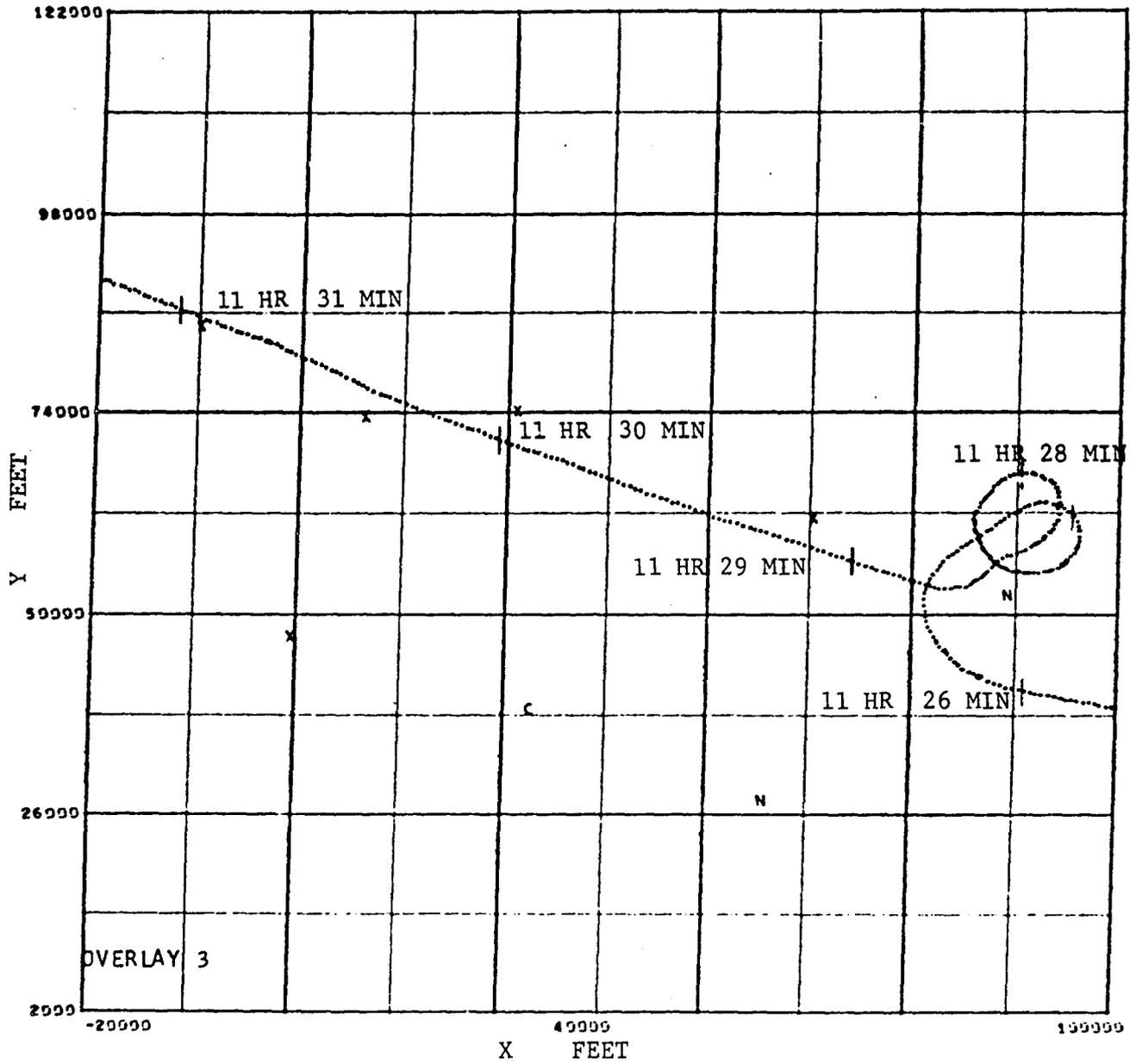
SORTIE NUMBER 374

FIGURE 2-7

AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

UNCLASSIFIED

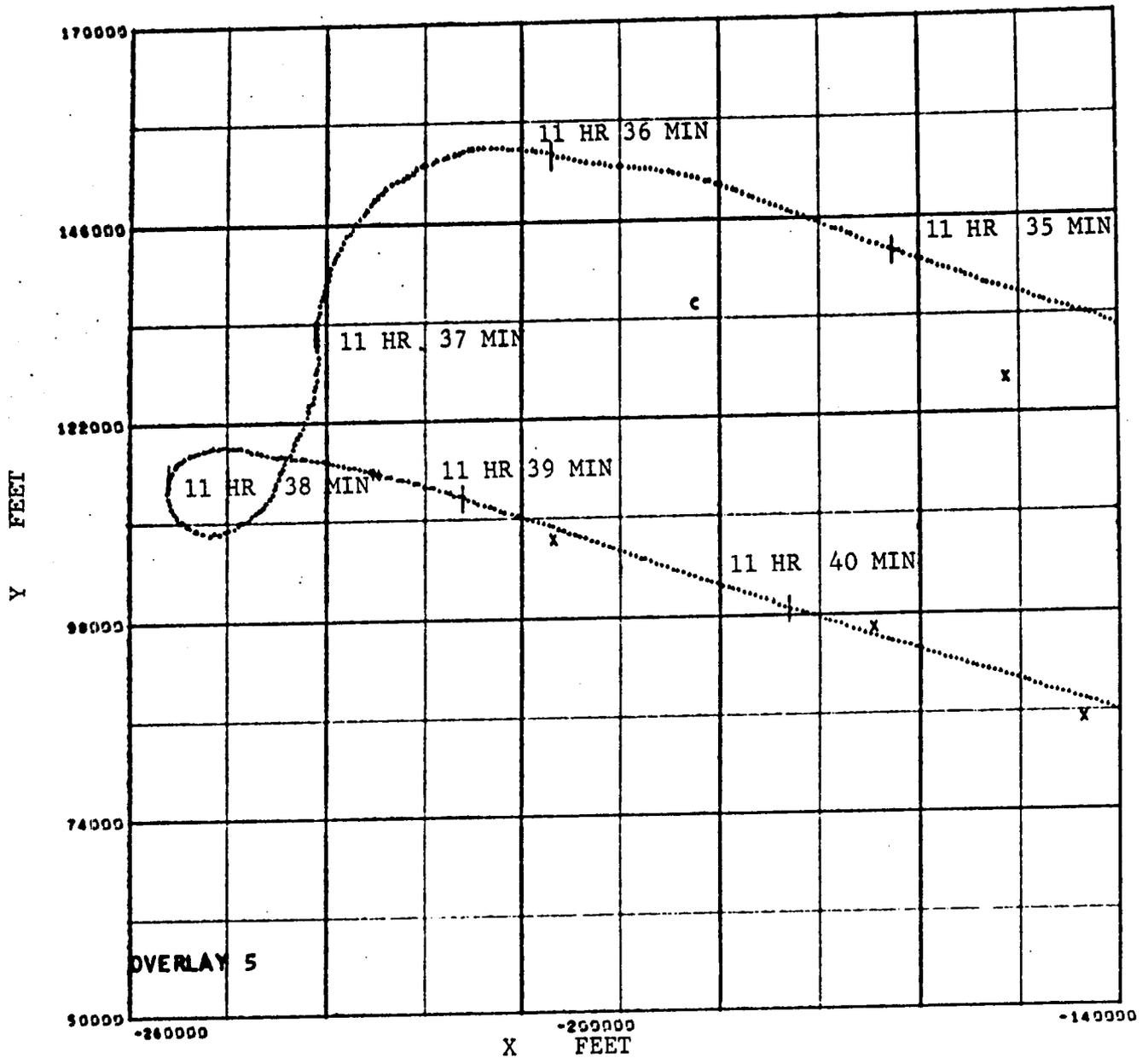


SORTIE NUMBER 374

FIGURE 2-7
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

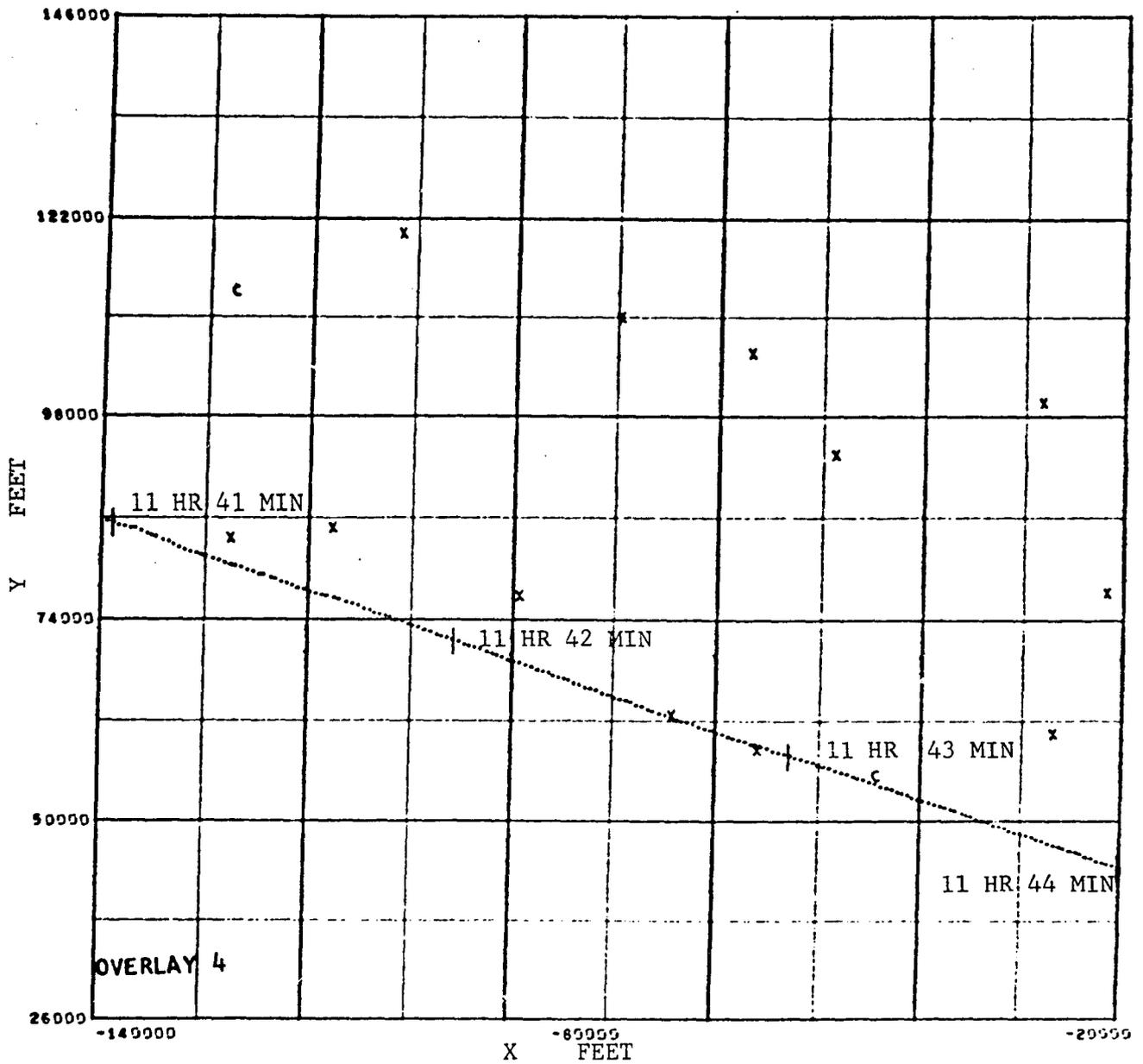


SORTIE NUMBER 374

FIGURE 2-7
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED

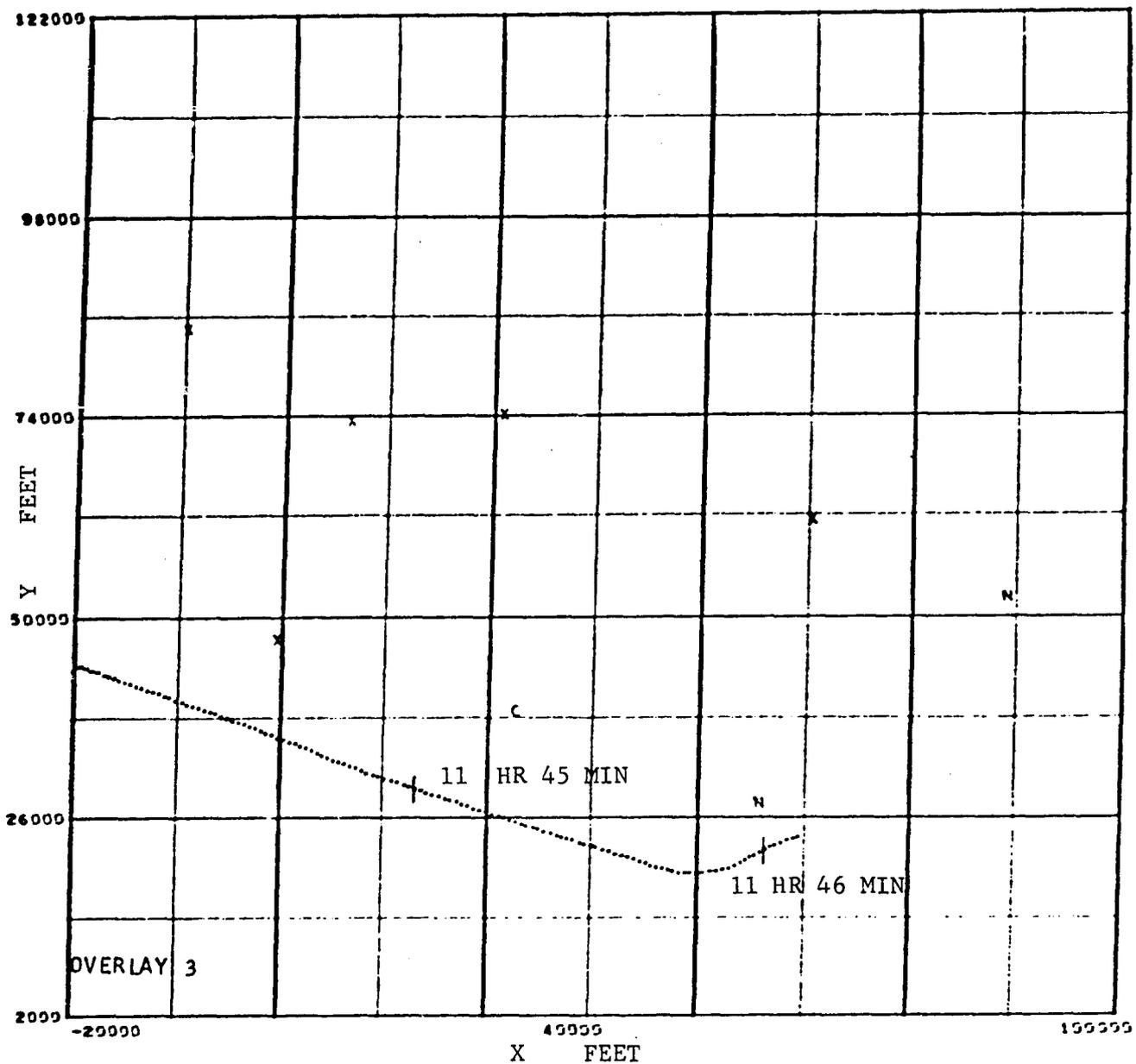


SORTIE NUMBER 374

FIGURE 2-7
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 374

FIGURE 2-7
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

UNCLASSIFIED

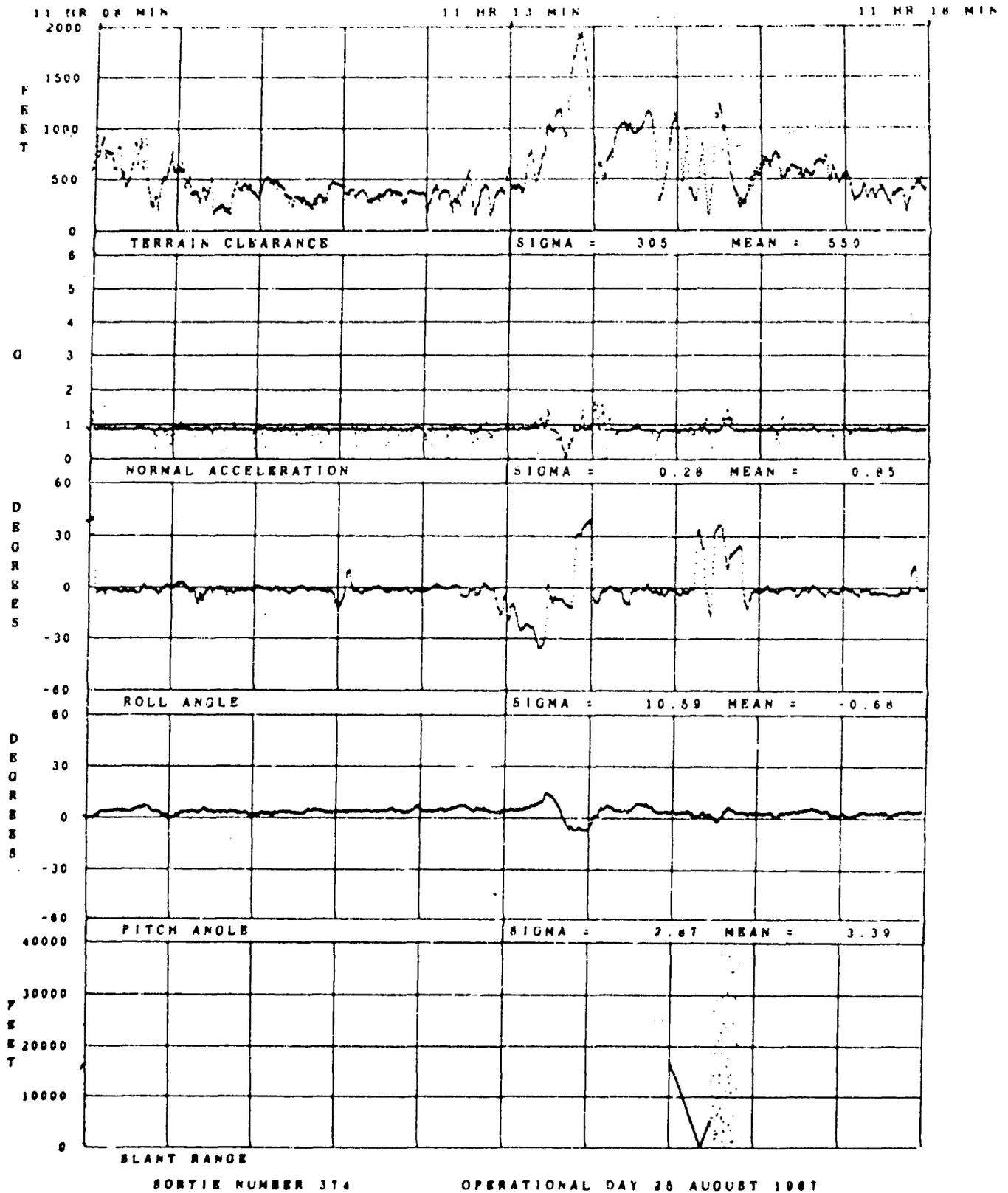


FIGURE 2-8 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

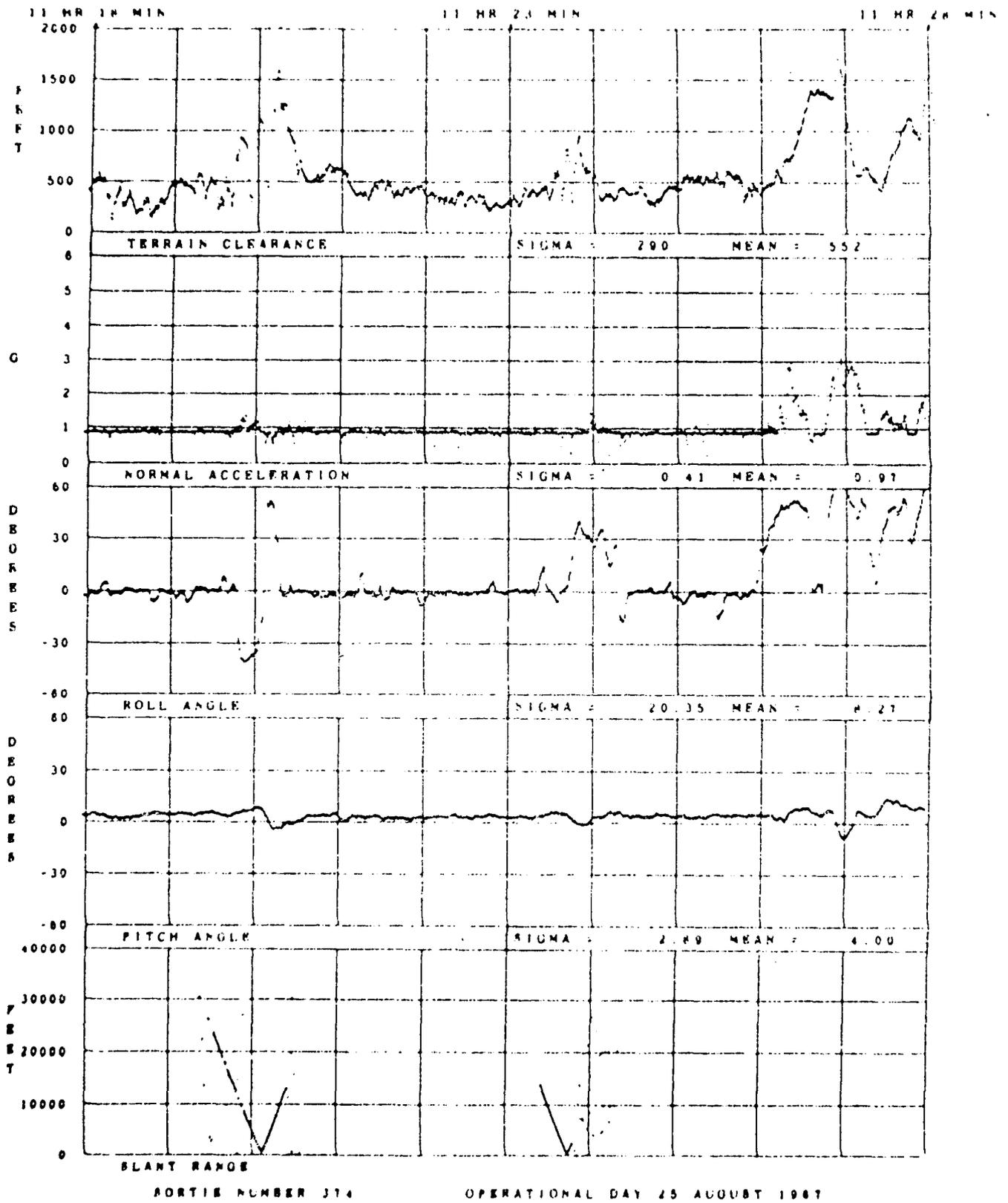


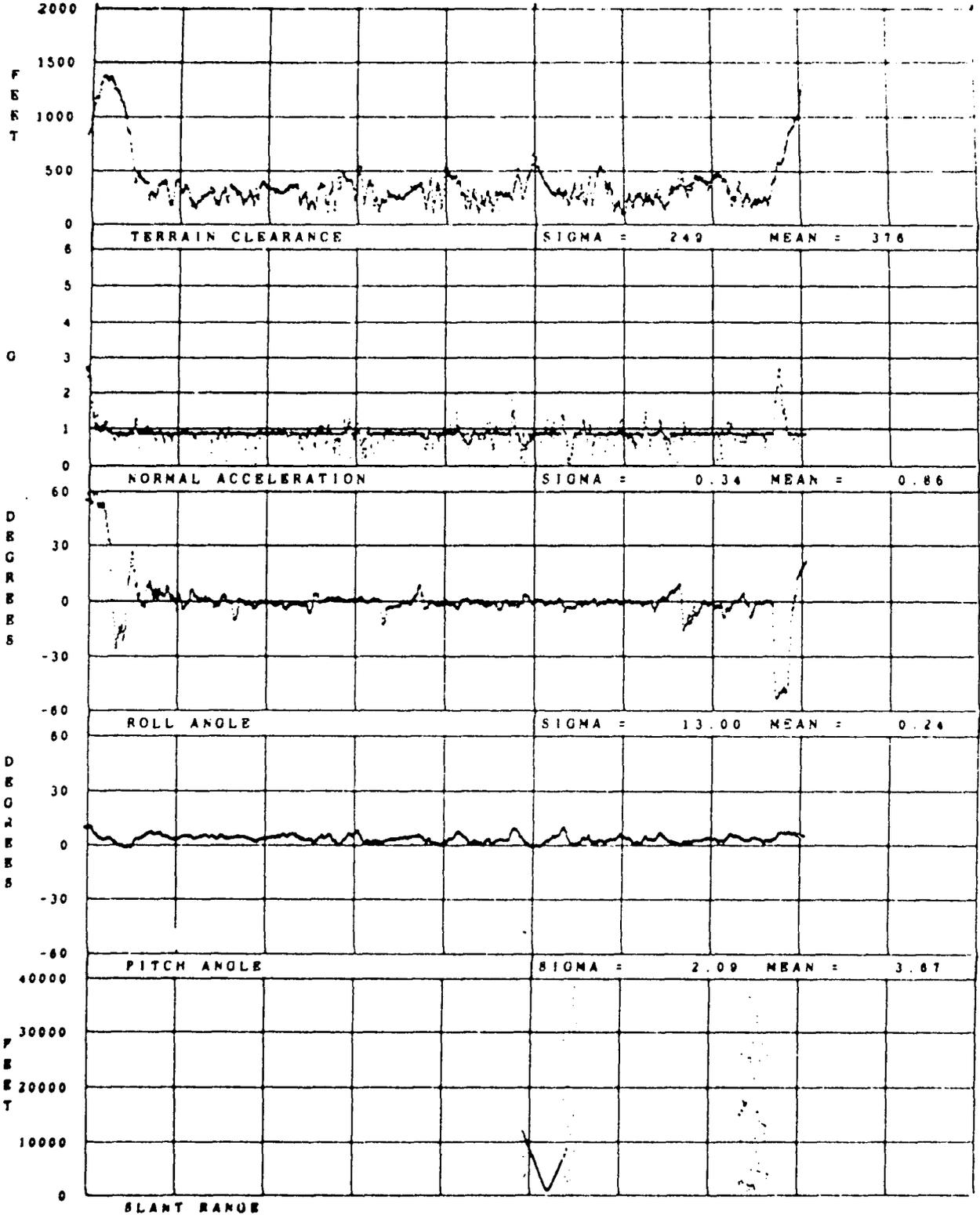
FIGURE 2-8 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED

11 HR 38 MIN

11 HR 43 MIN

11 HR 44 MIN



BORTIE NUMBER 374

OPERATIONAL DAY 26 AUGUST 1967

FIGURE 2-8 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

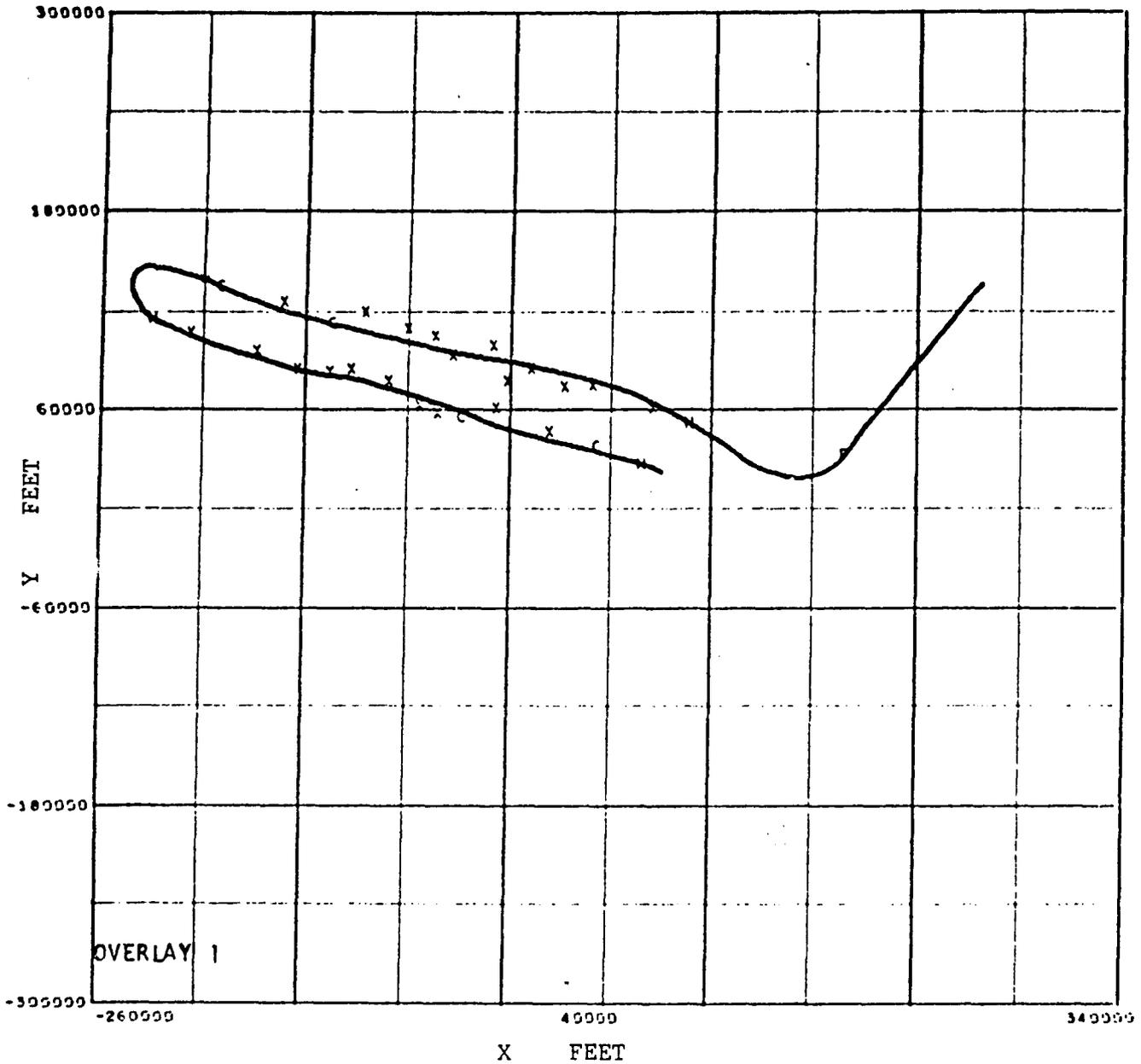
TIME		REAL TIME TRANSCRIPTION	SORTIE 374
TC	TGT		DATE 8-25-67
	11:25:55	I see right, smoke, off to the right, sir. Where, where? 3 o'clock. I don't see it. Ok, 3 o'clock. See the red smoke? Head 3 o'clock. No joy. Still 3 o'clock. Right off the top of the canopy. No joy. 3 o'clock. 3:30 now, top of the canopy, 3:30 high. Want me to take it? Yeah, take her. Ok. Fly into the . . . fly towards it, so I can see it. Not too much bank, now.	
	11:26:26	30. Rog. I don't see. 2 o, 2 o'clock, slightly low. Er, it's not low. I'm rolling out now. Now it's 3 o'clock to the . . . it's directly to the right. Down, at the road intersection over there to the right. Well, I'll be a son of a (****), Ray, I can't see that (****) smoke! Wait a minute. (mumbling)	
	11:26:52	Rog 30. We were to the left of _____ (static). I got 360. Rog, a 360.	
	11:27:05	That's affirmative. Ok, I got it Ray. Do you see the smoke? I think I do. _____ I'm heading just a little bit to the . . . there's . . . Go ahead and pickle. We got it. I, I don't see it any more. Ok.	
	11:27:36	Power, Call? Ah, we gotta make another 360, Timber 1.	
	11:27:57	Phantom 30. Roger.	
	11:28:10	Little too much. Bank right down here to the right. What you see it now? You see the smoke? No, I don't smoke. You stopped it. Ok, let me have the airplane. Ok. I don't see it. There it is, over here. Ok, shoulda mi _____. Ok, we'll get . . . I see the bridge, I see the bridge, go ahead and pickle.	
	11:28:32	Ok, Phantom 30 has the smoke, heading on course.	
	11:28:46	Ok, you got the throttle. Roger. Oh, (****), I didn't get my (****) hack. (****)! Hack now. I did. You only missed it by about 5, 10 seconds.	
	11:29:06	280, we wanted? Roger. 278. There's the power line on our right. Ok, heading out. Rog, we're looking for targets, too. Let me check our course, here. Rog, we should kind of parallel that power line for a long time. Not parallel, we should kinda angle away from it.	
	11:29:42	Don't think that red smoke the answer against that red ground down there.	
	11:29:49	What's that off to the right, anything? Naw, it's just an open space with farm buildings. There's something white down here, that's a building.	
1	2	11:29:59	There's a bunch of tents over there, Colonel. 1, 2, 3, 4, 5 5 tents and the position was . . .
		11:30:07	Phantom 30.
		11:30:16	Ok, we're a little bit left of course. Ok, 12 o'clock position . . . Roger, the, will do. The position was Charlie Hotel . . . 04. (11:30:28)
		11:30:32	We might have more targets off to the right, or did you, I see you've altered already. Ah, that's good enough, we're not going to alter any more. Ok, can't tell if we're on course. Targets. Rog.
		11:30:52	Pretty good highway to the right there, crossing over something.
2	4	11:30:55	There's a bunch of . . . 1, 2, 3, 4, 5 jeeps, looks like a, they're in a circle, looks like a command post. Coordinates were . . .
		11:31:11	Charlie Foxtrot 7.7. They were close to an access road. And there was 2 tents there. (11:31:22)
		11:31:39	Boy, that sure is nothing but woods. Rog. We might have some convoy or something parked along in there, in those little roads.
		11:32:00	Ah, let me get this head up here, where we belong (mumbling).
		11:32:25	Four minutes, we ought to be crossing a road. Here's a good road down here. Railroad and a road. Ok, that looks pretty good. Come real close together, there. Rog, it should have had a river bend back there. It was a river there. Yeah, it was a river. Big ridge just beyond it. Ok, we're looking pretty good.
3	9	11:32:47	There's a bunch of trucks down there. 1, 2 . . . go ahead and call it. 1,2,3,4,5 6 big trucks looks like towed, uh, artillery, alright, there was artillery, and there was guns pointing to the right, to the north. How many guns would you estimate, 6? Same amount as there was trucks. There was a gun in front of each truck. Ok, the position was Bravo Foxtrot . . . 64. And that's Phantom 30. Roger. (11:33:11)
		11:33:16	I forgot to call that clock position to you again, darn it. I saw 'em about same time you did, I guess.
4	10	11:33:24	Ok, Phantom 30, hospital tents with a helicopter sitting uh, close by. Looked like about 4 hospital tents, at position? Coordinates Bravo Echo . . . 77. (11:33:40)
		11:33:46	That was close to a road, on the north side of a road, and out in the open. Ok. That'll help, 'cause I had it on the south side of that road. Right, right along the road. The chopper was sitting right next to the road. Ok. Tents wouldn't.
		11:34:01	There's a fixed tower over there on the right, Ray. I see it might be a good check-point. Ok, that's our point before our target, Colonel. That's our microwave, I'm pretty sure. We're coming up on . . . on our time. Before the GCI site? Roger, it'll be right in here somewhere.
		11:34:21	We're popping over this ridge. Here's an open field.
		11:34:30	Shoot, I think we might have missed it. How's our time? Ok, I've got coming up on 6 minutes, so we're 30 sec . . . we might have 30 seconds to go. That might've been, not have been the right co-ax tower. Ok, we're coming up on a clearing here. I got something down here _____. Ah, it's a bunch of bushes.
		11:34:58	Lot of clearing area out here.
		11:35:05	Must be coming up right alongside this hill.
		11:35:13	Here's another clearing up here to the left.
		11:35:21	See out time's got 6 and a half minutes. We've still got a minute. There's a big tower on the left over there, that's the one that . . . the one that's the end of the course. You think it is? Here's the lake. Ok, the lake is to the right, the target is just to the left, a little bit.
		11:35:40	That's a big tall, tower over there.
		11:35:47	Coming up on the highway. Roger. And railroad track. Should be just short of that. Well, we missed it.
		11:36:01	We missed the (****) thing, Ray. You sure? Yeah, we passed the railroad and the . . . bridge. Yeah, we sure are. That big tower over there. Yeah, that tower we

FIGURE 2-9 (U) VOICE TRANSCRIPT (1 OF 2)

RPT TG/TGT	TIME	REAL TIME TRANSCRIPTION	DATE
		were, I think we were to the right of course. Ok, we want 45 degrees of bank here. Roger. Follow the . . . Oh, I guess we don't . . .	8-25-67
	11:36:32	Roger, Phantom 30 uh, we have uh, plenty of fuel. 62 over 73, so that gives us about . . . Ok, at the end of N2, we should have 77 on the counters. Yeah, we're all right. Looks to me like we got about 2 miles right of course, Col. I don't know how we did it. Ok, here is the lake here. Right the end of that lake.	
	11:37:11	Roger. 30's started back in. We'll . . . we're looking for N3. Ok, our heading outbound will be 100 minus 2 or 3 degrees. Ok, that's that big long lake, there, Ray. Ok, I don't think we're going to make it. Here's the little lake. We're not going make it? No, we'll have to do it to the right, huh?	
	11:37:30	Ah, why'd he do that. That's kind of silly. They're going to run out of smoke before we get there.	
	11:37:47	Hey, that goes on that machine, and they're going to have our (****).	
	11:37:59	I think I hit it too soon, but . . . I don't think you're going to be able to beat it around enough. Yeah, we got it made. My heading out is what? 100. Gotta find the point, though. Ok, find that little lake, now. There's the big tip of the finger, the lake should be . . . to the left. I saw that little mother while ago. There it is, right under our nose.	
	11:38:30	Ok. Ok, I got the point. You got the point? Rog, dead ahead. Ok, and did you pickle yet? Pickled, yea. There's the flashing light. There's 2.	
	11:38:44	November. (****) it.	
	11:38:47	Timber 1, Phantom 30, entering N3.	
	11:38:59	You got the call off?	
5	11:39:11	You got your phone call off, sir? Rog, I called 'em. Ok, sorry.	
14	11:39:15	There's a bunch of trucks and . . . POL storage area.	
	11:39:18	Phantom 30. Many barrels, one truck. On a road. Position was Bravo Bravo . . .	
	11:39:49	Parked along the road . . . 87. Parked along the road, right. (11:39:36) Big clear field. We might be able to see something in here. Nice road running off to the right.	
	11:40:02	Those darn farm buildings almost look OD in this . . .	
	11:40:13	Ok. What's that?	
6	11:40:16	Phantom 30, 2 armored uh, self-propelled, propelled uh, right short of that road, Ray. Uh, artillery. Revetted. Rog. You want me to give position? Position. Bravo Delta 32. (11:40:34)	
	11:40:48	Ok, There's a	
7	11:40:51	Phantom 30. Has 1, 2, helicopters parked down to the right. There's some POL storage areas. Small barrels of POL. Coordinates are Charlie, no Bravo Delta . . . 70. (11:41:08)	
	11:41:11	Timber 1, this is Phantom 30. Rog, we got the smoke, we departed the point, I called it, and we're on course.	
	11:41:18	That was a helicopter landing park. (11:41:20)	
	11:41:27	There's a little . . . nope, that's the lake. Clearing, I thought it was the lake coming up.	
	11:42:51	Big ridge line in four minutes, huh? Uh oh. There's . . . What? Mark that position? Ok, I got it.	
8	11:42:59	Phantom 30. There were about 3 trucks sitting around a little water hole, and a power line running close by. I couldn't tell what kind of trucks they were. The position was Charlie Echo 7 1. (11:43:11)	
	11:43:15	Here's a little town with a road. Ok, we're pretty, doing pretty good, here. We might be a little bit to the right of course, Col. Maybe not, though. We flew right over that last point, didn't we?	
	11:43:38	Well couldn't see those until you're right on top of 'em. There were in a . . . right down in the trees.	
	11:43:50	Boy I (I'm?) sure enjoying this a lot more today. It's gone a little better, yeah, we missed that damn . . . we might have flown over that GCI site and not have seen it. Yeah. No, I think we were to the left, way to the right of course, about 3 miles. Or about a mile and a half. I don't know.	
	11:44:20	Mumbling.	
	11:44:35	Ok, we ought to be coming up on a . . . that lake, big lake bend up there. It kinda hooks off to the left, and there's a hook to the right in it.	
	11:44:48	Heading? Ok, you're on, I beg your pardon, I was thinking 10 more degrees. Here's a big la, here's a river. Rog, there's a bridge going across down there.	
	11:45:06	We might be way to the right here, I don't know. We can't be way to the right, Ray. Ok. Been flying that heading all the way.	
	11:45:18	Win, Wind should be drifting us . . . I don't know if it's wind or our heading indicator, though. Well, could be our heading indicator, but . . .	
	11:45:35	Ok, coming up on 7 minutes, we ought to be coming on our final checkpoint. Should be a tower. There's a tower off to the left, with a white, bunch of white buildings. Is that it? That's it, Rog.	
	11:45:48	Did you pickle? Rog.	
	11:45:52	Oh, I suspect we were . . . I think it was the heading indicator, sir. Yeah, that's it. Yeah, we blew our cool.	
	11:46:00	(Tone resumes)	
	11:46:00	No, we didn't. Not our fault. Ok, I'm going, Option 1.	
	11:46:06	(End transmission)	

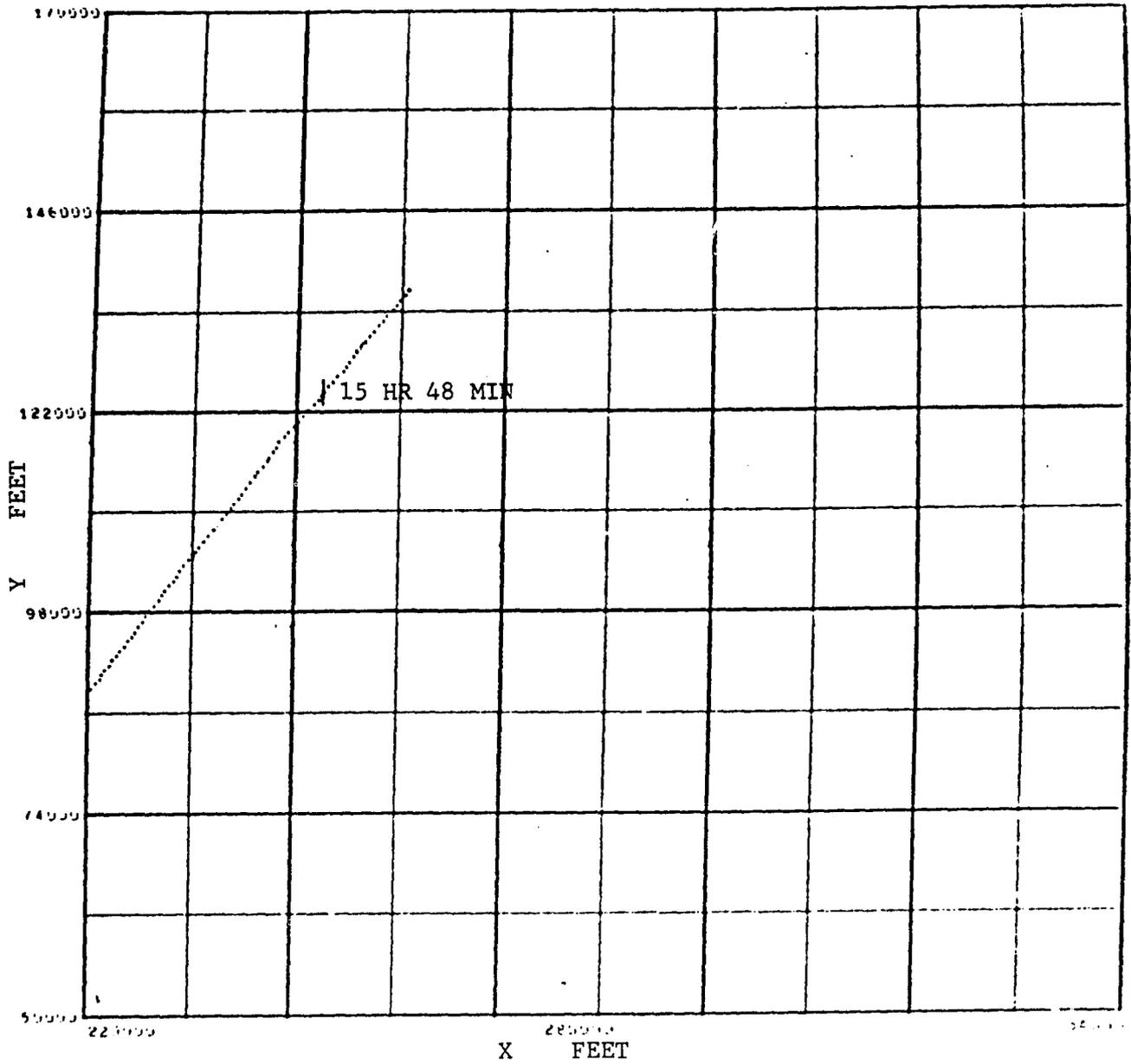
FIGURE 2-9 (U) VOICE TRANSCRIPT (2 OF 2)

UNCLASSIFIED



SORTIE NUMBER 414
OPERATIONAL DAY 29 AUGUST 1967
NORTH COURSE
FIGURE 2-10
AIRCRAFT POSITION DATA (U) 1 OF 8

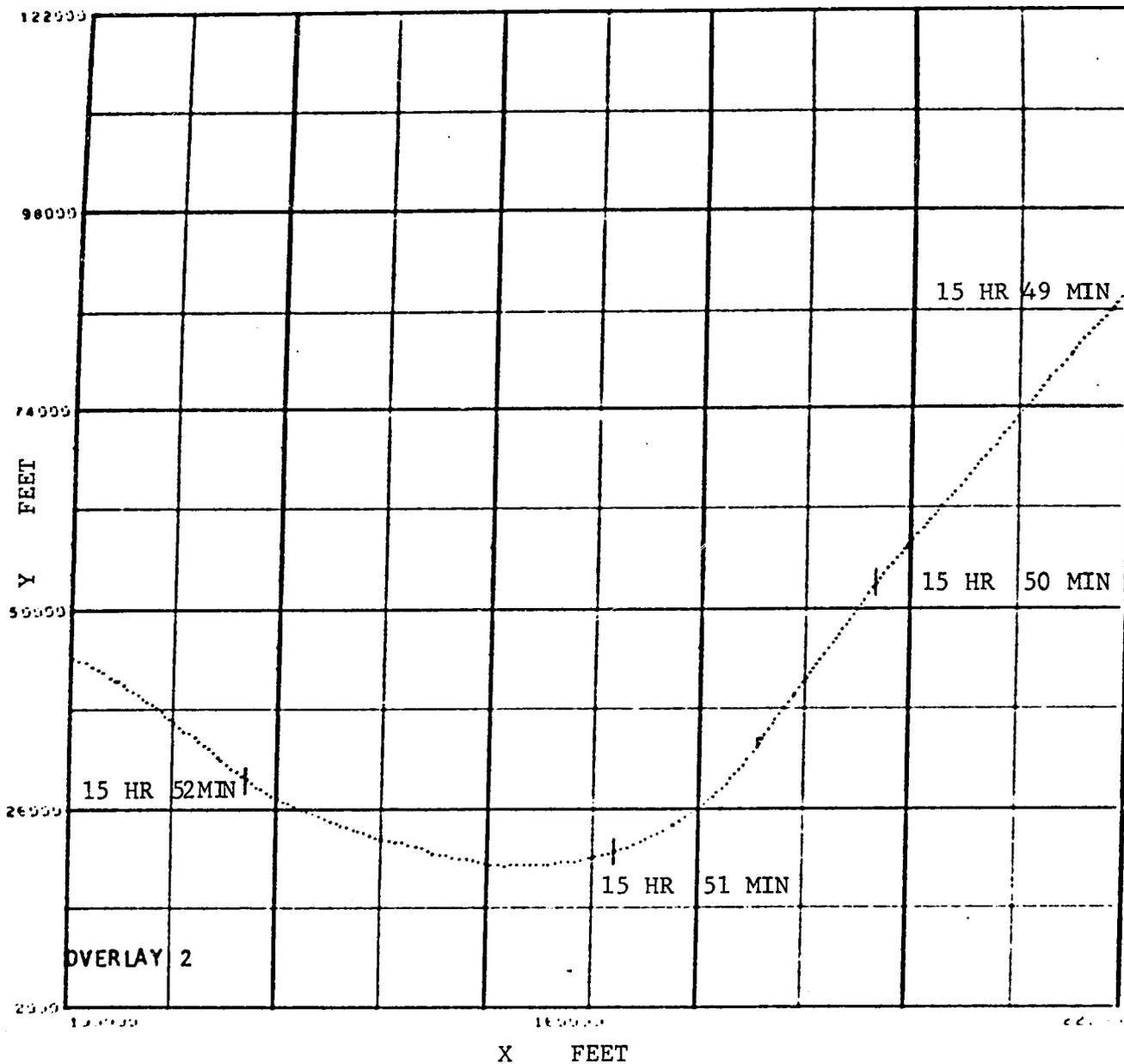
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SORTIE NUMBER 414

FIGURE 2-10
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

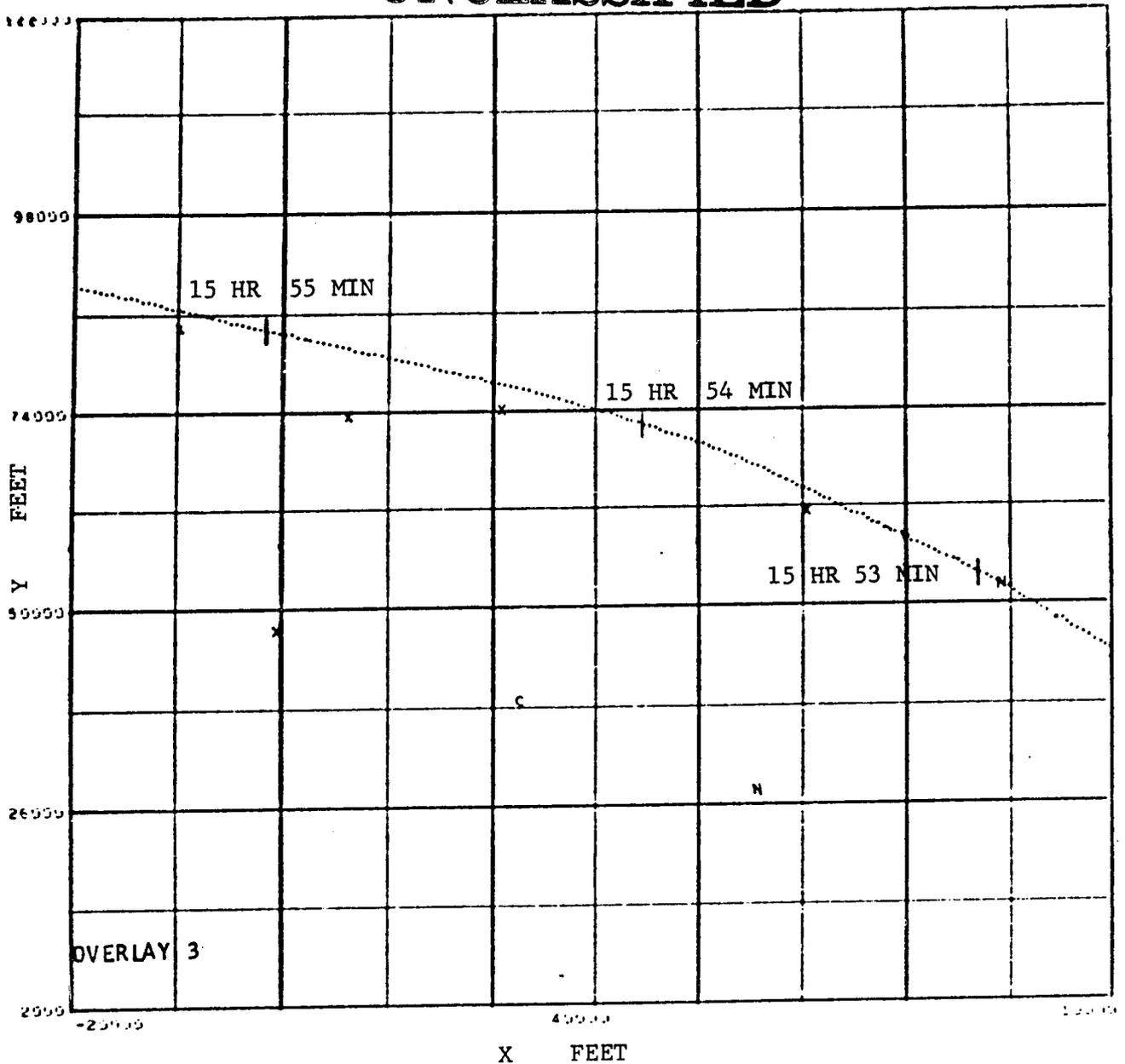


SORTIE NUMBER 414

FIGURE 2-10
AIRCRAFT POSITION DATA (U) 3 OF 8

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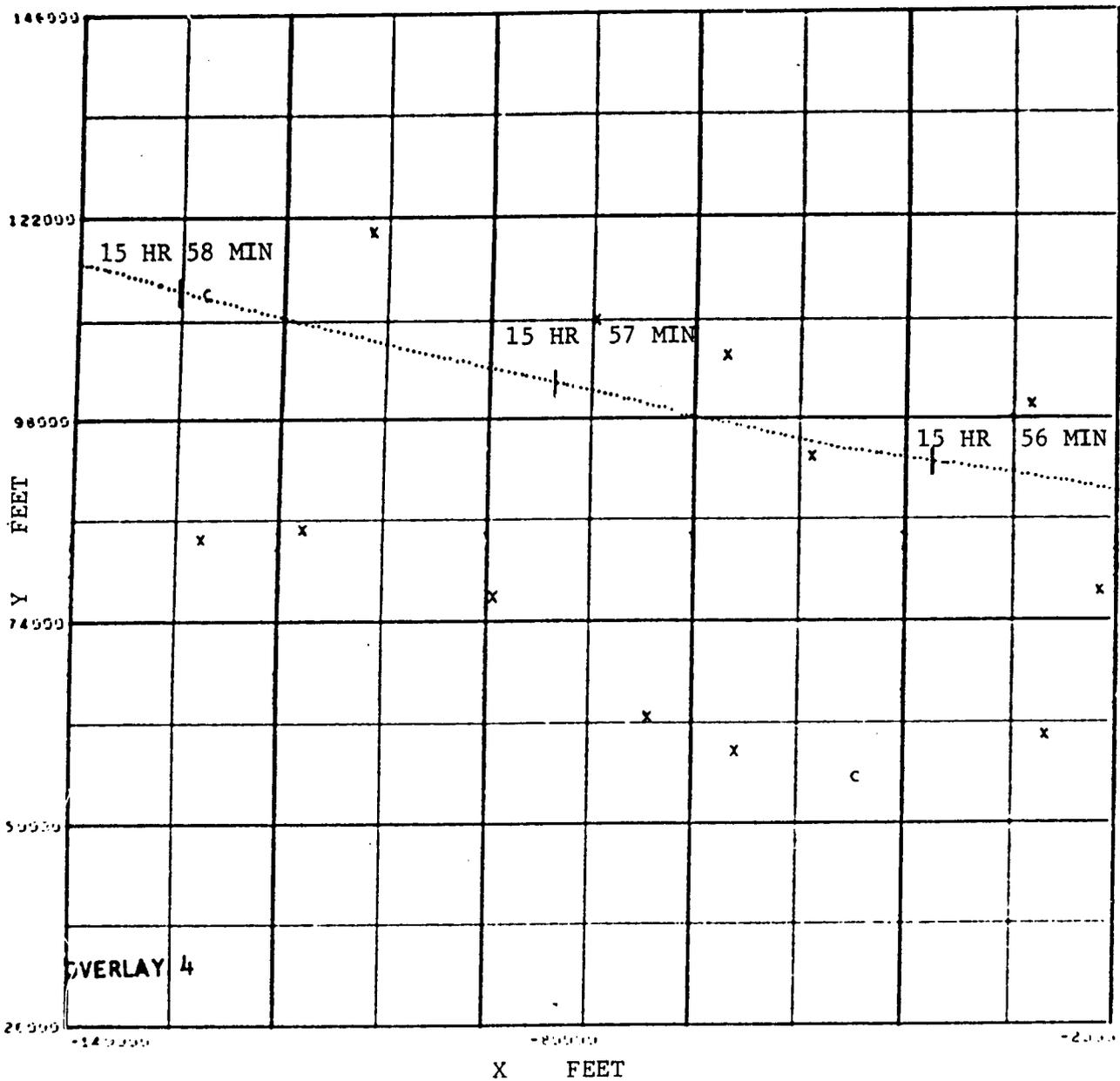
UNCLASSIFIED



SORTIE NUMBER 414

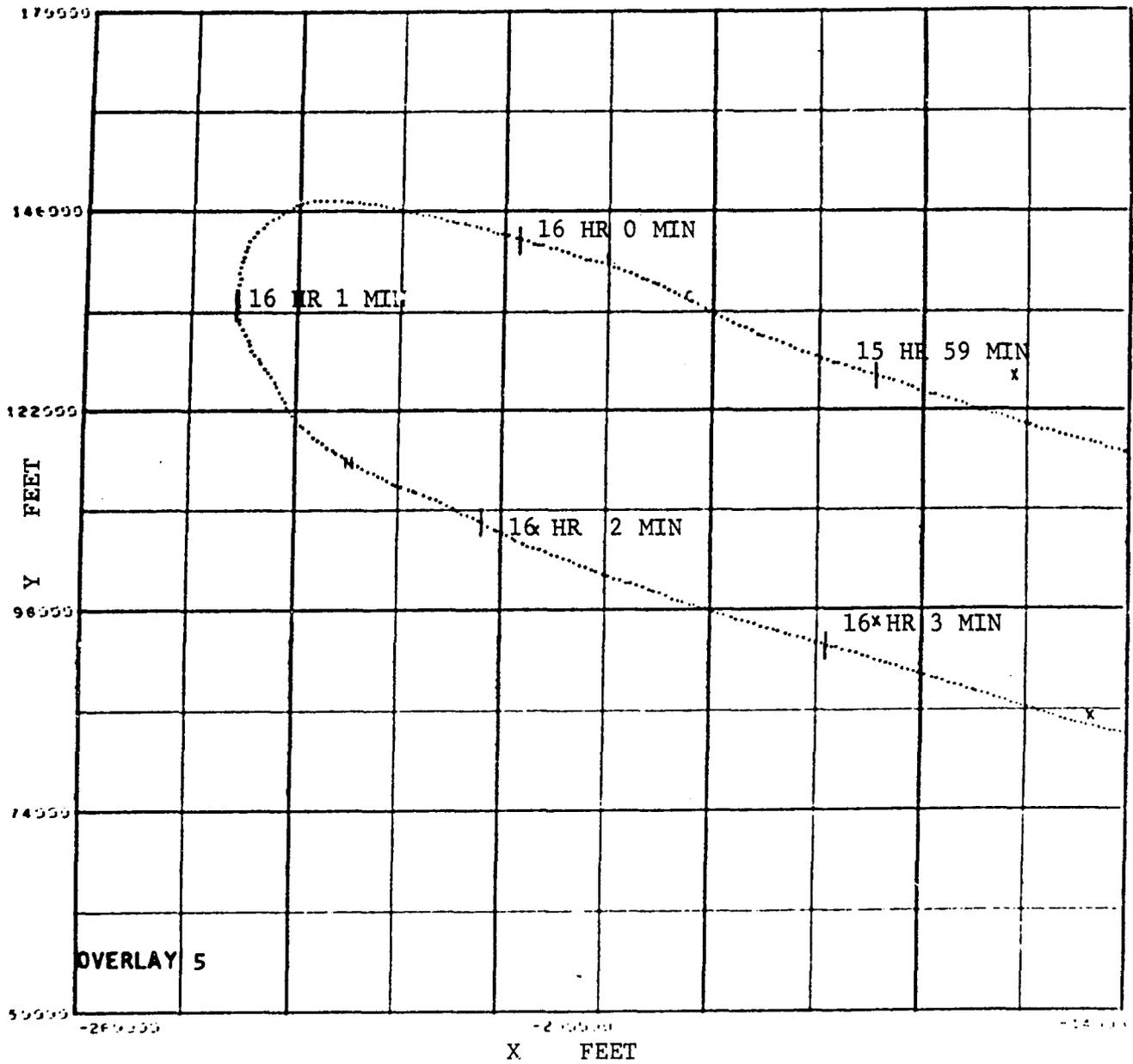
FIGURE 2-10
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED



SORTIE NUMBER 414

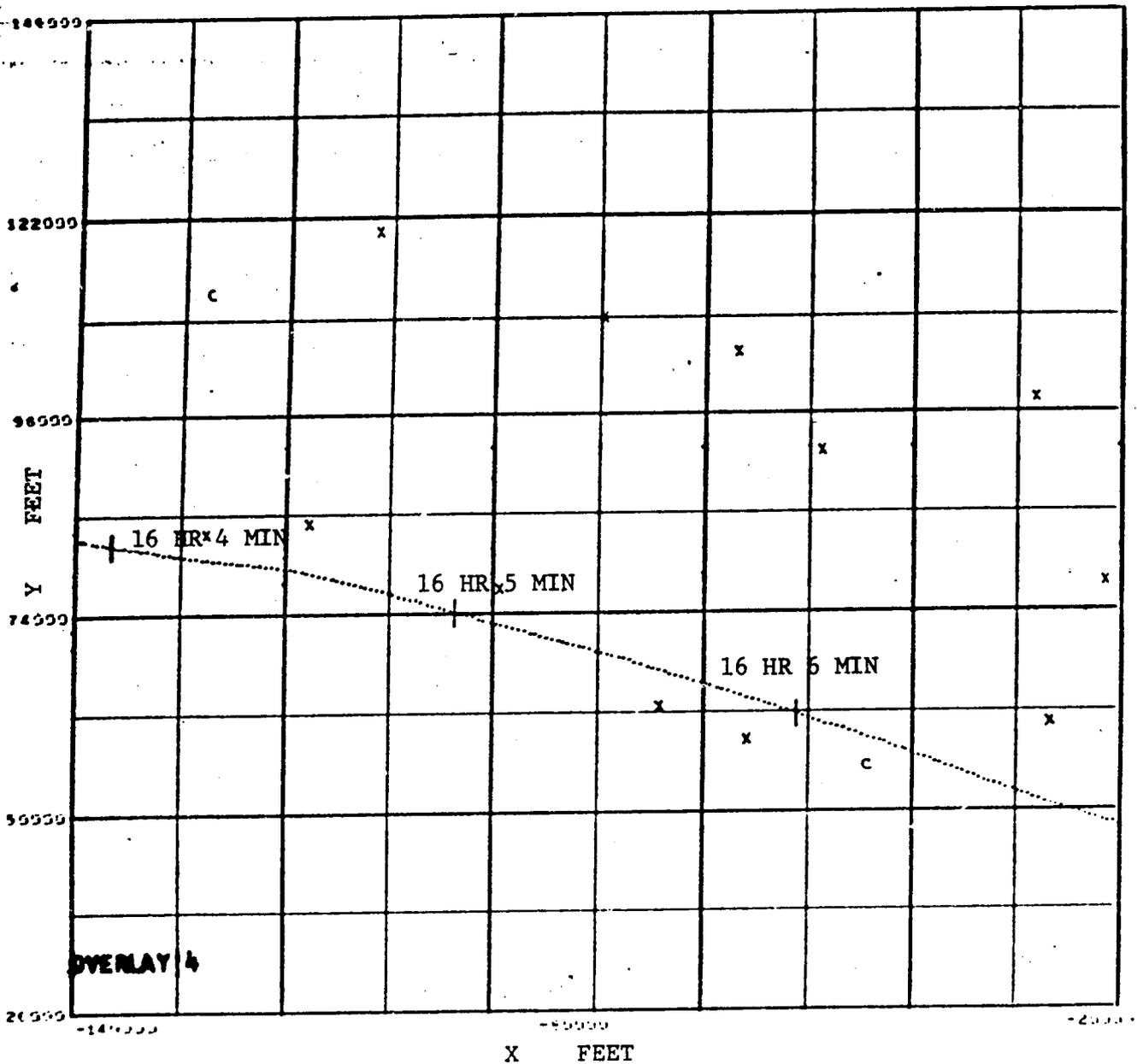
FIGURE 2-10
AIRCRAFT POSITION DATA (U) 5 OF 8



SORTIE NUMBER 414

FIGURE 2-10
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

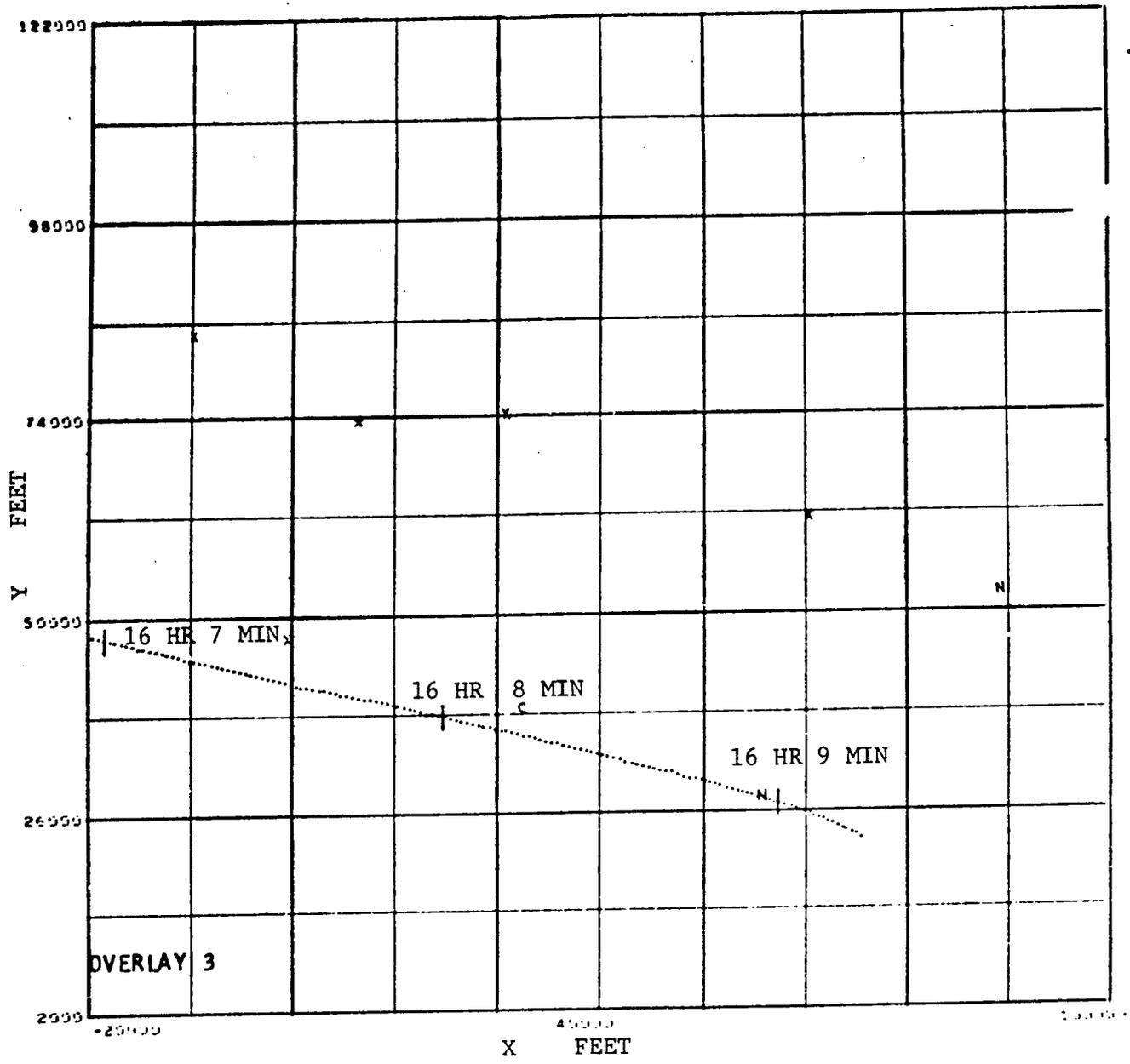


SORTIE NUMBER 414

FIGURE 2-10
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

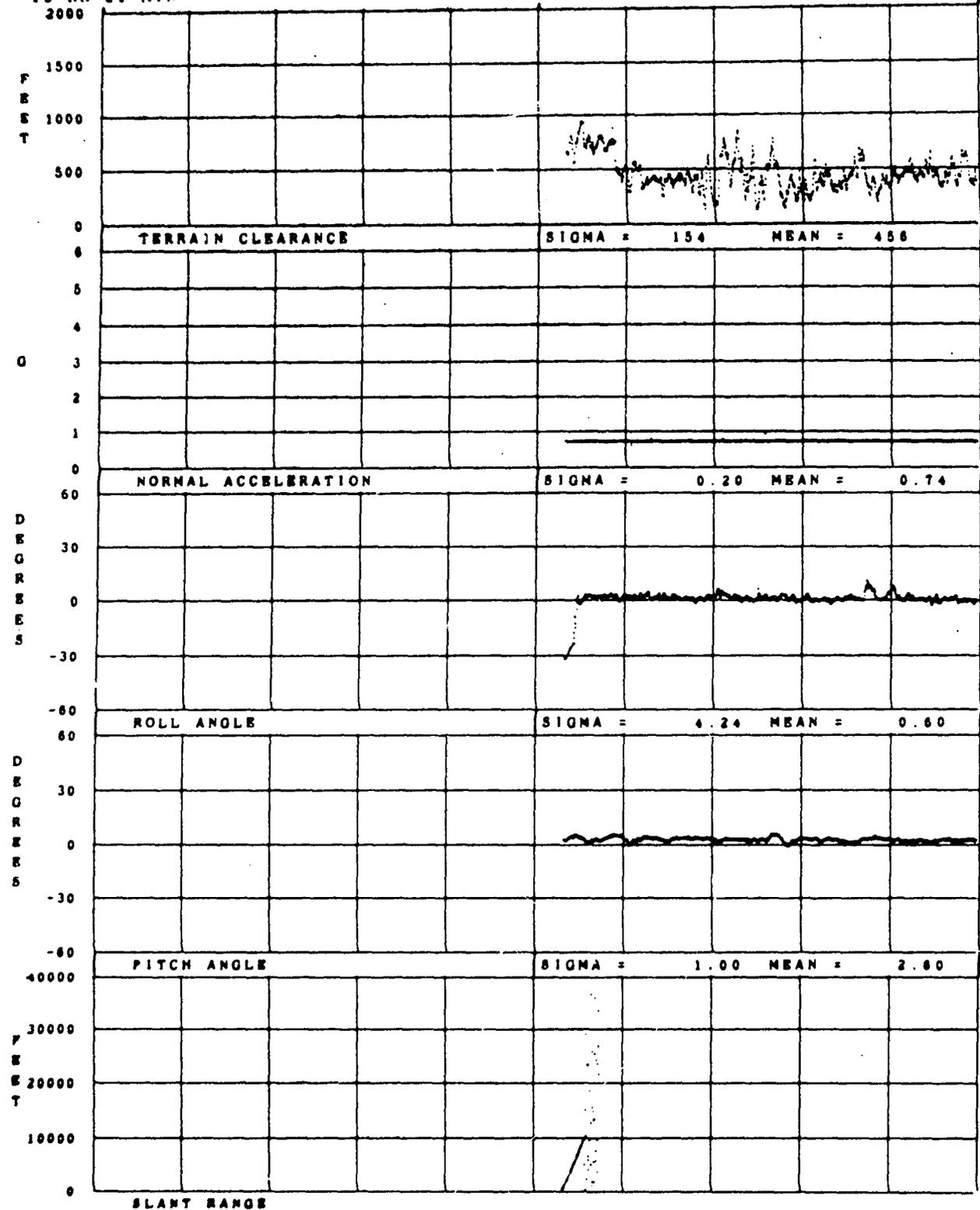
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SORTIE NUMBER 414

FIGURE 2-10
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED



SORTIE NUMBER 414 OPERATIONAL DAY 29 AUGUST 1967

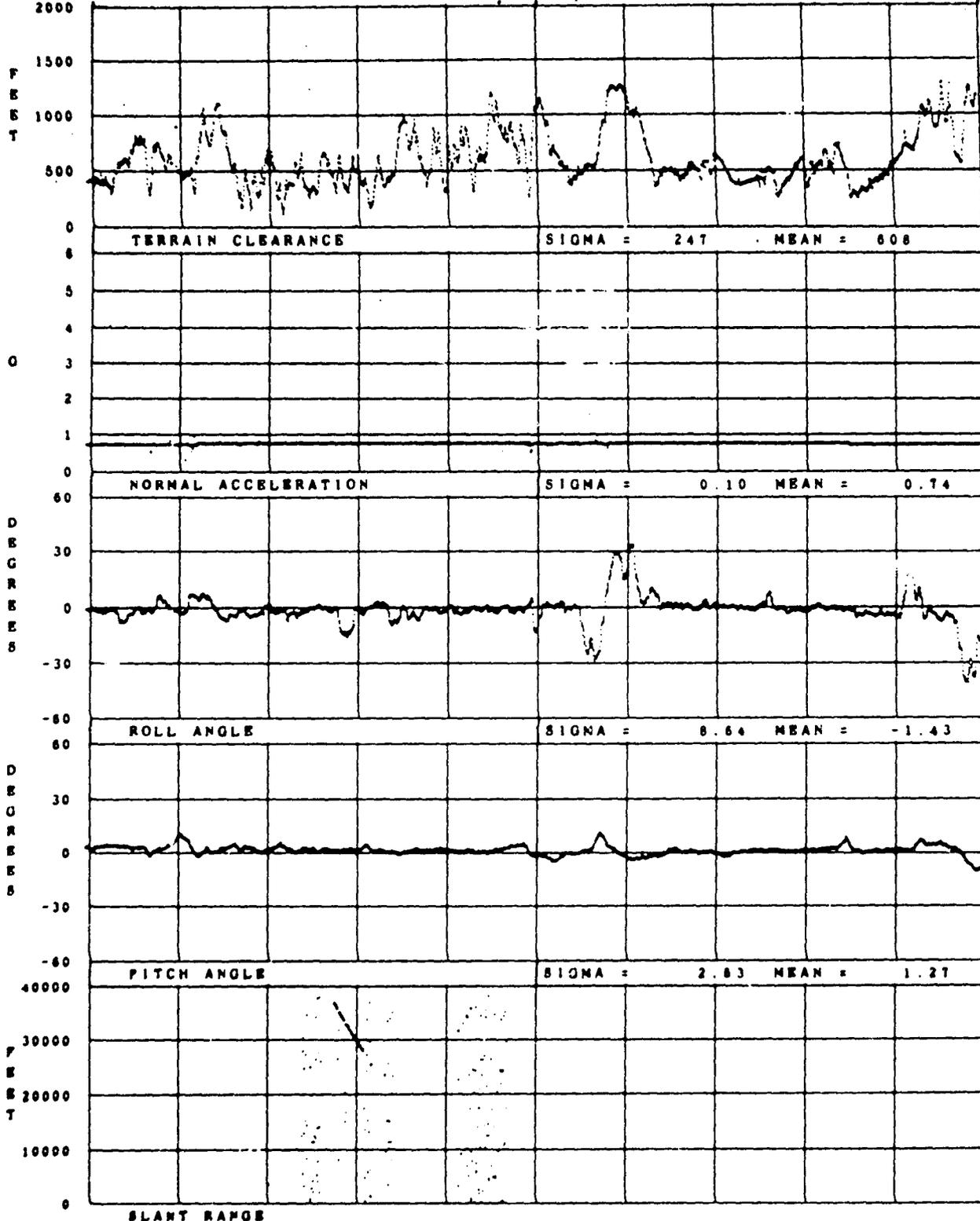
FIGURE 2-11 (U) TELEMETERED DATA (1 OF 5)

UNCLASSIFIED

15 HR 31 MIN

15 HR 38 MIN

15 HR 41 MIN



SLANT RANGE

SORTIE NUMBER 414

OPERATIONAL DAY 29 AUGUST 1967

FIGURE 2-11 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

UNCLASSIFIED

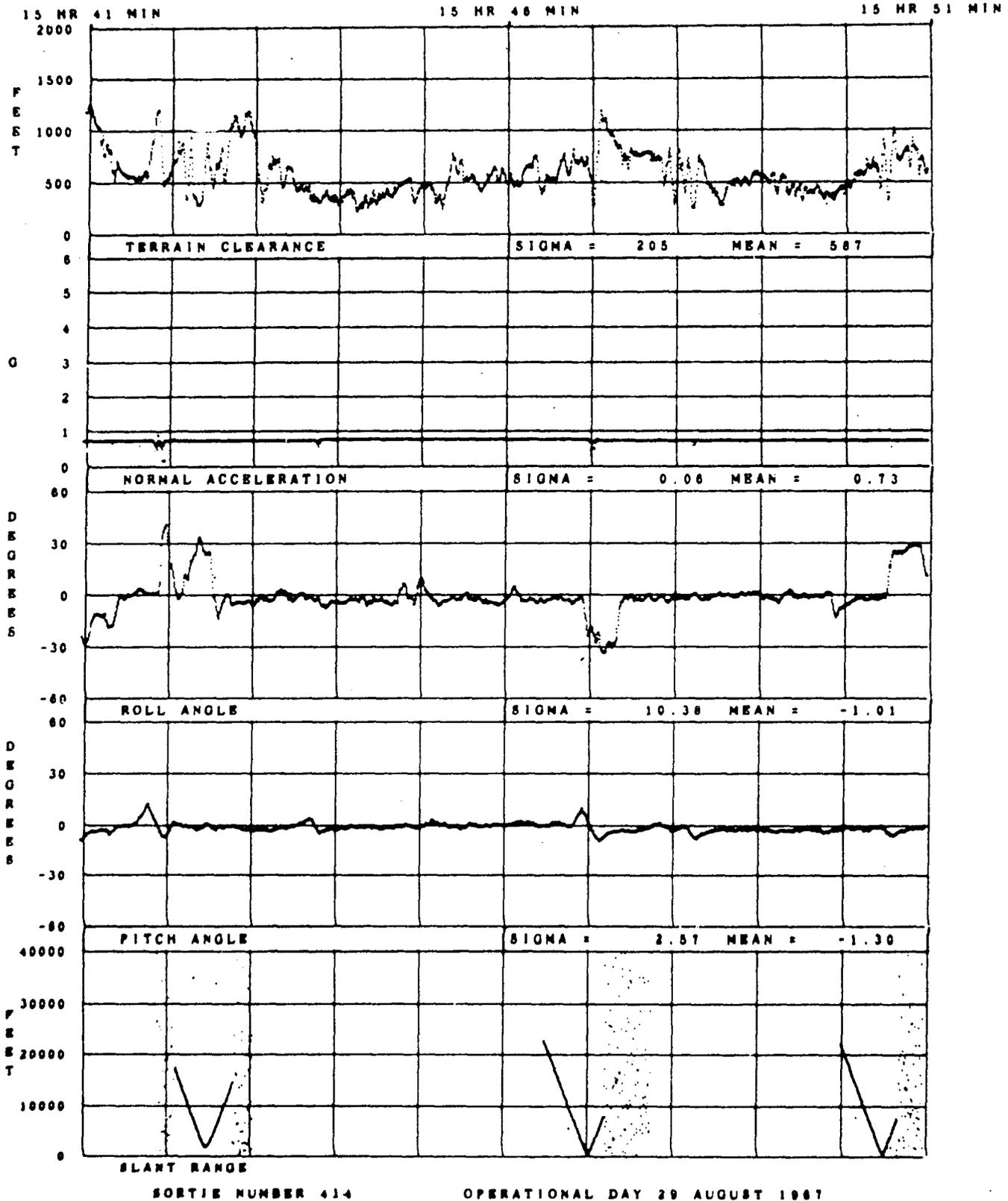


FIGURE 2-11 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED

UNCLASSIFIED

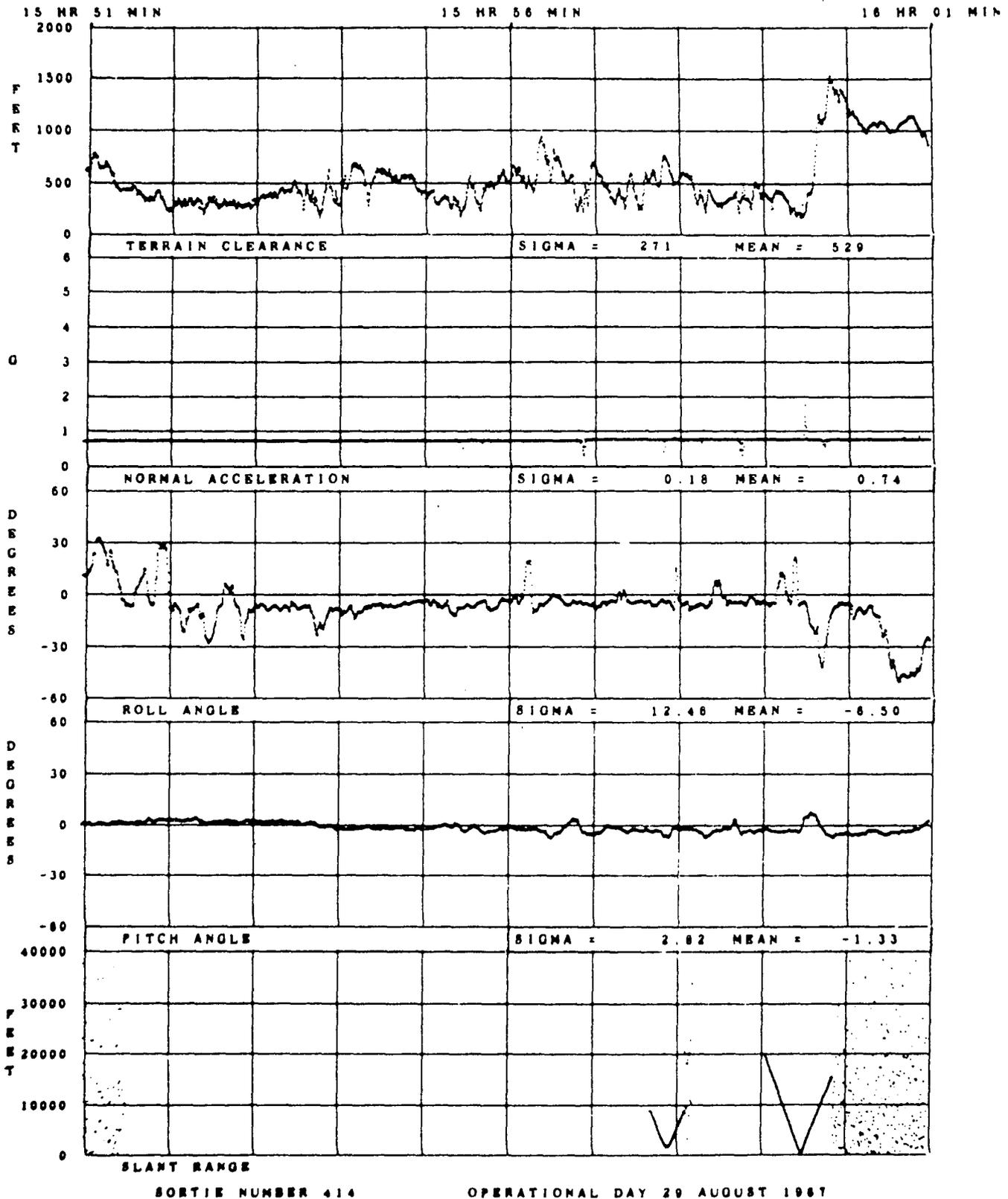


FIGURE 2-11 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

UNCLASSIFIED

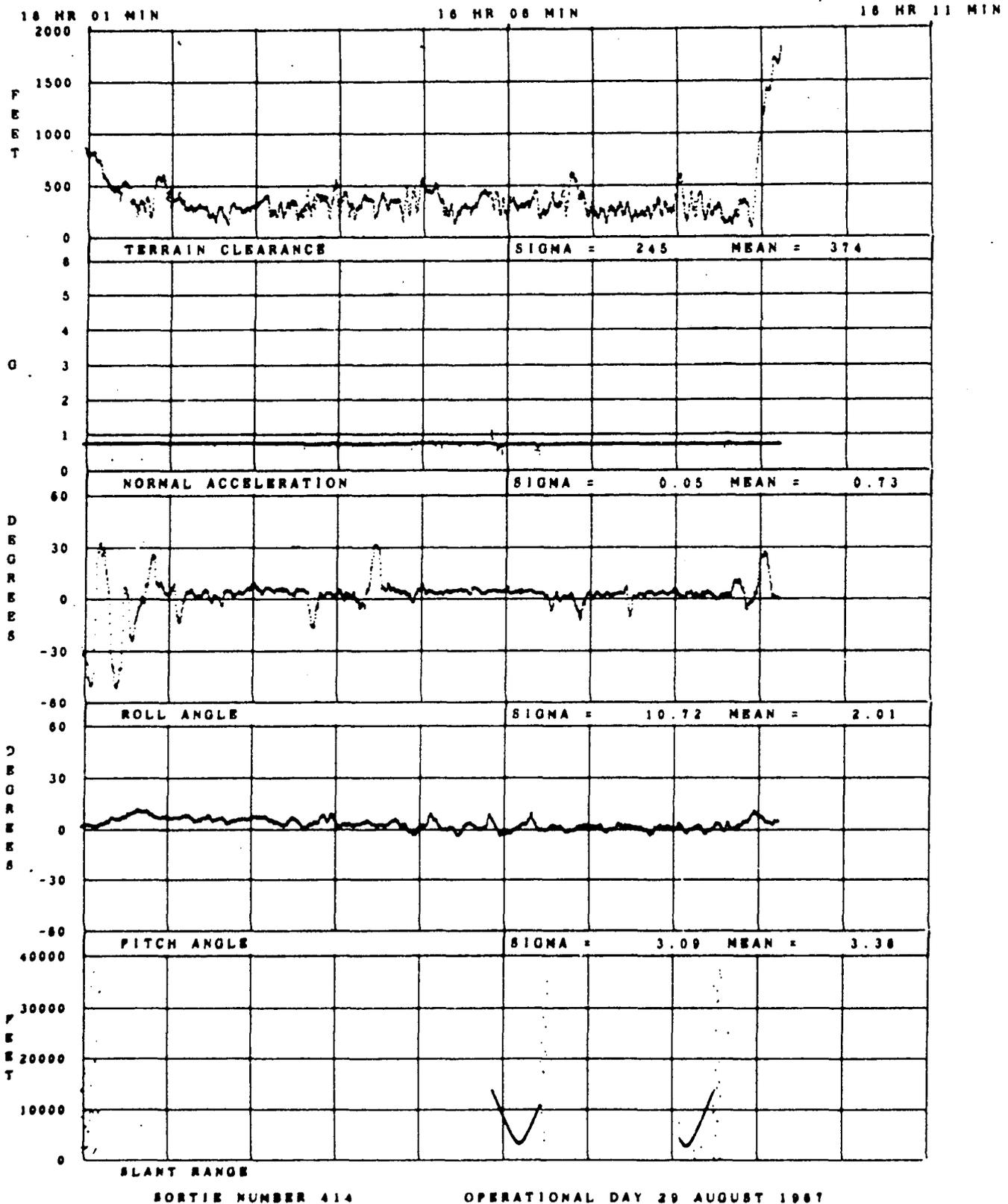


FIGURE 2-11 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 414
				DATE 8-29-67
		15:52:51	Ok we're approaching the smoke right now. Over now. Rog. And 280 is the heading. Ok. Ok the highway should go off to our left which it is. And we're supposed to start lookin' for targets now.	
1	1	15:53:19	Ah Phantom 109 has a ah . . . some type of a vehicle parking area, it appears to be off to our left there, at ah 8:00 now. 3/4's of a mile adjacent to the road, in a clearing.	
		15:53:34	(Be about ah Bravo Hotel 3-9er). (15:53:38)	
		15:53:39	Roger. Ah this blasted heading.	
		15:53:47	Still a little bit right probably and that made it harder to see. Ok . . .	
		15:53:59	One minute, looks pretty close. Ok we've got something up here at 11:00. Roger I see it but I can't tell what it is.	
		15:54:16	Ok what is it.	
2	2	15:54:19	Phantom 109 has a ah compound with about 10, 12 tents in it, in a clear area a little lake it's in a valley and ah heavily wooded around it except for the clear area, (and turns?).	
		15:54:35	Be Charlie Hotel 0-5. Rog. (15:54:37)	
		15:54:43	Ok, highway should be coming up on (large tents, too?), should be coming up on a river coming out of the north here. And should make a couple of loops off to the right. Ok, get to the south of it.	
		15:55:07	Bridge down there I guess isn't of any significance. Slow on down here. This highway turns right there and we're just a hair right of course. An eighth of a mile or so. (mumbling)	
		15:55:25	You need anymore friction. On there. No I'm doing ok. I'm zero it up here, doing the best here looking for points on the map.	
		15:55:43	(Mumbled). Ok you can gradually follow this gravel road on down and runs into a main highway that bends and goes right straight north, to the right. Ok.	
		15:55:59	Ok let's see we're coming up on what 3 min . . . 3 minutes. (very low voice)	
		15:56:13	Get too far off south following this thing.	
3	7	15:56:18	Ah Phantom 109 has a surface to air missile 3 large trucks in a small clearing on the top of a hill. Heavily wooded, coordinates ok, that was . . . right at three minutes ok that'd be about ah, just over a little river here. (mumbling) Ok I think it's about Charlie Charlie 2-7. Ok. (15:56:45)	
		15:56:54	Ah hang on a minute.	
		15:57:01	Ok cross a ridge.	
		15:57:06	Let's see do we have a rail . . . railroad back there with that one? Ah I didn't notice--I couldn't tell you. That'd be 4 min . . . yeah that'd be closer to where we're supposed to be. Correct that. Ah . . . that'd be at Bravo Golf 3 ah about 2-3. Ah Rog. (15:57:28)	
4	11	15:57:36	Ok we're coming into a good valley from the right up here. Yeah. I'm not sure. 5 minutes is pretty good I don't see the highway heading off. Road and railroad, yeah ok and then ah should have a ridge coming in from the right we want to come just on the south side of the ridge. Ok that's on the other side of this one. Ah just went over a dirt airstrip, but I don't know if it's part of the game or not we might as well report it though I guess.	
		15:58:04	Phantom 109 dirt airstrip didn't unable to observe any vehicles or aircraft around the we flew directly over it. Bravo Echo 5-8. (15:58:14)	
		15:58:18	Ok here's a ridge that comes in from the right we want to be just on the point of it so we're just a little bit left of course. Ok.	
		15:58:43	Ummm boys it's warm down here isn't it. Yes. No sweat.	
		15:58:51	Ok I got a tower up ahead there. Are we supposed to have 1 let's see. I don't see a tower marked on here. I don't either but I've got a good big one up here ahead. Ok should pass right out into the opening here. Ok yeah the towers on past, that's right so our target we're lookin' for is in this valley on this side. It looks it's 12:00 there. I believe so. Rog.	
		15:59:26	Ok, we don't have to report this one then. And we're right over it. Ok 100 degrees our next one heading. And we don't call this one along the radio either. Ok. We got the tower and there's the reservoir down there. Ok continue on out over the ah . . .	
		16:00:00	Ah roger we have 87 at this time. Ok 79 is what we planned on.	
		16:00:37	Ok 100 degrees that's our heading.	
		16:00:50	Don't see any smoke yet. I got the red smoke out there, or the to . . . or the tower I'm not sure which, you got it at 11:00. Ok I see the pylon, I don't see . . . ok this smokes this side of it. Oh yeah I see smoke. Ok line her up a hundred degrees heading. Too far to the left, I mean go turned a little too soon. Ah stupid heading indication.	
		16:01:22	That was designed by the Navy too. Yeah it must have been I think I hit the event button then there. Ok.	
		16:01:33	Phantom 109 is over N4, ok we'll hack it.	
		16:01:45	Ok let's see. Ok. Indicators showing 08 but the mags showing we're a little bit the other way. Correct back here.	
		16:01:58	Ah Roger. Ok Ok and the mag compass shows I'm over too far. Ok we should have ah a gravel road coming in from about 15 or 20 degrees. Back off our right wing. Coming into us and then bending just a sharp left.	
		16:02:25	Has about a minute and a half.	
		16:02:42	I wish that (slave?) switch was over on the left side. Ok here comes our railroad.	
		16:02:53	Bends there and goes north and continues, on out here, I think. Coming over a little bridge. We're maybe just a little bit right. Ok there's where the road curves right there, ok we should be pretty close. We should be over there on the curve.	
		16:03:13	Sure haven't seen the SAM site hope they haven't seen us. Saw something yellow off there in the distance there just a minute ago along that road, but I don't think it was of military significance.	

FIGURE 2-12 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

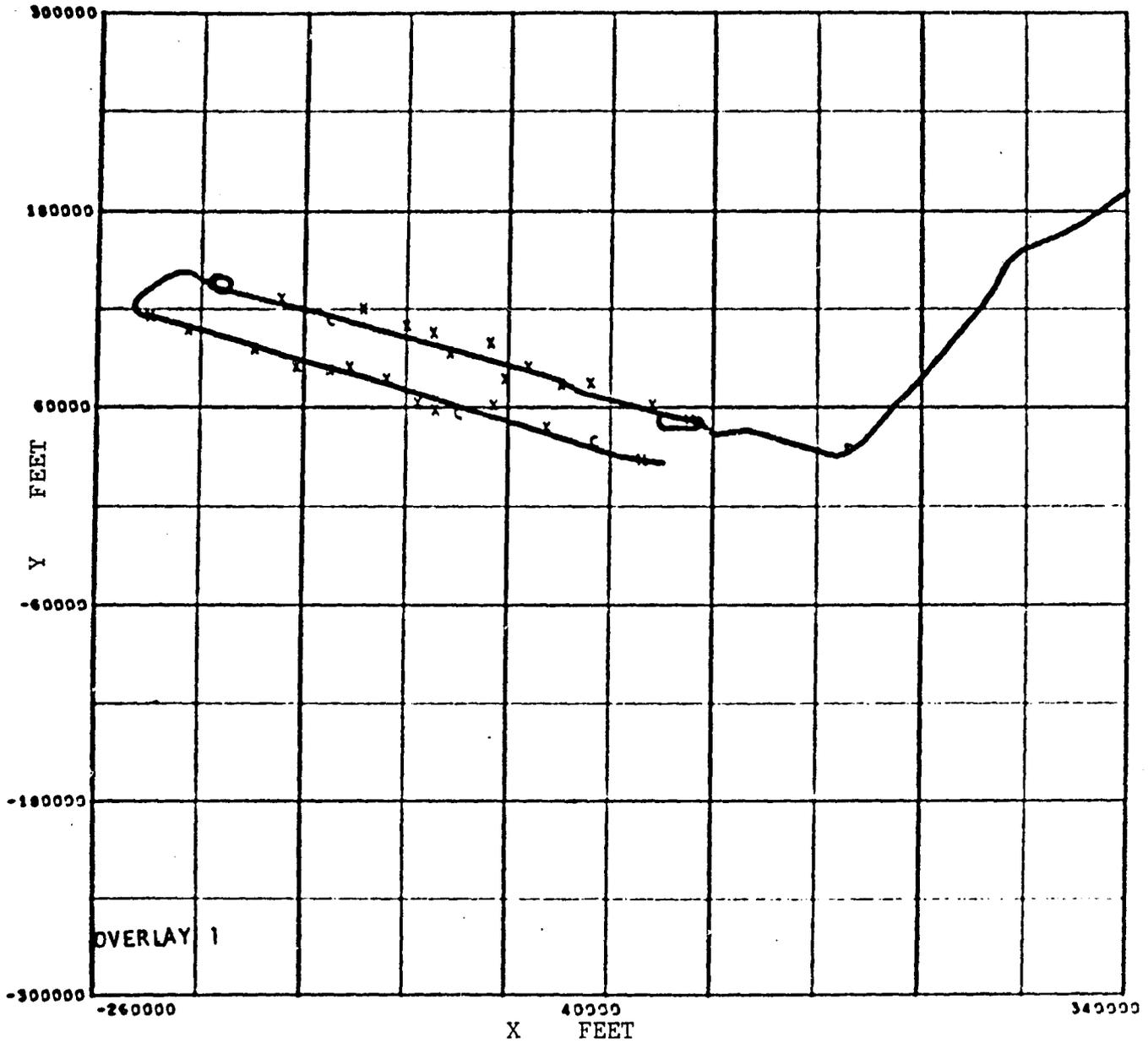
UNCLASSIFIED

		TIME	REAL TIME TRANSCRIPTION	SORTIE 414 cont. DATE 8-29-67
		16:03:27	I'm assuming that any construction equipment that they have will be painted brown.	
		16:03:35	Ok want to be just the north edge and just of this valley coming up here. We're just a little right of course. Ok.	
5	16	16:03:43	Ah Phantom 109 has two large helicopters and an approximately 60 or 70 Pol fuel drums in a small clearing in the valley, there's also some white houses in the valley that show up well. And rolling hills around the valley. That's ah no . . . Charlie Bravo ah . . . 9-9. (16:04:09)	
		16:04:14	Get the airspeed back here.	
		16:04:20	And check your heading again I think we're probably pretty close, on it. The next thing that we want to hit is the highway and the railroad. In that order, almost called off that pile of hay in that farmer's field there covered over with black. Ok. Should be coming we got a radio, I mean a fire tower off to the right there.	
		16:04:48	3 minutes ok that's a real good distinctive ridge line right there. Yeow that's the ridge line and we should hit the highway and the here railroad, and it should cross right there she crossed just off to the left. We're in good shape.	
		16:05:19	I'm afraid I haven't been marking my hydraulic and oil pressures as well as I should be I'm too busy looking around outside. You'd better watch them the Navy designed those too. Yeah.	
		16:05:33	Ok let's see our time is coming up on what, 4 minutes. Rog. We got over 4 minutes—	
		16:05:40	Coming up here, yeah that's right. And it's this little valley in here. Over on this next ridge should cross a main highway. And the ah small railroad intersection going off straight north. Ok.	
		16:06:01	Let's see this dang compass. Yeow looks like it's fairly close. Ok here comes a dirt road in from the right. Intersection of dirt roads there. This is the highway. Ok there we are.	
6	23	16:06:26	What have we got off over there at 10:00. On the side of the hill. I don't see it. I see a clearing but I can't see anything there. (Yeah, a clearing--a revetted?) area looks like maybe there's a truck or something in there. I couldn't see well enough to call it out. I guess, I can see a truck in there. Ok go ahead and make a report on it. If you want to since I didn't see it.	
		16:06:50	Phantom 109 had a truck cleared area, and that would be Delta Hotel 2-9er. (16:07:04)	
		16:07:10	Ok we should be coming up on a tower now, in about 5-1/2 minutes off to our left.	
		16:07:30	There's the gravel road, we cross at an angle.	
		16:07:36	Keep misreading that mag compass and wanting to correct the other direction on it in the wrong way.	
		16:07:51	Here comes the river. Turning down through here and kink in it. And we're close, and we're in pretty good shape and we're on course. I never did see that tower.	
		16:08:18	In good shape on fuel got 75, road and river and the next thing should be our final tower. I think I spotted it, we've got 2 knobs and it should be the one to the right. Yeah I got it, got it. Yeah I still haven't seen our SAM site, I hope they didn't see us.	
		16:08:56	And there she is. Ok heading out of here is 128.	
		16:09:00	Timber 1 Phantom 109 exiting north, north course.	
		16:09:14	Roger going option 1 thank you.	
		16:09:16	(End of transmission)	

FIGURE 2-12 (U) VOICE TRANSCRIPT (2 OF 2)

UNCLASSIFIED

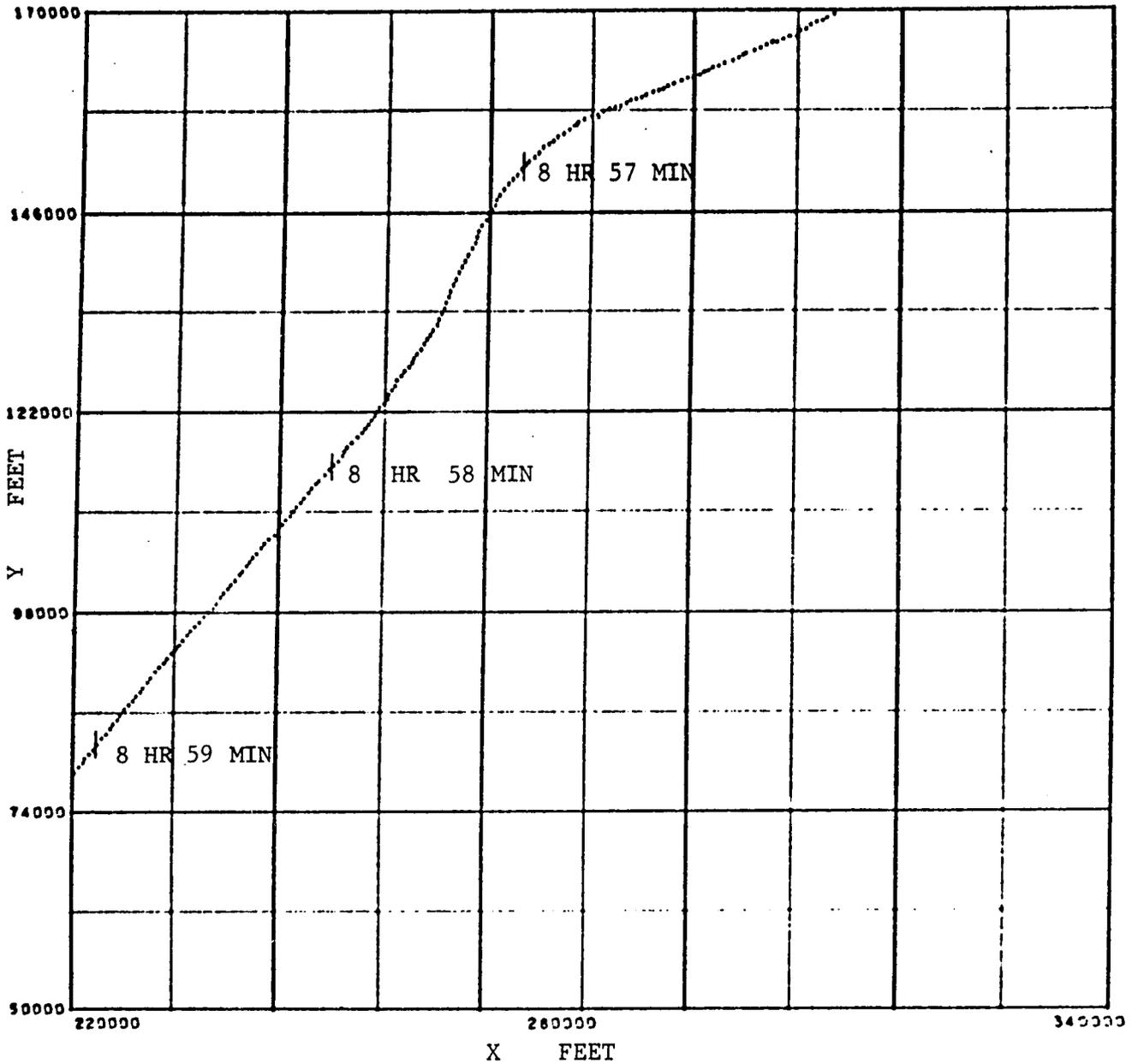
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SORTIE NUMBER 415B
OPERATIONAL DAY 1 SEPTEMBER 1967
NORTH COURSE
FIGURE 2-13
AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

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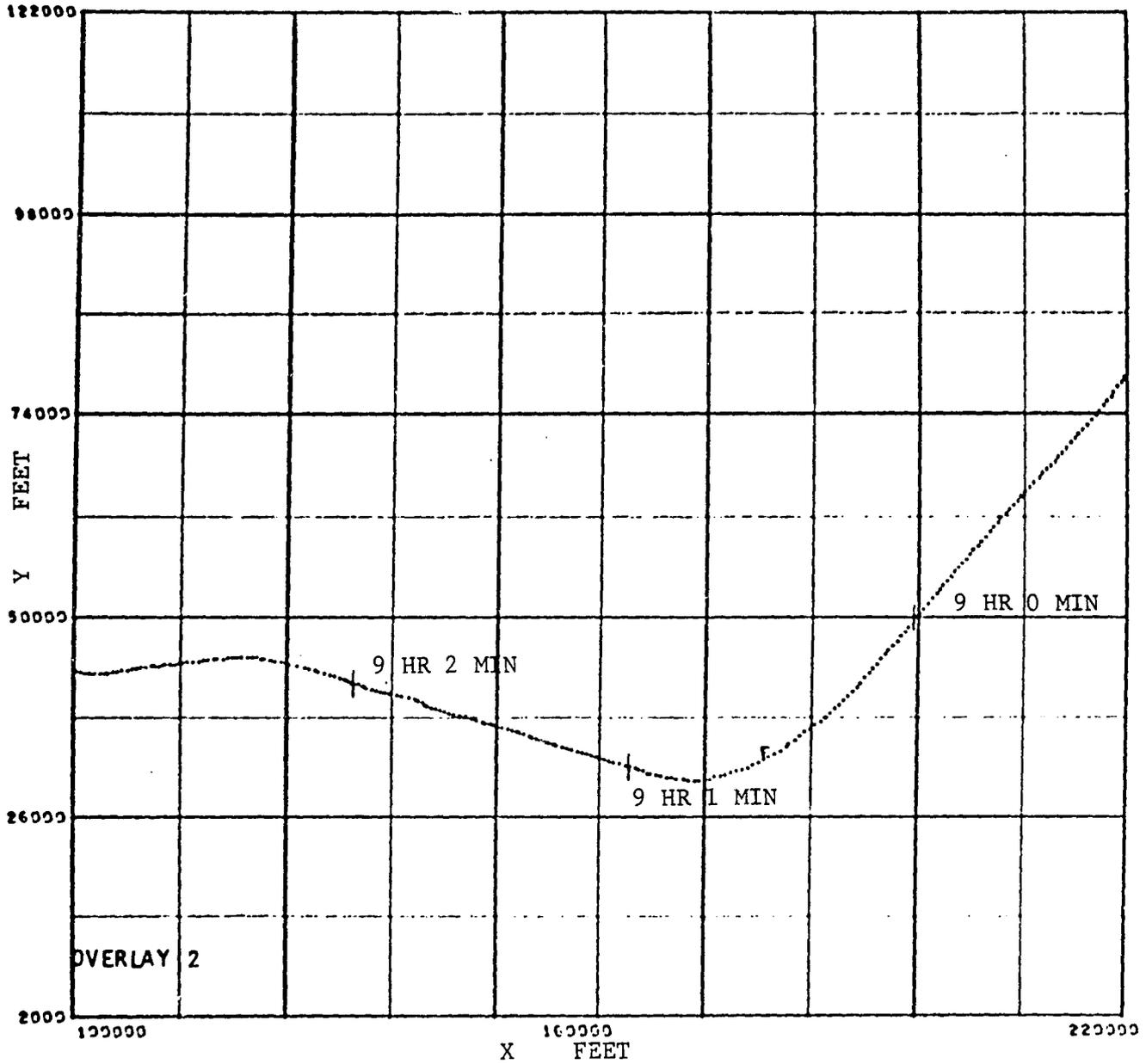
SORTIE NUMBER 415B

FIGURE 2-13

AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED

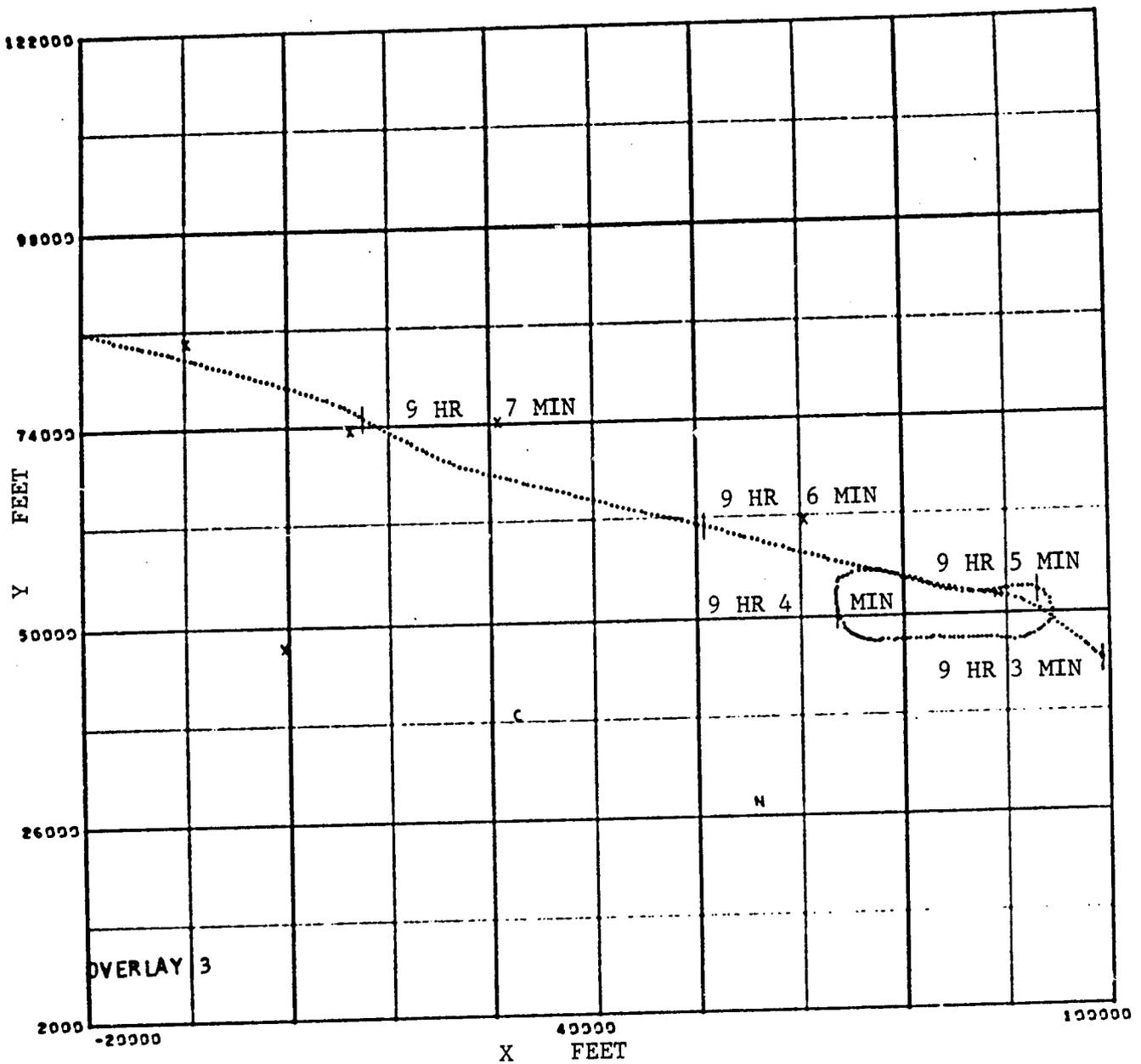


SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 3 OF 8

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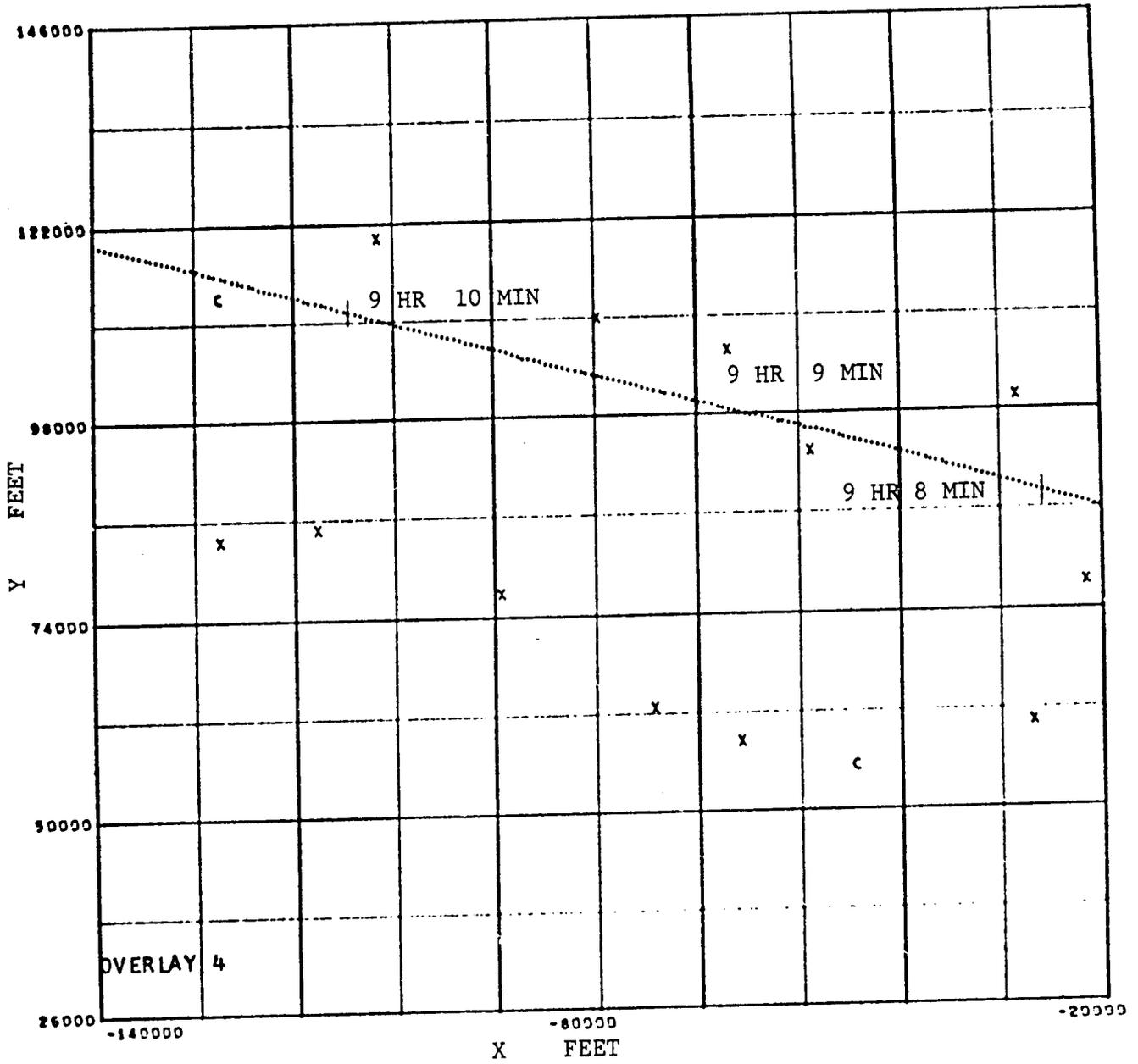


SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 4 OF 8

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UNCLASSIFIED

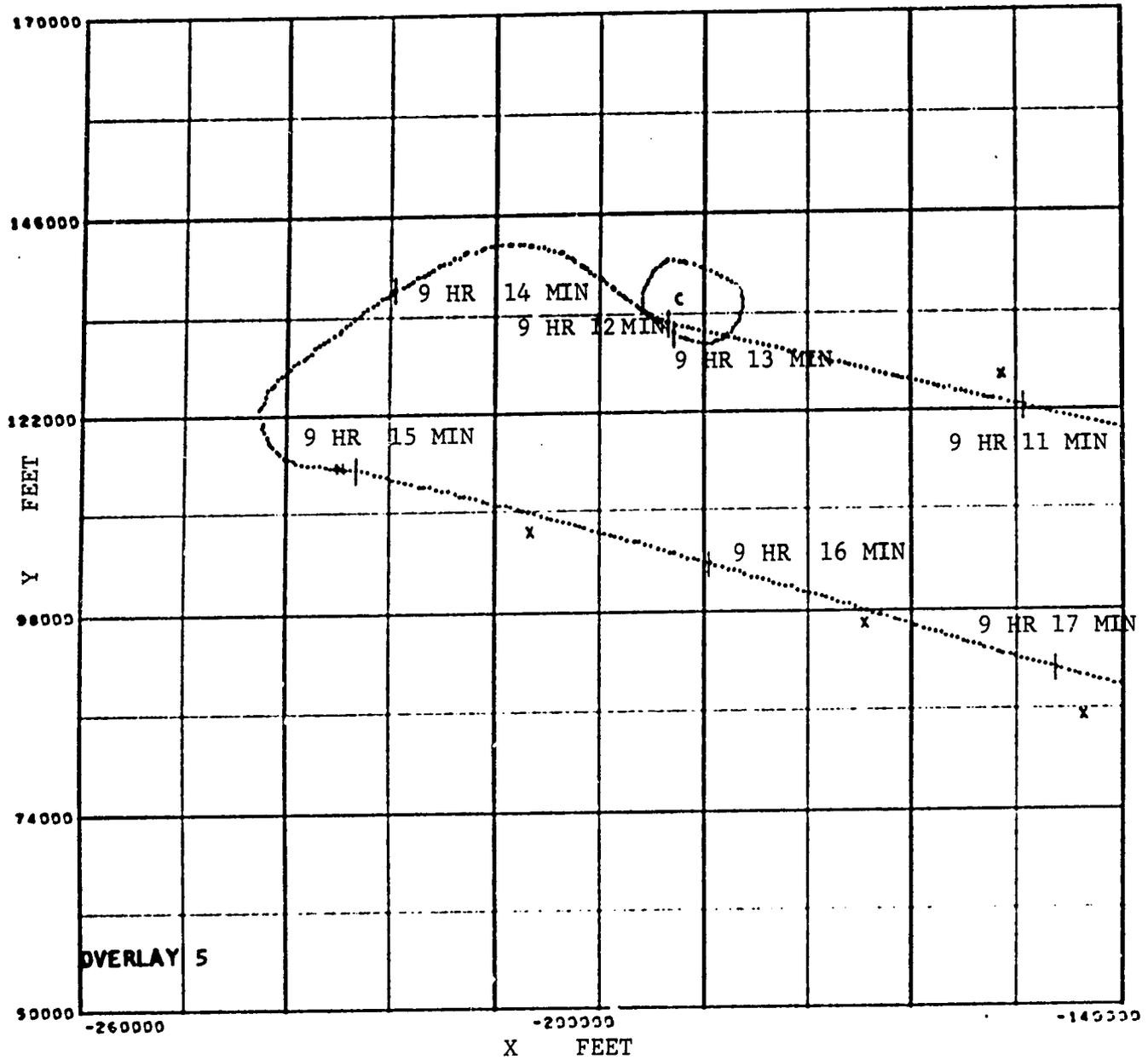


SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

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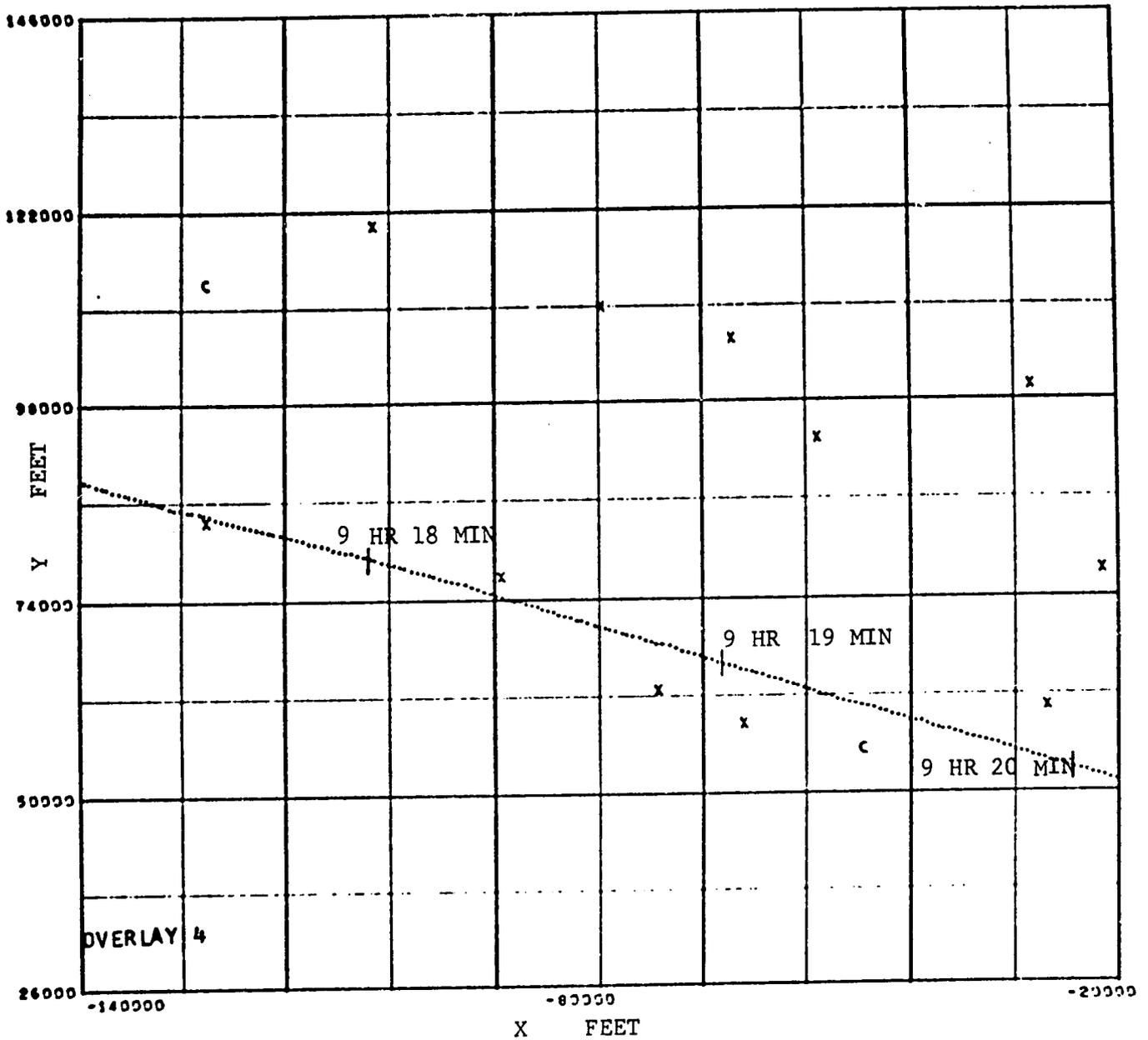


SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

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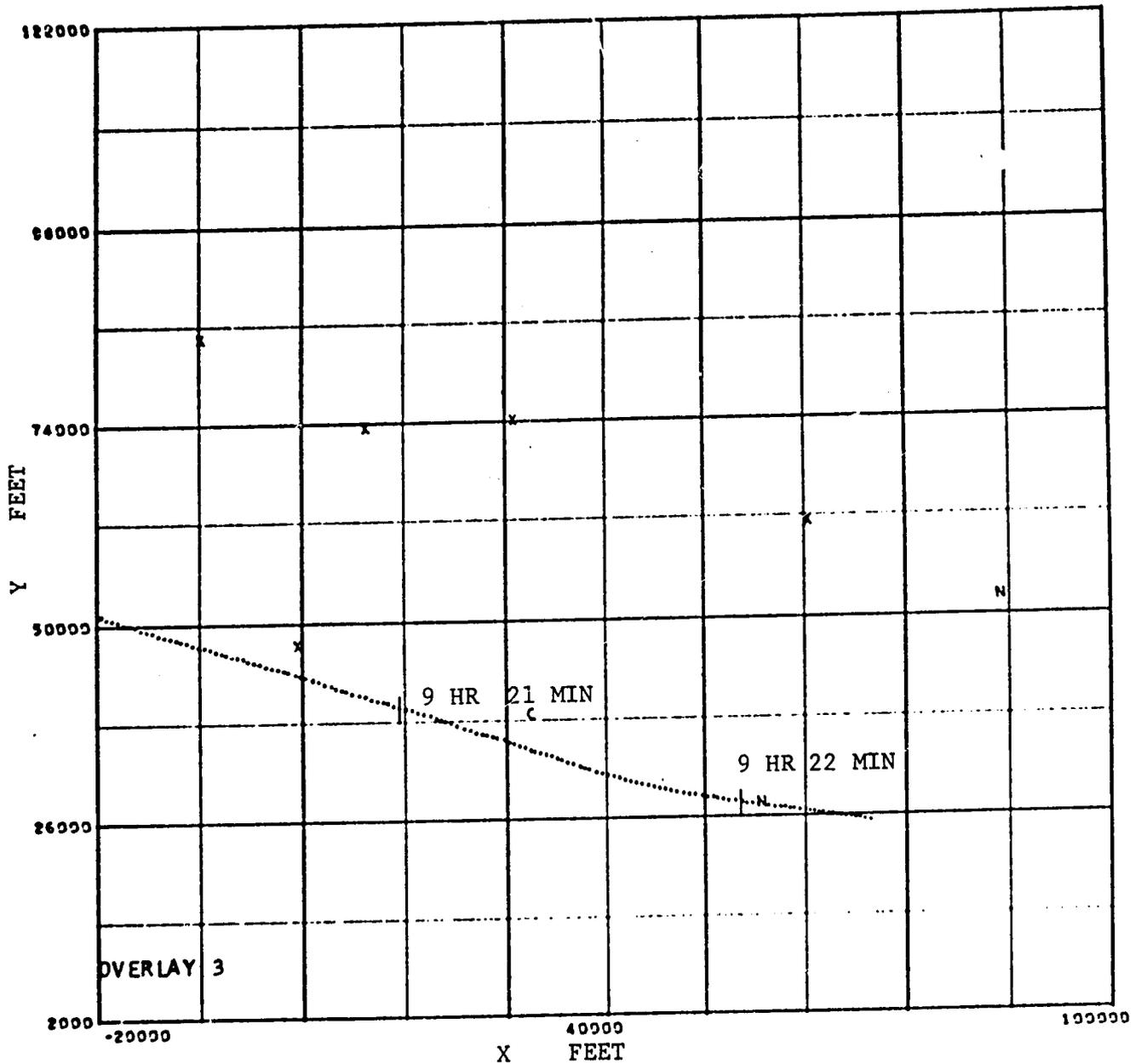


SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 415B

FIGURE 2-13
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

UNCLASSIFIED

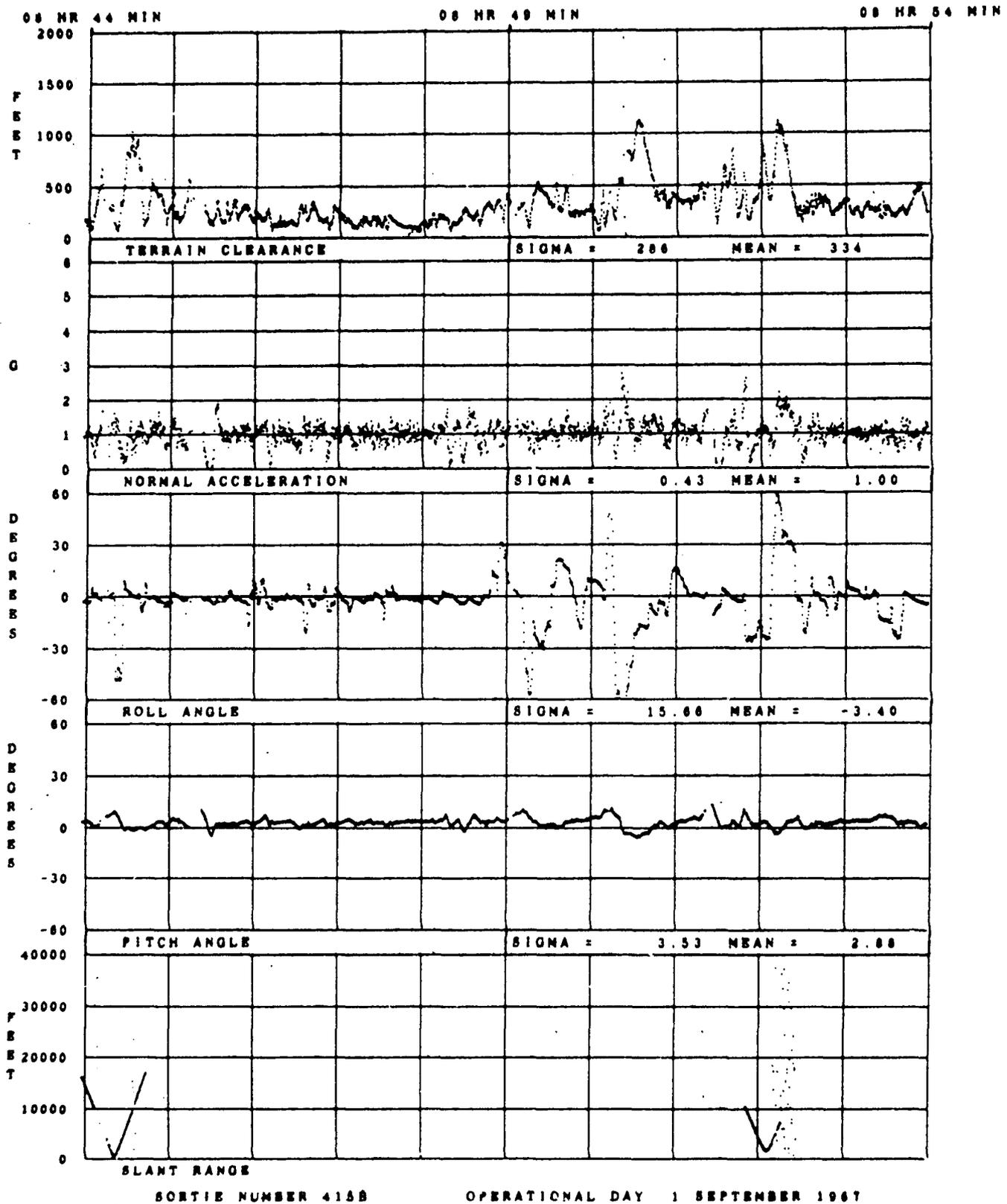


FIGURE 2-14 (U) TELEMETERED DATA (2 OF 5)

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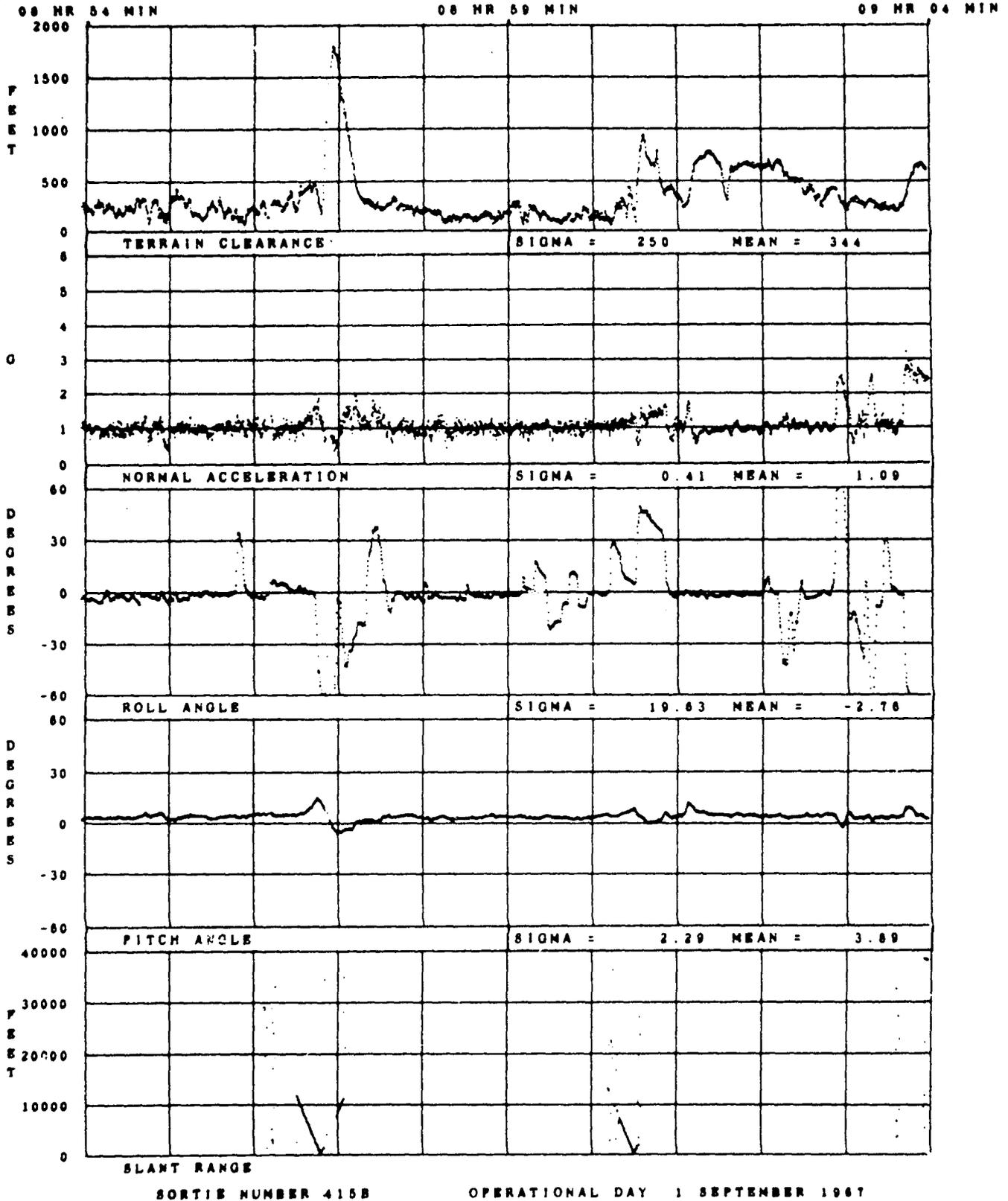


FIGURE 2-14 (U) TELEMETERED DATA (3 OF 5)

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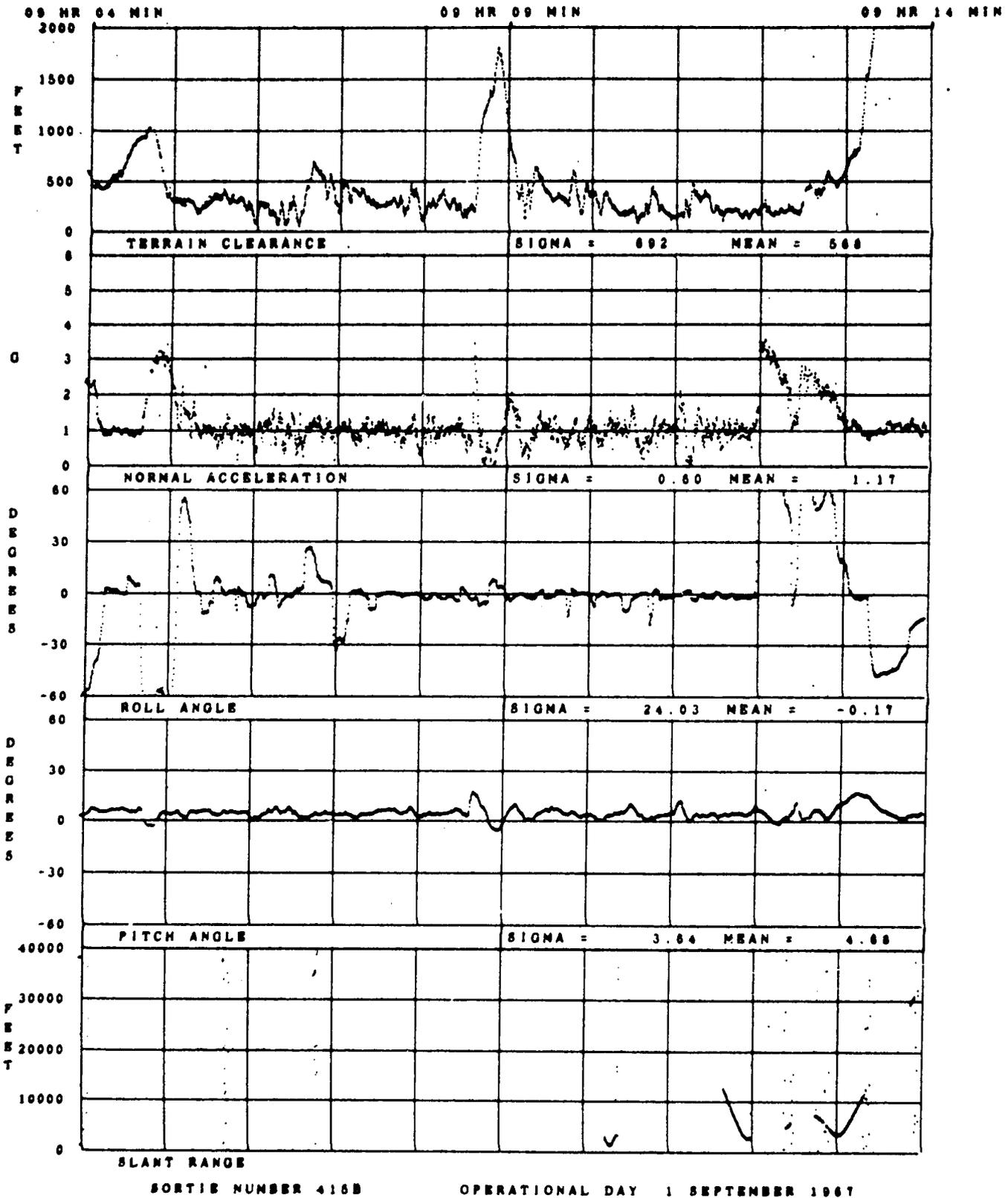


FIGURE 2-14 (U) TELEMETERED DATA (4 OF 5)

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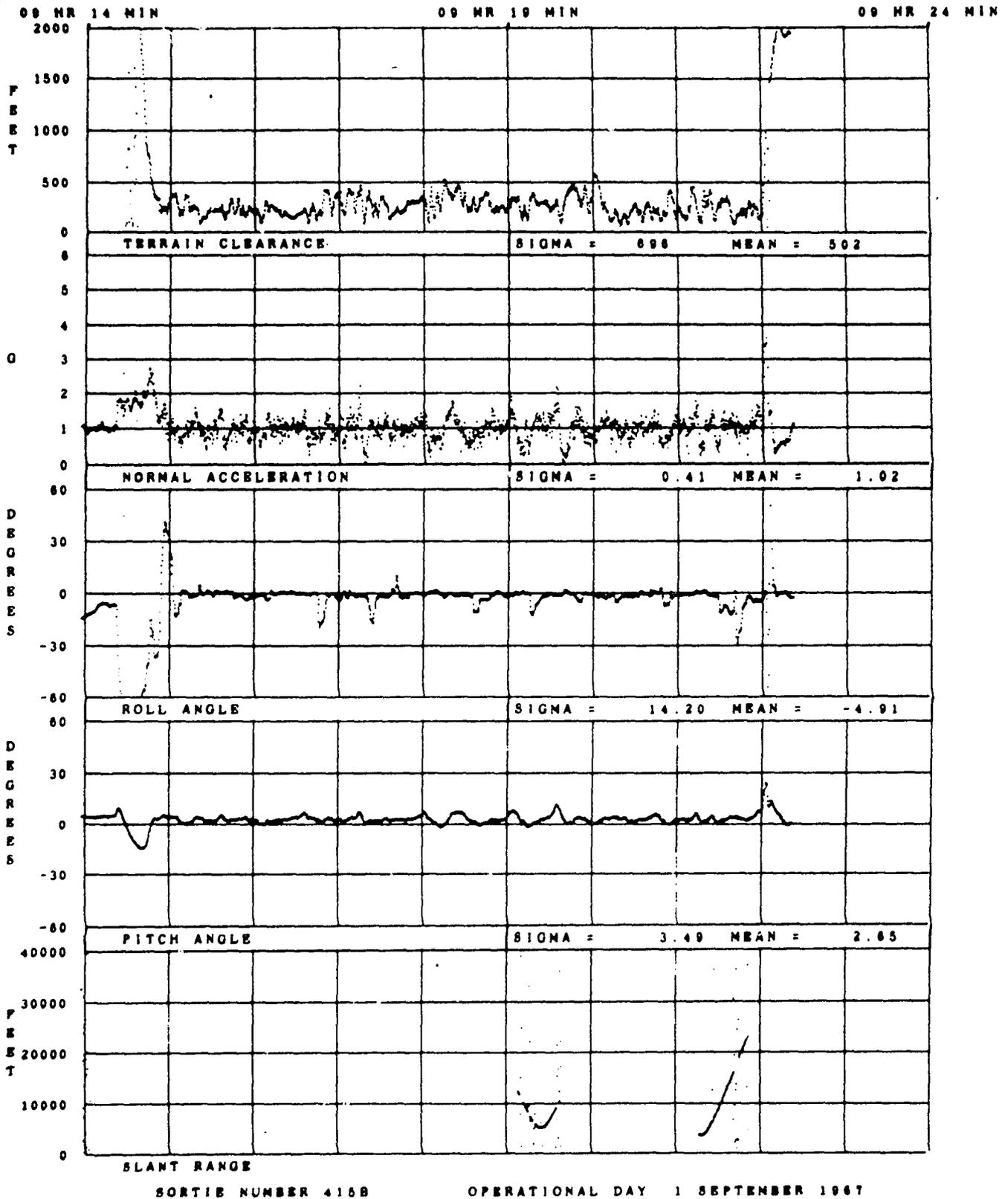


FIGURE 2-14 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT Real TGT TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 415B
				DATE 9-1-67
		09:05:03	Okay ready. Hack. Okay hack. I did. I got some (coratles?). I keep it though	
		09:05:21	289. I'm going to give them a call here. Rog.	
		09:05:28	Timber 1, 59 is now ah proceeding out of North 1.	
		09:05:34	Yes.	
		09:05:34	Okay uh. . . there's 30 seconds. There's the road off to the right. Yeah I know	
		09:06:24	what that is. We're supposed to be going up this road but uh that's not marked on	
		09:06:36	the map. Right there. Okay coming up on 1 minute. Right now.	
		09:06:36	A minute 15. That damn clock.	
		09:06:36	A minute 30. There's a valley. Rog. I might be just a cut off to the left there I	
		09:07:31	think. Yeah. Move it on over. We should go across the edge of this knoll here.	
		09:07:31	Should be right over a road. Yeah there. There's that river bend down there, okay.	
		09:07:31	We don't there's the road. Probably all sorts of good stuff in that cleared area.	
		09:07:31	We're coming up on 2 minutes. Right now. 2 minutes. Should be a road out to the	
		09:07:31	right, there it is. I think we're right on course. We're holding about 400 feet at	
1	4	09:07:31	the minute. Okay should be a Y in the road right up here. 2 minutes and 15 seconds.	
		09:07:31	Uh Timber uh 59 I've just crossed a circle of vehicles. In a few minutes there.	
		09:07:31	About 8 vehicles arranged around a van. And uh their position was uh. Charlie Golf	
		09:07:31	uh 2 7. Okay uh looked like tanks uh or at least 3 heavy trucks. Also some sort of	
		09:07:31	communications uh central command post.	
		09:08:04	Okay coming up on 3 minutes right now. Should be, there's the road. Okay we're	
		09:08:04	right on time. Pull it back just a little bit.	
		09:08:27	3 minutes and 20 seconds. We won't be able to get decent checkpoint over this damn	
		09:08:27	railway and road complex down here. Oh there's, what the heck's that? Uh.	
2	7	09:08:42	Phantom 59 we just passed another complex of vehicles top of the hill in uh a wooded	
		09:08:42	area. Uh I never able to identify the type of vehicles. Baker Golf uh 33.	
		09:08:59	Okay here's the road. And we're right on time. And coming up on a ridge. Uh.	
		09:09:24	Okay we've got 4 minutes and 15 seconds. There's the valley. 4 minutes 15. 4 min-	
		09:09:24	utes and 30 seconds. Rog over the ridge. We should just be passing that little gap	
		09:09:24	in the, in the draw there. We just over track in just a minute.	
		09:09:57	Okay coming up here's the valley. Should be there right at 5 minutes. And looks like	
		09:09:57	we are.	
		09:10:26	Okay here's 5 minutes and 20 seconds.	
		09:10:37	5 minutes and 30 seconds. Up over the ridge and then to the valley. Let's try and	
		09:10:37	get a damn check on this road. Okay we're right on, we're right on course. We, we,	
		09:10:37	we were right on, aren't we? Right on. We're right on. 280. (****) there must be	
		09:10:37	something out here. Right, on time.	
3	12	09:11:03	Uh Phantom 59, we've got a bunch of a simulated uh bunch of packing cases in a field	
		09:11:03	about uh 25 uh packing cases arranged rather loosely. Some sort of munitions store.	
		09:11:03	Did you get that? That was at about uh. Alpha Delta uh 63. Coordinates on the	
		09:11:03	last target Alpha Delta 63. (09:11:28)	
		09:11:37	Okay 6-1/2 minutes. Yeah 6-1/2? Should just about be to the GCI site. We should	
		09:11:37	convert napalm attack when we get near here. Rog. Ah you read that. Rog. 6 min-	
		09:11:37	utes and 45 seconds. Should be just about on it.	
		09:11:58	They've got the damn thing well hidden. There it is there.	
		09:12:06	I'm supposed to napalm attack on it, aren't I? Simulated Rog. I lost the damn thing.	
		09:12:06	What's the speed?	
		09:12:27	You event it? Yeah I evented when I saw it. But uh. . .	
		09:12:38	Phantom 59 we're now at North 2 and my fuel status is 65 over 79.	
		09:12:55	I saw that GCI site but we were just a tad off to the left. Yeah. There it is down	
		09:12:55	there, see it? Rog. Ha, ha, ah, ha. Isn't that some building. Okay we may as well	
		09:12:55	check for the _____ place. Okay let's head for N 3. Come right in over that	
		09:12:55	lake. Yeah.	
		09:13:24	How is fuel? Fuel is uh we've got 65, 79. Okay. Boy we're working like	
		09:13:24	behind still down there. Ha ha. It would make things easier if this clock in this	
		09:13:24	thing worked. Yeah. Okay you give me another hack. When we get there. Okay it's.	
		09:14:06	There's smoke, there's smoke. See it? Smoke at 10 o'clock. Yeah I can see it. I	
		09:14:06	was using this big, the edge of this big lake as my _____ anyway. 099, well.	
		09:14:06	Okay hold 100. Just get lined up with the uh pylons. Okay I got throttles unless	
		09:14:06	you want them. Rog I want to clear them until we get rolled out on the heading.	
		09:14:06	And I'll give you the hack and then you can uh. . .	
		09:14:56	59 is North 3. Yeah, a hack. And you're on throttles again. I am.	
		09:15:09	Oh boy this is not going to be easy into all that sun. Okay now we got uh a SAM site	
		09:15:09	coming up too. Yeah, unless we missed it already. Yeah. Okay.	
		09:15:26	30 seconds.	
4	14	09:15:37	I think there's a POL dump back there just as we, just before you cross 30 seconds	
		09:15:37	But uh at uh, I'm, I'm hard looking at it. It looked a bit like just an old wooden	
		09:15:37	fence. Only keep it in mind for the debriefing. 1 minute.	
		09:16:08	Okay, 1 minute and 15 seconds. Should be coming up on a road in uh 7 seconds.	
5	15	09:16:25	And there she be.	
		09:16:28	Uh Phantom 59 we got some revetted Hawk track guns or full tract artillery uh. Just	
		09:16:28	prior to that road there. Fairly well dug in, 3 vehicles. Uh guns in the order of	
		09:16:28	uh 85 to 100 millimeter. Baker Del-, Baker Delta 12. Baker Delta 12.	
		09:16:52	Oh what was that?	
		09:16:58	Okay there is 2 minutes. Should be on a road. We just passed it. Ro. What was the	
		09:16:58	last coordinates on that target? Baker Delta 12 or 13. Uh Baker Delta Roger.	
		09:17:20	A minute, uh 2 minutes and 30 seconds.	
		09:17:30	2 minutes 30, right? Rog two, thirty eight. There should be a little road down	
		09:17:30	there. You may not barely see it.	
6	18	09:17:46	Phantom 59 passing another storage area with 1, 2, 3, 4, 5, 6 large separate packing	
		09:17:46	crates. That was uh did we get that one? That was Charlie Charlie 9 7. Charlie	

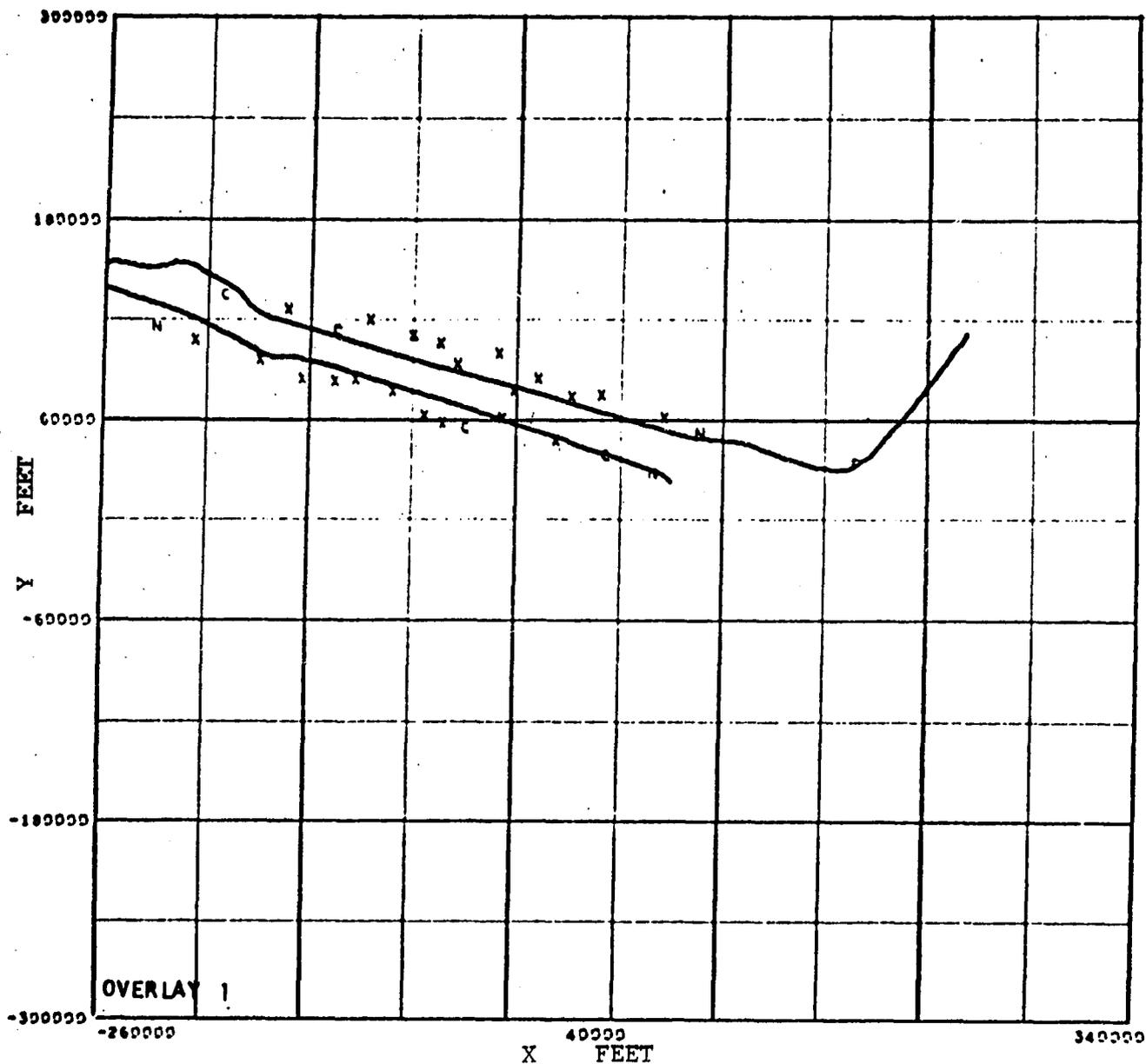
FIGURE 2-15 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 415B cont. DATE 9-1-67
7	19:18:22	Charlie 97. In a wooded area. Well it is parked in a clearing of the uh surrounded by woods. (09:18:14) And uh Phantom 59 we're just passing another set of revetted uh tanks about 4 in a long line just beside a road. In a, in a valley. Charlie Delta. Charlie Delta 55. Charlie Delta 55.	
	09:18:39	Roger and we got uh 62 over 60 in. Rog. Coming up on 4 minutes. Uh. We must be pretty close to track if we keep seeing things. 4 minutes right now. There's a valley and a creek.	
	09:19:10	Coming up over a ridge, should be right on a road on the other side of this ridge. Yes.	
	09:19:23	There she be.	
	09:19:43	Okay there coming up on 5 minutes.	
8	22:19:51	Uh Phantom 59 uh 3 trucks parked in a clearing in a woods. On top of a high ridge. Uh coordinates? Delta Echo 38. Delta Echo 38. Er 48. Yeah uh. Well uh we're close. Check that when we get a big map.	
	09:20:12	I got it on the map. Okay there's 5 minutes and 15 seconds. Should have just passed the road.	
	09:20:31	5-1/2 minutes.	
	09:20:42	5, 45 should be right over a ridge. And on to some roads.	
	09:21:04	Hum, I didn't see any of them. There's the river. Okay we're all right. Where in the hell's that SAM site? There's 6 minutes and uh 30 seconds and 5 seconds. Should be coming up on N 4, here. I don't know. On top of a hill, isn't it? I can see N 4.	
	09:21:48	Time? Okay coming up 6, 55. Uh 7 minutes.	
	09:22:02	There she is and we're finished. Yep.	
	09:22:13	Timber 1, Phantom 59 is off N 4.	
	09:22:24	Rog.	
	09:22:25	(Tone begins)	

FIGURE 2-15 (U) VOICE TRANSCRIPT (2 OF 2)

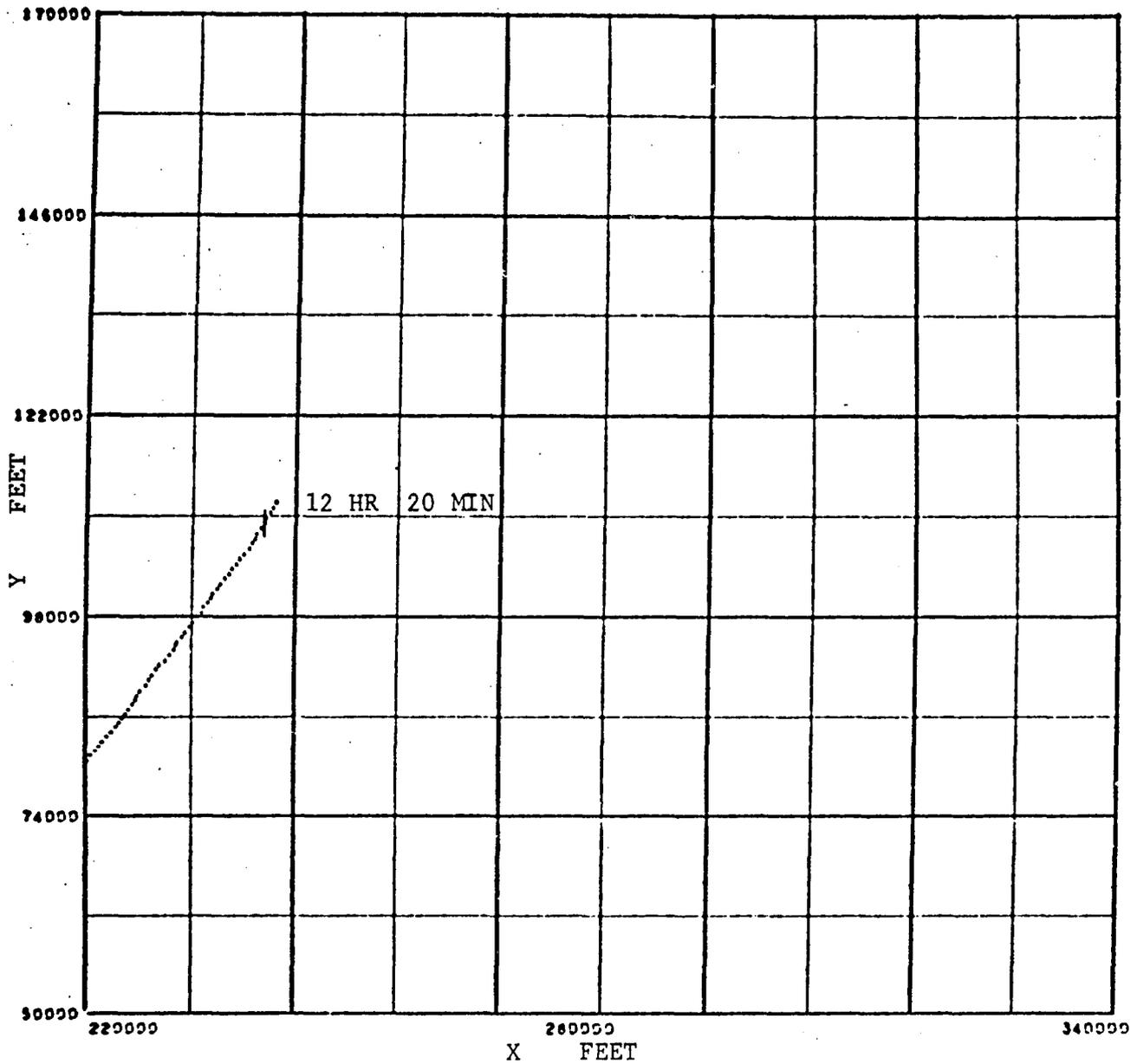
UNCLASSIFIED



SORTIE NUMBER 421
OPERATIONAL DAY 30 AUGUST 1967
NORTH COURSE
FIGURE 2-16
AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

UNCLASSIFIED

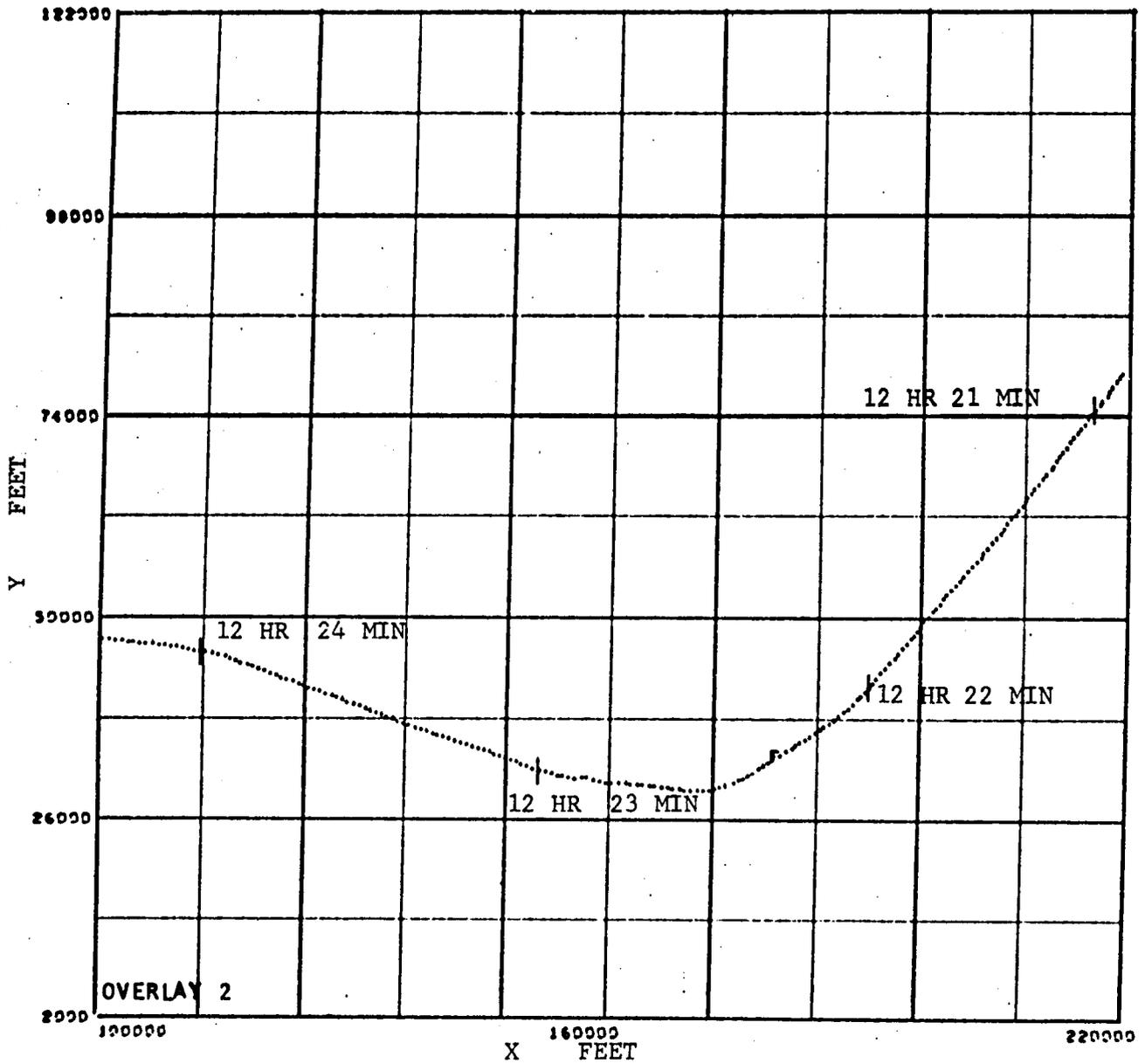


SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

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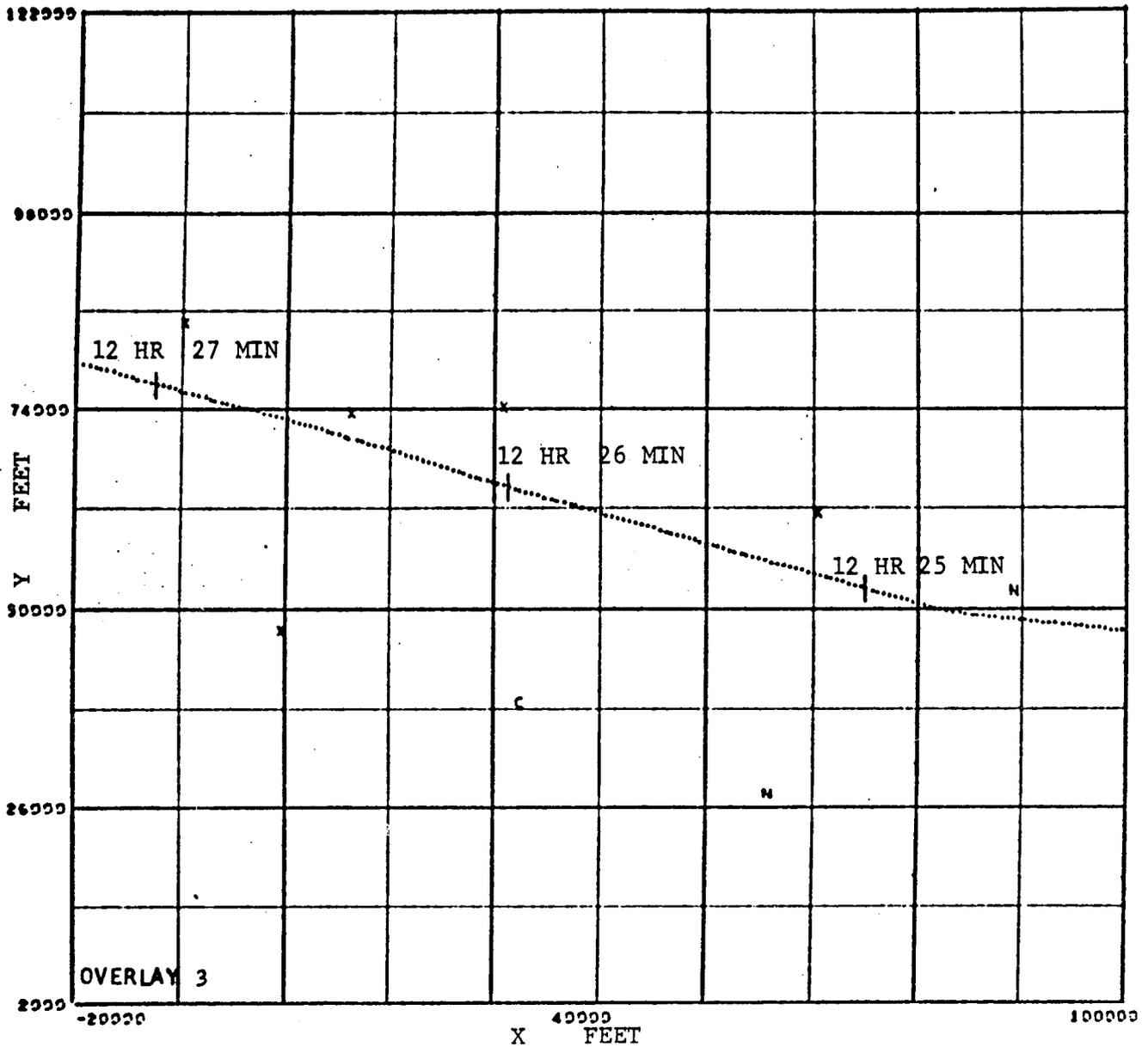


SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 3 OF 8

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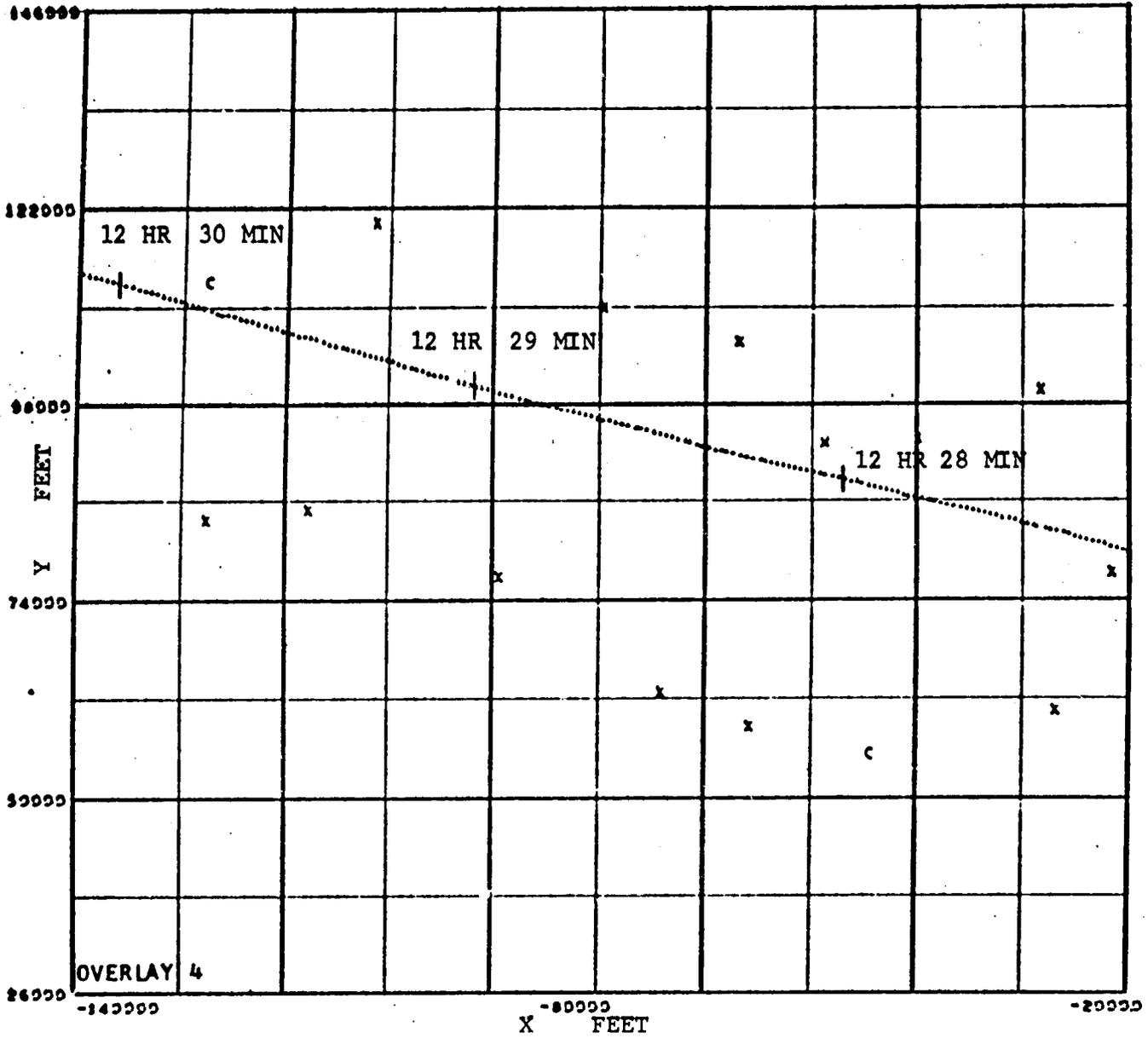


SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

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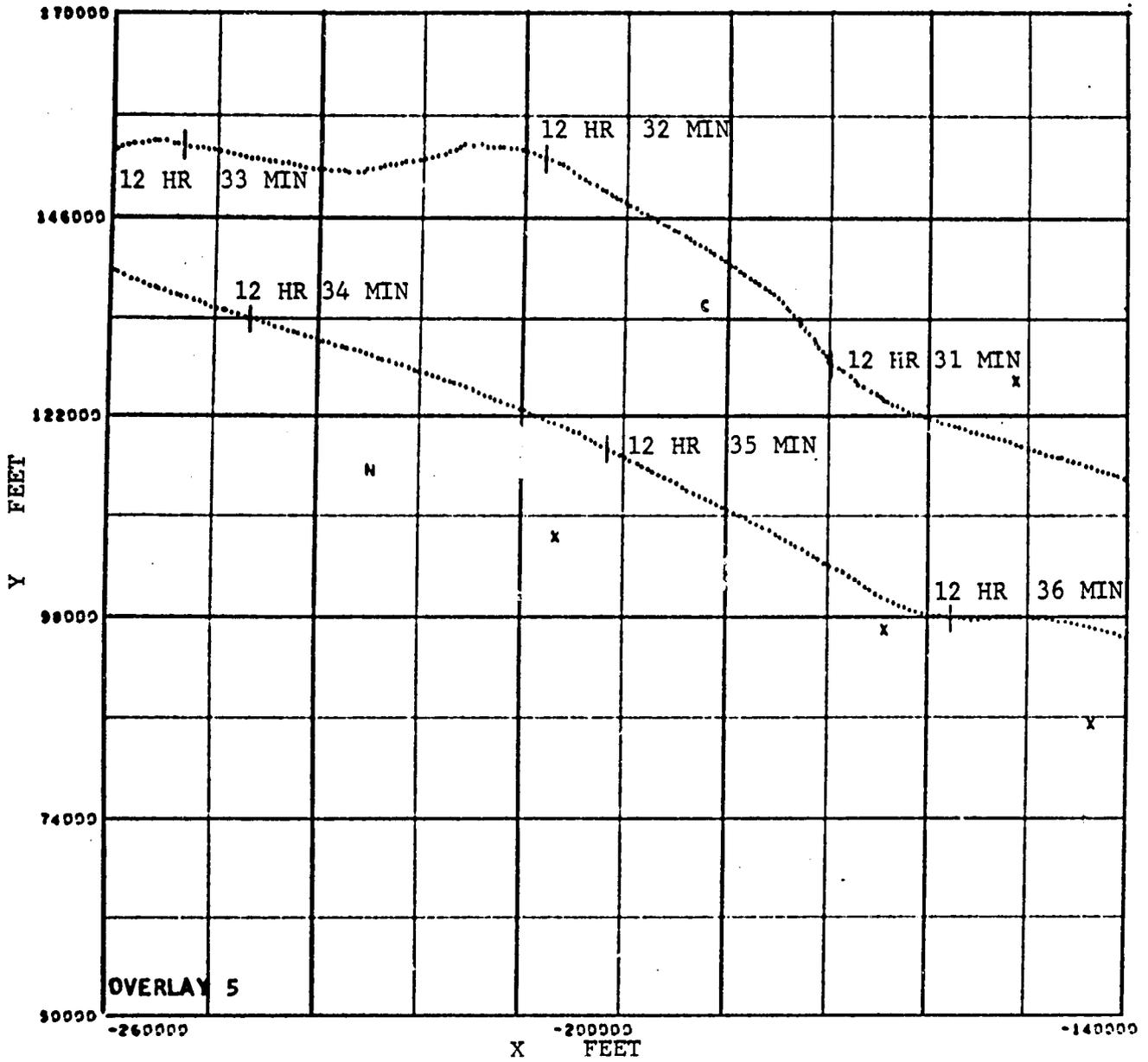


SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED

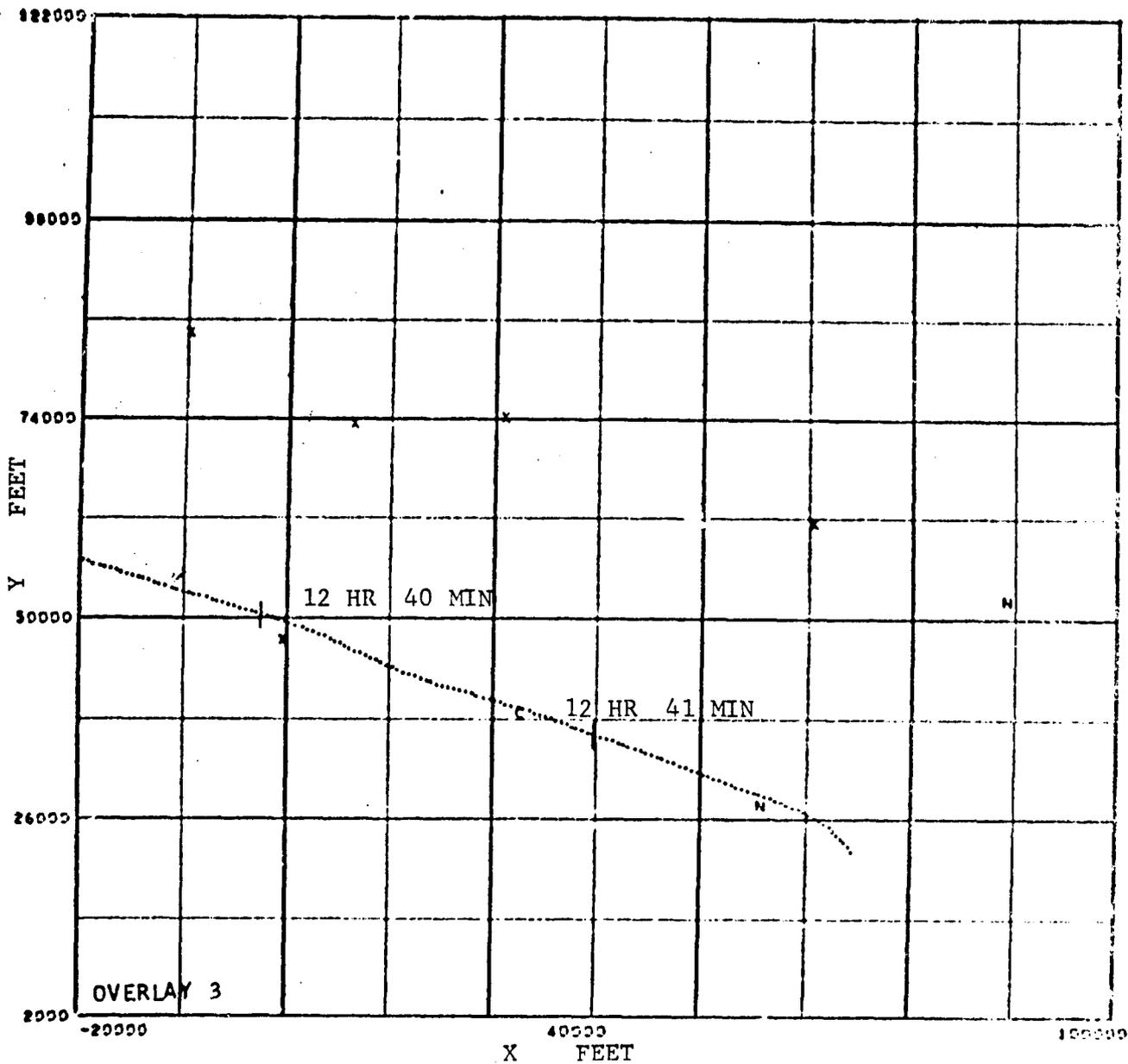


SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 421

FIGURE 2-16
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

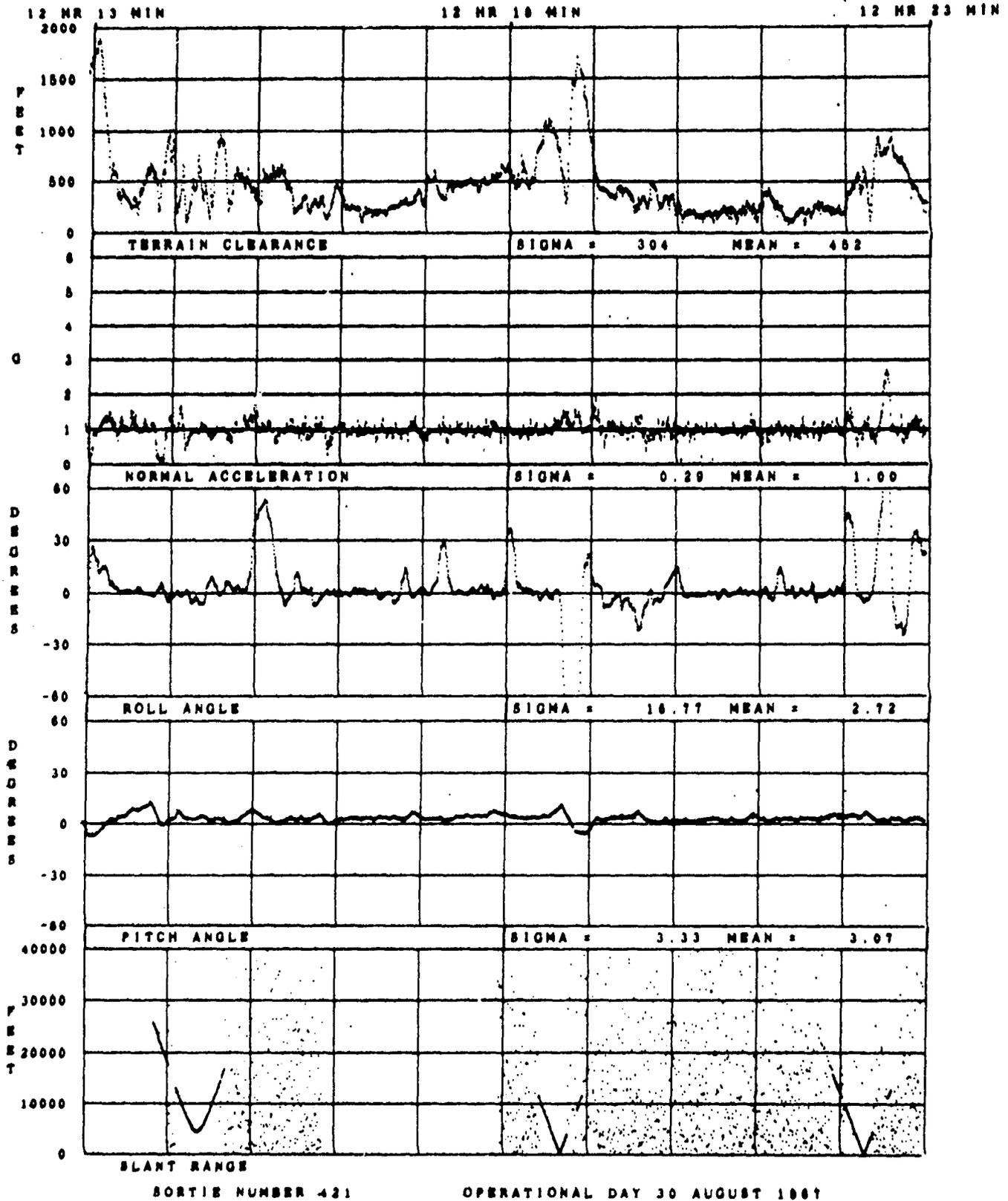


FIGURE 2-17 (U) TELEMETERED DATA (3 OF 5)

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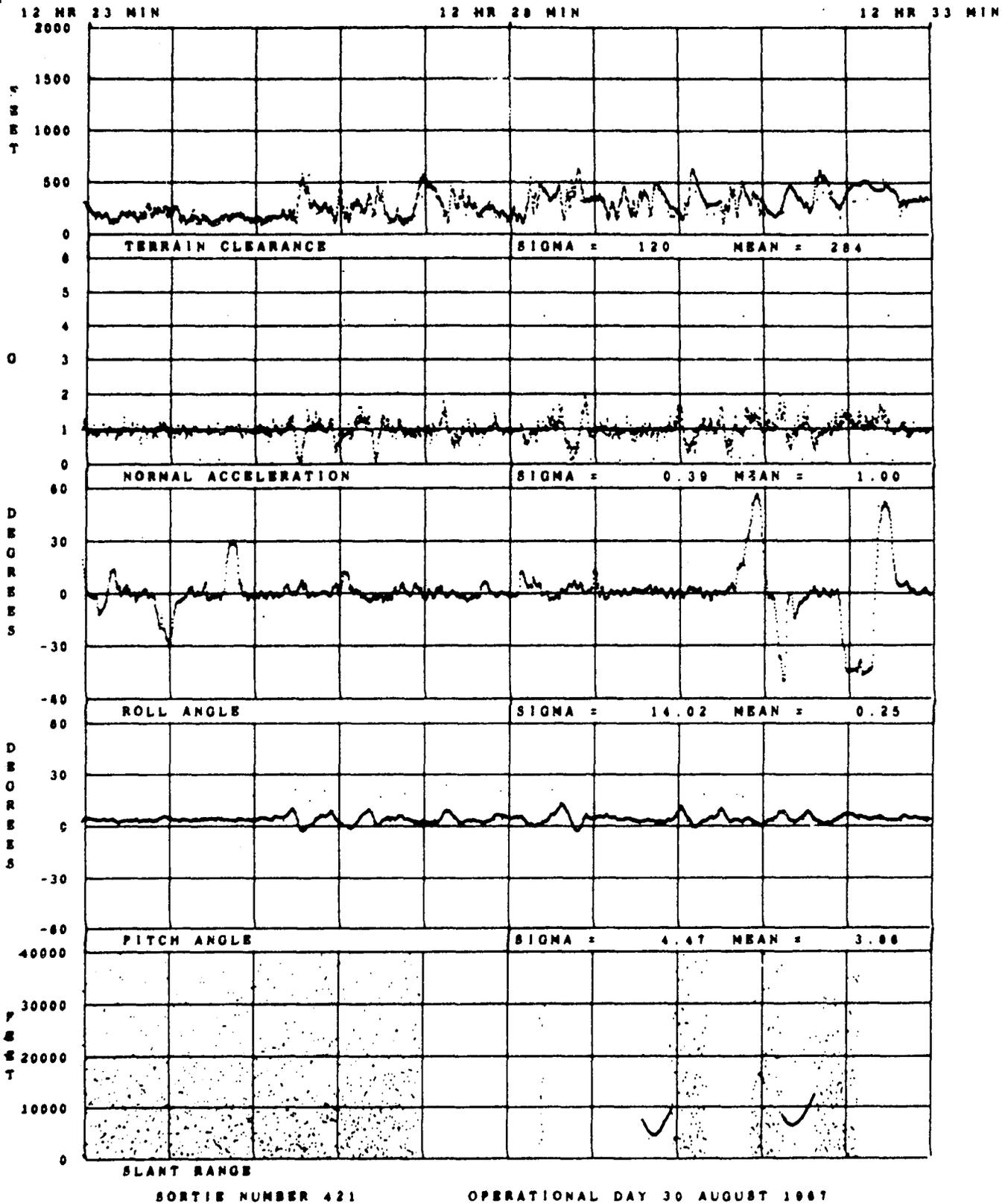


FIGURE 2-17 (U) TELEMETERED DATA (4 OF 5)

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UNCLASSIFIED

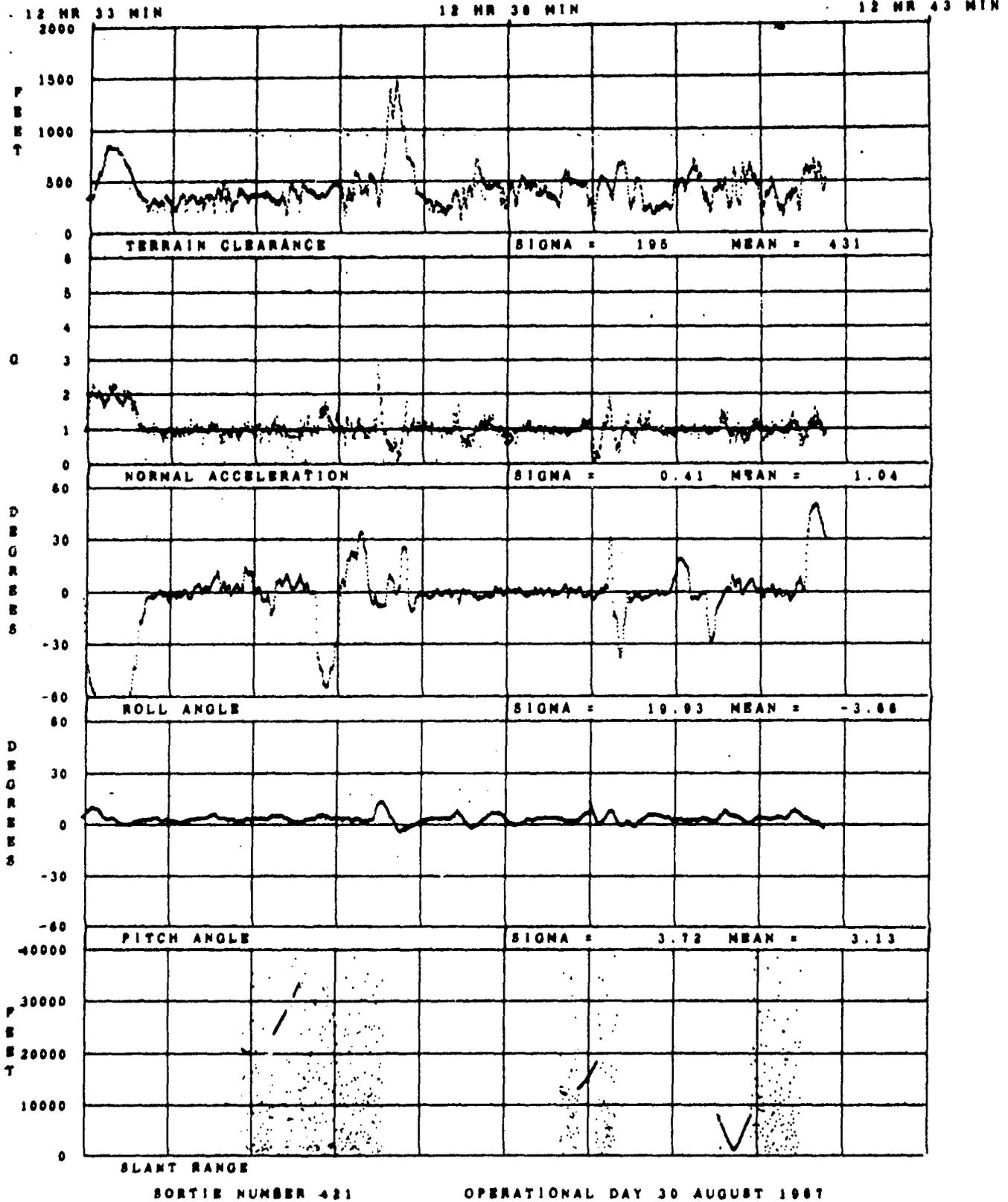


FIGURE 2-17 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE DATE
			421 8-30-67
	12:24:36	Phantom 105. North 1. There's a power line. 280. Roger 280. Okay. We're, we're a little bit to the left, so go 280. Okay. Okay. 282. Okay. Here's the first little town comin' up here, and the road coming back over. Okay. We're lookin' for (****) now, aren't we? Okay. I hacked my clock. Did you hack yours? Yeah I hacked it, but I was a little bit late on the hack. Okay. My hacked should be right. You got 416. You'd better push it up there. Okay. I just pushed it up a little bit. Okay.	
	12:25:20	Okay. Starr lookin' for stuff.	
	12:25:36	Okay. It's off 1 minute. 1 minute, okay, there ought to be something down here in these areas. Boy, it's sure wooded. Okay. We're comin' up on how many minutes? So far we got 1 minute and 15 seconds. Okay. 1 minute and 20 seconds now. Just keep me informed of the time here. Roger. While I keep lookin' around. We got 1:25. Okay. Remember we don't have to punch the button for any of these. Okay. Except the SAM site if we think we got it. Yeah, if we see that SAM site. Okay.	
	12:26:16	What's the tally? Okay. What's the time now? 1:45. 1:45 okay. There should be a little road comin' up here at 2 minutes. Rog. And off to our right.	
	12:26:31	Man, I don't see a thing. Sure like to see something here in a minute. Yeah I got a feeling they're all in that green pasture that we were lookin' at. Huh. Man, I must be blind.	
	12:26:50	2:15. Okay. At 2 minutes there's this road that's curvin' off to our right, so we're pretty well on course. Okay. Comin' up here at 2 and a half minutes. 2 and a half minutes. Okay. We're crossing a road at 2 and a half. Okay. Okay. We're in good shape. Okay you got 430 on the ground now. 430? Right.	
	12:27:13	Hey, I got a target. I got a target on the left. Okay. (135)	
1 4	12:27:19	Okay. Phantom 105 has. . . What was that? A (E? C?) and W site. Coordinates Charlie Foxtrot, coordinates are C G 84. 84. (12:27:35)	
	12:27:42	(There were also). . . 315. Okay. Coordinates a little bit off on that, wasn't it? No, I plotted it when I spotted it. Okay. That was the one on the left. We were talking about the same thing, weren't we? Yeah. Okay.	
	12:28:06	We were both talkin' at the same time. Okay. We're 335 right now. Okay. We need to go to the right just a little bit. What's our next check point? 335. 335. 340 now. 340, huh? 345.	
	12:28:25	You look left a little more, and I'll look to the right. Okay. Okay. What time is it? 4 minutes. 4 minutes? Okay. Let's cross this railroad and everything. We're just a little bit ahead. Okay. Did you see anything down in that valley? That's probably where we'd find it. I didn't see anything.	
	12:28:53	We ought to pick up something here in a second. 4:25. Okay. We're doin' real good on our time. Okay. 4 how much? 4:30. Now. 4:30.	
	12:29:12	We're down to 200 feet. Okay. There ought to be something located in here. We must be blind.	
	12:29:23	We had a rough course of this. Comin' up on 5 minutes. Well we gotta find something here. This valley must have something.	
	12:29:38	Okay. There's, there's some people fishing down at the pond there. That wasn't no target. Find little target. Which side? To the left. Okay. And the coordinates then are uh BE 5 7. Okay. Well, uh, that wasn't our target area. Oh you. . . that wasn't a target? No. Okay. Just some guys fishing.	
	12:30:08	I thought, I thought you were calling off a target there. No. Man I, as I say, I think we're blind.	
	12:30:18	I wonder what those guys at 550 are looking at. I don't know. How about that off to the left. Is that anything? I don't think so. To the right, I don't. . . There ought to be a beautiful target in here. If I make, miss this hill right. Mmm, this is terrible. Say that AC and W site ought to be right off here. Okay. That was 6 minutes and 10 seconds. I'm not sure if this is it or not but photo of it showed stuff like this here. I believe this is it.	
	12:30:59	I think we've got off a little bit to the left of. . . This look like the site they gave us? No, that's not it. I don't see anything there. Hey there's, there's a tower up there. Where? See the tower on the left here? Yeah. Uh that tower's not on the map so that might be our flight check. We're comin' up on 7 minutes right now. 6:50. Well, well, they should have been right, right in there, and we missed that thing bigger'n everything. I don't that, that the end of our. . .	
	12:31:44	Ah Roger. And a vector to N3.	
	12:31:52	We just passed this highway here. We're, we're already past the targets.	
	12:32:03	105 is at North 2 and requesting a vector to North 3. Boy, that was terrible, absolutely terrible. We weren't on the uh. . .	
	12:32:22	Roger. That was just terrible. I don't know what happened, whether our heading indicator's off, or what. We did just rotten. Didn't we. Well we'll try to do better on this one.	
	12:32:41	'But all I can say. I'll try to get my clock hacked and everything else.	
	12:32:57	Uh we just never got going on that one.	
	12:33:04	Roger at 12 o'clock (at 6).	
	12:33:11	Well, well, that's the way it goes, I guess.	
	12:33:46	Okay. We're swinging around here. We ought to have. . . Say, there's the highway. The highway we just crossed, and there'll be a lake too. N3. Should be lookin' for uh those 2 pylons and that bridge that goes across the river. Some birds out here. I'm gonna get up about 400 feet on this next one.	
	12:34:16	Okay. Here comes the river. Okay. Looks like we're just a little to the left of it, doesn't it?	
	12:34:25	Yeah. I don't see the uh, I don't see the pylons. I don't see anything. There's the road. We should be crossing a road at the, at the river.	
	12:34:41	Rog. We're a little left of course.	
	12:34:46	Not five. Uh negative. Uh off to our left. Uh correction. Off to our right.	

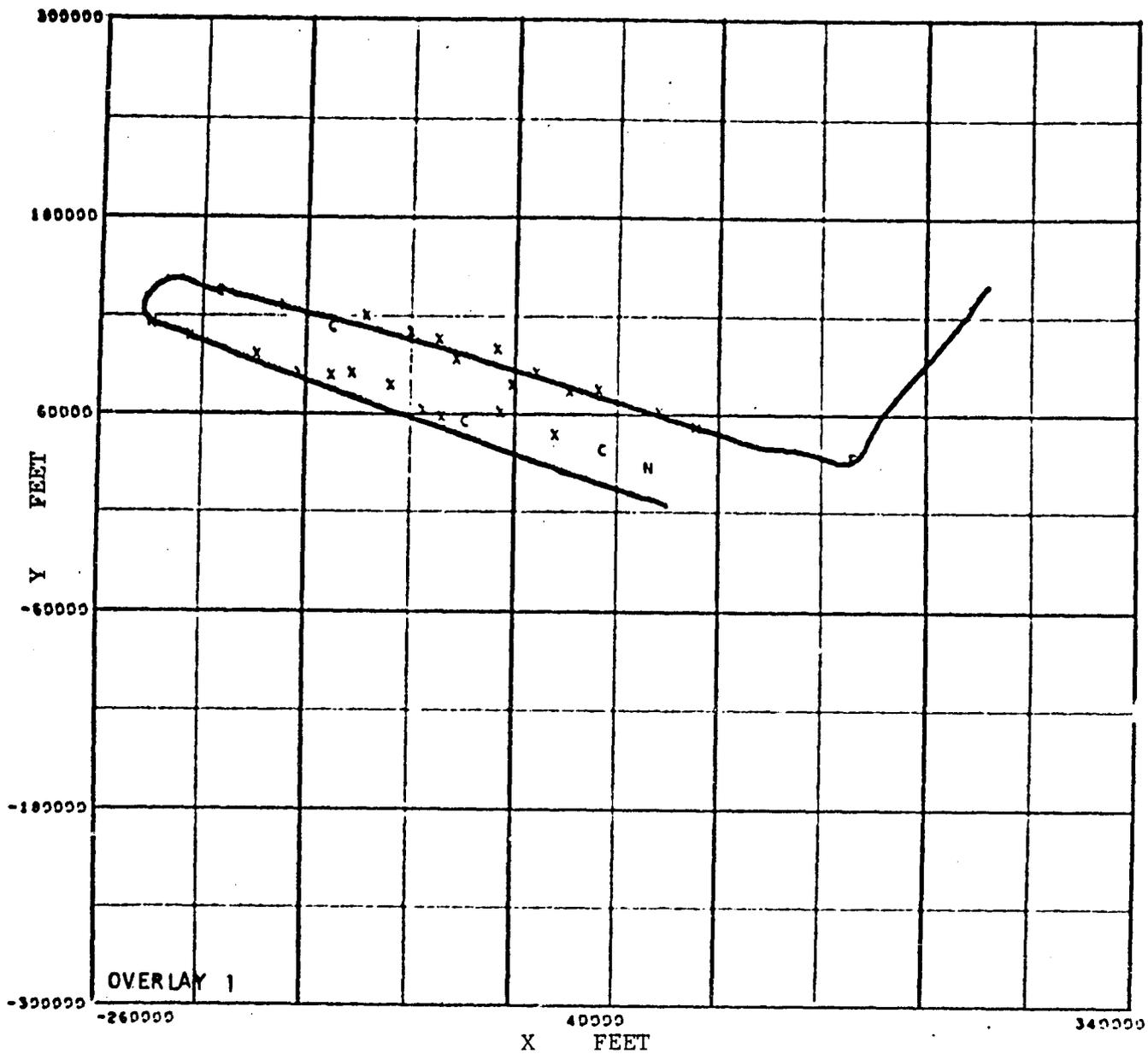
FIGURE 2-18 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

RPT TG1/TG2	TIME	REAL TIME TRANSCRIPTION	SORTIE 421 cont.
			DATE 8-30-67
	12:34:56	Uh we're probably contaminating ourselves now. Why don't you ask if we make a left 360 and come back and hit again. Well. I think we're all right. You got the inertial on for the next point down here? Yes sir. Okay. It's not worth a darn, I can say that. Okay. That ought to pretty well put us back on course. We went across here and the river. I hacked us at the road. Okay. Good. Keep us on. . . Just a little bit after the road. See if I can fix us here where we are. There's a road off to our right here. Comin' up on 1 minute. There's a little road across here. Comin' up on 1 minute you say? Right. Okay. And there's a road going to the left. Boy this thing's hard to navigate with. Okay. I'm turning back to 100 degrees now. Okay. We just went, went off to the, little bit off to the. . .	
	12:36:02	Hard to tell if these farms er uh military stuff or not, huh? Okay. That road's goin' out there so 100 degrees ought to hack it now. Okay. We got a minute and 30 seconds.	
	12:36:20	Okay. Here's a road comin' out across here. You can see the square in it, which is in great shape. Uh we're not, we're just not high enough for it. Okay. Let's, let's just pop up a little bit here. 1 minute and 30 you say? Uh comin' up 150 now. 155. Okay. Goin' 2 minutes.	
	12:36:47	Okay. And I bet we ought to, let's try the inertial for a bit here. Well I don't think the inertial's worth anything. Cause we're left of course, and that'd still be steering us left. Okay.	
	12:37:03	We've really been holding the heading, but haven't been doin' us any good. Okay. Cows. Okay. We got 2:30 now. Okay. Hey you have. . . How's the time coming? I started to say we've got 235, uh 235. 2 minutes and 45 seconds. 235? 245. There ought to be a little road comin' across us here at about 2:40.	
	12:37:35	2:50. I see everything but what we're lookin' for, I think.	
	12:37:43	Okay. A little road. There's the road, but it didn't end down in a valley. Okay. What time is it now? Uh 3 minutes and 10 seconds. Okay.	
	12:38:01	You say 3 minutes what? 3:20. 3:20. (Seems we're missing). Okay. Uh here's uh, here's the river comin' up, and there ought to be a little town just directly to our left as we cross this river. 3:30.	
	12:38:19	This is terrible. Absolutely rotten. Kinda frustrating.	
	12:38:27	How much now? 3:45. 3:45. How's our ground speed? Ground speed is holding about 422. Looks real good. I'll bet we've fouled up this thing. There's a little town right off to our right.	
	12:38:45	There's a creek.	
	12:38:54	There's a road goin' across here. There's a little town there, but. . . Uh huh. Better quit lookin' around, huh? What the damn. Man I. . .	
2	23 12:39:12	This is Phantom 105. I have an AC and W, er a triple A site located at uh. . . Okay. We're right on course, cause we sure went across triple site. Okay. What was the time on that? It's Charlie Hotel. . . Oh, did you get a target? Yeah, Charlie Delta 55.	
	12:39:33	55. Yeah. I didn't sight that. You know I got interrupted on the phone. Okay. What's our time now? We just crossed a highway. We're right on course. Okay. 4:55. 4:55. Okay. There's a tower. Highway. There's a tower comin' up here we're crossin' now. Okay. We're on 5 minutes right now. 5 minutes. Okay. Okay. The tower is right on course. You sure that was at Charlie Delta? That one you called? Okay. We just across this tower. We're a little to the left of course right now.	
3	24 12:40:04	This is Phantom 105. Hey I got a target right over here. I have a convoy uh with several trucks located around it, and it's located at Delta Foxtrot 84. Uh 2, it's at Delta Foxtrot 25. Okay. Correction on that, 25. Okay.	
	12:40:24	Now we're startin' to pick up a few. Guess we got on course finally. Okay. What's our time now? Okay. Time is uh 5:50. 5:50.	
4	25 12:40:41	5 okay. There was a. . . This is uh. . . We just passed a SAM site. 5:55. Okay. You got to broadcast that one. Uh.	
	12:40:52	Phantom 105 just passed a SAM site. Location uh. . . Okay. What was the lo-. . . Location is uh DF, DF 84. Position Delta Foxtrot 84. (12:41:10)	
	12:41:15	Roger. I thought we were supposed to broadcast that one. No, we were supposed to hit the tone button, and I didn't hit it. It's uh, it's uh hard to. Okay. We're at uh 6:20. Okay. Uh 6:40. There's a tower there. Is that the end of the course? Huh? Yeah I think so. That's at 6:50. Is that the end of the course?	
	12:41:39	Phantom 105 at uh North 4. Uh request clearance. Option 1.	
	12:41:49	(Tone resumes)	

FIGURE 2-18 (U) VOICE TRANSCRIPT (2 OF 2)

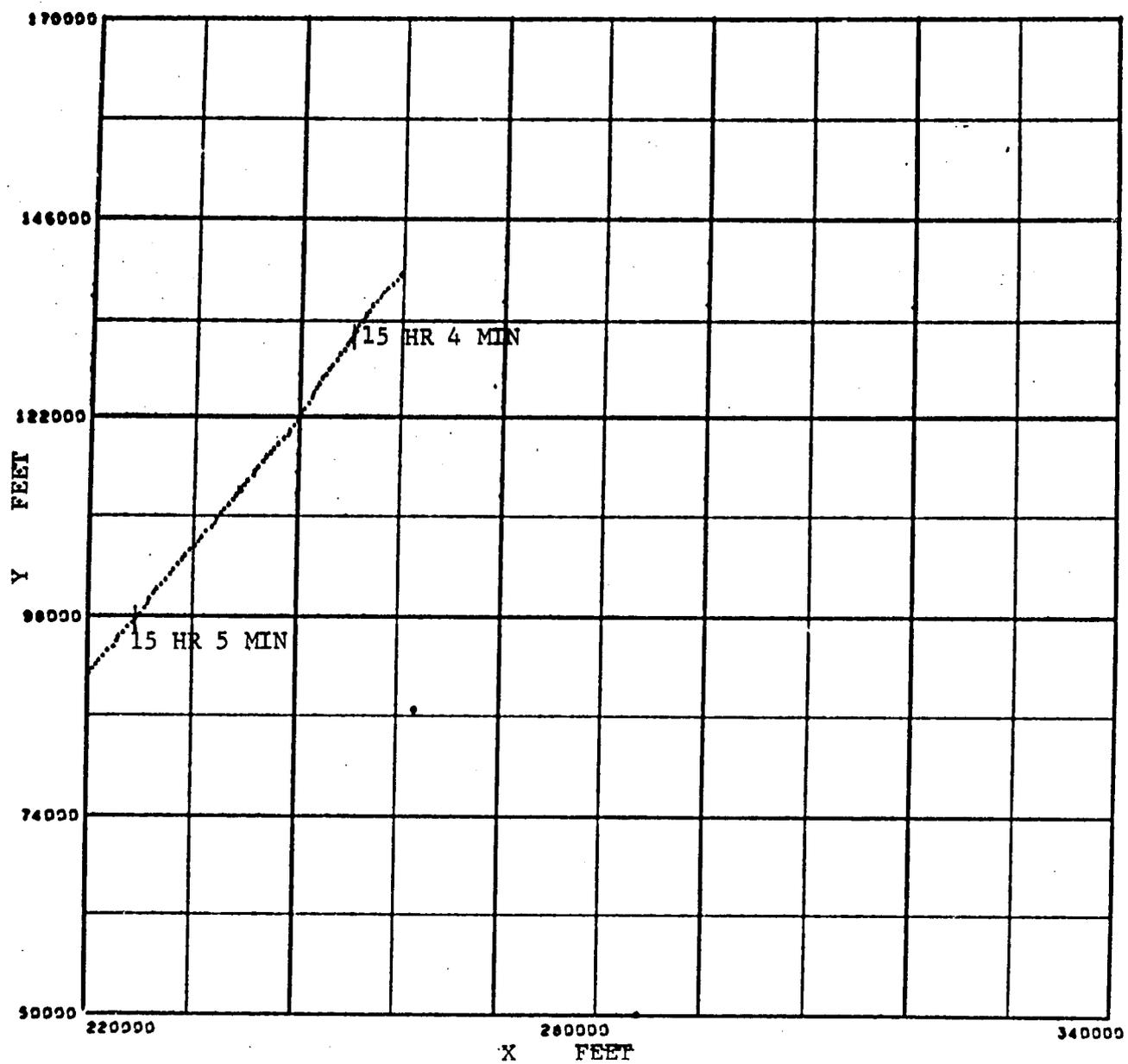
UNCLASSIFIED



SORTIE NUMBER 423A
OPERATIONAL DAY 30 AUGUST 1967
NORTH COURSE
FIGURE 2-19
AIRCRAFT POSITION DATA (U) 1 OF 8

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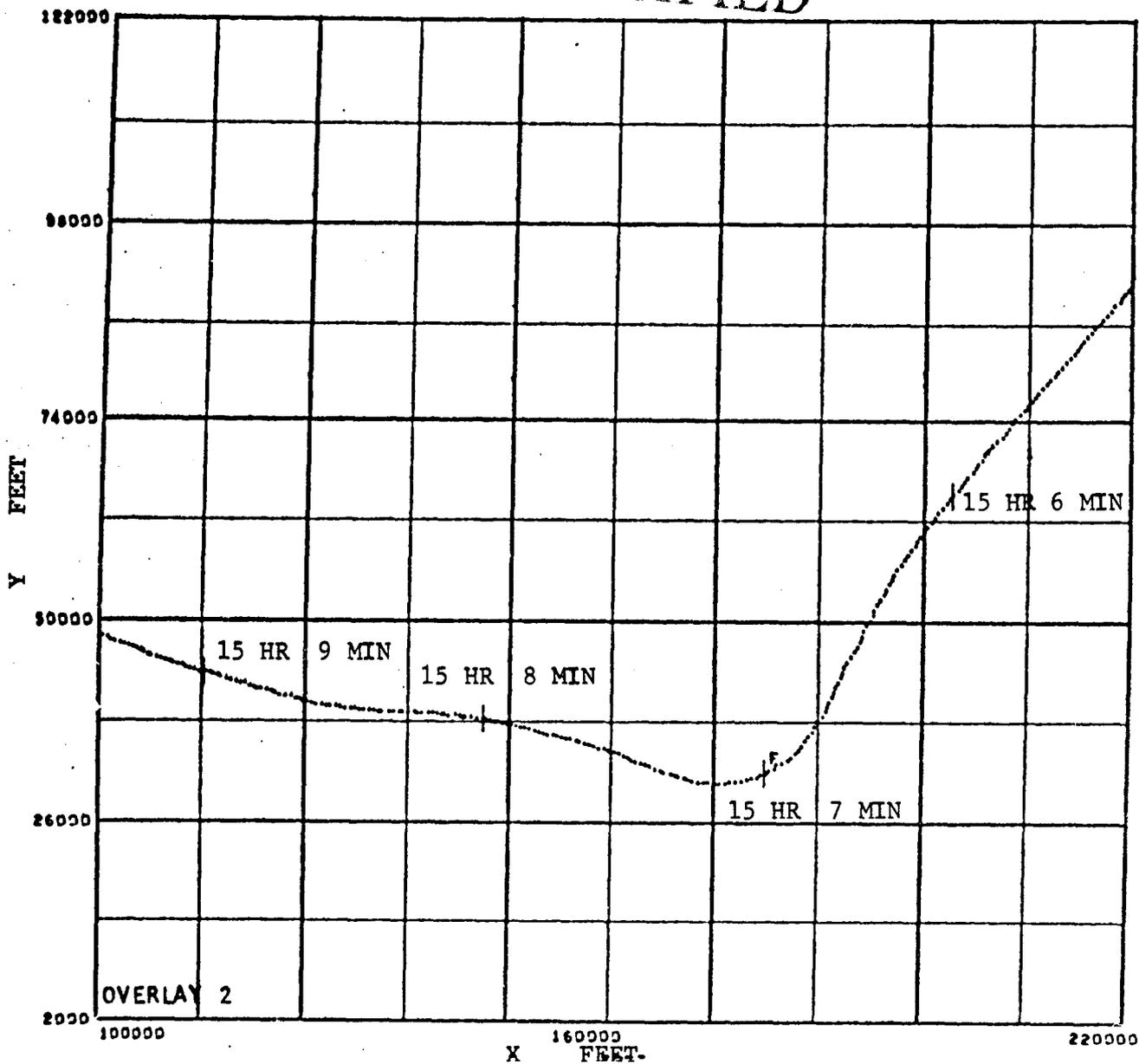


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 2 OF 8

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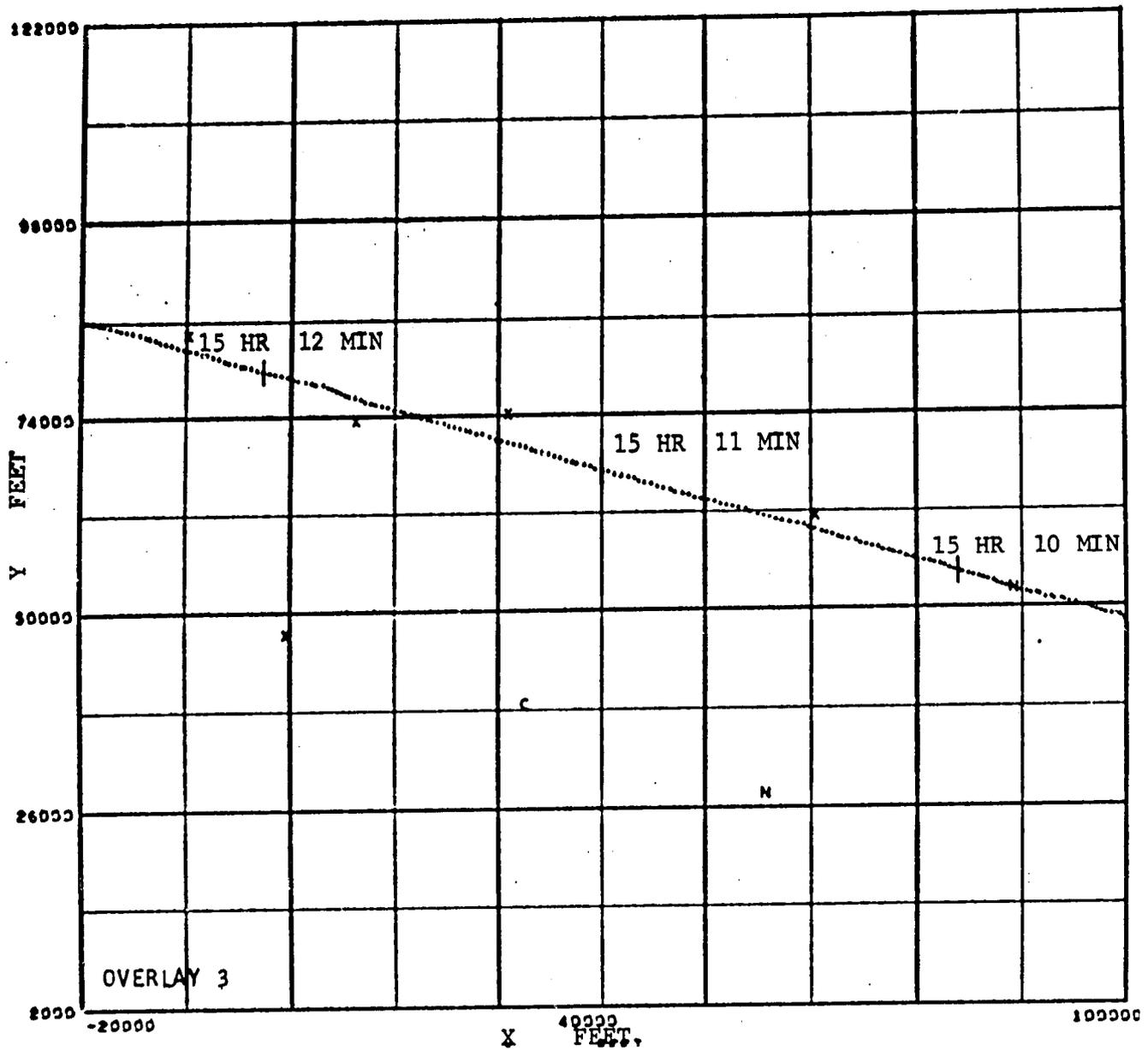


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 3 OF 8

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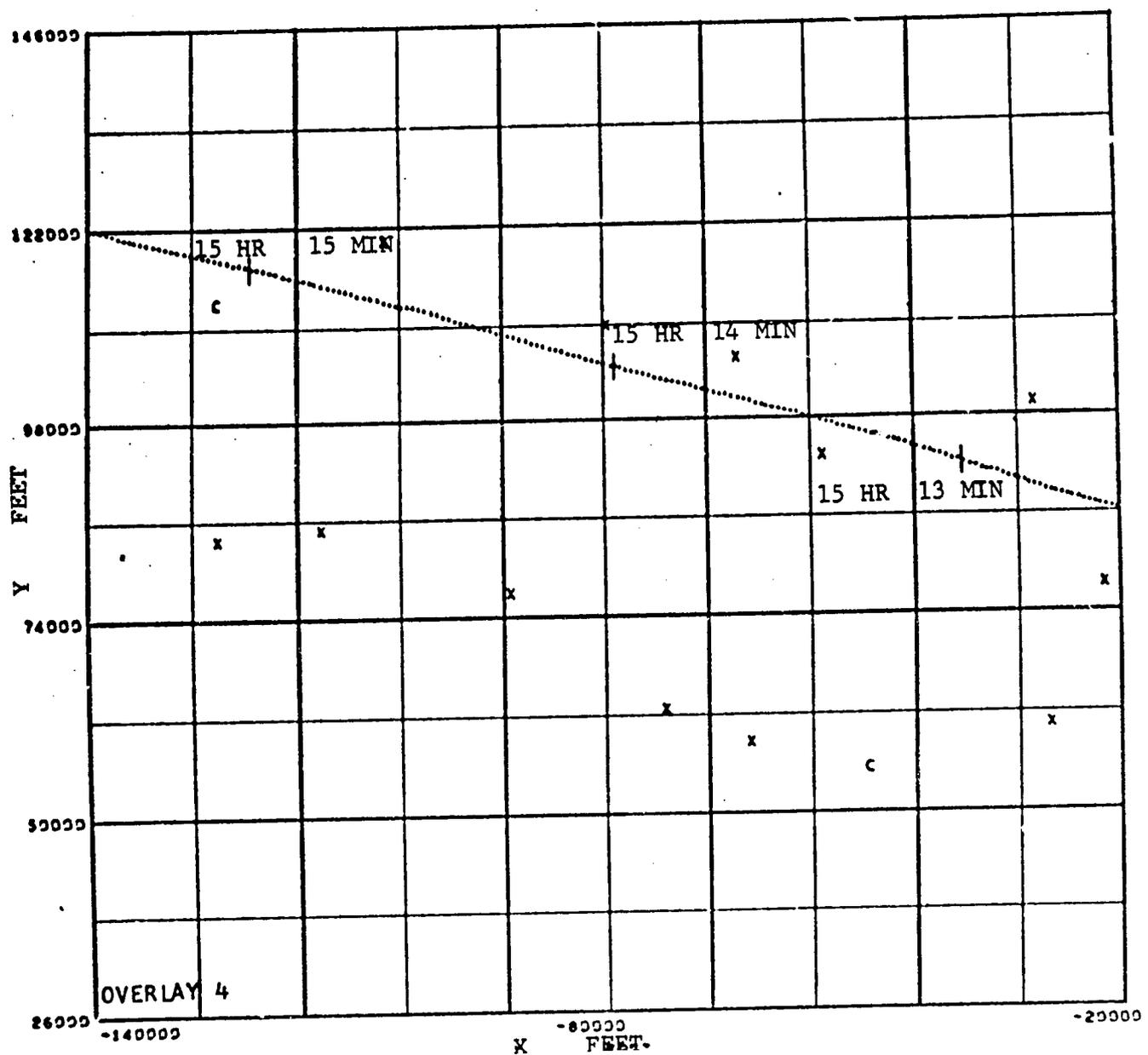


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 4 OF 8

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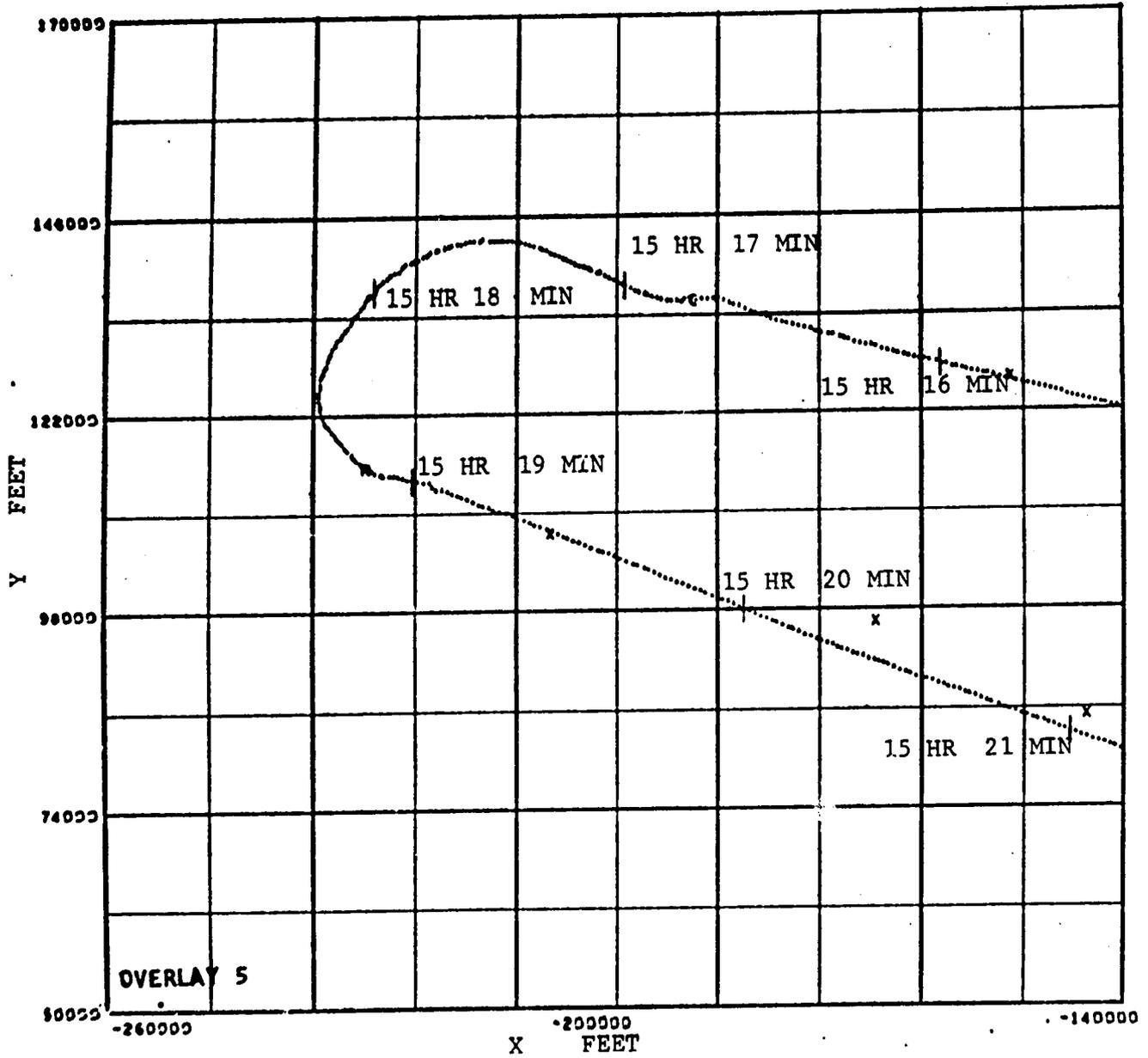


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 5 OF 8

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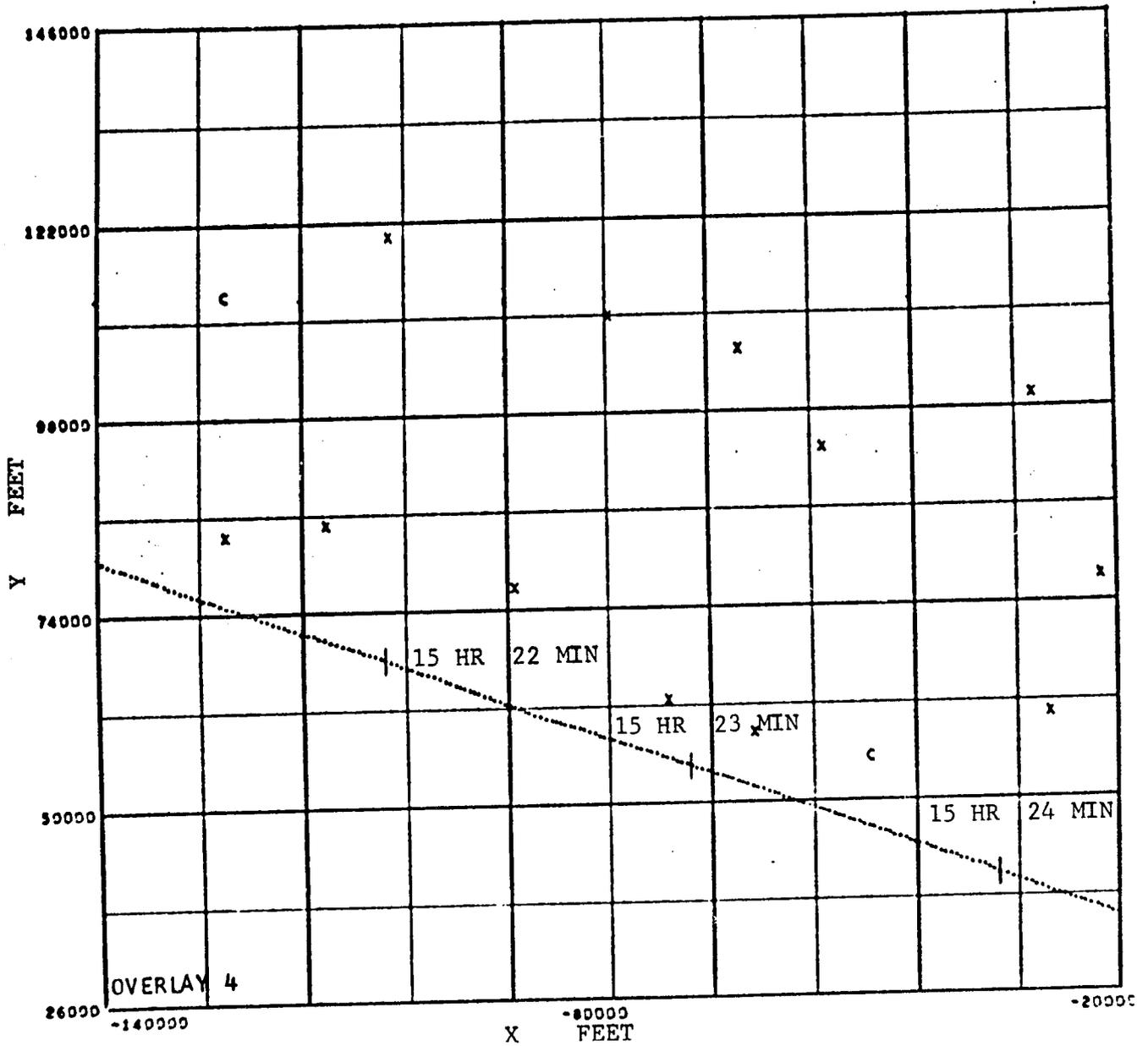


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 6 OF 8

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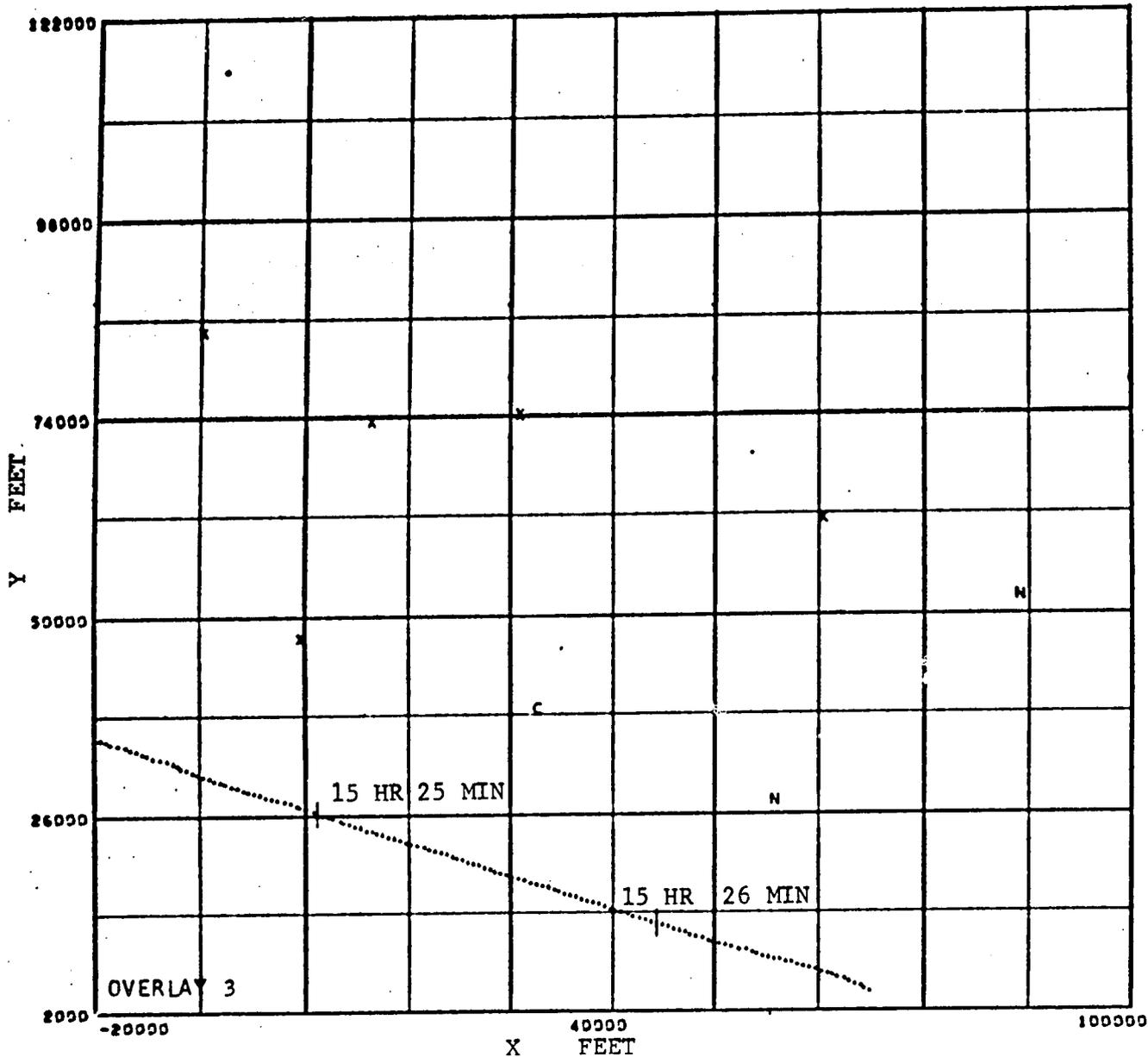


SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 7 OF 8

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SORTIE NUMBER 423A

FIGURE 2-19
AIRCRAFT POSITION DATA (U) 8 OF 8

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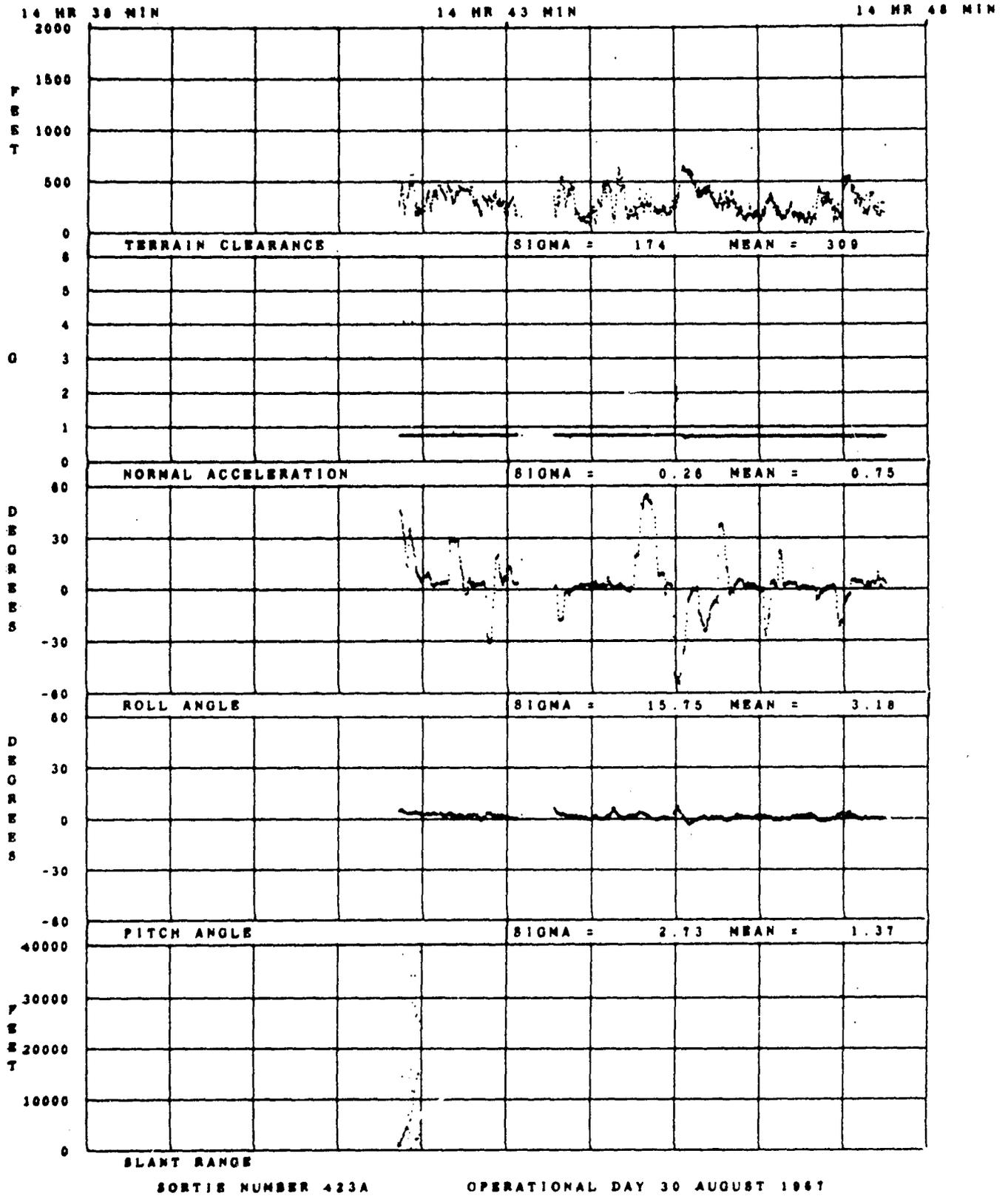


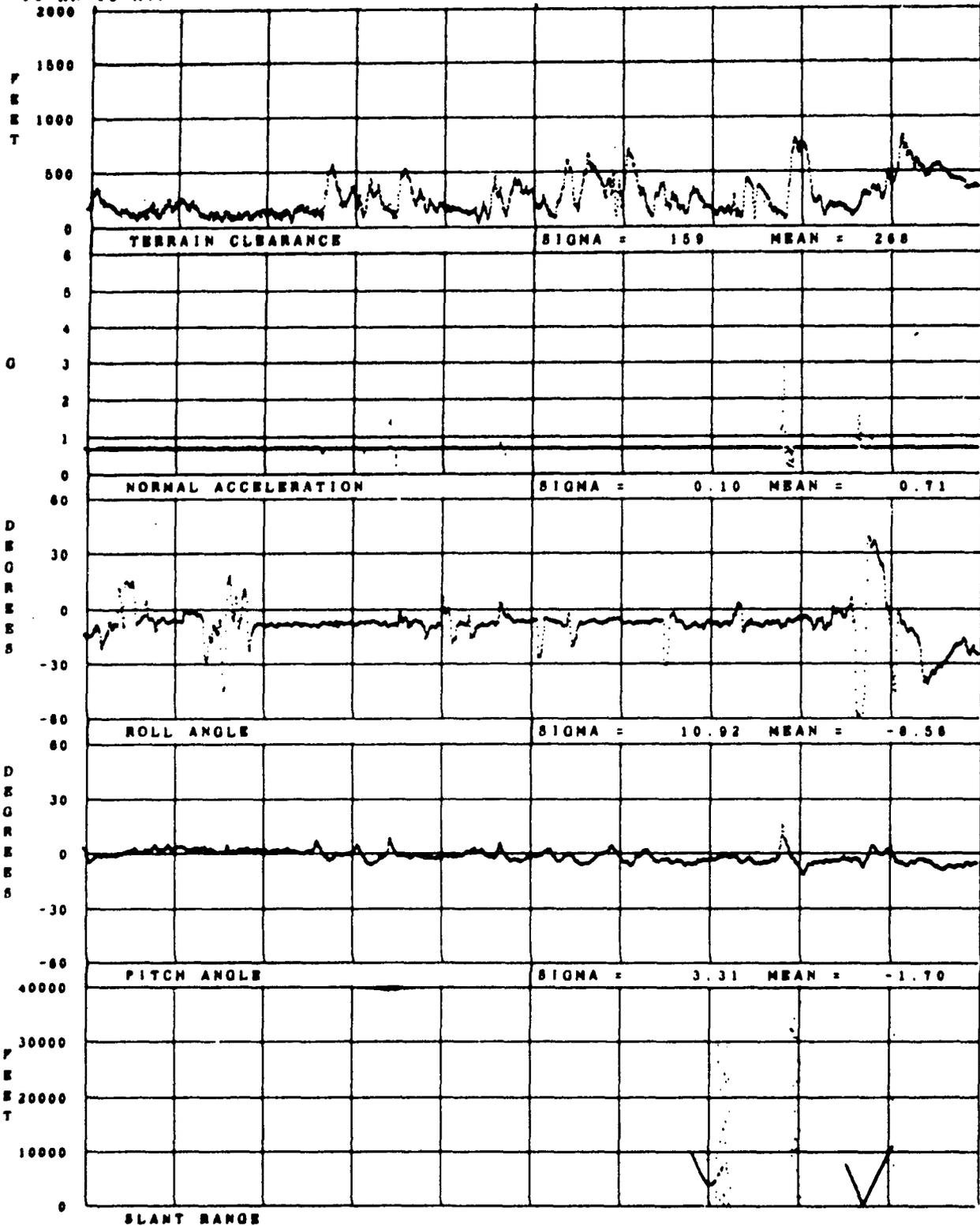
FIGURE 2-20 (U) TELEMETERED DATA (1 OF 5)

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15 HR 08 MIN

15 HR 13 MIN

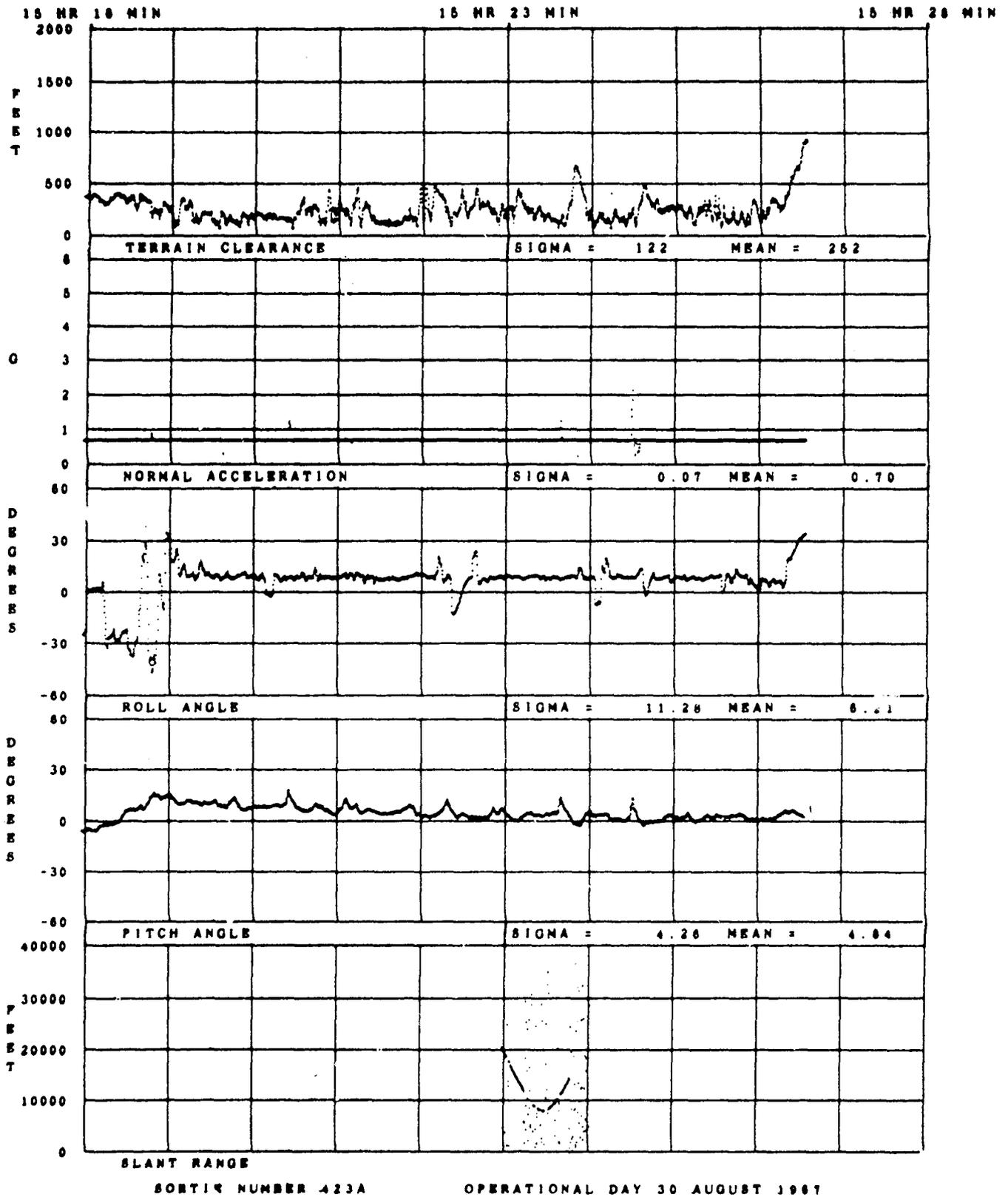
15 HR 18 MIN



OPERATIONAL DAY 30 AUGUST 1967

FIGURE 2-20 (U) TELEMETERED DATA (4 OF 5)

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SORTIN NUMBER 423A

OPERATIONAL DAY 30 AUGUST 1967

FIGURE 2-20 (U) TELEMETERED DATA (5 OF 5)

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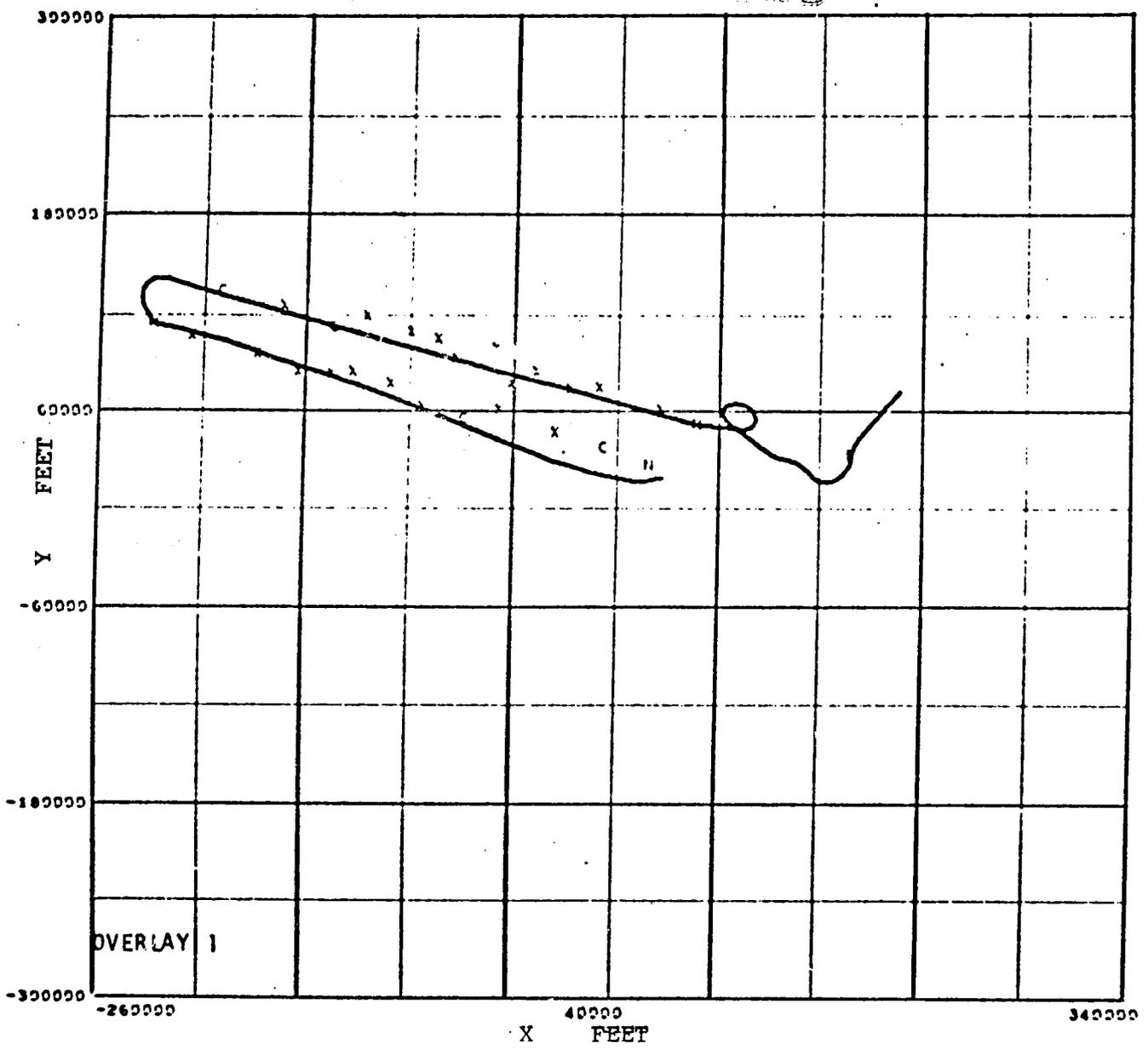
RPT TCI	TIME	REAL TIME TRANSCRIPTION	SORTIE 423A DATE 8-30-67
	15:08:51	I got some red smoke at 2 o'clock. Is that red? One o'clock, ah, I don't see it. Got it right over that little ridge line. I'll be damned if my eyes are giving up, but I don't see it. It's at 1, 1 o'clock. At 1 o'clock, huh? 2 minutes and 15 seconds. I don't know. We should be crossing now. I got it, I got it up here now.	
	15:09:13	Is that it? Yeah, we're a low on air speed. Yeah. Oh, there it is, there it is, got it? Yeah. We want to head that at 280, 277 right over it now, get on it now. Well we got 280 right on the money. Going into that baby.	
	15:09:31	Right over the smoke. Come on. 280. Roger, yeah, this way? And then we want to go that one this way. Rog, this one and a couple of (****) trees over there too. Okay, you're ready now, look. 280 degrees and holding, Roger.	
	15:09:48	06 departing N 1.	
	15:09:58	I'll look left, and you look right. Roger. Okay. I got 420 knots here. Roger, holding 350. Got a little town over there. Okay we'd get timing down here when, get this baby going here.	
	15:10:24	Nothing right back there. Did you hack us over that point? Negative, I'll hack now. You're late. Okay.	
	15:10:30	I see dirt road, but I don't see anybody here. Here's that high line wire and a road there, did you get that? Rog. High line wire. Good show.	
	15:10:45	Crossing another road. Rog. I don't see anything there. Okay. I don't see anything either.	
	15:10:51	280. (Mumbling)	
	15:10:53	Slow it down now right there a little bit.	
	15:10:58	Recheck for our time as we come along here. Okay. I think we're about 15 seconds off on the clock. I've got us on the map, incidentally. All right, very good. Looks fine, should be getting a road down here, a paved road. U. S. 28. . . 271. Is that it? Roger. I have a little stream. Roger.	
	15:11:25	Crossing a stream. Roger. Over this ridge, then a road.	
	15:11:33	And a road? Rog.	
	15:11:37	I'll be (****). I don't see anything down in here.	
	15:11:46	Pretty much on course, I believe, though, aren't we? 280? Yeah, should be. As far as that, as far as we look here. Road running parallel.	
	15:12:02	back down here again. (mumbling) Roger.	
	15:12:16	Okay, got a little community here. That's on the map. Rog, was there a railroad back there? I didn't see it. Okay.	
	15:12:27	I can't see through the (****) trees here. What time? Ah, 2 minutes.	
	15:12:36	That should have been our highway back there. Okay. I got it.	
	15:12:42	9, 80, we want to have. . . (mumbling)	
1	15:12:50	Rog, I have a, a circular group of truck off to the right about 5 miles. Ah, it's ah, let me find where that son of a gun. It's at Charlie Foxtrot 8-9.	
	15:13:02	All righty. About 6 or 7 trucks. All righty. Seemed to be in an open space. (15:13:09)	
	15:13:12	Another little road back there. Yeah. I don't see anything on it. Guess so. Negative.	
	15:13:23	Okay, should come up into a valley now, with a highway and a creek, with a little town off to the left. Okay. Look at that. Beautiful.	
	15:13:55	Looks beautiful. Here's the valley, but I don't see a town. Ah, it's probably about 4, 5 houses. Okay, we're crossing a. . . should be a bridge down in there somewhere. Roger. Crossing a railroad and intersection and a little bitty road. There's a railroad bridge on the left. Railroad bridge? Good.	
	15:13:57	Okay, you see anything else here? No. . .	
2	15:14:02	Rog, I have communications set-up. Good, and a. . . 3 trucks, 4, 5 trucks in a clearing by a stream at ah. . . Bravo Fox. . . correction Bravo Golf 0-4. (15:14:21)	
	15:14:25	Rog I got that one. Yeah, I got it. I think we're still heading 281. I got to get back, back this way there a little bit to the left. Anyway ah. . . Right. Come up I said about 278. We're into a valley. Over a ridge line. Good show. There should be a bridge up here in a small stream, I mean ah, yeah, a small stream and a. . . dirt road running through. Should be a spot.	
	15:14:51	Okay, I got the road, but I don't see the bridge. Just crossed it.	
	15:14:57	I'm out in the clearing here. How far are we from our ah, point, now? We ought to be a couple minutes. Rog. We're a couple minutes, exactly. From the end, right? Rog.	
	15:15:09	Okay, that's what I got.	
	15:15:14	That son of a gun, ain't nobody out here but us chickens. Okay. Come back to 280.	
	15:15:28	Oh, well, let me find myself again. Coming over a ridge line and a valley. Okay. Should have something in here. Easy place to put it.	
	15:15:35	Got some smoke to the left. There's big trees here. . .	
	15:15:43	Uh oh. Here it is. Right. Okay.	
3	15:15:49	APC's, got 8 of them. Parked at whoo, babe (laugh). Whoo man. Parked in a parallel rows of two at ah. . . Bravo Echo. . . 4-8. Roger.	
	15:16:07	Phantom 96. I forgot to put that in. Okay. (15:16:11)	
	15:16:14	Okay. is the APC's. Okay, got a high tension wire coming through this valley up here.	
	15:16:20	All righty. I think we ought to be coming up on our, on our van here in a minute. About 1 minute. We got 280 in. Roger. I think it's to the right of us here.	
	15:16:38	There it is right there, got it. Oh. . . What do we got? Okay, let's see what we got.	
	15:16:44	GCI site.	
	15:16:46	Okay, we got a GCI site. Passing over the GCI site now, Phantom 96. (15:16:48)	
	15:16:58	Rog, we got a 86 hundred. Okay, continue straight ahead. Yeah, we're coming to a highway. And we crossed the highway. Roger.	
	15:17:13	Okay, we got plenty of time to make this circle, so let's take it. Yeah! There it	

FIGURE 2-21 (U) VOICE TRANSCRIPT (1 OF 2)

RPT TG1	TIME	REAL TIME TRANSCRIPTION	SORTIE 423A cont. DATE 8-30-67
		is. We got gas, we're reading about 75 over 85 _____ . Okay. I shut the tanks off awhile ago. Okay.	
	15:17:35	There's a bird.	
	15:17:40	Okay. The one tomorrow, it should be easier. I hope we don't get Russia, (****) them. No, I was afraid we were going to get cut off when we got up there to Alpha, if we didn't going. Okay, ah, should be a small lake over in here. We got plenty of time. Yeah.	
	15:17:58	Right at the head of that lake up there. That's where we want to be. That lake up there. That's where we want to cross it, right.	
	15:18:12	Speed's at. . . Turn in now. There's the lake right there. Ah, or something. Yeah, man, I'm looking at it. There's the marker over on that hill there, see it? Yeah, I got it. Okay. Good speed and direction. Making a turn. Ought to be 090, or 080. 100. Oh (****). 100. Roger. That's what I was trying to say.	
	15:18:43	You see the. . . okay. . . Here's one marker right here, and here's the other marker right there. Okay, you got it? Did you call?	
	15:18:54	Roger, we're leaving N 3. Phantom 96.	
	15:18:58	(****) 100. 100. Rog. And we're set up again. 100.	
4	15:19:10	Hey, we're set. Off and running.	
11	15:19:23	Okay, I got a 430, 440. Roger, coming back.	
	15:19:27	Okay, we got a revetment. . . Ah. POL dump on the right.	
	15:19:31	Looks like about. . . you _____ . Yeah, I. _____ . That's affirmative. Thank you. Hit that (****) and I'm always so used to doing it, I can't help it. Yeah, keep an eye out up ahead too. Okay that was a POL back there. Did you get it marked on? Okay, I'll get it.	
	15:19:55	Roger, I'll get it. POL dump. . . for Phantom 96. 2 big rows of barrels. I don't know how many there were though. . . at a Bravo Charlie 07. Roger. (15:20:03)	
	15:20:05	There's a road right there. Good, good.	
5	15:20:12	Coming on back. Okay. Roger, we crossed a little bridge here and a highway. Rog.	
15	15:20:18	I have 2 trucks, 3 trucks, seem to be stationary, 1 APC. At. . . Bravo Delta 2-3. Roger. (15:20:30)	
	15:20:34	Phantom 96.	
	15:20:36	Okay.	
	15:20:46	(Humming)	
	15:20:54	We have a little valley here. Charlie Charlie area.	
6	15:21:00	Roger, I have 2 choppers. Ah, by an, the edge of a clearing with a small pond and 3 sheds. Several houses in the vicinity at Charlie Charlie 1-8. Roger. (15:21:18)	
	15:21:19	I saw a 2 choppers, but I didn't see any revetment. No revetment. Rog.	
	15:21:34	Correction, on that last one it was for Charlie Charlie 6-8. Okay.	
	15:21:51	(Humming again)	
	15:22:06	Should be a highway down below. With a railroad bridge to the left? Well, railroad, no bridge. Roger, on the left, on the right. We're little bit off course, I think here. That's all right. Get S 2 the right. Okay. Oh we do _____ this ridge. I can't see how well we would be but I guess we are.	
	15:22:34	Okay.	
	15:22:38	Ain't down there.	
	15:22:46	Ahh. Let's see.	
	15:22:58	Okay, come up over this ridge into a broad valley. Should have a stream with a highway, a small stream, and a town off to the right. Okay. 09. (Equivalents?) down there again.	
	15:23:21	Okay. Stream, small settlement and a road.	
	15:23:35	Don't see nothing but civies. No, I don't see anything either. Okay. (Humming) We got about 2 minutes left to go. Okay. _____ (mumble). Near the end there's a little bridge down there on that stream. I didn't see anything around it.	
	15:24:35	Uhm Bhaah.	
	15:24:38	Okay, right across that ridge line.	
	15:25:01	Road. About a minute left from the smoke. Okay.	
	15:25:06	It's going to be a son of a buck. I sure didn't see that. (mumbling) I didn't see. Er, well, I didn't see anything down there either. I want to see that SAM site _____ out here.	
	15:25:14	Guess we're right on. Most logical place for that SAM site was right after the N1. Should have been in there, but I didn't see it.	
	15:25:37	About 30 seconds to N3, or N4. Yeah, there it is. Should be. Sure don't see it.	
	15:25:47	That's a tower, isn't it? Rog, it's a tower.	
	15:25:54	There's a tower off to the left. It is, huh? Rog. Should be about that time. See if off to the left. Way over there? 9 o'clock. Right. Okay, I see (overtalk) degrees, that's all. Got to be it. Yeah.	
	15:26:13	I guess it does.	
	15:26:14	This should do it.	
	15:26:24	Phantom 96 is at parting _____ .	
	15:26:37	Negative.	
	15:26:38	End of transmission.	

FIGURE 2-21 (U) VOICE TRANSCRIPT (2 OF 2)

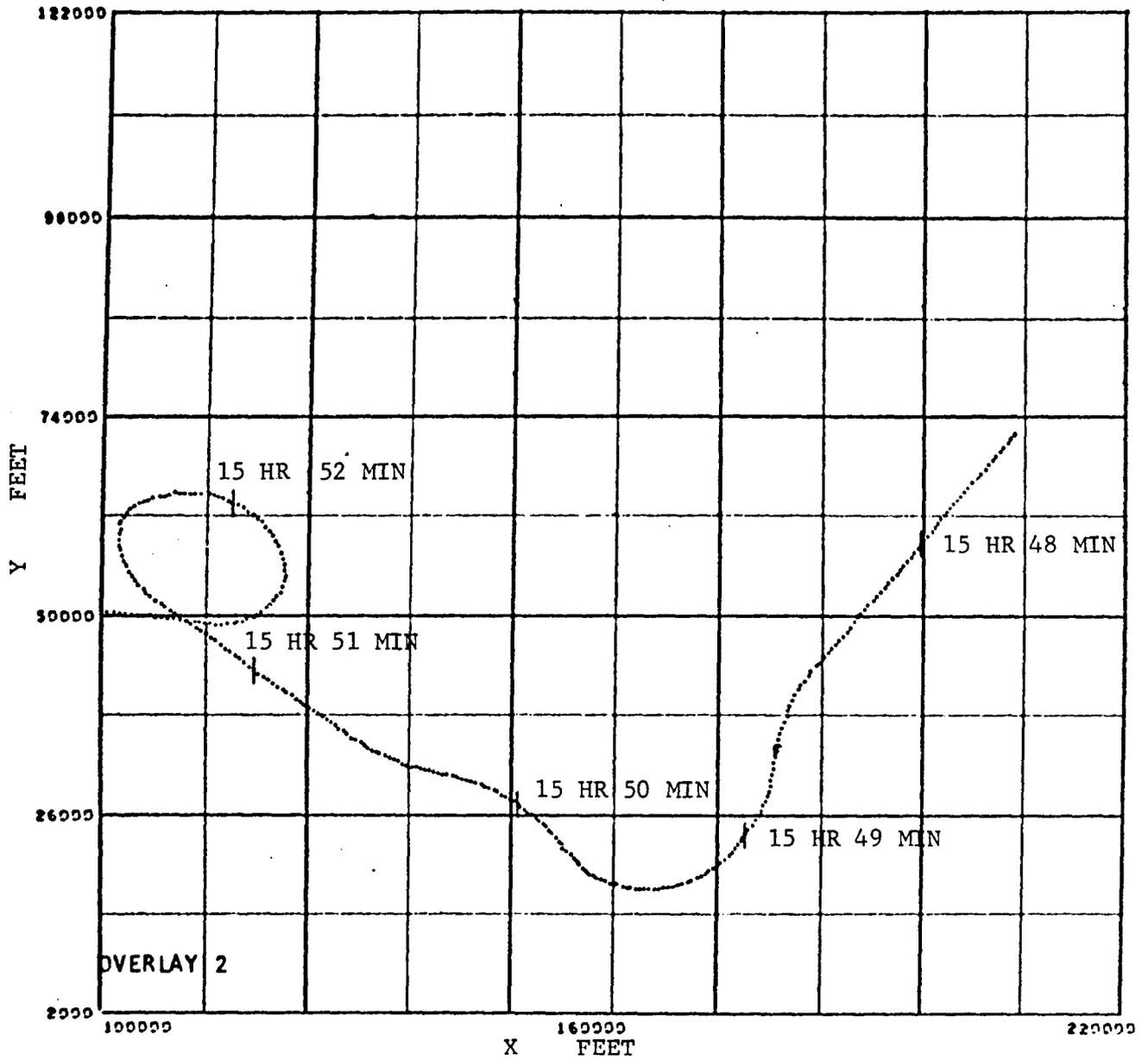
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SORTIE NUMBER 428
OPERATIONAL DAY 30 AUGUST 1967
NORTH COURSE
FIGURE 2-22
AIRCRAFT POSITION DATA (U) 1 OF 7

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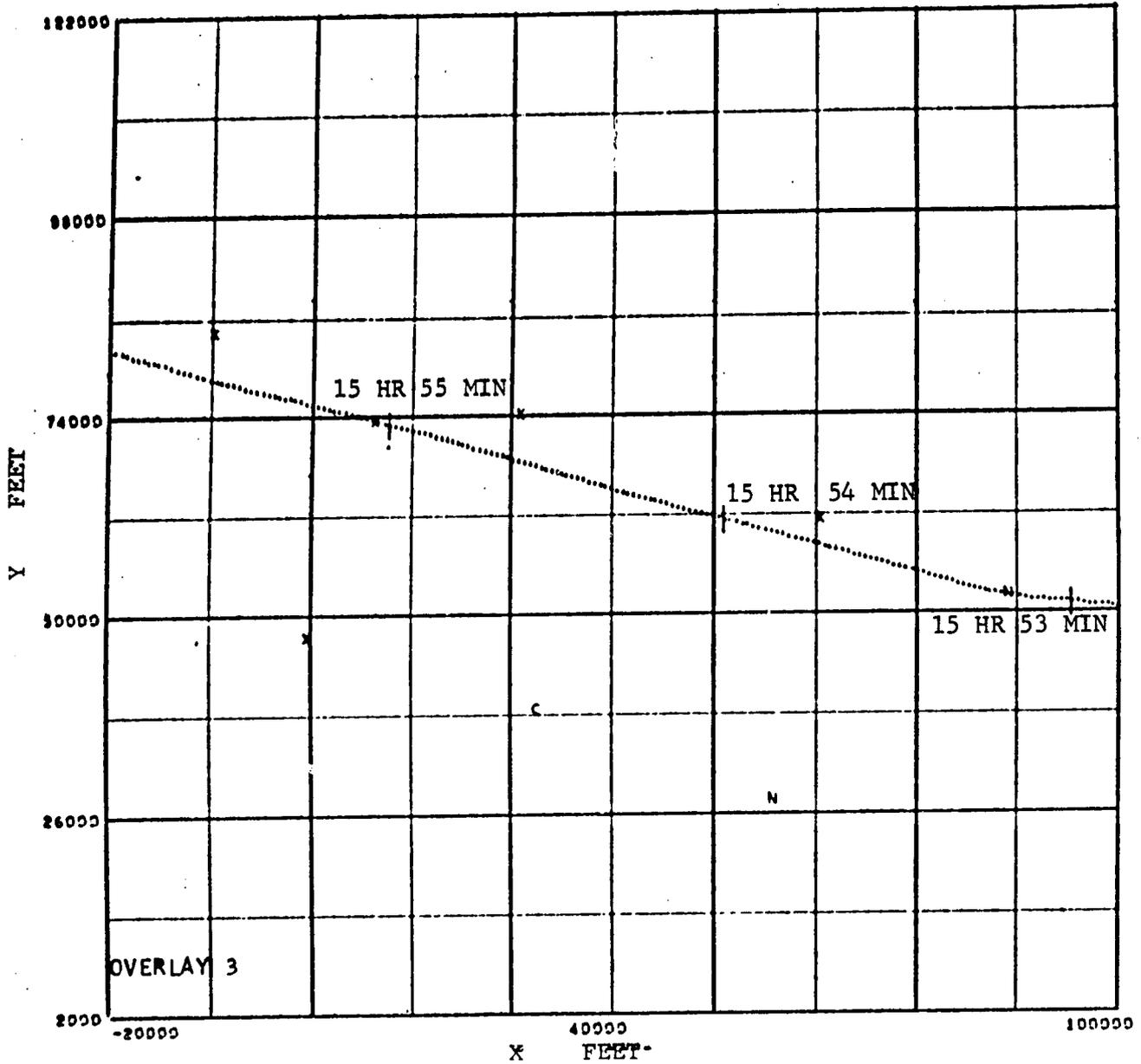


SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 2 OF 7

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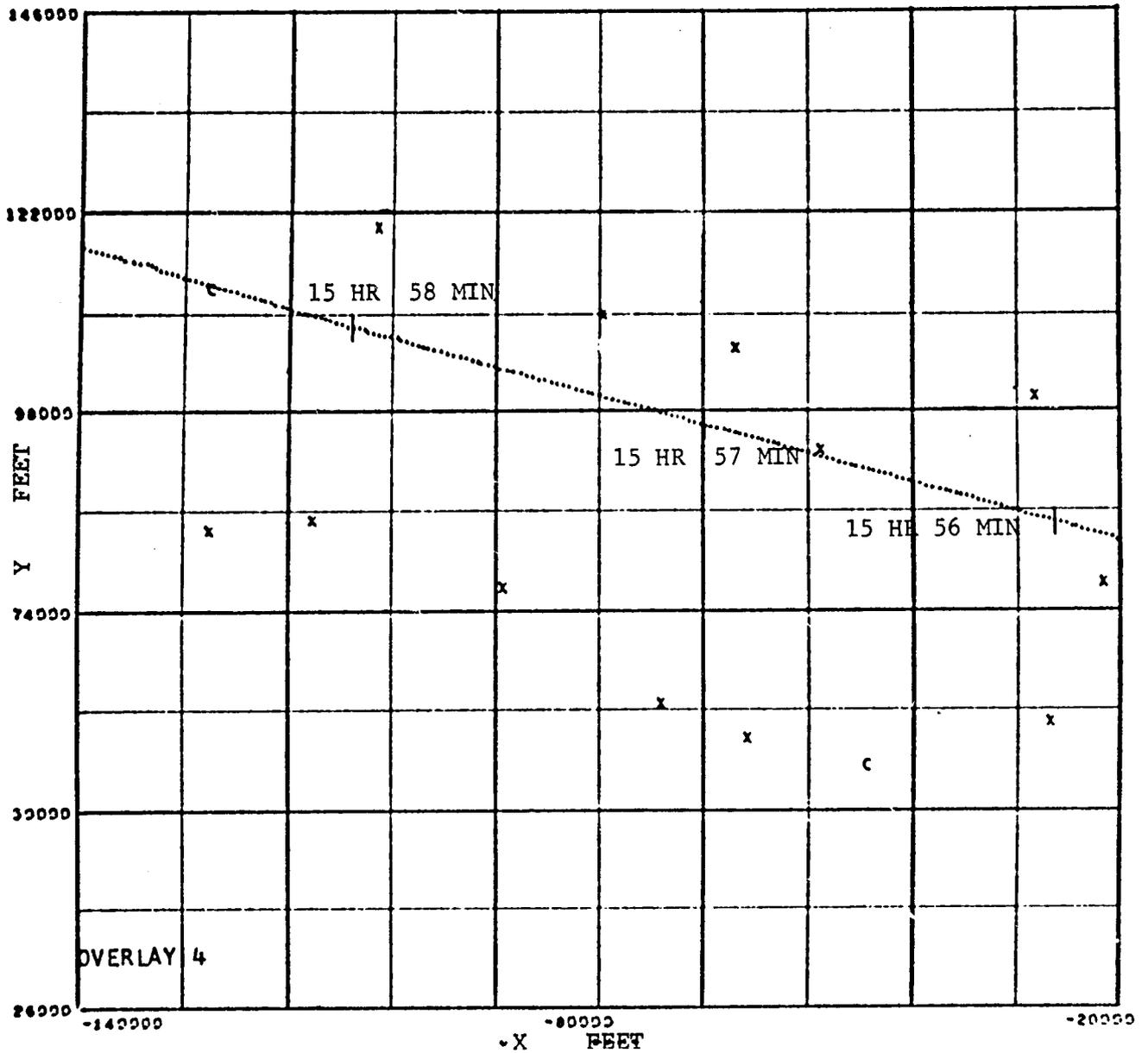


SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 3 OF 7

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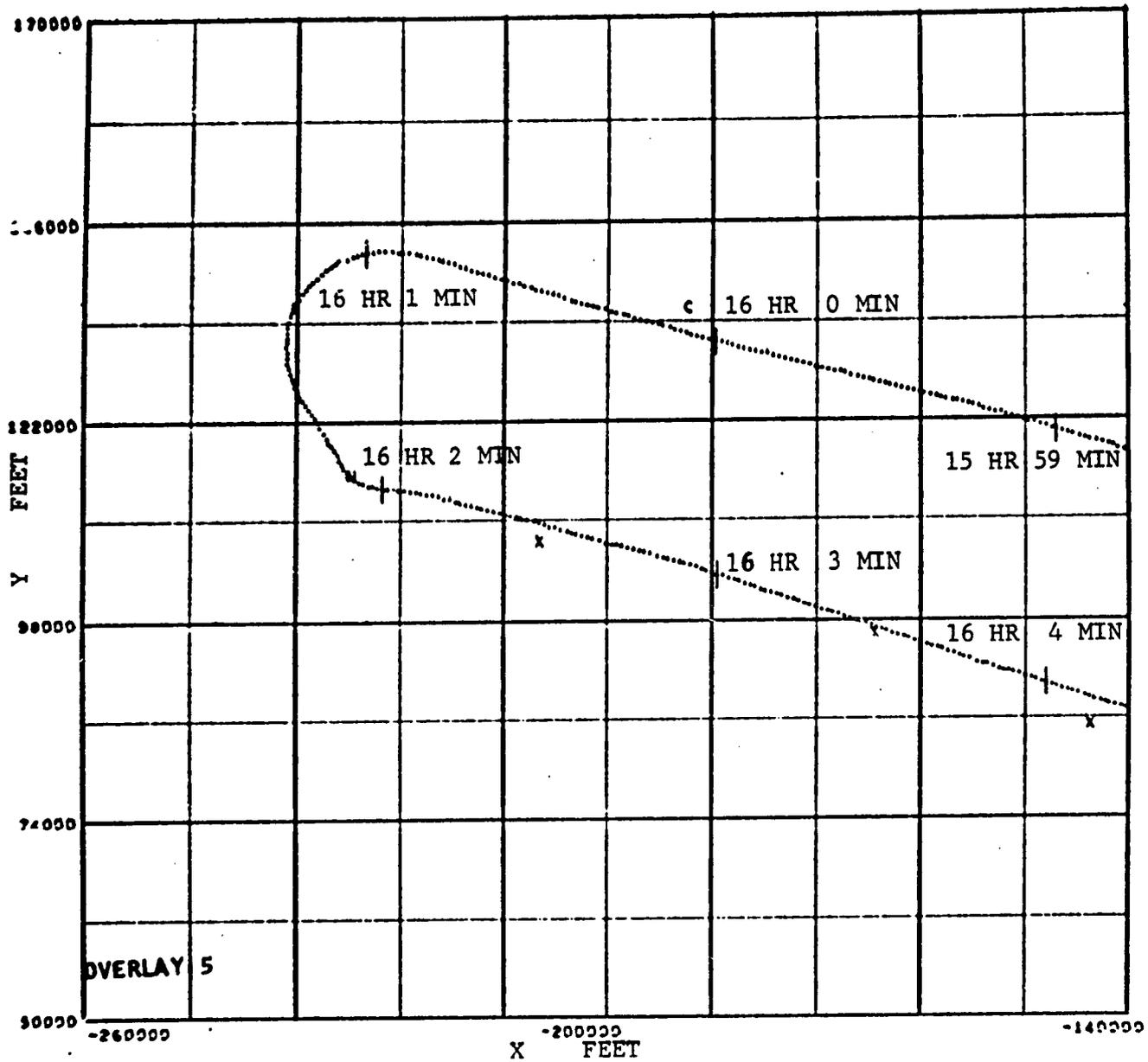


SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 4 OF 7

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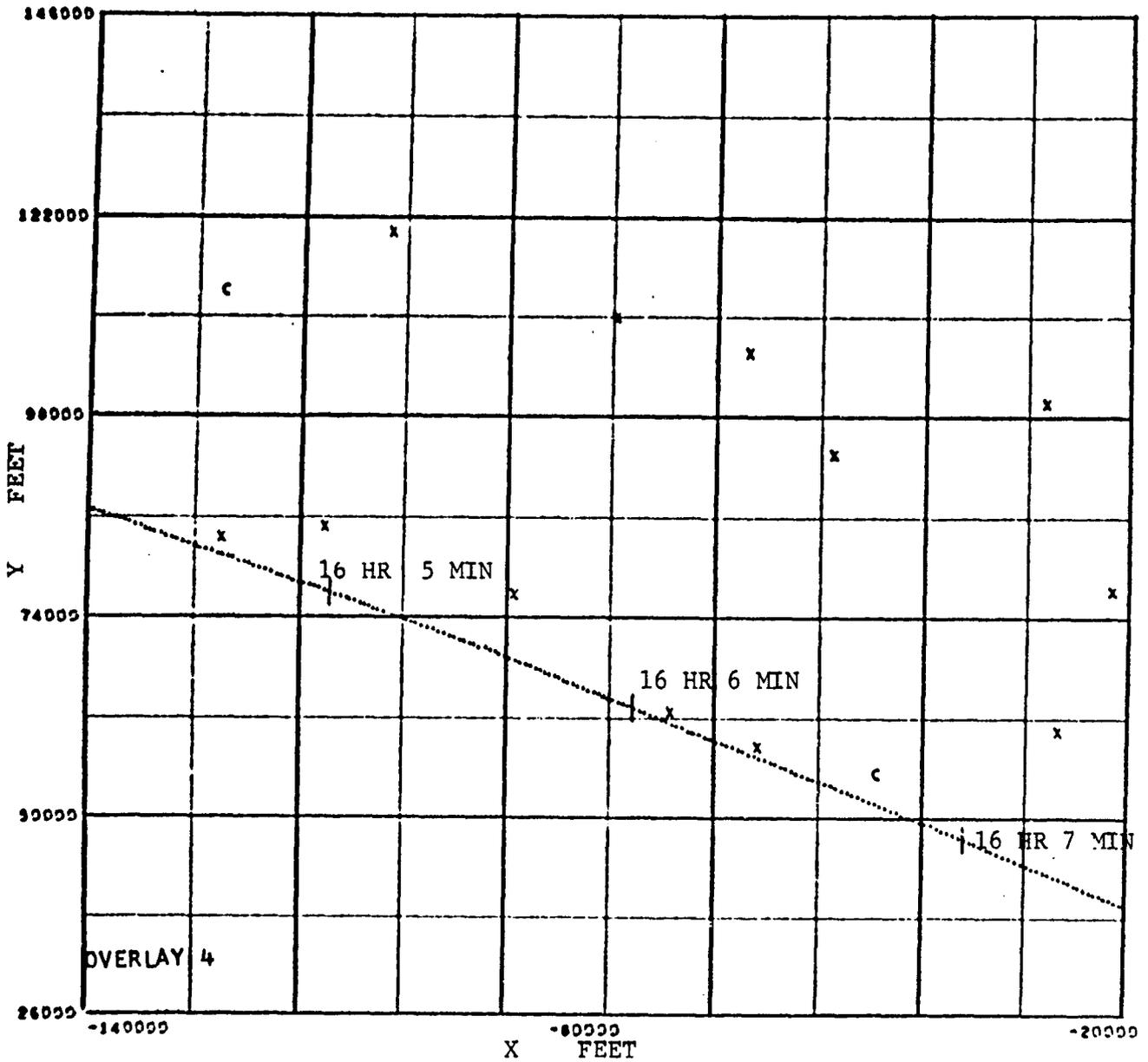


SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 5 OF 7

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UNCLASSIFIED

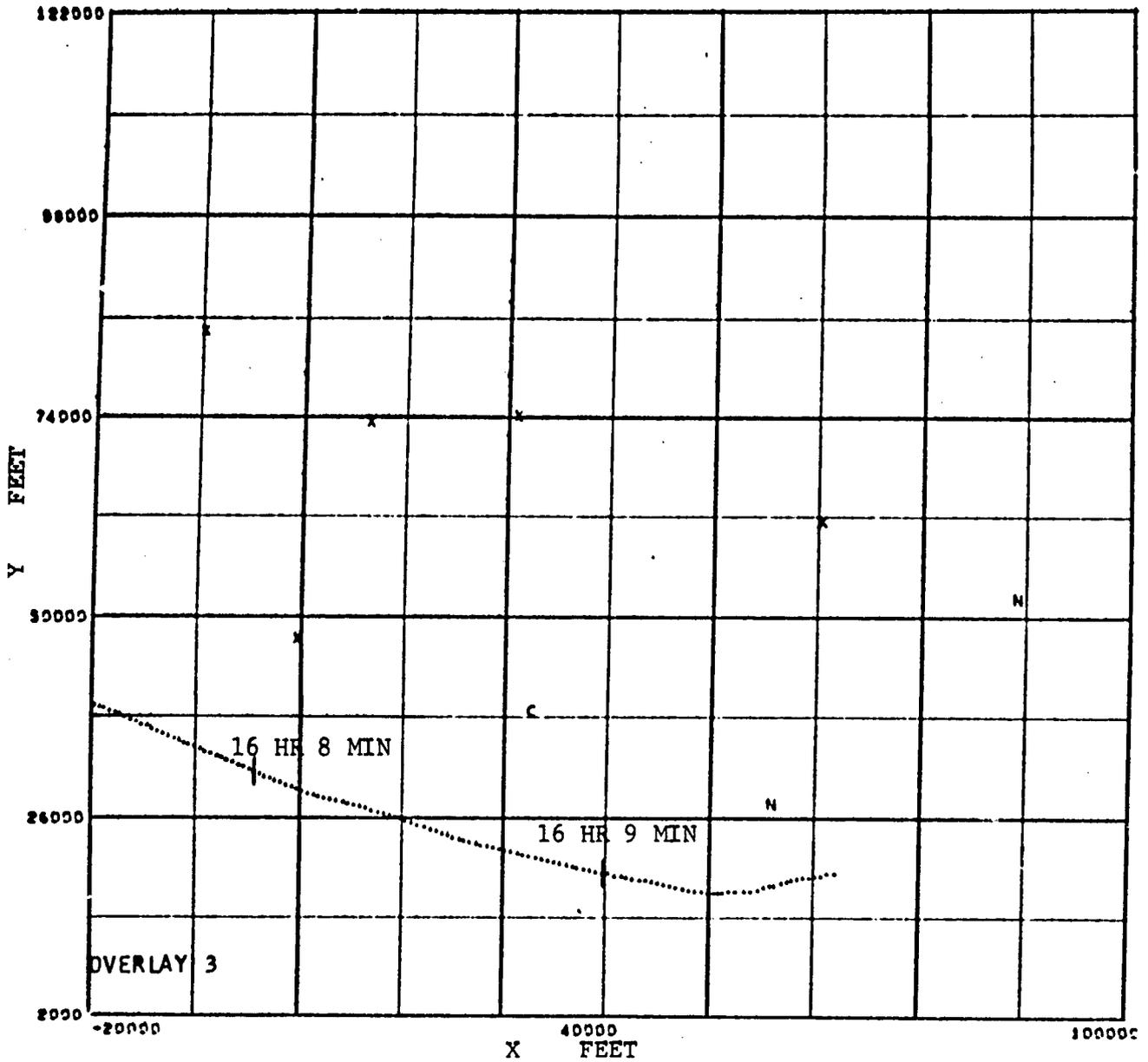


SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 6 OF 7

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 428

FIGURE 2-22
AIRCRAFT POSITION DATA (U) 7 OF 7

UNCLASSIFIED

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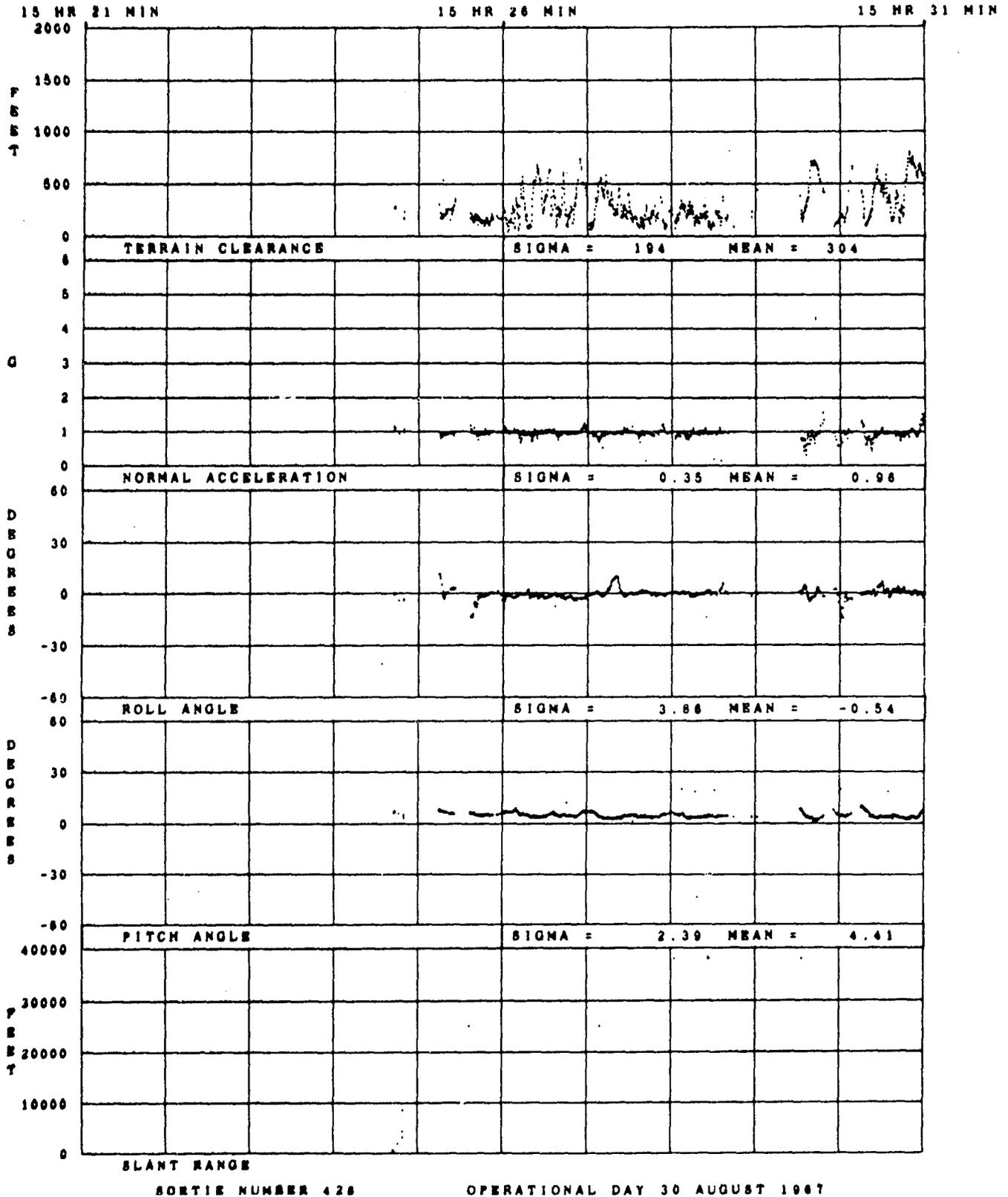


FIGURE 2-23 (U) TELEMETERED DATA (1 OF 5)

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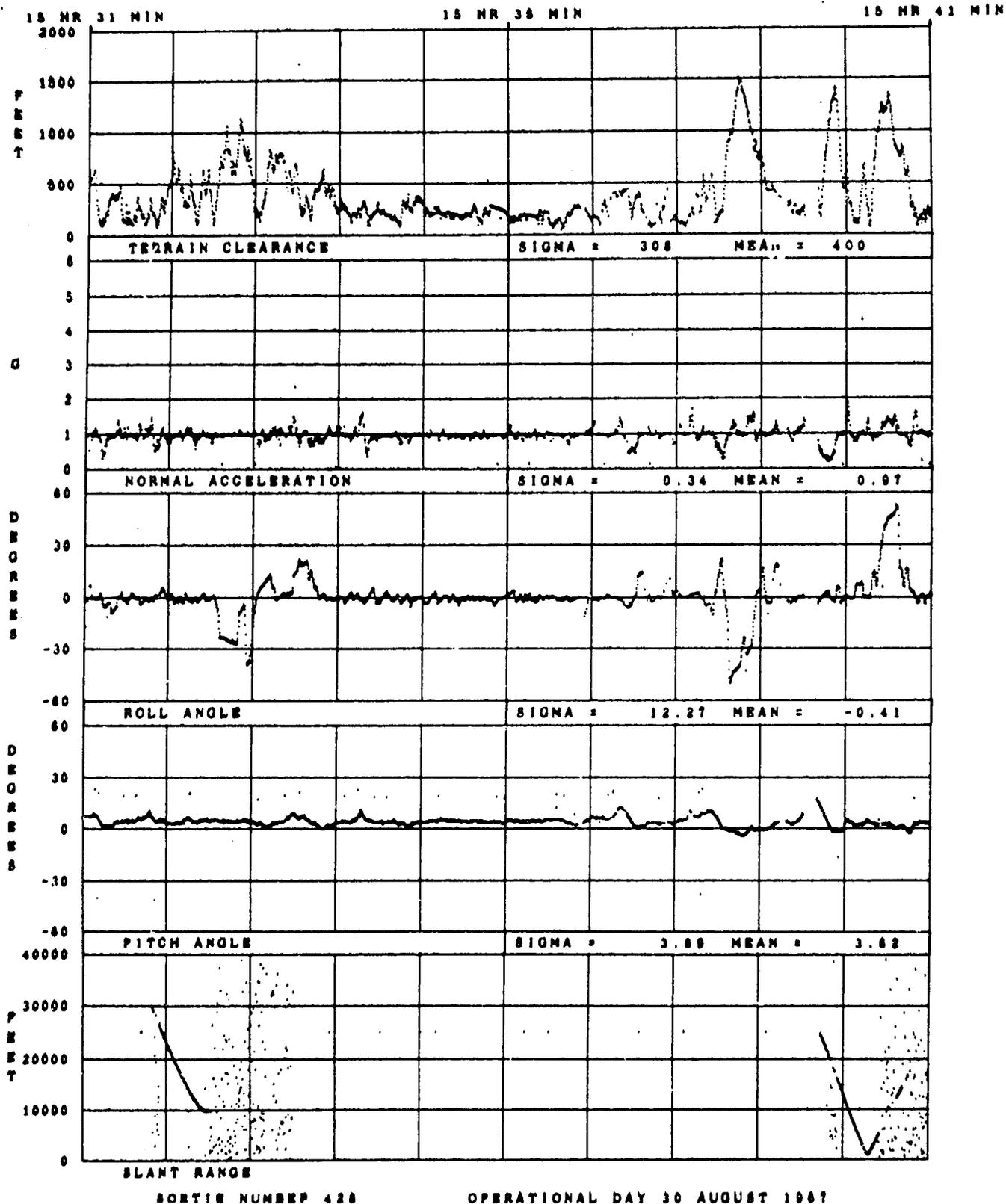


FIGURE 2-23 (U) TELEMETERED DATA (2 OF 5)

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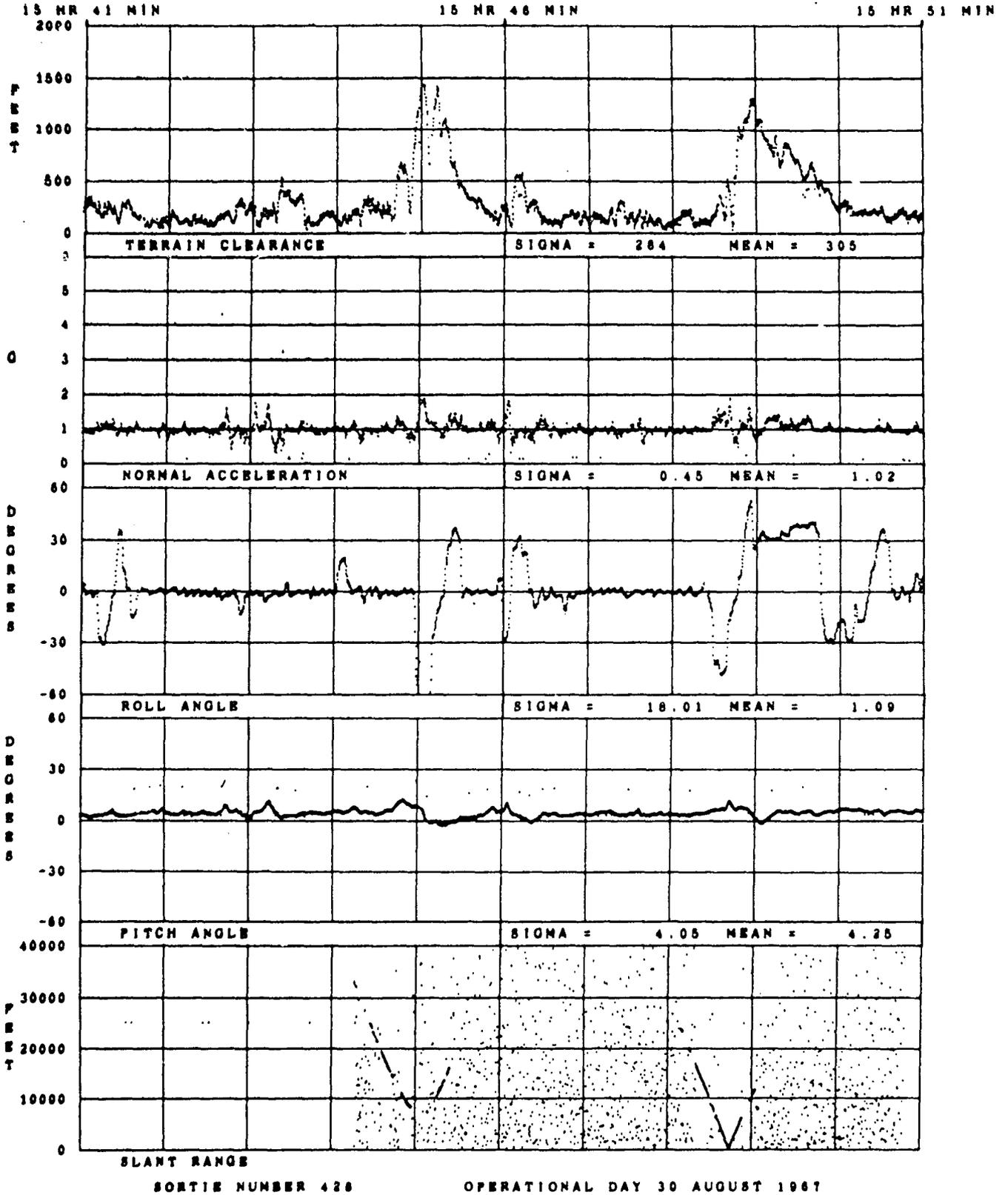


FIGURE 2-23 (U) TELEMETERED DATA (3 OF 5)

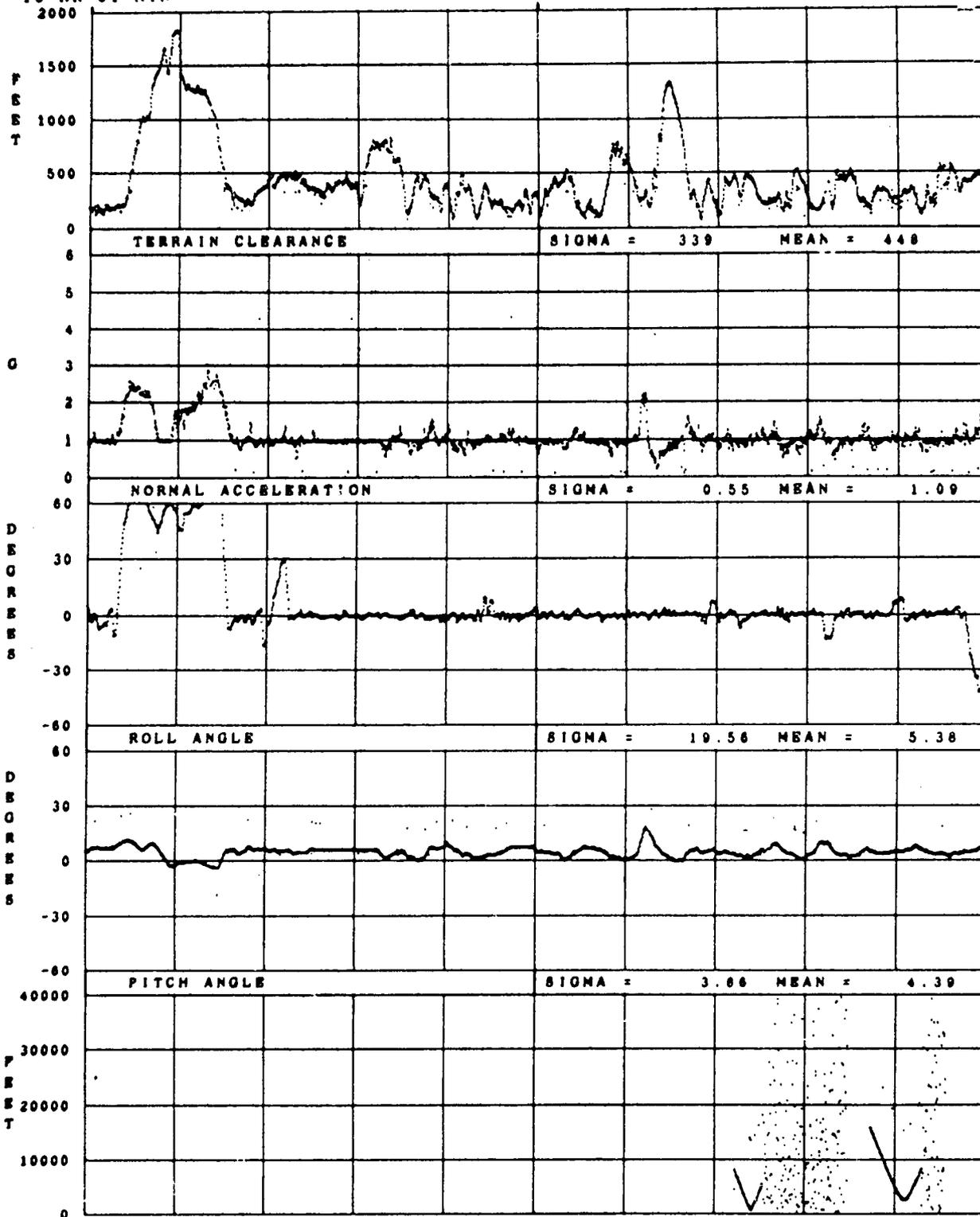
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15 HR 51 MIN
2000

15 HR 56 MIN

16 HR 01 MIN



BORTIE NUMBER 428

OPERATIONAL DAY 30 AUGUST 1967

FIGURE 2-23 (U) TELEMETERED DATA (4 OF 5)

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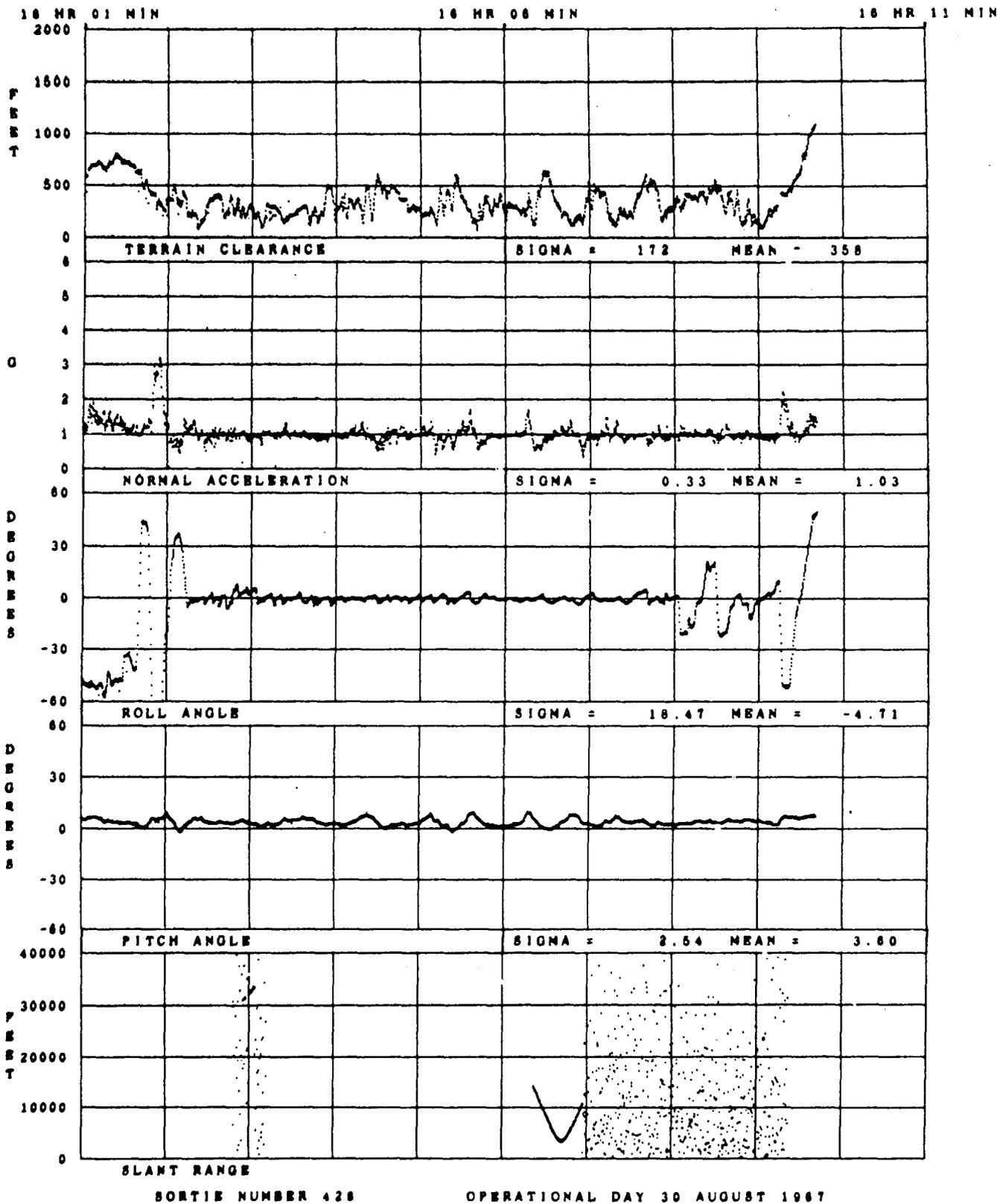


FIGURE 2-23 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

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RPT TG/TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 428
				DATE 8-30-67
		15:53:11	Ready, hack. Guess I was sleeping a little bit, but. . . Okay, we're at 1000 feet.	
		15:53:18	Timber 1, ah Phantom 70 North 1.	
		15:53:33	Okay, which side are you taking? Okay, I'll look to the left. Okay, I'll take the right then.	
		15:53:44	Okay, we're getting rain.	
		15:53:51	The hack was right over the bridge. Rog. Okay, there's our power line we just crossed. Okay, we're flying this right at about 400 feet on that altimeter. Okay. Got a dirt road off to the right. Left, to the right, and just cross it now. Rog.	
		15:54:16	That's a minute.	
		15:54:47	Okay, that's a minute and a half. _____ still nothing. We just crossed a river. Minute and a half, Rog. Looks good.	
		15:54:58	Should be coming up on a highway here shortly.	
		15:55:07	Coming up on two minutes.	
		15:55:13	Should be paralleling a highway off to the right. Looks good. Yep. Okay. Going off down the ridge line. Rog. We should be just a scoosh to the left. I mean we are a little to the left. Need to come back right. Rog. Not much though.	
		15:55:29	A couple of degrees.	
		15:55:38	Okay, another road now. Rog.	
		15:55:43	Was that a highway? Yeah, it was highway. Okay. Now here's another dirt road. Okay.	
		15:55:53	Looks like we're pretty much on.	
		15:56:11	Okay, a dirt road along the ridge line now. Rog. Saw a white car, but I guess that isn't an army target is it. Okay, we're on 3 minutes. Jeep trail, but I don't see anything on it. 3 minutes fifteen seconds.	
	1	15:56:27	Okay, that was right about right.	
	7	15:56:41	There's a missile site at ah Rog. Three o'clock. Had a Long John on it too. Yeah.	
		15:56:50	Number of trucks and that was at ah, three minutes forty seconds. Okay. Okay, Bravo Golf. Looked to me like they were about. . . five trucks in that clearing. Rog. And. . .	
	9	15:57:07	I see a revetted area, but I don't see anything in it. Ah ah coordinates. . . You just saw one? Yeah, it was at nine o'clock, okay four minutes. Where four minutes? Yeah, actually about three fifty. Rog. Okay, in that area, on the right or left. It was at nine o'clock. Nine o'clock. Roger.	
		15:57:32	Okay, that's a little too much juice. Fuel's good. Rog. But the air speed's not. Hee.	
		15:57:53	Okay, that Long John was pointed our way too. Just thought I'd. . .	
		15:58:07	I keep coming up off a ridge five minutes. That looks pretty good, looks pretty good for timing. Okay.	
		15:58:19	I'm don't, I don't show this road. Oh, yeah, I do too. Should have kind of a kink in this road. Okay, we got about. . .	
	211	15:58:25	Air field at nine o'clock. Rog. No planes. . . had ah three vans on it. Rog. (15:58:30)	
		15:58:33	Right of this ridge nine o'clock, just short of this kink in the road. Okay, Bravo Echo 7 8.	
		15:58:47	Right there in the valley with the road. Rog.	
		15:58:58	Okay. Coming up on six minutes should cross the highway.	
		15:59:20	Six minutes _____ about right.	
		15:59:29	Kind of warm in this beauty, yeah, gotta have so warm so I can see. Yeah. _____ at six fifteen. Shoulder harness really kills me, I can't see any, I can't move around the cockpit to see.	
		15:59:53	Okay. You want to one o'clock. We should be coming up on the N point. Okay. In about ah. . . just a few seconds.	
		16:00:04	Looking for a culvert. No. No. Sorry, GCI site. And you want to bomb it. The towers. . . _____.	
		16:00:19	270 8 point 1.	
		16:00:29	I don't see the GCI site, do you? No. Where was it in relation to the tower? 2000 feet. Ah forget that, (overtalk).	
		16:00:43	Okay, now. Okay, that's our. . . Look for a river here.	
		16:00:51	That's a 45. There's the smoke. Where? Nope, that's a truck, beg your pardon.	
		16:01:07	Okay. Should be going around, I don't see any roads at all on this dude. Cemetery, it should be in the inside of our turn. Nothing.	
		16:01:24	I look off to the right, that should've been it. Ah Roger, no joy.	
		16:01:37	This is a 45 turn, sir. I got one of the pylons. Oh, you do?	
		16:01:47	Okay. Okay, tallyho right there. Okay.	
		16:01:54	Phantom 70 N3.	
		16:02:00	Okay. (cough) I got hack coming here.	
		16:02:15	Did you get a time hack? Rog. Okay, good, I didn't. Okay, we're coming up on thirty seconds.	
		16:02:22	Now. Okay, let me know at one minute. Okay.	
	314	16:02:29	I got a truck convoy. Storage. Storage? Storage area up on the right up at three o'clock. Looks like about three hundred drums, yeah. Okay. What's the time now? Okay, that was at ah thirty so it'd be right here. Okay. Ten seconds till one minute. Okay. Did you have anything on the left there that you saw. . . No. Let me know about the one minute. Rog. 2, 1 hack. Okay. Very good, thank you. (16:02:56)	
		16:03:12	See, that was about Baker. . . Baker Baker 5 5 ah, you still taking the right?	
	415	16:03:29	Okay I have two tanks, in revetments and a looked like an armored personnel carrier and that was it, right now. . . There right should hit a road. Uhm! That was one minute forty five. Okay, good. (16:03:48)	
		16:03:49	Guy plowing his field out there. Hmum!	
		16:03:56	Okay, coming up on two minutes here, now let's see. . . That looks good.	

FIGURE 2-24 (U) VOICE TRANSCRIPT (1 OF 2)

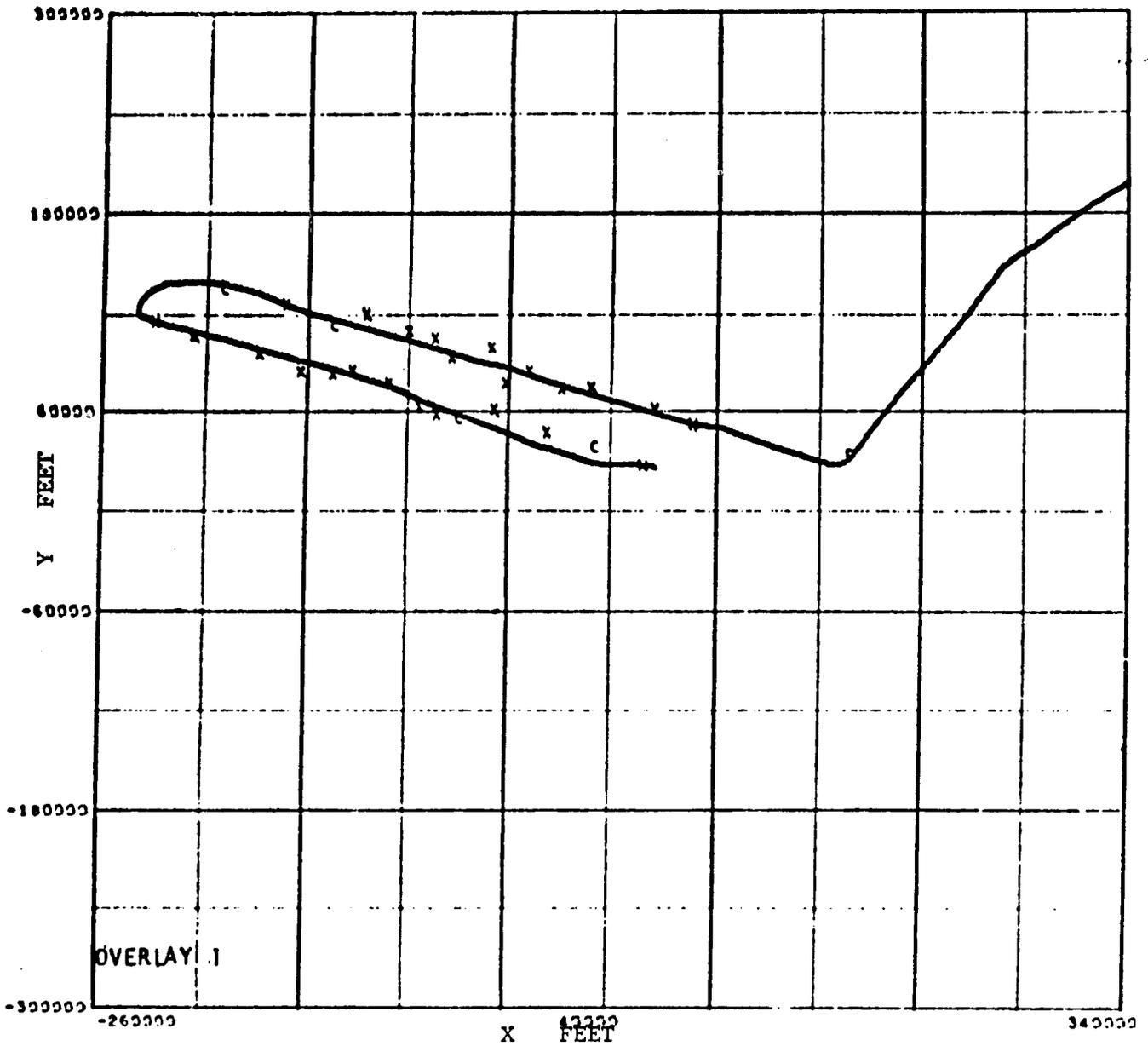
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RPT TG/TOT		TIME	REAL TIME TRANSCRIPTION	SORTIE 428 cont. DATE 8-30-67
		16:04:05	Okay, Baker Dog, 1 3.	
		16:04:15	They were fake tanks, hee hee, if that means anything.	
5	17	16:04:37	Okay, I've got ah personnel carrier, and a bridge and there is three trucks, that was at ah one forty five er ah two fifty, two forty five. Two fifty. I'm sure that'd be right in here.	
		16:05:01	The bridge ah. . . those are crossing a stream and it was at, I saw 'em at nine o'clock. Rog. (16:05:07)	
		16:05:11	That was an armored personnel carrier _____ Charlie Charlie ah, about 6, correction about 8 8.	
		16:05:33	Nothing.	
		16:05:38	Okay, we're coming up on four minutes. Okay. We just crossed a railroad tracks. No I didn't see one. I didn't notice one either.	
		16:05:50	How'd we miss the railroad tracks? Okay, I'm a little slow.	
		16:05:57	Four minutes fifteen and a ridge. _____ stream. Okay, looks pretty good.	
6	20	16:06:05	I got a truck in a field. Two trucks in a field and guns. That was at nine o'clock and that was at ah, three fifteen, or my clock, four fifteen. Okay, Rog. Okay, Charlie Echo, 3 3. (16:06:21)	
		16:06:27	I still haven't seen any SAM site. I haven't either.	
		16:06:34	I guess if you can't find N2 you can't find, expect to find the SAM site. Hee hee. Okay, why don't we just. . .	
		16:06:43	Here's the road now. And a road. Dirt road. Rog. Thirty seconds. Okay, we're slow. About twenty seconds slow. Are we, okay, well, just add that on to your time.	
		16:07:06	Okay, that's five minutes. Ah no, we're, we're in good shape, beg your pardon. We're on time? Yeah. Okay. I was in the wrong place.	
		16:07:22	Thirty seconds, pick hack. Pick mark. (Beating me up?) _____ Okay coming up on six minutes, about five thirty now.	
		16:07:36	Should be a tower off. . . Tower off to the left of our course about one mile.	
		16:07:44	What kind of a tower? Observation tower. Left or. . . Cloudy tower to a what? Cloudy tower's the name of it. Just a little observation. You know, forest fire type. Okay, I don't see one. I don't either.	
		16:08:07	You spot it. No. Little bit off heading there.	
		16:08:18	Here we come on a stream. Five and a half, and a half.	
		16:08:29	Couple dirt road. _____ minutes. Okay, should be coming up on our checkpoint here.	
		16:08:37	Right shortly. See that tower. In sight.	
		16:08:47	I see a tower that's your target. That's N4, target if you can find it.	
		16:08:56	No I don't see one. I don't either.	
		16:09:03	Okay, is that it, off at 11 o'clock? Lookout tower, see if you see three white buildings, okay, there it is. Where? Off to the left, out at nine.	
		16:09:24	Ah (****). _____ yeah.	
		16:09:33	Timber 1, Phantom 70 N4. Going POD Option 1.	
		16:09:41	(End of transmission).	

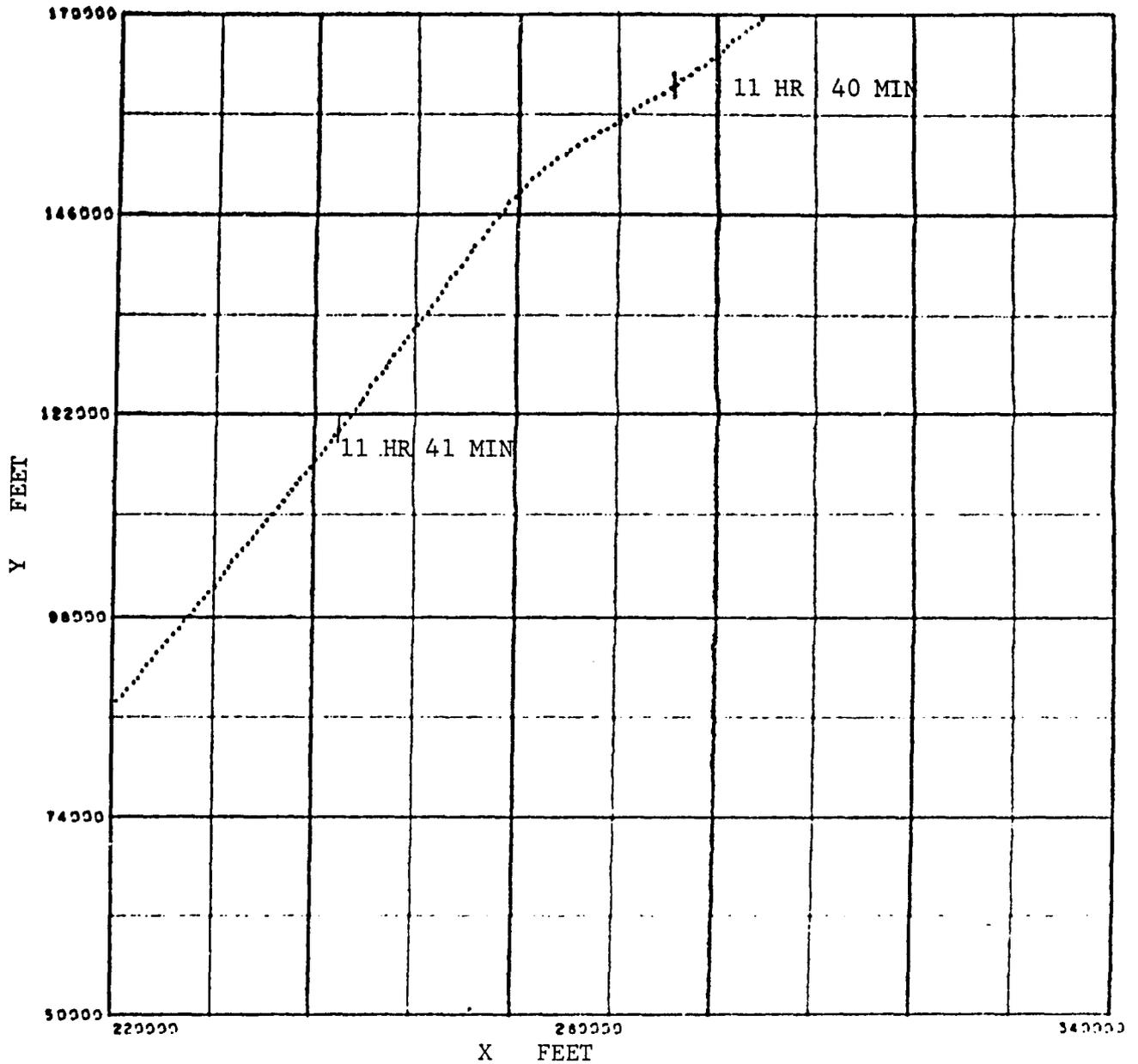
FIGURE 2-24 (U) VOICE TRANSCRIPT (2 OF 2)

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SORTIE NUMBER 442
OPERATIONAL DAY 2 SEPTEMBER 1967
NORTH COURSE
FIGURE 2-25
AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

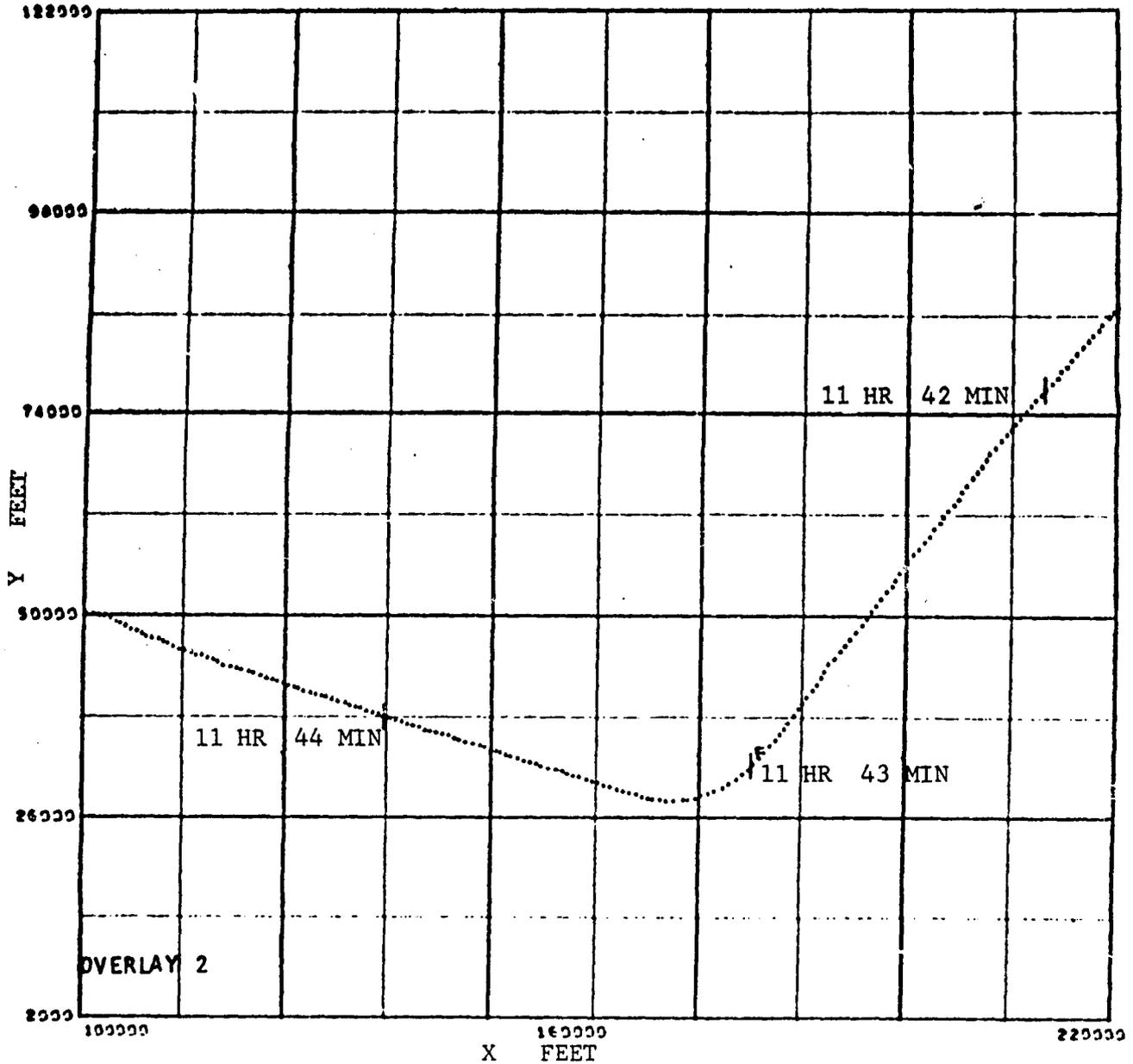


SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

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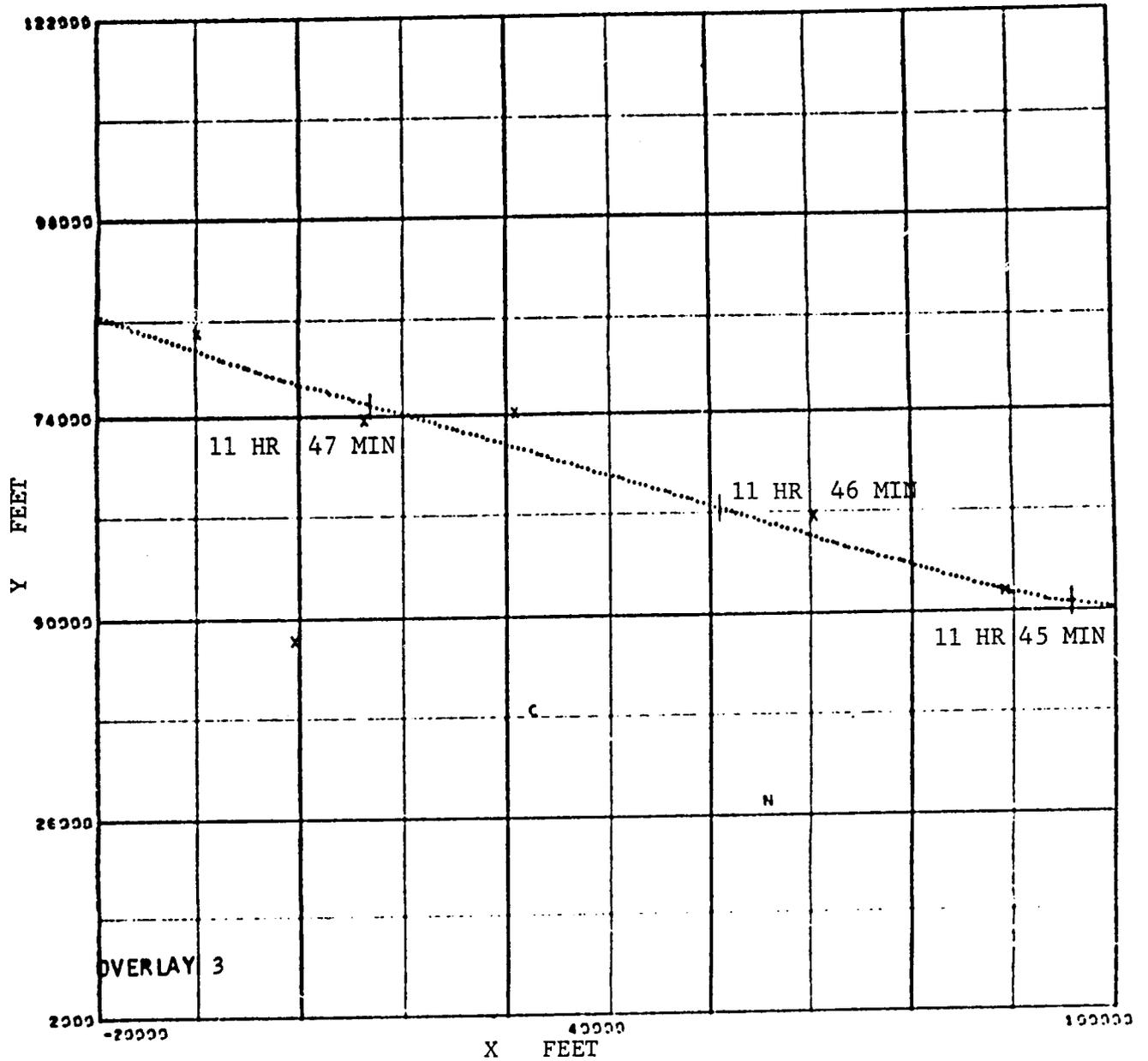


SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 3 OF 8

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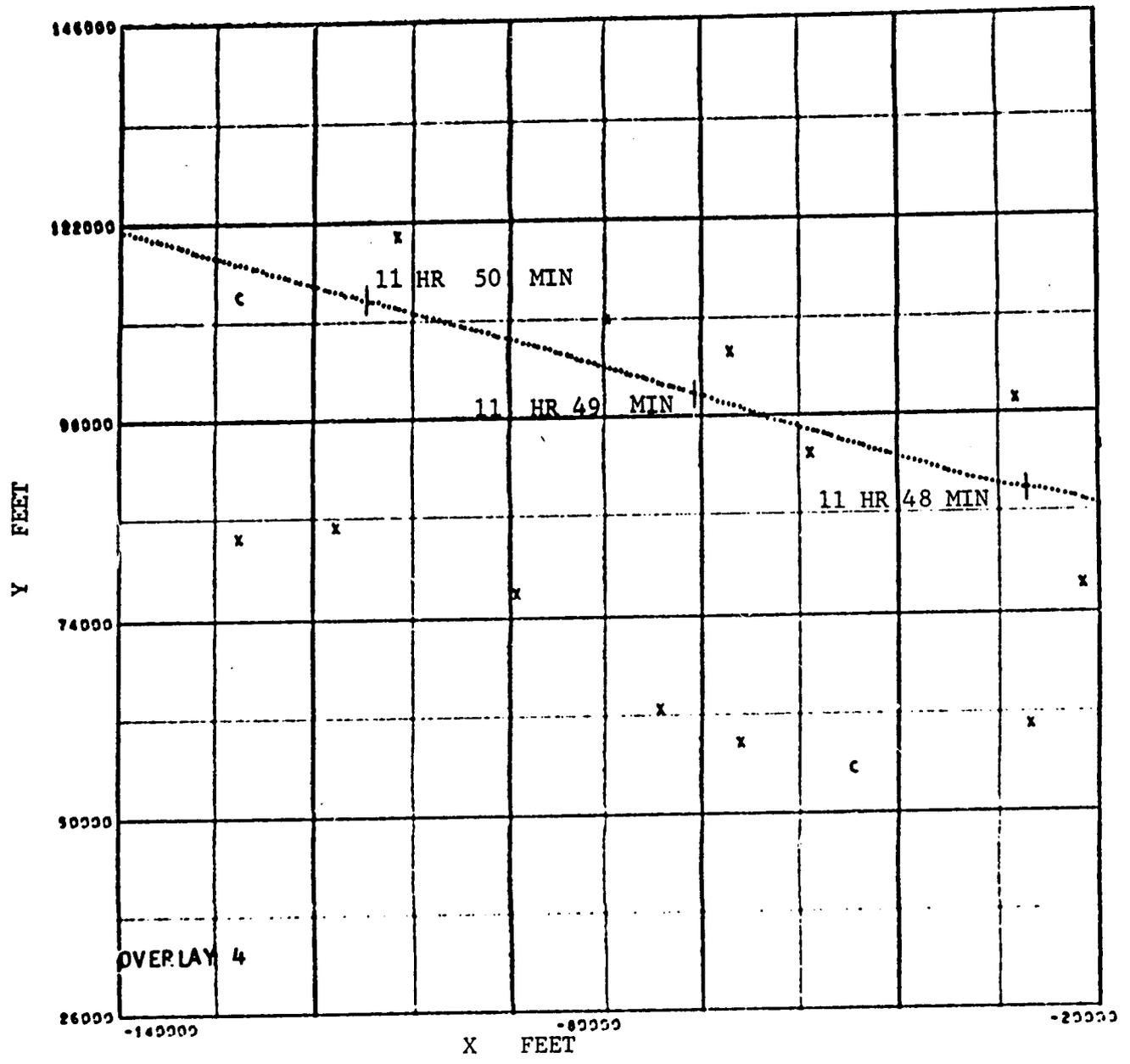


SORTIE NUMBER 442

FIGURE 2-25

AIRCRAFT POSITION DATA (U) 4 OF 8

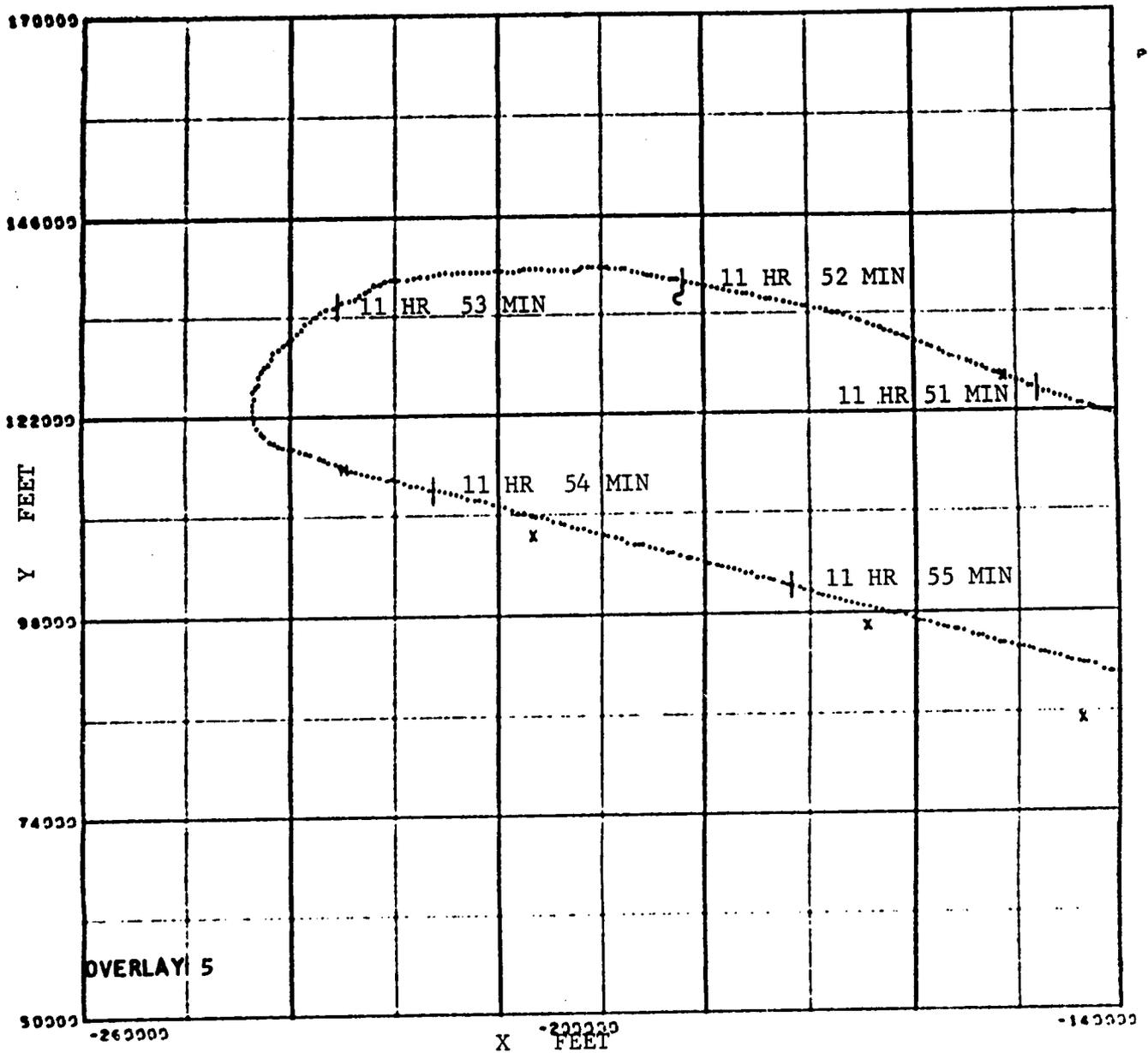
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SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 5 OF 8

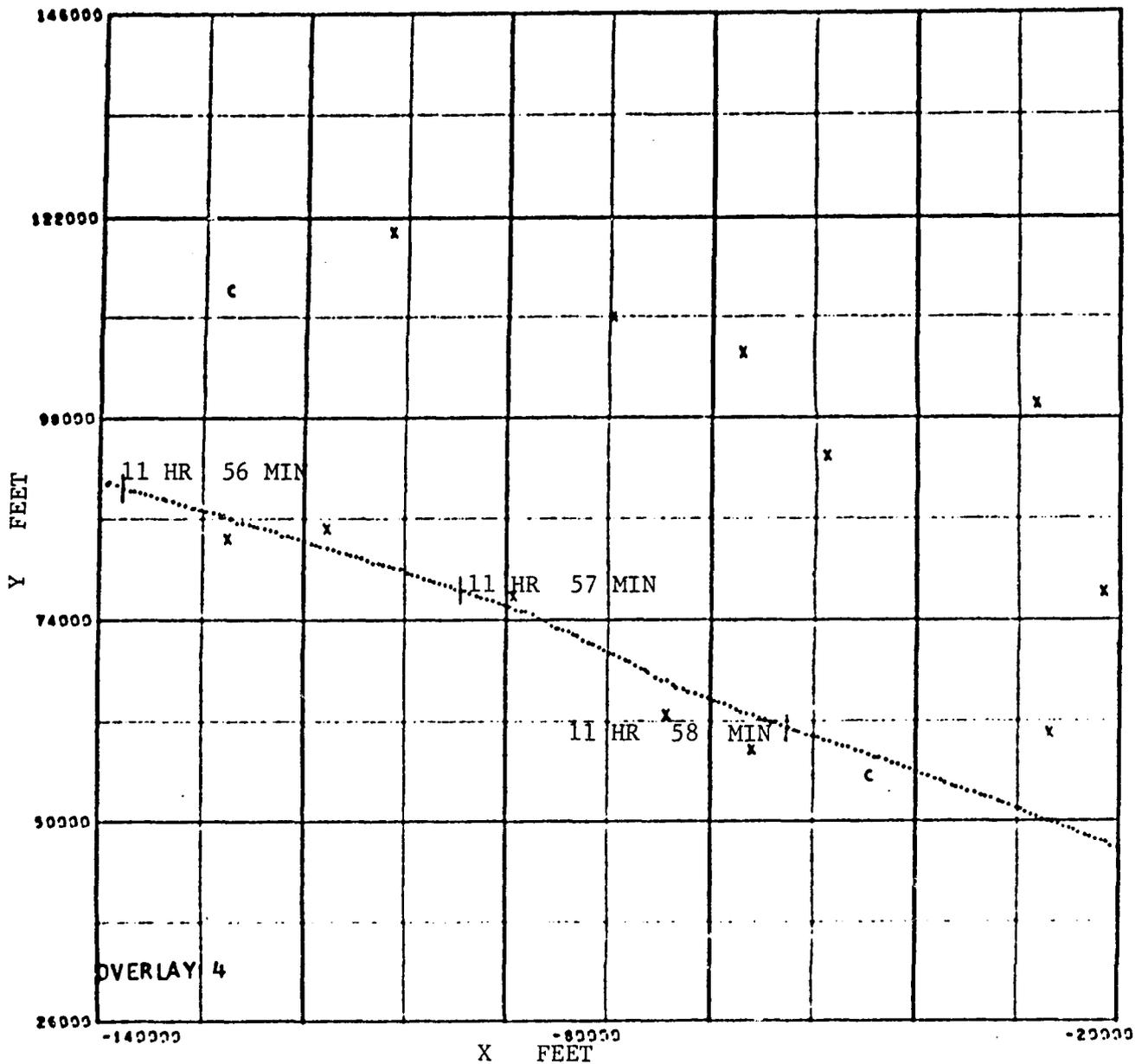
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SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 6 OF 8

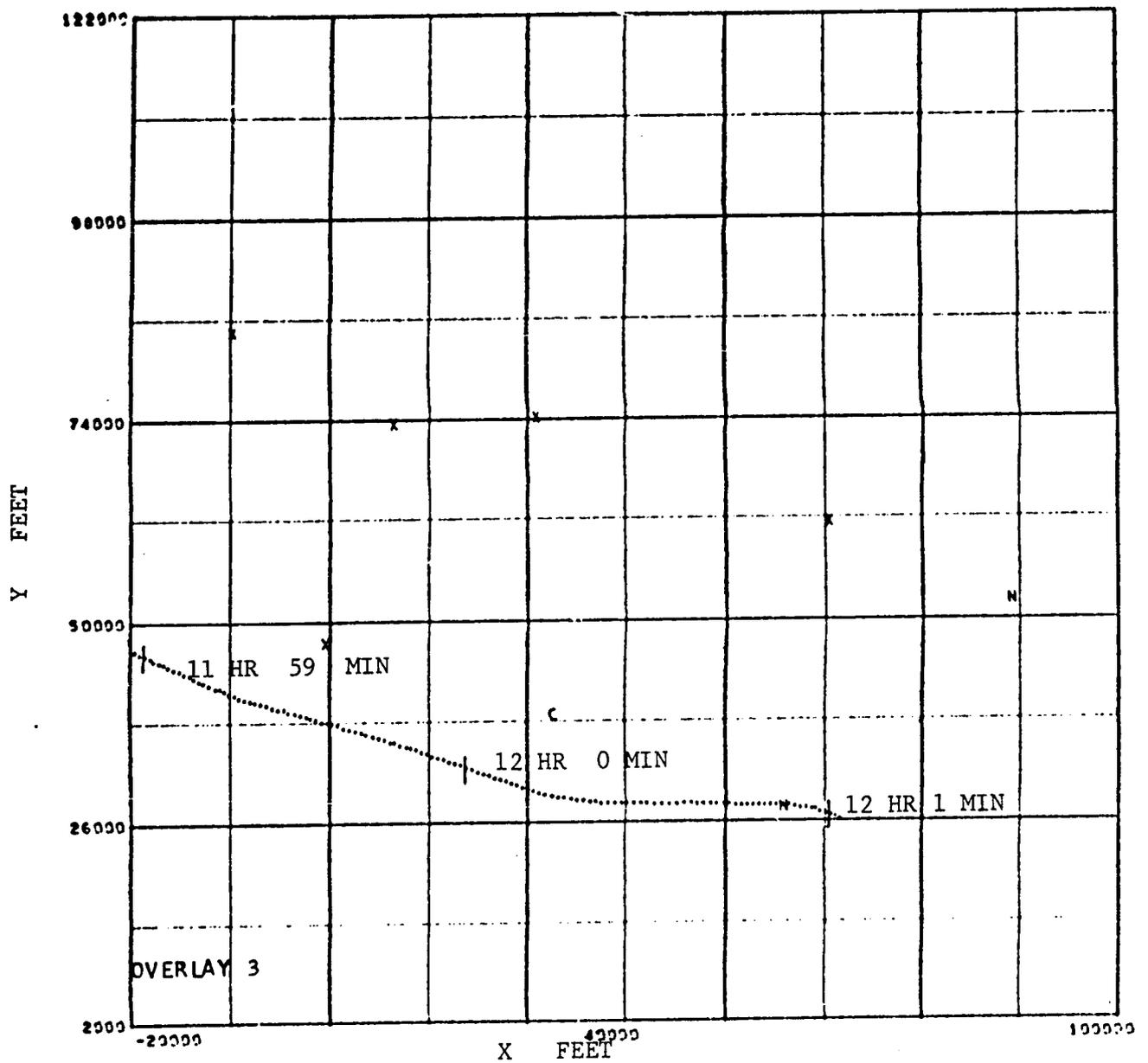
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SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 7 OF 8

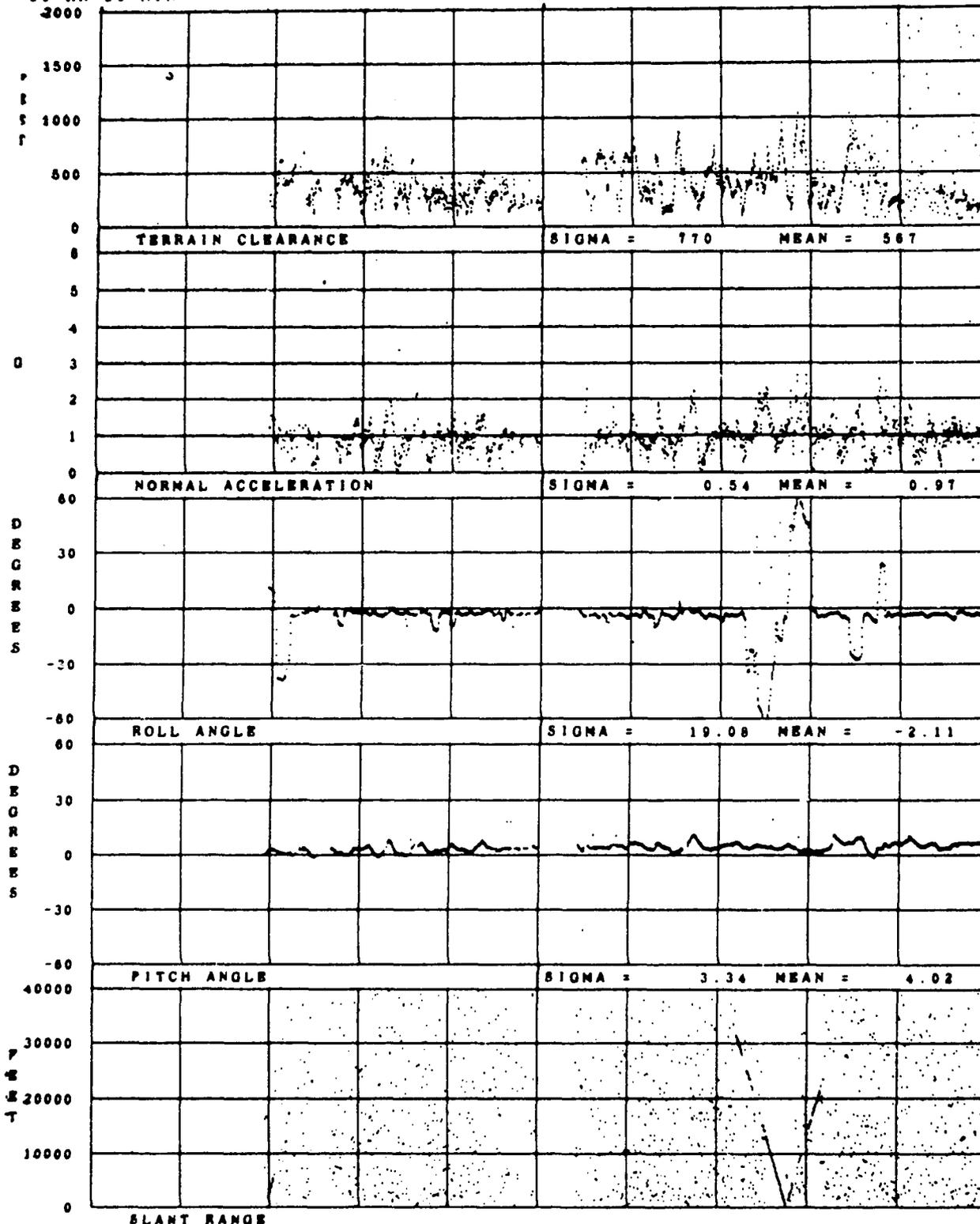
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SORTIE NUMBER 442

FIGURE 2-25
AIRCRAFT POSITION DATA (U) 8 OF 8

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SORTIE NUMBER 442

OPERATIONAL DAY 2 SEPTEMBER 1967

FIGURE 2-26 (U) TELEMETERED DATA (1 OF 4)

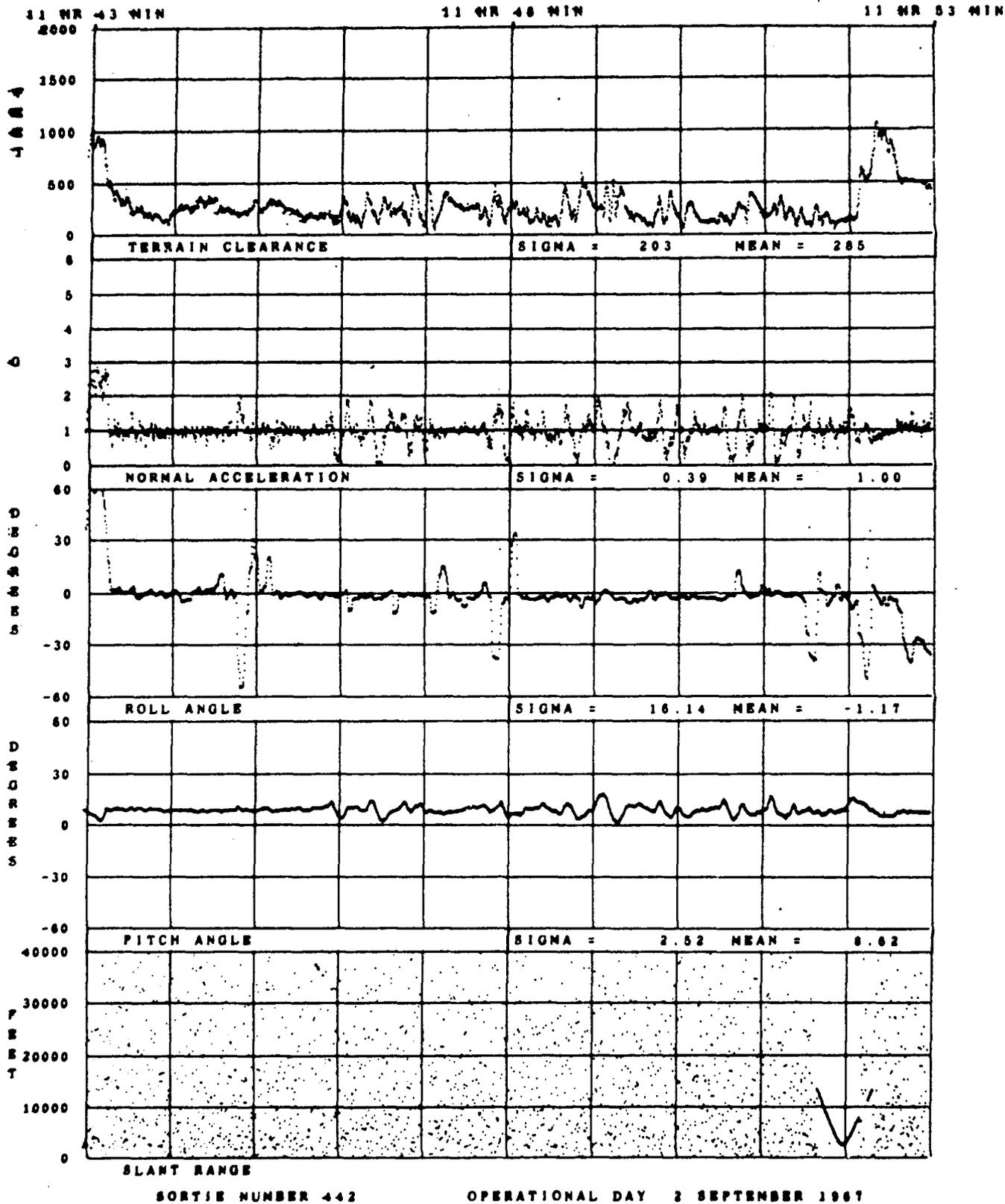
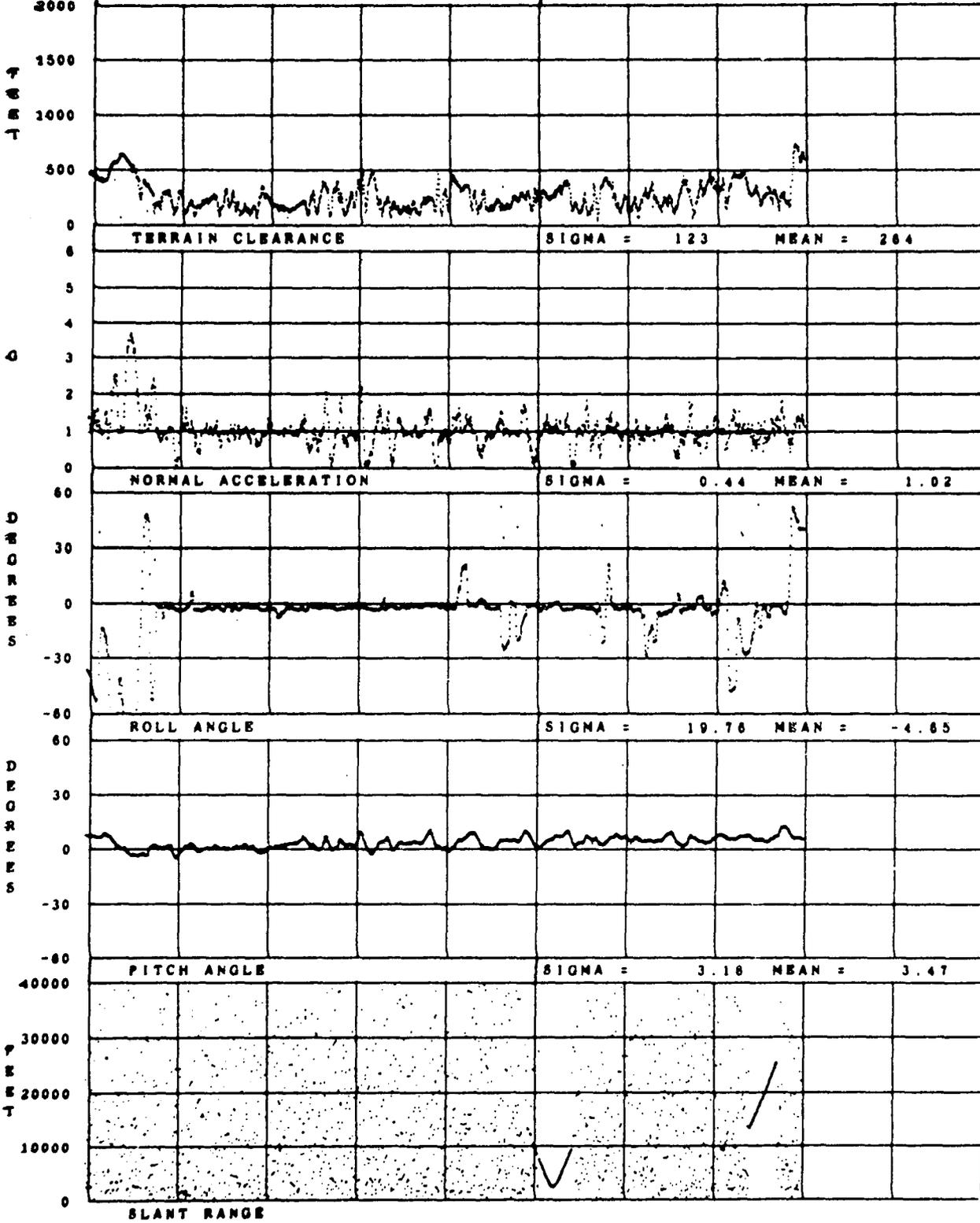


FIGURE 2-26 (U) TELEMETERED DATA (3 OF 4)

11 HR 53 MIN

11 HR 58 MIN

12 HR 03 MIN



SORTIE NUMBER 442

OPERATIONAL DAY 2 SEPTEMBER 1967

FIGURE 2-26 (U) TELEMETERED DATA (4 OF 4)

UNCLASSIFIED

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 442
			DATE 9-2-67
	11:44:48	Ok, there it is. I see it. Ok, I don't have the bridge yet.	
	11:44:53	Ok, ground speed? Ground speed's 422. Ok, and the heading is 280, right? Roger. Ok.	
	11:45:05	Ok, I'm getting ready to hack.	
	11:45:08	Ok, there's the bridge right there. On a heading of 270.	
	11:45:12	Ground speed? Ground speed's 448.	
	11:45:19	You get the ground speed, 448? Affirmative, over N1. I hit the event button, and a we're option 3.	
	11:45:32	Say again? Roger. Rog. Ok, here's a power line, right here. Rog. Ok, passed a power line. Ok. Ground speed? Ground speed's 421. Ok, about 4 a little over 400. Ok, our heading 280. Ground speed's 422. Ok.	
	11:45:51	And we're right on 280. No drift (overtalk) Ok, here's a ridge right here. This is the first high ridge we're coming into a valley, and there's another ridge about 5 miles ahead. It's one minute.	
	11:46:12	Ok, now we got to be looking for targets in here too. Boy, this forest, we're not going to see much.	
	11:46:19	Ok, coming up on, on our second big ridge here. Roger.	
	11:46:25	And we're one minute and fifteen seconds. Ok, now, you be sure and let me know before we get to that good checkpoint we got. Ah, right by . . . ok, we're by the nice little the valley. About a minute off from the good checkpoint. Ok.	
	11:46:42	Ok, here we're crossing a stream right here or a river. Ah, looks more like a stream. Should be crossing a road up here in about . . . Have, have we, did we cross that river we threw in? Ah, rog. No, that's on, that's up ahead isn't it.	
	11:46:58	Ok, I haven't seen any cotton pickin' targets yet.	
	11:47:04	Ok, 2 minutes.	
	11:47:12	Ok, now, here's this ridge the one we passed right over, right here. We're coming up close to that . . .	
	11:47:23	Roger, tally high. Like it light aircraft. Ok, how, how much longer to this check point we have here? Ok, 2:20, and we should be right over it. It should be ah, . . . No, no, the ridge, and the railroad. There it is. Here's the highway right here. Here's the highway. And we're (Mumbling) You know what I mean, that canyon back there. Rog. We're about a 2, ah let's see, about 2:20 about a minute and 40 seconds from now. Ok.	
	11:47:46	Ground speed? Ground speed's 420. Ok.	
	11:47:49	Oh, shoot, I'm getting off my heading here.	
	11:47:58	Ok, now, just, just keep giving me a commentary on what's coming up here. Ok, coming up on 3 minutes. Ok, I think I see our ridge and our little valley that we should be aiming for. Ok. Ah, a little bit fast here. 445. Ok.	
	11:48:15	Ok, we don't have any more check points on this leg, do we? Yes, we got this good one coming up that's about a 40 seconds. Ok. The one with the railroad and the, and the road. Cotton' pickin' forest.	
	11:48:32	Ok, here's a ridge. How, how close to our check point? Ok, about 20 seconds. Ok, here's this ridge and I see this canyon, this other canyon, and I'm heading just about perfect.	
	11:48:43	But I haven't seen any targets, Dad.	
	11:48:47	Ok, we're right smack on course, I believe, cause we're heading right for this ridge on a 280 heading. Ok, it says See that railroad down here. 4 minutes. Ok, here's the bridges. We're right on course. Ok, and we're . . . highway and a railroad. Ok, ground speed? Ground speed's 408. Yeah, it'll be a little low going up hill like this. Ok, here's the ridge right here. Ok, Roger.	
	11:49:12	Ok, what's next. Ok, we got, not much. We got a road coming up here at . . . We got a big ridge line that runs off the side. Be a river in about 4-1/2 minutes. Ok. And we should cross kind of on the north side of the . . . Ok, and we crossing any highways or check point sections? Well no. We cross one up here at 5:30. Ok, and that's another minute yet.	
	11:49:41	Ok, fly our heading. What's the time now, and what's the leg time? 6:52, 6:51? 6:51, and we're at 4:30, 4:45. Ok.	
	11:49:56	Ground speed? Ground speed's 412. Ok.	
	11:50:03	Ok, now you let me know, at least a minute ahead so I can start this lining up with this a . . . about a minute . . . GCI site. Rog. We're five minutes. We got a minute and 51 seconds to go. Ok, and we should be passing this road here.	
	11:50:18	Should be a little . . . This would be a nice place to put a target in here, but I sure don't see them.	
	11:50:27	Ok, 5 minutes 20 seconds. We should be passing a good road, right after we get over this ridge. Ok, coming up on a ridge . . . Pretty good paved road. Main highway. Air speed's Ground speed's a little slow. Yeah, 3, -400. Yeah, ok. There's a road. Here's a road right here, running along this ridge. Rog. Weren't we supposed to hit this ridge just about half way up or almost? Ah, just about on the edge. Yeah, ok, a little bit of rain in here.	
	11:50:55	Should be targets in here. Don't see any. Ok, ok. Coming up on.	
112	11:51:02	Speedy 142. I have a target. Ah, appears to be an armored unit. Ah, looks like about 12 armored tracked vehicles, and several trucks. Ok. Alpha Delta 5-2. Ok, location is Alpha Delta 5-2 (11:51:19)	
	11:51:20	Ok, we passed right over that baby. Ok, time? Time we got 6 minutes, 15 seconds. And ground speed? That's 422. We got 6:15 right now? Rog, we only got about ah, . . . Oh shoot, I'm just a little bit off heading. Ok, there's the tower, so our GCI site should be right over here. Ok, I think I see the field that it's in. Yeah, there's, ok, there's the buildings, there's the open field to the right. Ok, I can see what, where it should be, but I don't make them out .et.	
	11:51:49	Ok.	
	11:51:57	Standby.	
	11:52:02	Ah, shoot.	

FIGURE 2-27 (U) VOICE TRANSCRIPT (1 OF 3)

UNCLASSIFIED

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RPT Real TG1/TG2	TIME	REAL TIME TRANSCRIPTION	SORTIE 442 cont. DATE 9-2-67
	11:52:06	Six fifty-one.	
	11:52:08	Oh, I got the GCI site back behind us.	
	11:52:11	142 has a 71. 69 over 71.	
	11:52:23	Ok, I got that we were north of the GCI site. I was in the wrong field. You know the little field? Yeah, we passed it. It was off to our left. Yeah, that tower's not lined up with that. I saw it behind us. I would have had to go back around to get a to get a fix on it. Ok, we want to . . . and to make a pass on it.	
	11:52:47	Ok, here's a reservoir up here.	
	11:52:54	Ok, we're going to have to look a look a little more for targets. Spending too much time worrying about our track and ground speed. And I want you to look out a little more. I'll just fly track and ground speed. We don't have too many check points. . . . , so, so let's try that. Rog. Ok, now, there's a reservoir.	
	11:53:14	Ok, there's the pylon.	
	11:53:19	Let's see. That's the second pylon. Ok, there's the first. Ok, heading 1 hundred degrees. There's the first, there's the first pylon. Yeah, ok. Now I'm just a hair off course here. I'll have to line up. I can see the pylons, but not the ah . . .	
	11:53:37	Oh, shoot, that's the smoke, not the pylon. Ok, there's the target.	
	11:53:45	Right there. Ok, we want to head . . . Ok, we're lined up.	
	11:53:50	Our heading indicator is a little bit off to the right. I'm going to hold 098. Roger. Ok, did you hack? Rog. Ok. I got the event button.	
	11:54:00	Coming into a little valley. There's a pond on the right. It's probably not on the map. Na, it's . . . Ok, you go ahead and look for targets, too.	
214	11:54:13	You look out mostly on the sides. I'm going to look toward the front. Ok.	
	11:54:16	Speedy 142. There's a, appears to be a truck park, no it's a storage area. Back there about 10 seconds ago, on the right, half mile on the right of course. Looked like a sev . . . rows of crates a couple hundred feet long. Two rows. Ok, that was Bravo Charlie 9-2. Ok, Bravo Charlie 9-2.	
	11:54:36	And I'm a little fast. Heading looks good. Ok, we're coming up to another ridge.	
	11:54:43	Ok, and . . . coming up on . . . should be going down into a valley here.	
	11:54:54	Speedy 142 is departed N3. I had the smoke in sight, and I hit my event button. I just forgot to call.	
315	11:55:03	Ok, a minute and 15 seconds. Ok.	
	11:55:13	Ok you keep . . . Ok, there's that	
	11:55:16	Speedy 142. Looked like a gun, 3 large gun revetments back on the right about a half a mile south of our course line. Check the time. Here's a highway. Ok, that was Bravo Delta, 2-2. Ok, Bravo Delta 2-2. Looked like 3 large self-propelled weapons there. I couldn't tell if they were revetted or not. (11:55:35)	
	11:55:37	Ok, heading's good. Ground speed? Ground speed, 424. Ok, coming up along another little hill here. Ok.	
	11:55:43	Ok, this ought to be a good place for a target. 2 minutes and 5 seconds. Coming up 2 minutes. We should pass that road up here.	
	11:55:59	Ok, a little bit of rain in this area. Another . . . ok, here's a fairly thin sharp ridge right here. Rog. And we got a . . . here's a sharp ridge on the map. Ok, time to our, a, a, check point, the large ridge with the ah . . . Ok, that's a about 1 minute. To the end of this leg? Or the valley. No, the good check point. 3:15 and we're . . . that's about 30 seconds . . . Ground speed? 426. Ok.	
	11:56:37	Ah, I read pretty good. 6,000 pounds on the fuel. Ok, I'm coming up to a ridge. Is this the one? Ah, right over this ridge. Should be . . . the road and railroad. Rog. Ok, now, where's the town. Left or right? Or is there one on each? We got a little bitty town up on our right about 4,5 miles. Ok, and the there's one off to the left about a mile and a half. Ok, now we should come to which, the road or the railroad first. We should come to the ra . . . road first. Ok, it's there's the railroad, then a road, and the road curves right. Are we, a north of course? Ah, let's see. We're north. We . . . We're north of course. Ok.	
	11:57:17	How far north does that road bend to the right? Ah, let's see. It's just about a half a mile. Ok. Then, we're pretty close to course then. I haven't seen any other targets. I'll bet there were some back in that valley.	
	11:57:28	Ok, time to our final check point? Ok, well, we've got a road. A pretty good road up here at 4 minutes 30 seconds. Ok, I'm going to turn back. I should be on course now.	
	11:57:47	And it's 30 seconds away we should pass a road. Ok, what's our time now, and what's our total time? 7 something for this leg. It's 7 minutes even. And we got 4 minutes 10 seconds. 4:10 Ok, coming over a ridge and into a valley. Rog.	
	11:58:03	Anything for our course here? Ah, not, there's a little town off to our right. On a road. Should be off to . . . Ok, there's a town on the right. There's a road about a half mile to the right. Ok.	
422	11:58:13	Speedy 142. There's a, looks like a missile launching site, I couldn't tell how many missiles. There's 3 or 4 trucks there. Ok, Delta Charlie 8-9.	
	11:58:28	Looked like 3 large vans. Now that might have been our SAM site. I didn't see it soon enough to ah, to make a pass on it.	
	11:58:36	Ground speed's a little high I imagine. 435. Ok. Ok, time to our final check point? Ok, well, we got. We're coming up on 5 minutes right now, and we got 2 minutes to go, and there's a should be a tower at 30 seconds up here on our left. That's a cloudy tower. At 30 seconds we should see a tower on our left? Yeah, it should be right abeam us. Ah, what kind of tower, radio? It's a . . . it's a . . . lookout or . . . lookout tower. Ok.	
	11:59:11	Ok, there it is over there on the left. How far north of course should it be. Oh, it's about ah, . . . about a half a mile, I'd say. Ok, we might be just a little bit south of course now.	
	11:59:26	Ok, how much time to our final check point? I got . . . a minute and 4, 20 seconds.	

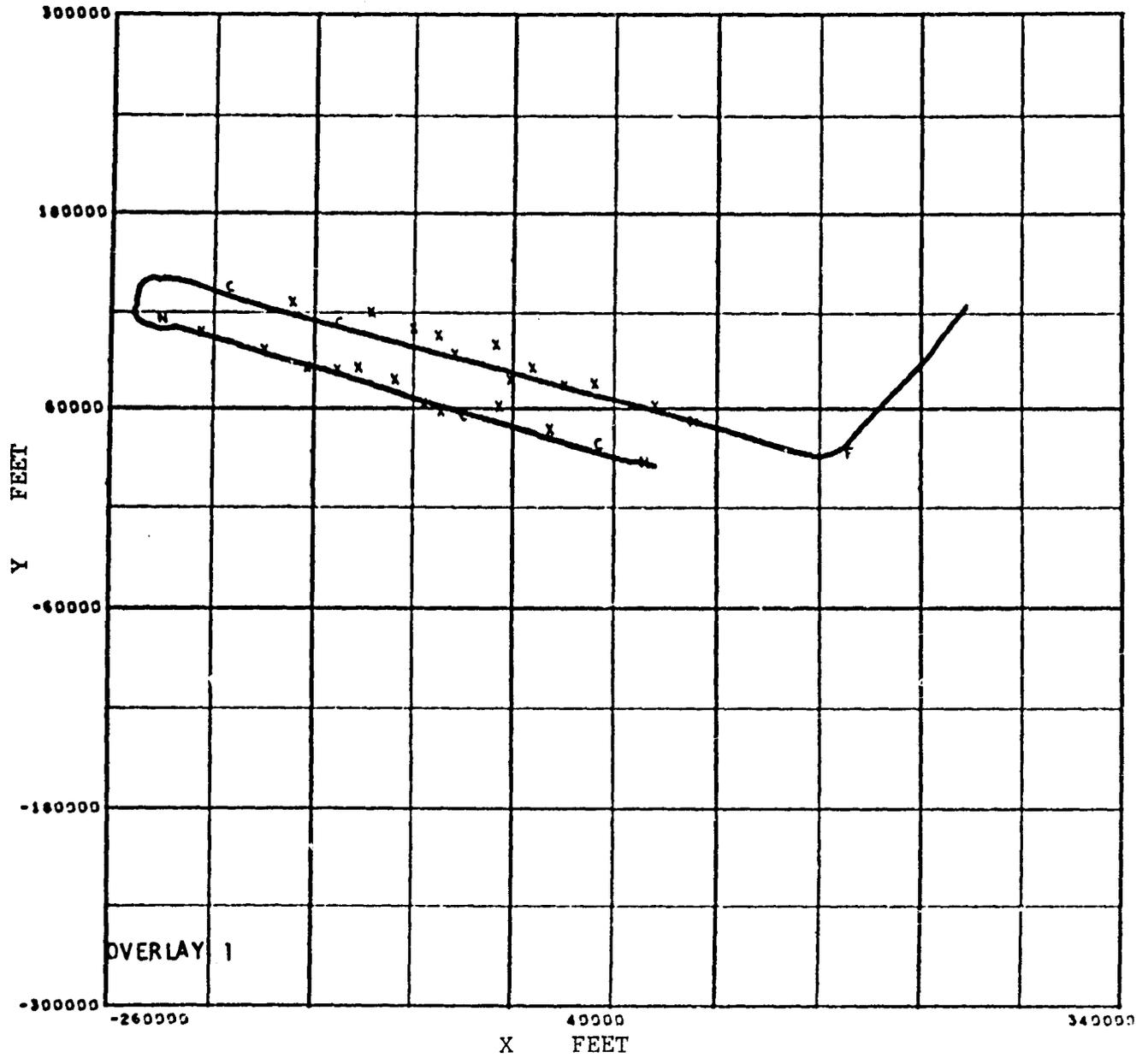
FIGURE 2-27 (U) VOICE TRANSCRIPT (2 OF 3)

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TIME	TEXT
11:59:59	Minute and 20 seconds. Minute 20. Ok, describe the terrain around it. Ok, we got a, should be coming up over a kinda a south side of a ridge ... There's a town on my right about 2,3 miles to our right, right now. Ok. Oh, Rog. That's cloudy. Ok, how far north of that should we pass. Coming up on a river. Coming up on a river? It's kinda hard to tell on this river. We should be there 6:10 now. Ok, what's the time? 6:10. 6:15 ok, and the tower's 45 seconds to the tower, right? Rog.
12:00:10	Ok, I think I see a clearing on top of a hill over here on the left.
12:00:17	What's the time now? 6:30. Ok, ok, that's got to be it. There's the clearing, there's the tower.
12:00:25	We were a little south of course, dad. Rog. I think our heading indicator was a couple of degrees off. Just enough to get us down south.
12:00:35	Ok, what's the time now? Ok, we're about 10 seconds to our check point. Ok, coming up on it. Should be just about right on time.
12:00:46	See if I can see this clearing. Yeah, there's the white houses, there's the clearing. Ok going starboard with the 126.
12:00:52	Timber 1, Speedy 142, is a North 4, exiting the corridor, and going to Pod Option 1.
12:01:02	End of transmission.

FIGURE 2-27 (U) VOICE TRANSCRIPT (3 OF 3)

UNCLASSIFIED



SORTIE NUMBER 452E

OPERATIONAL DAY 9 SEPTEMBER 1967

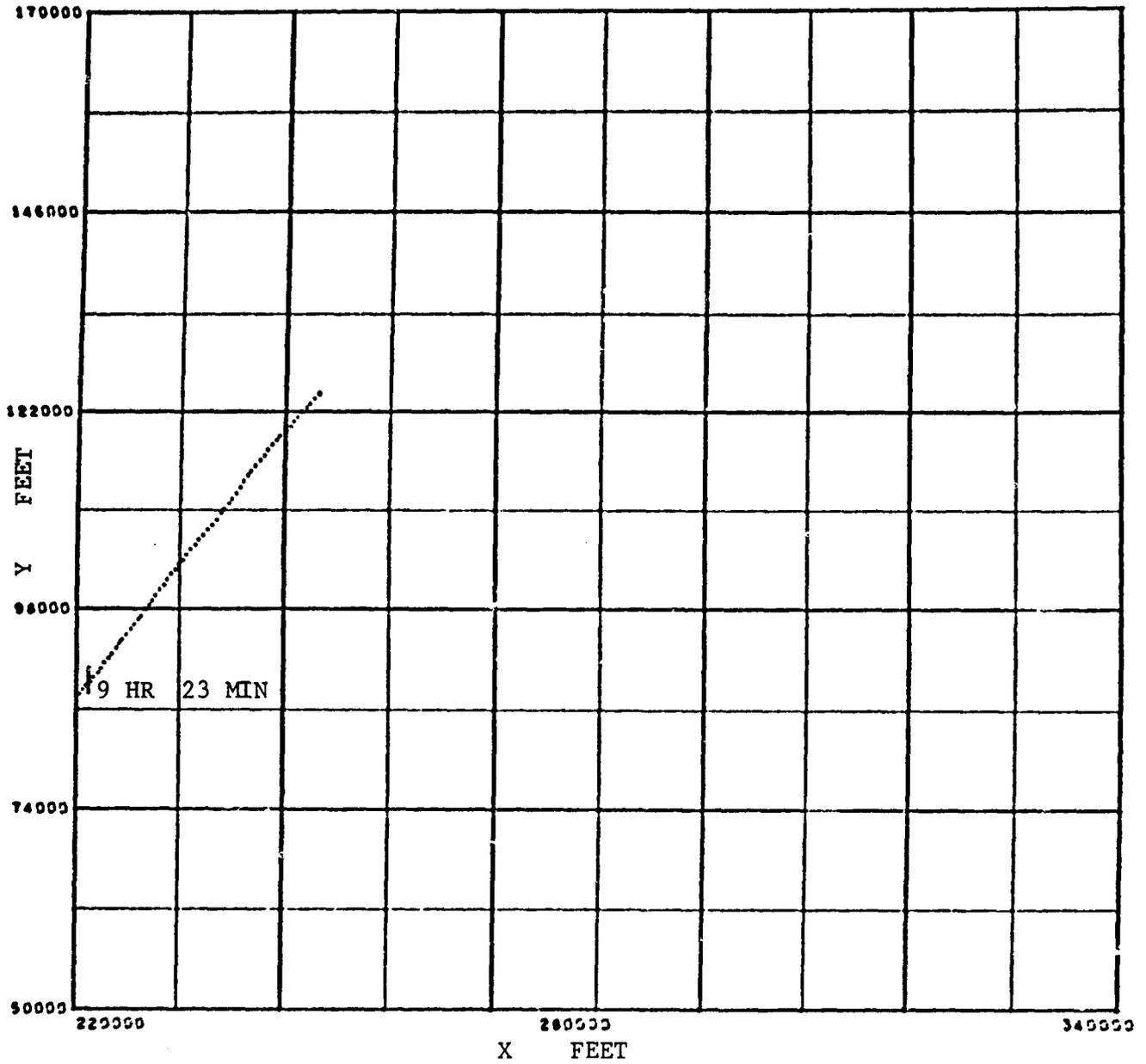
NORTH COURSE

FIGURE 2-28

AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

UNCLASSIFIED

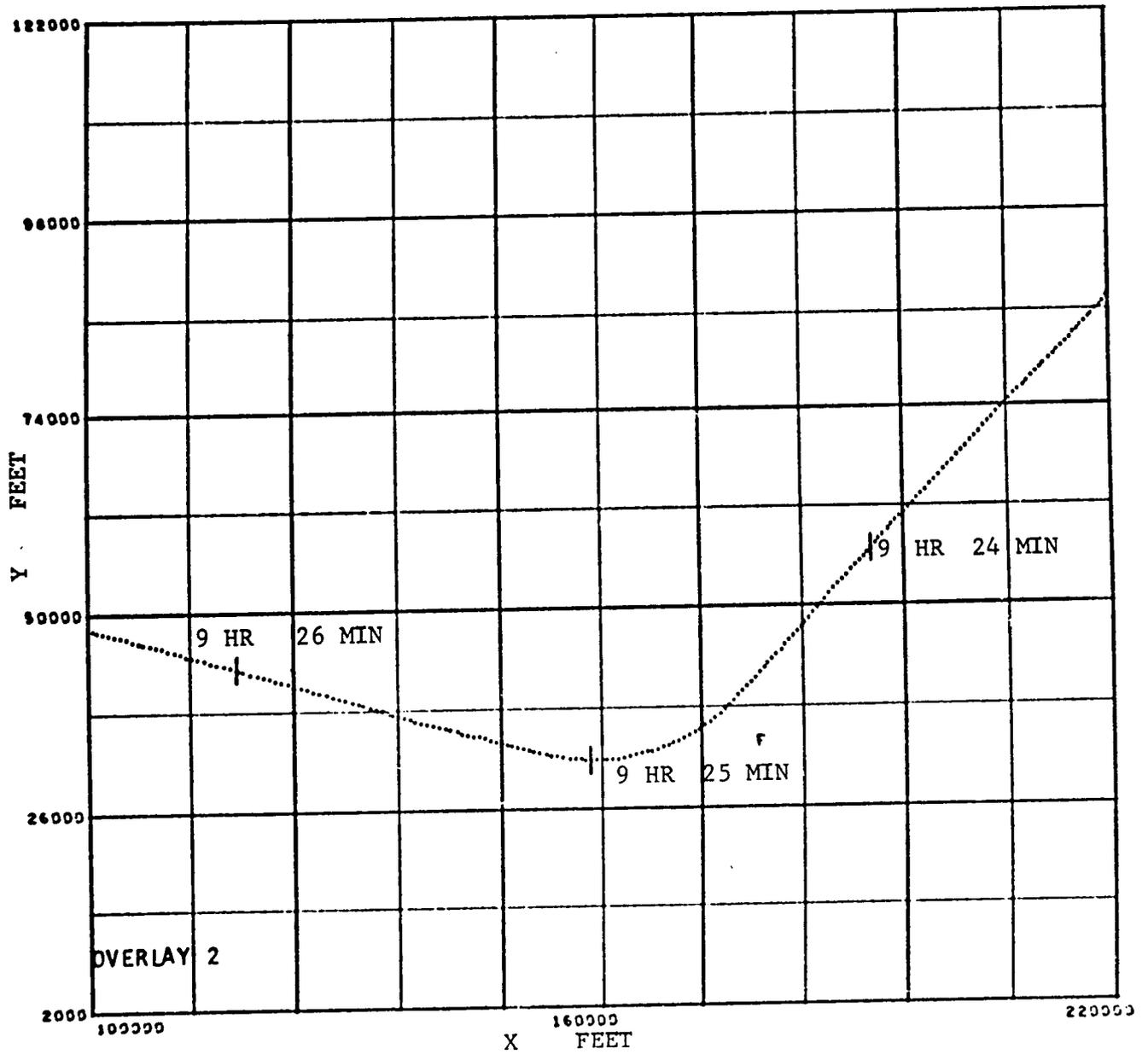


SORTIE NUMBER 452E

FIGURE 2-28
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED

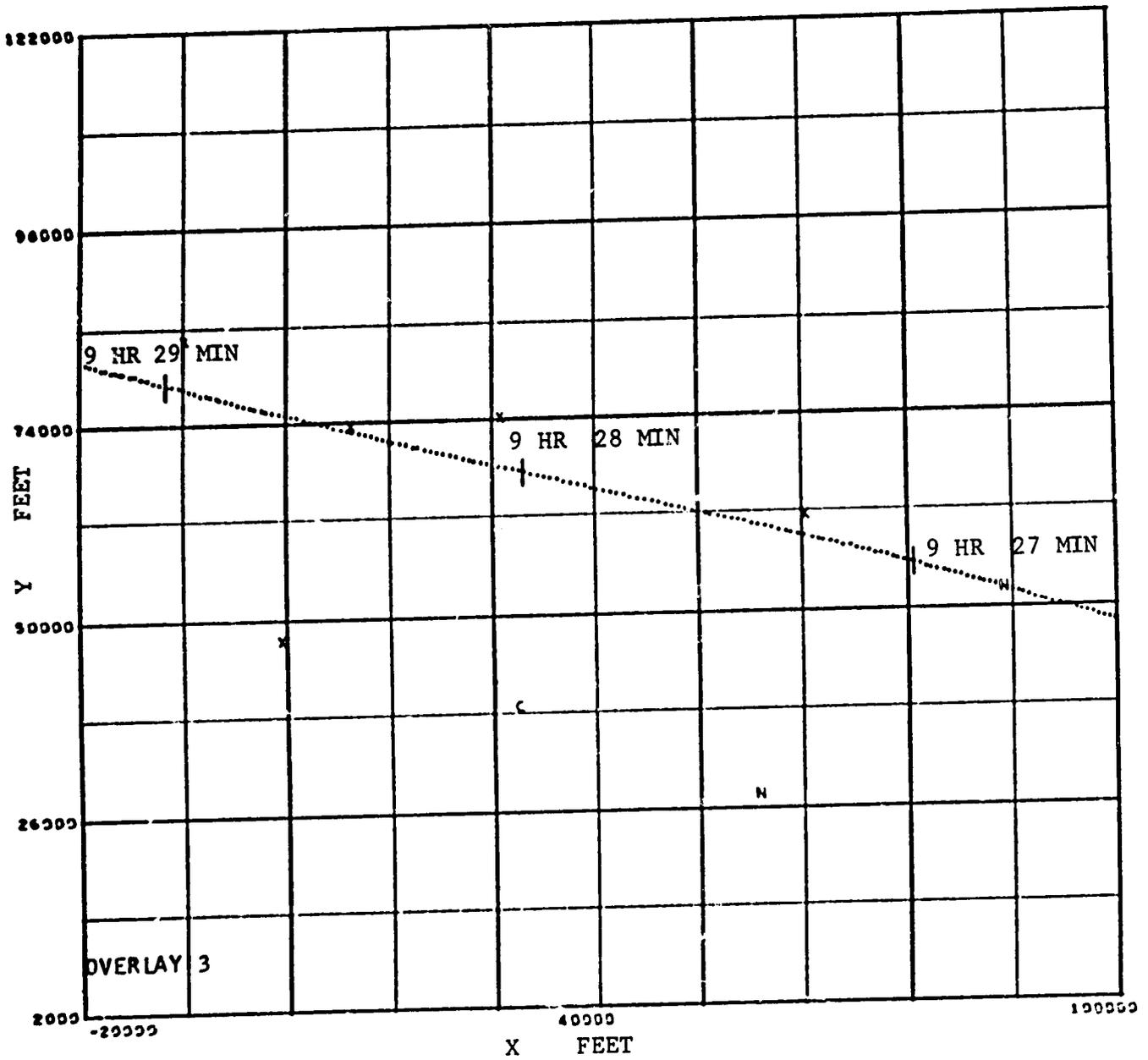


SORTIE NUMBER 452E

FIGURE 2-28
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

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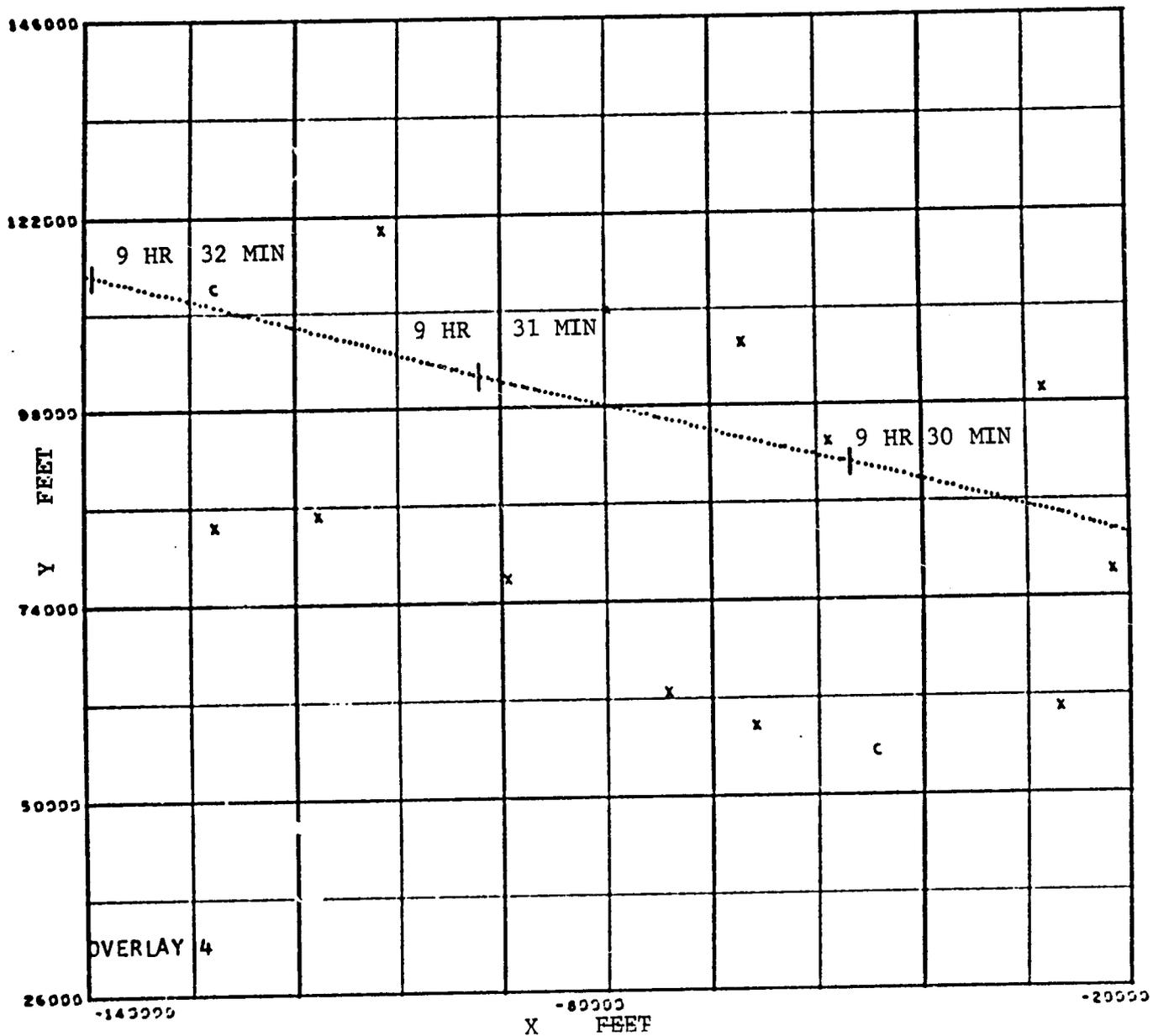


SORTIE NUMBER 452E

FIGURE 2-28
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

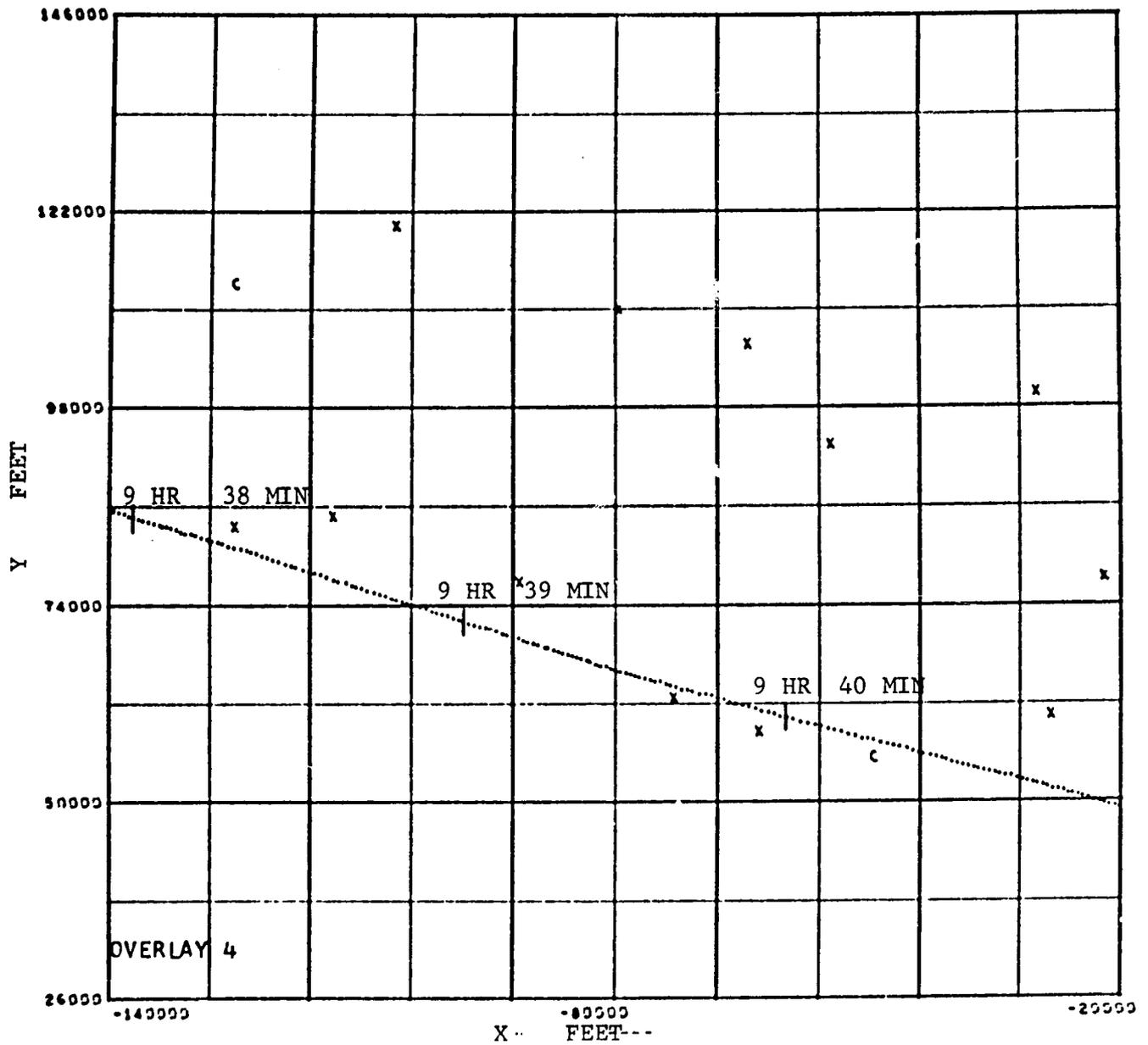


SORTIE NUMBER 452E

FIGURE 2-28
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED



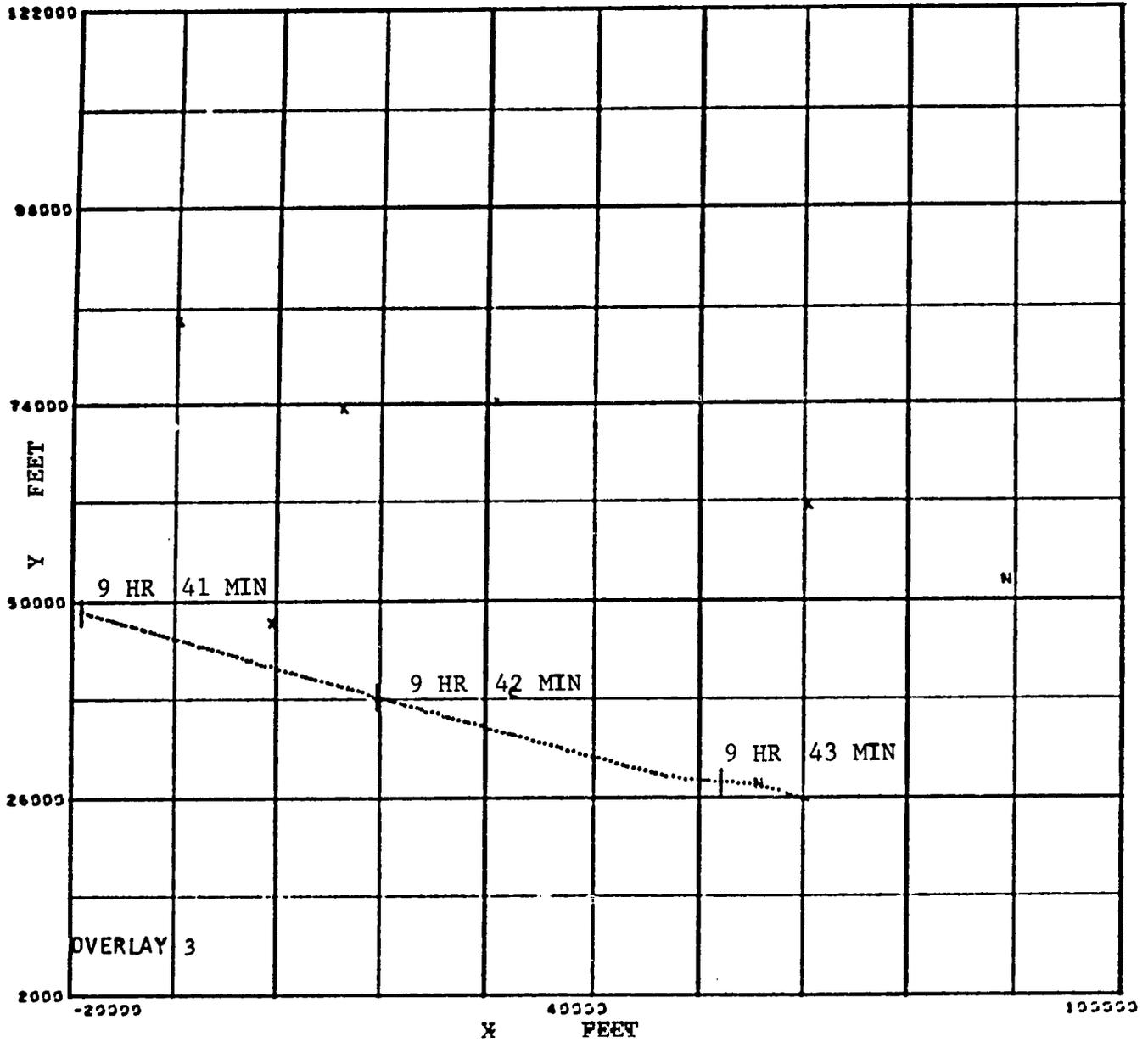
SORTIE NUMBER 452E

FIGURE 2-28

AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 452E

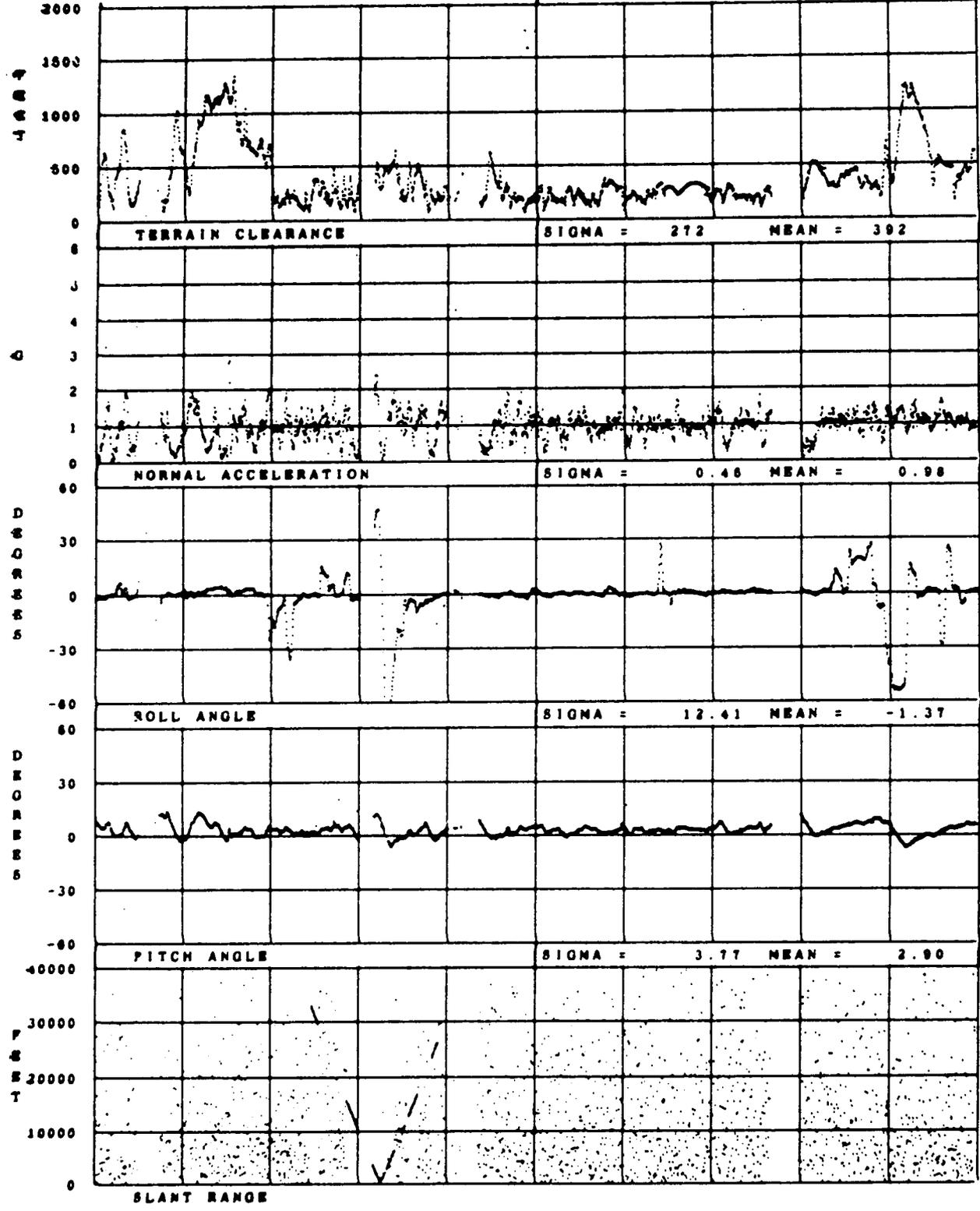
FIGURE 2-28
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

09 HR 05 MIN
2000

09 HR 10 MIN

09 HR 15 MIN



SORTIE NUMBER 452E

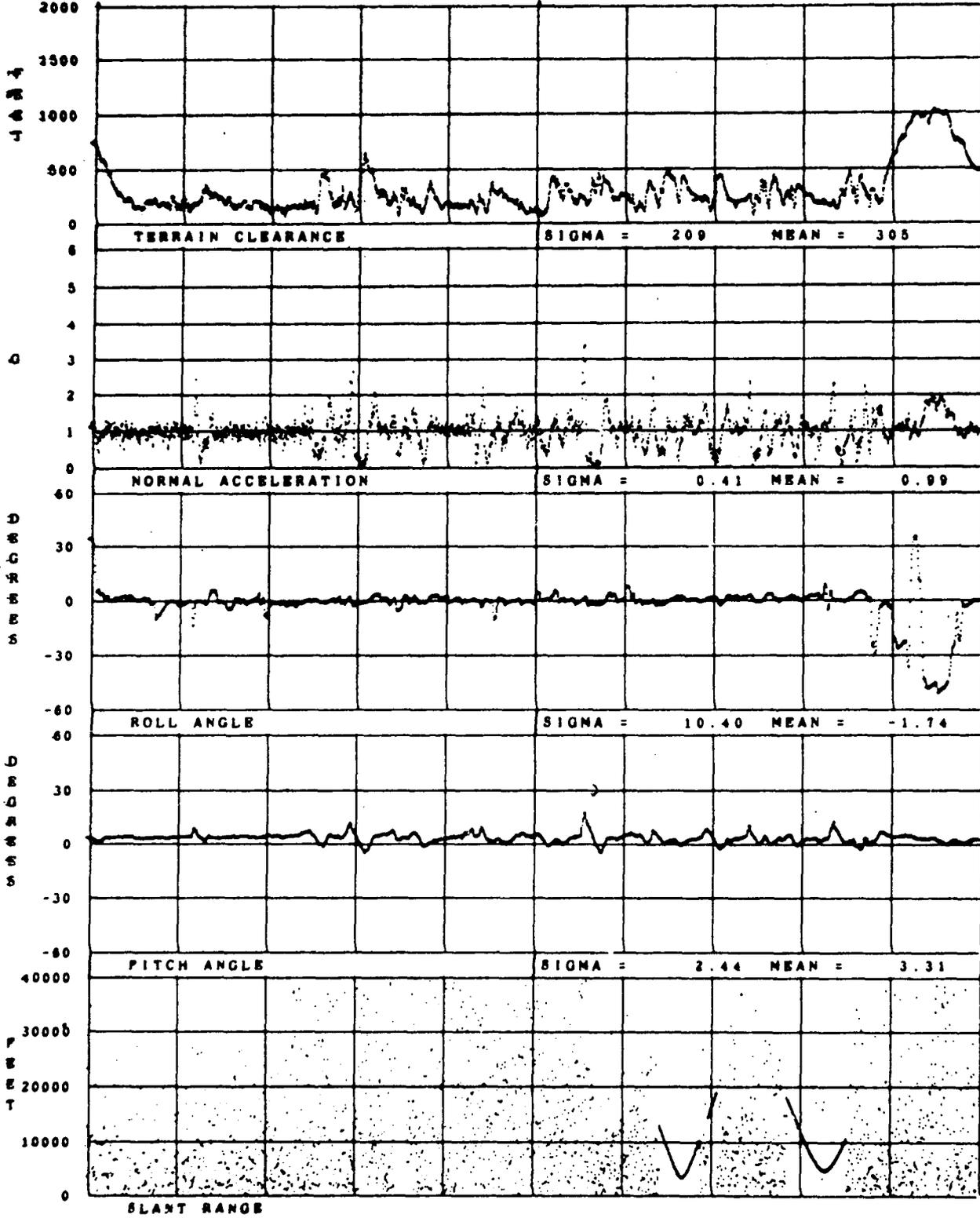
OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-29 (U) TELEMETERED DATA (2 OF 5)

09 HR 25 MIN

09 HR 30 MIN

09 HR 35 MIN



SORTIE NUMBER 452E

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-29 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

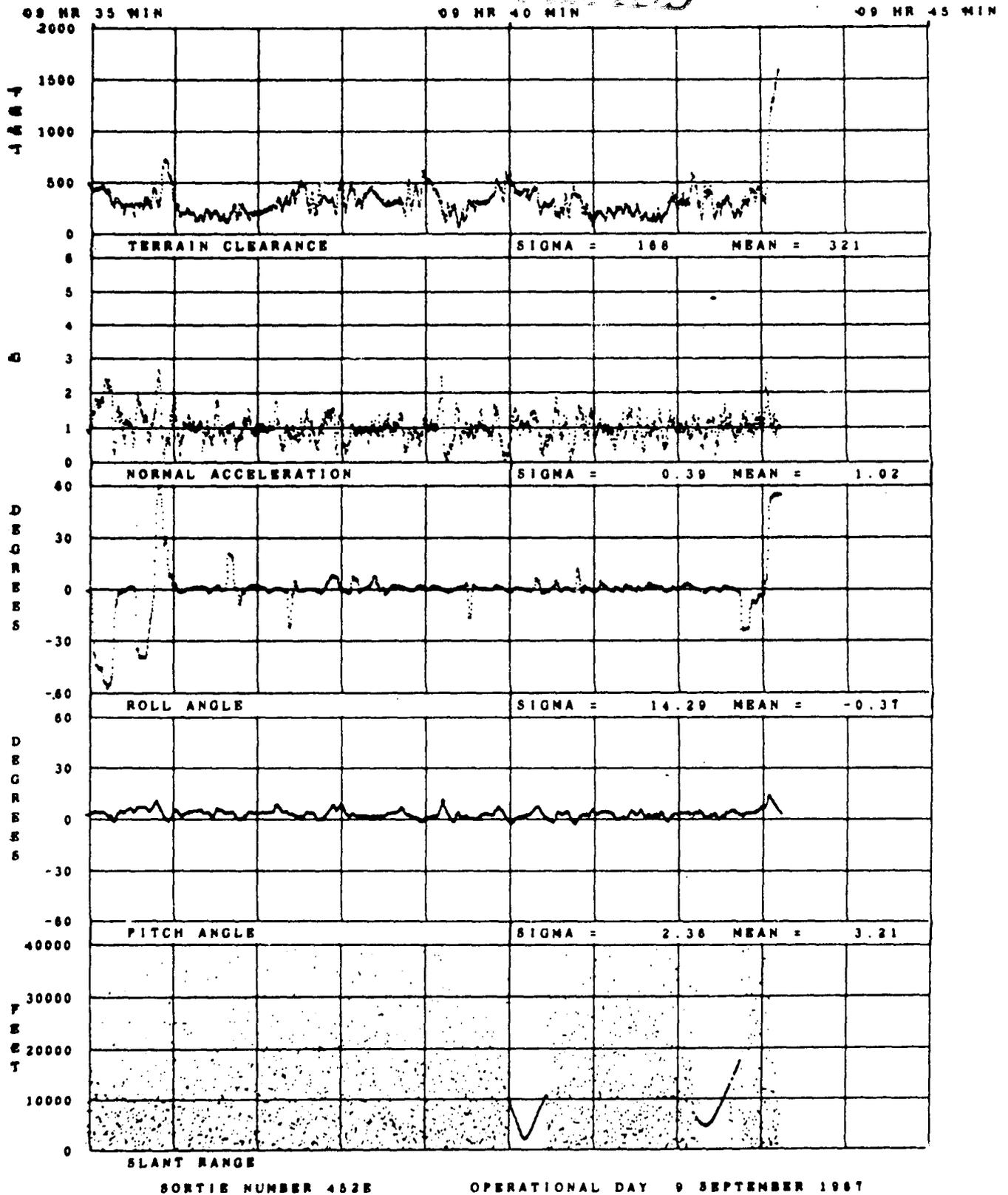


FIGURE 2-29 (U) TELEMETERED DATA (5 OF 5)

RPT TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 452E
				DATE 9-9-67
		09:26:20	I see the strobe light. Okay, that's it. Okay event button.	
		09:26:27	Roger 97 has N1 in sight. Good Option 3. I don't see the smoke, but I do see the strobe light.	
		09:26:36	There, there it is. Yeah. 280. Okay. Rog.	
		09:26:43	N1. Now. 280 is your heading. Okay, now we're back in the recon business. Yeah, right, let me get my pen out here. Okay. Your holding 282 right, now, go left about 2 degrees. And you're 60 knots slow. Okay. Fuel fat, Phil, it should be. Oh, (****) it I forgot to hack.	
		09:27:11	Oh, yeah, you're way fat on fuel. Okay. Crossing a big old power line, might be some... Ah, it doesn't show on here, unfortunately... targets. 280 on the heading. Plane keeps bouncing around but it shows almost 290. Okay, there's that dirt road, you looking good. Okay.	
		09:27:30	I'm gonna cross the ridge line. Big valley. Should be a target down there somewhere. Right down in the valley, yeah. If I was going to plant one, that's where I'd put it. Can't see diddle down there, for the trees.	
		09:27:47	Rodney.	
		09:27:52	See your heading is exactly 280, and your speed is good.	
		09:27:58	Oop, ipilooop, ooo. Ha, aha, ha, ha, ha. Okay, let's oh, I hate these. Course they're nice on on the butt. Relaxing.	
		09:28:07	Okay, there's a creek, river. Yeah, big old ben, we're coming through it looks like a dent corjam. Okay.	
		09:28:14	Rog. Rog. Okay, good.	
		09:28:21	And you're slowing down again pretty bad. Okay.	
		09:28:26	Fixing to pop over this creek.	
		09:28:31	There's a big valley off to our right. Okay big valley off to our right. Rog. And you're gonna hit a major road here, very very shortly. Right after you pop over this ridge I think. Okay. Let's look along here they probably got some goodies laying along it.	
		09:28:46	Ah, I don't see no major road. I don't see much of anything. There's a road over there. Farmers red truck down in the field, I don't think they want that one reported.	
		09:28:56	Say, you're doing right, you're supposed to go right down this valley.	
		09:29:01	I ain't seen diddle yet. Here's this major road right here. Okay. Nothing on it that I can see. Me neither.	
		09:29:09	And we want to cross that at two minutes, and plus that tremendous, that's beautiful. Speeds way low again. Affirm. Ha.	
		09:29:20	Don't give out on him now lungs, I need him to get me home.	
		09:29:26	Hello hill. Weeeee. Okay, heading's holding ah 1 degree right. Take a left one degree. That left. Yeah okay. Yeah. We're crossing, looks like something along top of the ridge here, ah it's just an open area. Ah, it's a dirt road. That the dirt road rog. Okay. That's right on a ridge. Good.	
		09:29:44	Okay. I haven't seen nothing. I haven't either. And I been looking out too.	
		09:29:55	Okay, speed's tremendous right now, it's good.	
		09:30:02	Oops, don't bounce like that airplane, I get so nervous.	
		09:30:08	Okay, big valley. Okay. Down in the valley. Ah, you gonna ah, valley so low... We want a creek, and a dirt road, and a railroad right behind it, is the check point. There's the creek.	
		09:30:22	Come on... where's there's the creek. There's gotta be something in here.	
		09:30:28	Aaaah, bridge. Rog. Beautiful. I think we're exactly on path. A road and a railroad. And a big old hill right in front of us. Ha, ha, ha. Aaaah. Blahhhhg. Okay, I'm getting scared now. Ha, ha blaaaah. Okay, we cross over that major ridge, we should drop back, (****) my feet moved. Hey... careful on that.	
		09:30:42	You didn't hit the button did ya. No. Oh, well forget it. Ah, okay, I'll take it easy just don't punch anything.	
		09:31:01	Okay, we're pressing on... Little bit little bit slow. Okay, you're still perfect on course. I just corrected back, I was off a little bit to the left.	
		09:31:06	Okay. I've got you 1 degree to the right now, so that's fine. Okay. Another little minor valley.	
		09:31:18	Speeds low. Yeah, little bit not bad. Okay, another hill. Holy cow these hills pop up quick. Kind of creep up on ya. I ain't seen nothing. Okay, you should be passing into a valley right soon now. Yeah, I am. I got the big valley.	
		09:31:34	Somebody ought to make a television program and call it that. Okay, you're fast now Bob. Real fast now. Ah okay.	
		09:31:44	Let's....Targets, targets, targets....Targets, targets, targets. I don't see dog doo I swear. ----- I ain't seen....And there's your melting... (****) I don't see okay.	
		09:32:03	Okay, we popped over this little ridge, and back down into a valley. Huh.	
		09:32:09	Okay, there's got to be a target in here somewhere. Yeah. How we doing time wise? Beautiful right now.	
		09:32:15	We're running a little bit fast right now I think, but not much.	
		09:32:20	Okay, what've we got here. Oh, it's just a power line I guess. Yeah. Dirt road we just crossed, that's right there. We got one minute to go to ah, GCI. Okay. We got anything we can aim us in the right direction here, last minute. No. Check point. Frankly I don't.	
		09:32:37	We break out. Is it in the valley. Affirm, yeah. Just right up against the far ridge. Creek sitting down there. Huh? I say we're crossing a creek. Yes. That's Ford creek. Ford(?) creek. Okay, big baby. Yeah, there's the valley. We should come right over this into a valley. Okay, and then I should see the GCI site you say? Yeah, all across the valley. Okay.	
		09:33:02	You holding 280 beautifully. Yeah.	
		09:33:06	Course this could be the wrong valley. Hee. It better not be.	
		09:33:13	GCI site.	

FIGURE 2-30 (U) VOICE TRANSCRIPT (1 OF 3)

UNCLASSIFIED

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RPT TG/TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 452F cont. DATE 9-9-67
	09:33:18	Okay, pop over this one, it's the next valley. Oh.	
	09:33:24	Now you should go right into another valley. Well, yeah, there's another big one. Yeah.	
	09:33:31	Tower right there. Rog. Isn't that it? What? The GCI site.	
	09:33:44	Okay, you know how....your on, you're five degrees off to the wrong side, turn left. Major road. Okay, okay, you're already passed it. Okay. Pop on up and get a vector over to 3. Okay.	
	09:33:58	We never saw it did we? No.	
	09:34:01	Don't believe that cause I know we were on the right path. And ya	
	09:34:07	Timber 1, 97 request vector to N3.	
	09:34:26	Roger, 297 thank you.	
	09:34:33	Okay.	
	09:34:36	It should be....	
	09:34:46	Roger, there's one.... Okay, you got it?	
	09:34:55	Okay, I don't see....	
	09:34:58	You got us going that way. Huh?	
	09:35:06	Roger 97.	
	09:35:17	Okay 100....Okay, crossing a river. How many a clock? I didn't hear him.	
	09:35:29	I don't see any smoke.	
	09:35:34	Okay. There. That should be it. Yeah. And a.	
	09:35:38	97 is a N3.	
	09:35:46	(Coughing). Okay, the heading is 110 huh. 100 is what you want. Okay. Steady out now. You cut back across it nicely. This ain't worth a (****). I guess it is up there, I can't see... Yeah it's okay.	
	09:36:03	Okay, there's the little dirt road you're supposed to cross.	
	09:36:08	Aaaw there's gotta be something down in here.	
1	09:36:12	There....fuel pile. Rog.	
14	09:36:14	This is Phantom 97 I have passed a target, a fuel depot. Approximately 100 fifty-five gallon drums parked alongside the dirt road. To the left of my position. And the position is oh, ah, Bravo Charlie 7 5. 8 5... (09:36:35)	
	09:36:40	Okay, we been out here about a minute now.	
	09:36:53	Okay, we're down in a valley now, I have a big road off to my right Rick. Rog. Paralleling us. It's gonna cut across you in just a minute, should be a square turn right across it. Okay. I don't see the square turn yet. It looks straight. Yeah, well it should be for awhile.	
	09:37:10	Okay, there's the turn right over.... Right here.	
	09:37:15	Not a square turn though. That's not the right road then. Ha, yeah, it winds around through the hills there. Okay, you're right of course a little bit, I know that much. I'm right of course. Rog. You're holding about 113, you need.... Okay. Steady now. I'm holding what? Ah, 103 I mean excuse me. Well I show 098, 097 now. I show 098 now. Okay, the fuel's still fat we've got 79. Oh, yeah you're real fat.	
	09:37:41	Okay, okey doke. Another valley coming up. Rog.	
	09:37:49	There's a big dirt road intersection over there. Fire.	
	09:37:59	Okay, ridge line.	
	09:38:03	Been on the road a little bit over two minutes. There's the ridge line. You talking about okay. We're up in the hills now. And you're a little bit slow again, but not bad.	
	09:38:13	Yeah, we should be in the hills, there should be creeks running all over the place... But they're probably hidden by the trees. Okay, sun's coming out....	
	09:38:21	No targets. No targets. Looks like, there's one of your creeks, looks like ah, sure running all up along our path, and it is. Okay. Tremendous. Dirt road under me. Good.	
2	09:38:34	Time's good. Up. Thought that was cord wood stack, in the	
18	09:38:39	middle of cow pasture. Mark it for possible. All righty.... Was right or left side? It was on the left side. Okay. It was a little....Okay.	
	09:38:51	We're coming up to a big valley but it's socked in.	
	09:38:55	Okay, you should hit a major highway, a dirt highway, dirt road. Crossing across a big stream, a major highway and a big stream. That's it. Right there. Okay, good. No targets....	
	09:39:06	There should....	
	09:39:07	Timber 1, 97 ah my present position, the bottom of the valley is obscured with low clouds.	
	09:39:19	Roger, we have a thousand.	
	09:39:27	Okay, we'll pressing along real good. You're holding just a (****).....whoops just a little bit right of....	
	09:39:42	This is getting kind of cloudy in here. Yeah, that damn Ped I forgot about that...	
	09:39:51	Okay, I know which ridge this is. Okay.	
	09:39:55	Rog. Looking good, now you should be coming up on a major highway here pretty soon. I see a road... And you got (5000?) miles an hour...heee. Okay, crossing it right at a bend. Beautiful. Another one in front of me. Another road right here. There's a bend. (****), that ain't supposed to be there. Well, the first one might not have been a major. Okay, you're on speed Bob.	
	09:40:31	Aaaawww, come on friends I know there's something in here. Okay. Now there should be a look out tower off to our left, right through here.	
	09:40:39	We're five so shouldn't be too far away.	
	09:40:44	Should cross a dirt road right down there. Right there okay. And then it should be ... off to our left just slightly.	
	09:41:00	Sure it should be right up here on the kanoll (meaning knoll I believe). Couple birds, I don't see any look out tower though.	
	09:41:10	Aaaaaaah, is that it over there? Where? Way out there on the end of that ridge. Yes, it is, you're exactly on course. Beauty.	

FIGURE 2-30 (U) VOICE TRANSCRIPT (2 OF 3)

UNCLASSIFIED

TIME	TEXT
09:41:20	Okay, now you're gonna cross a whole dirt road complex. Okay. Big dirt road, I passed. Yeah. Good.
09:41:29	That is the tower babe, tremendous. (cough).
09:41:35	I just can't believe...I can't see targets.
09:41:42	One stinking stack of oil drums.
09:41:47	Well, ah I haven't seen anything either, and I been looking out. Probably have to send a flight of sixteen to destroy 'em. Probably. Okay, I got something over here. To the right there? Cutting, cutting the trees, I don't know whether it's water, or just a valley or what.
09:42:05	Oh, it's water. Okay, there's a lake, or bend in the river, off to the right. Yeah, yeah. Big creek right along the path. Okay a ----- big snake, and we're passing right through it. Rog.
09:42:14	Yeah right, that's a little river.
09:42:20	Okay, we're running, just slightly fast. That's ah...Looking real good though. Another little minor creek down. Rog. Road bridge over that. Rog.
09:42:32	Hell, we can always detonate the bridge. Hee, why not. I sure would like to turn here.
09:42:38	Gold, silver tower, is what we're looking for, and we ain't far from it. A little silver tower...That's it right in front of ya. Little bit off to the left you there. Okay.
09:42:49	Little event button. And 126 is the heading from my little silver tower, I never did see any targets ha, ha.
09:42:59	Well we're here.
09:43:03	97 is N4.
09:43:11	126 my heading rog-----.
09:43:14	Pod Opti.....End of transmission.

FIGURE 2-30 (U) VOICE TRANSCRIPT (3 OF 3)

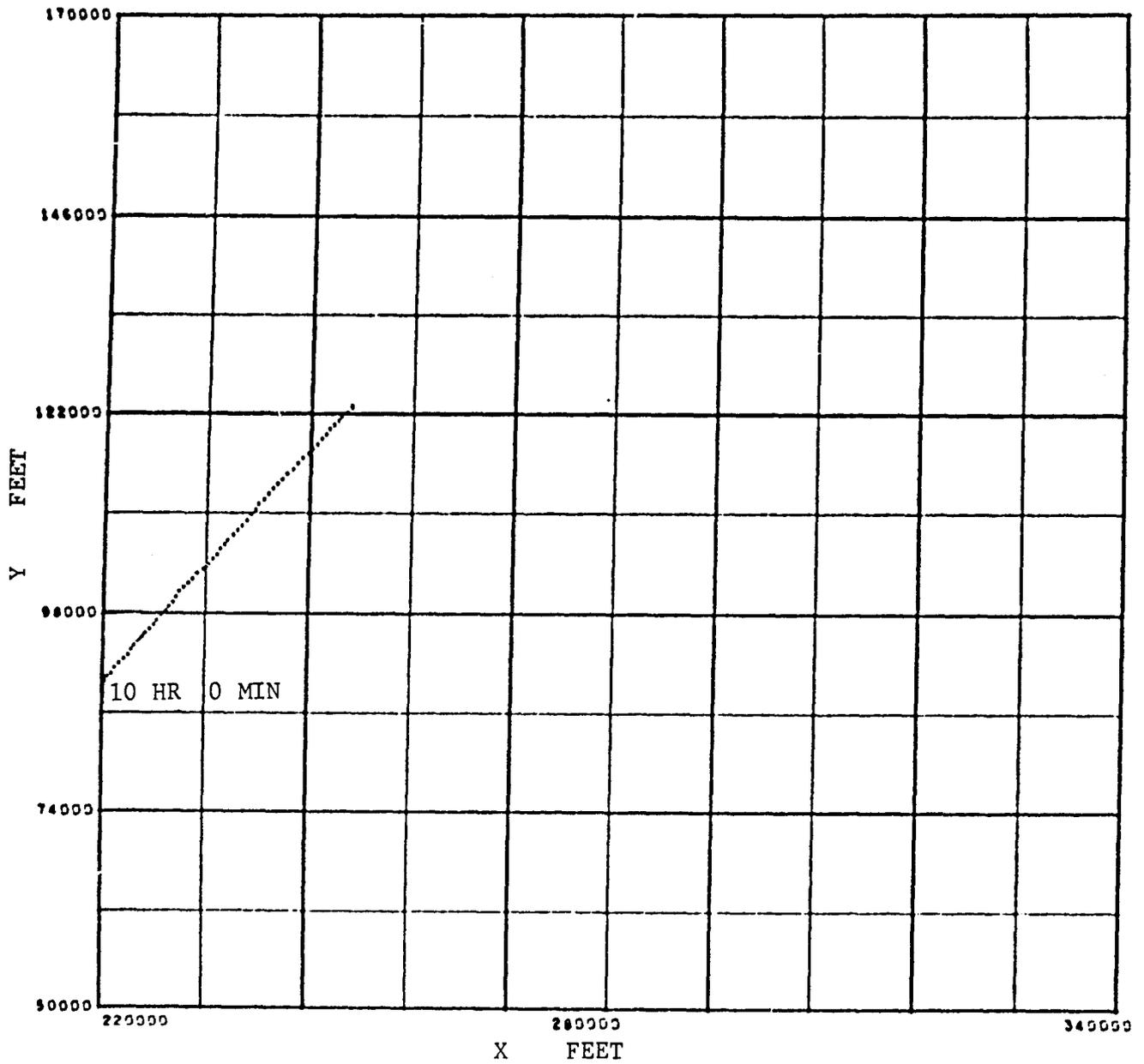
UNCLASSIFIED



SORTIE NUMBER 461C
OPERATIONAL DAY 9 SEPTEMBER 1967
NORTH COURSE
FIGURE 2-31
AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

UNCLASSIFIED



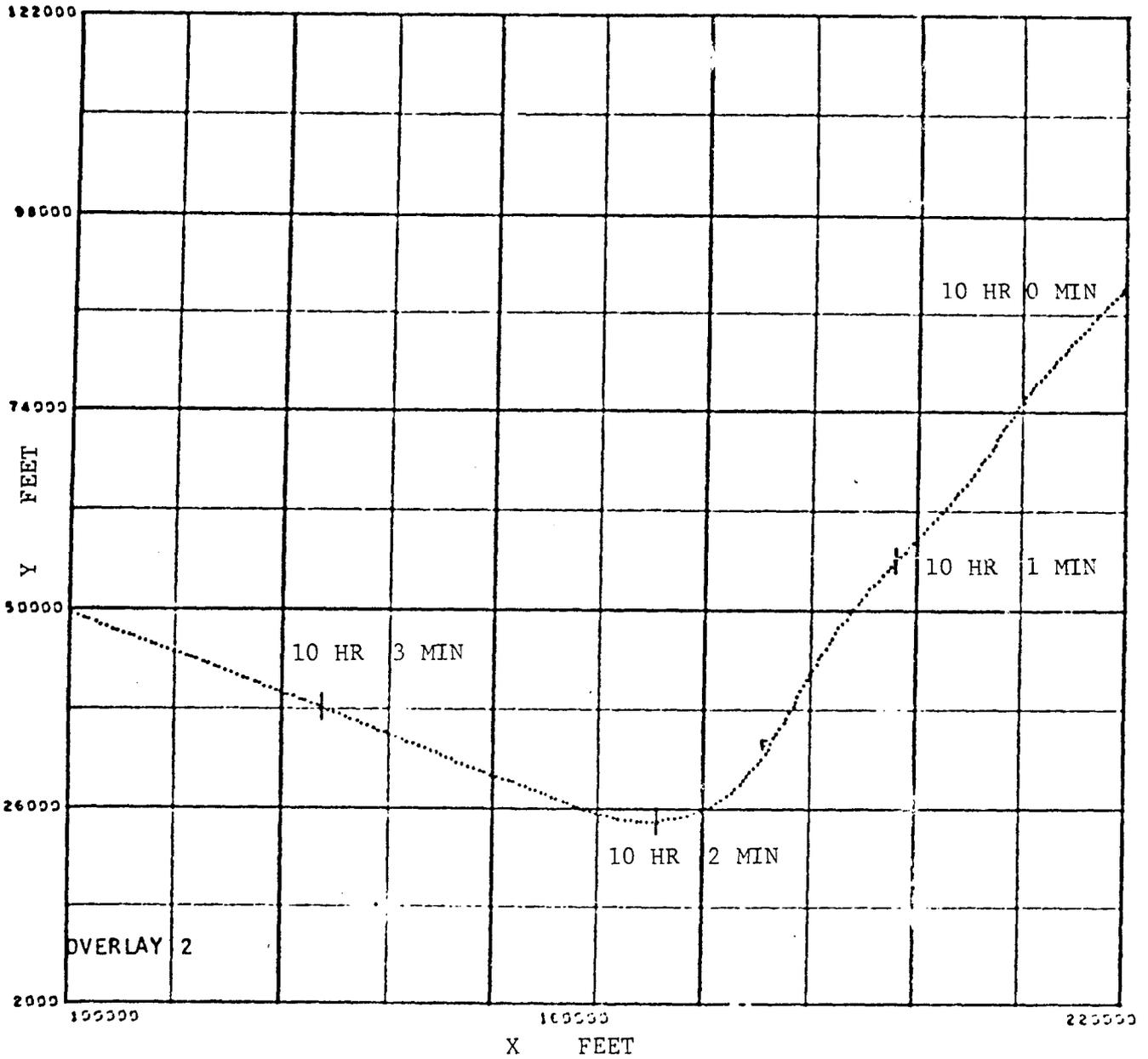
SORTIE NUMBER 461C

FIGURE 2-31

AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED

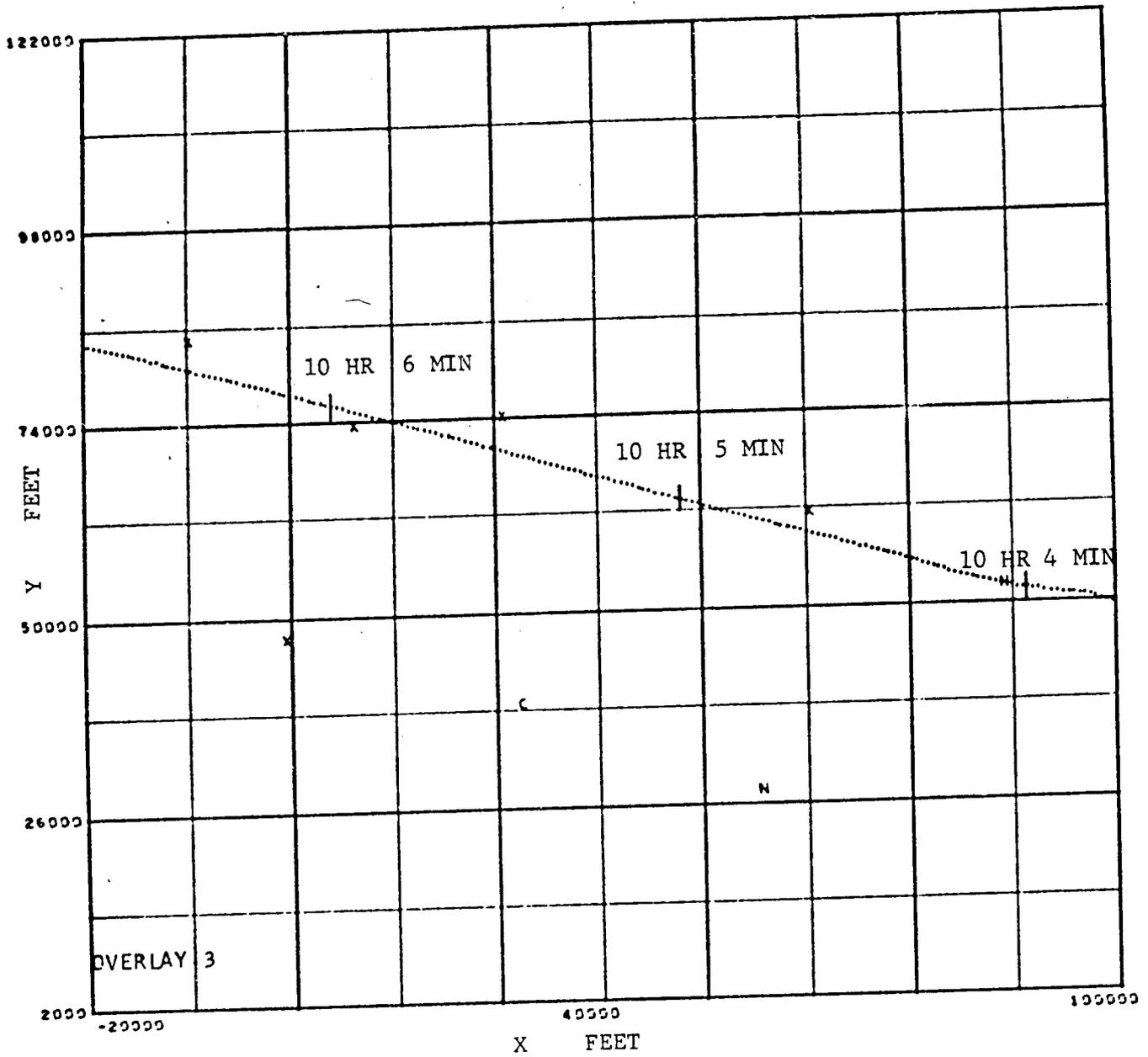


SORTIE NUMBER 461C

FIGURE 2-31
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

UNCLASSIFIED

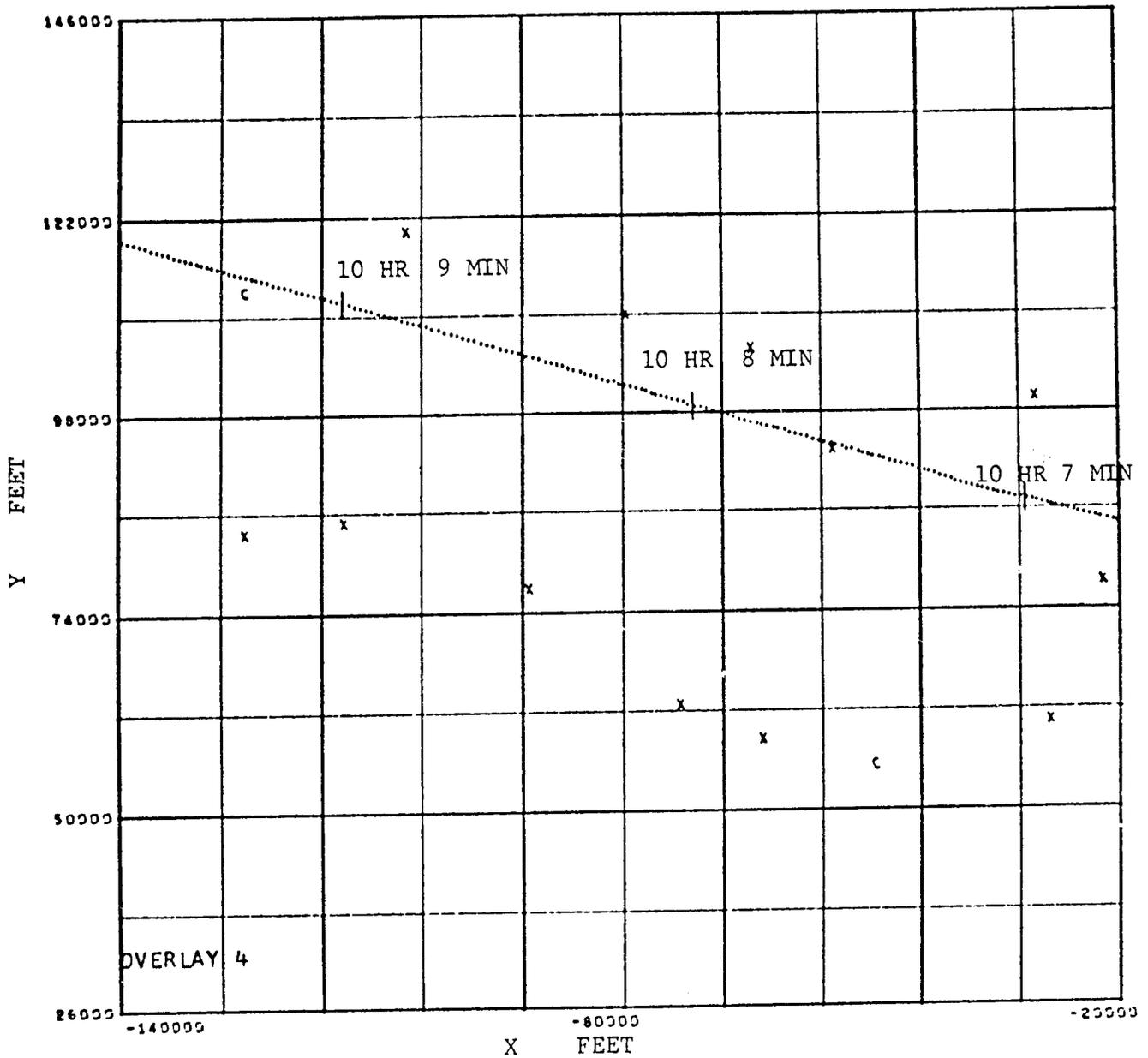


SORTIE NUMBER 461C

FIGURE 2-31
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

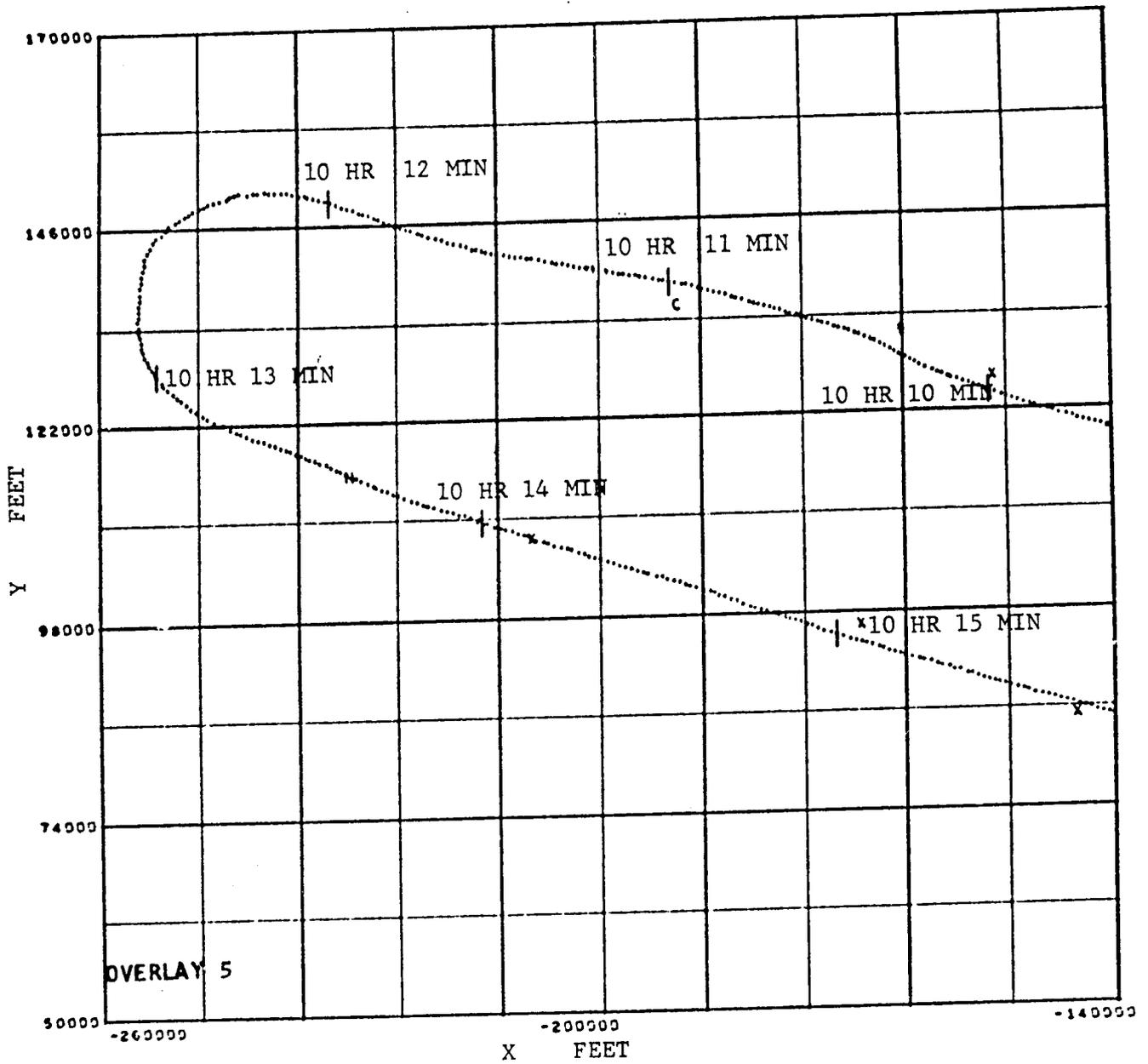


SORTIE NUMBER 461C

FIGURE 2-31
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED



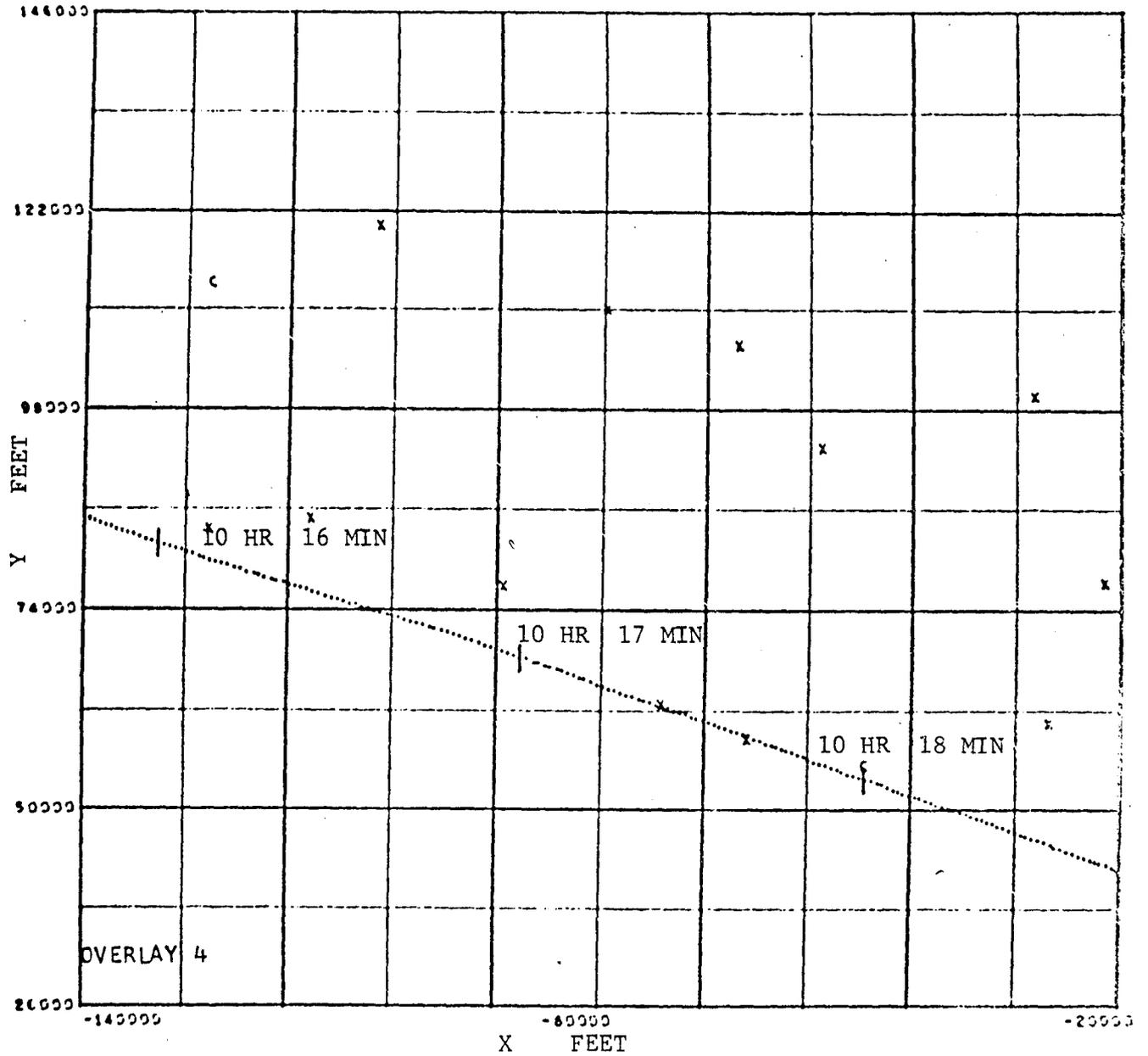
SORTIE NUMBER 461C

FIGURE 2-31

AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED

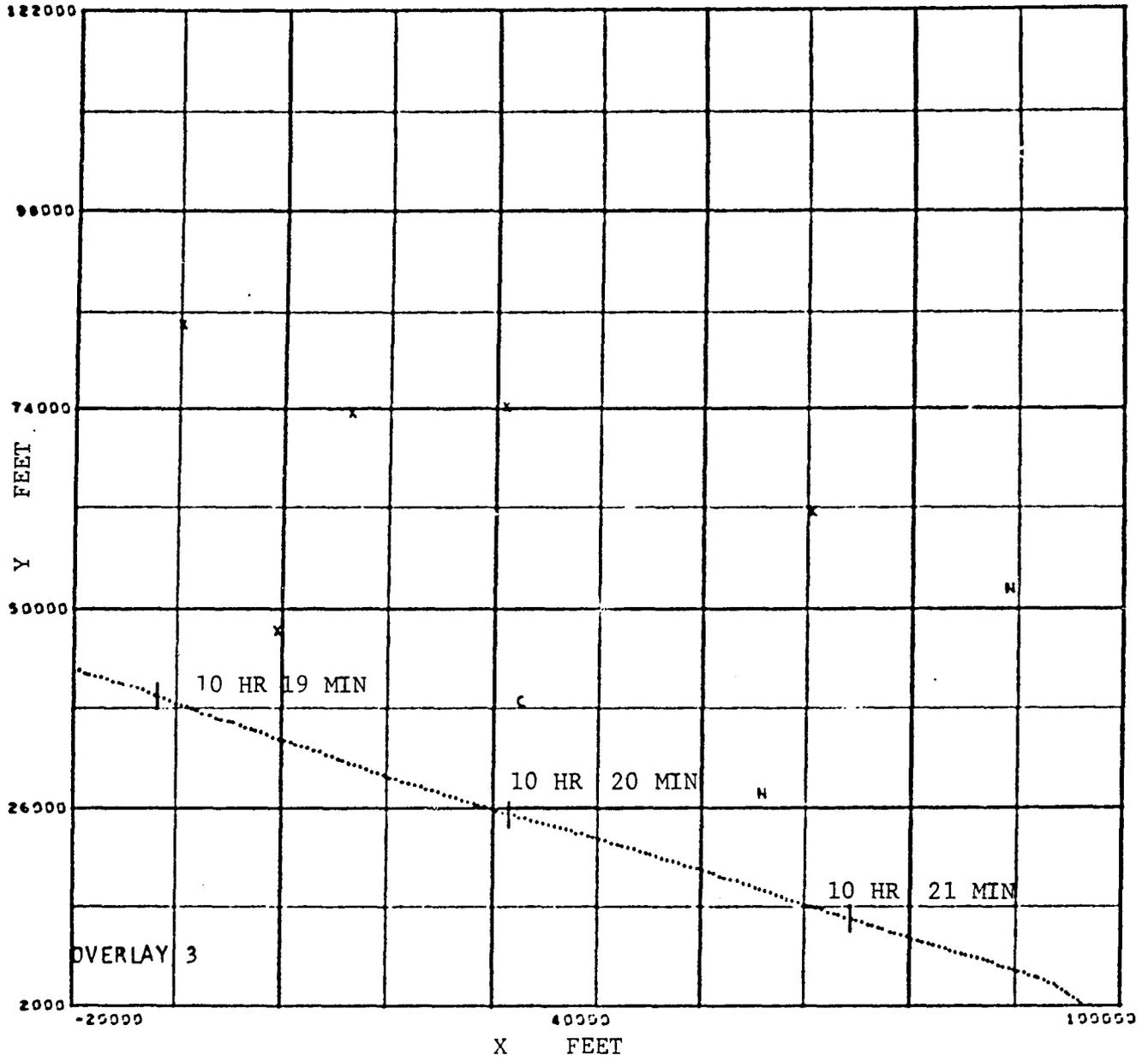


SORTIE NUMBER 461C

FIGURE 2-31
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 461C

FIGURE 2-31
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

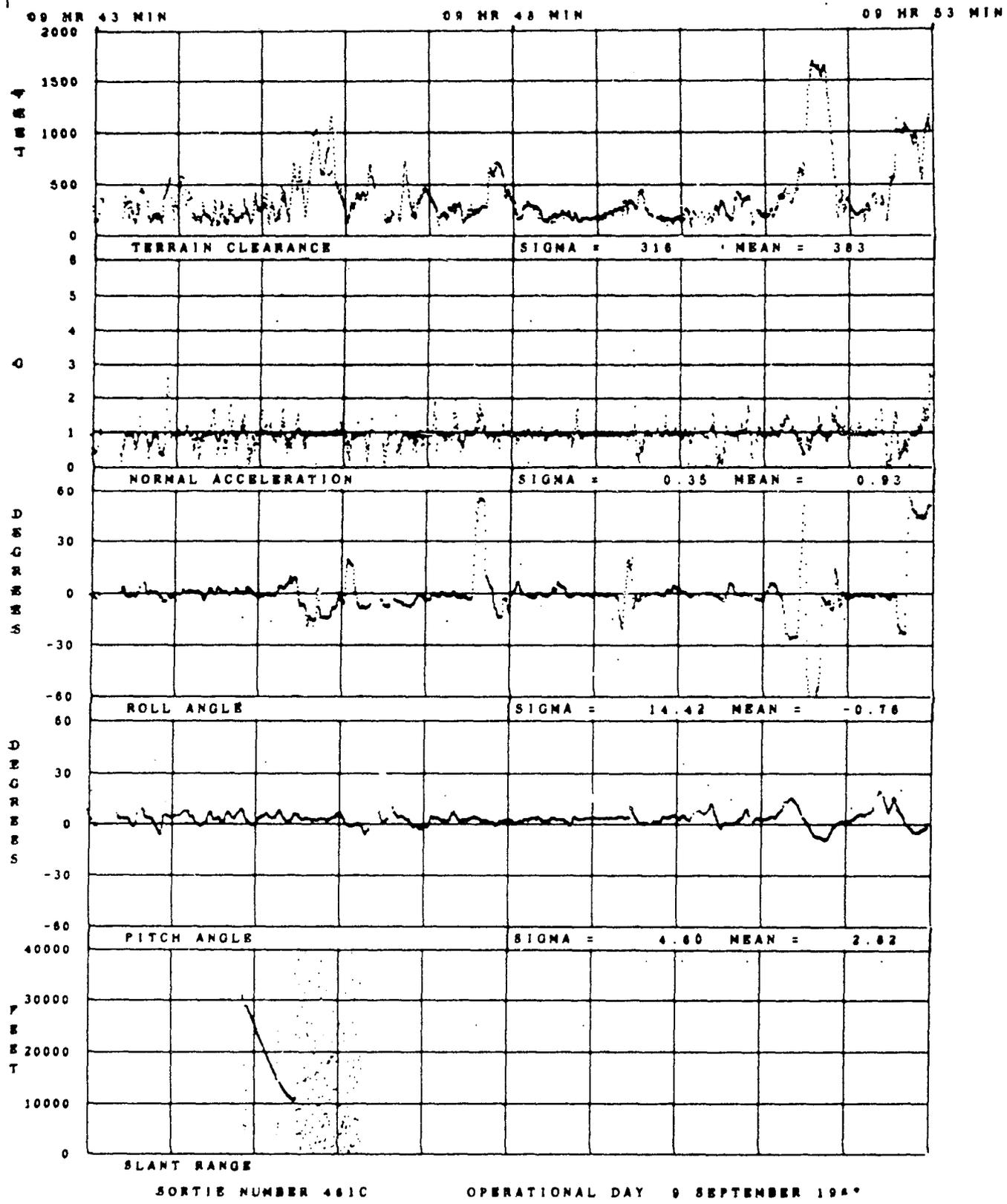


FIGURE 2-32 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

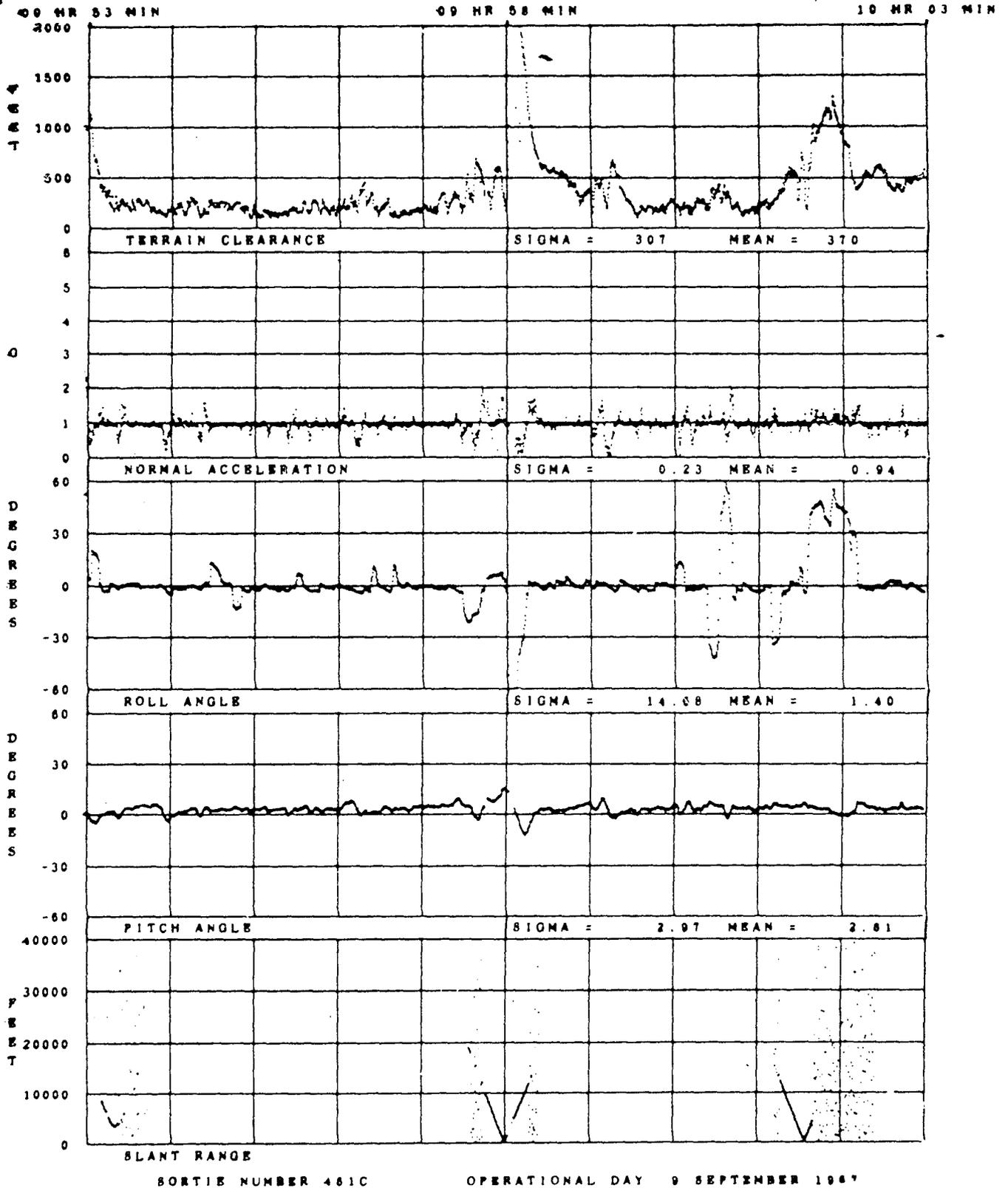
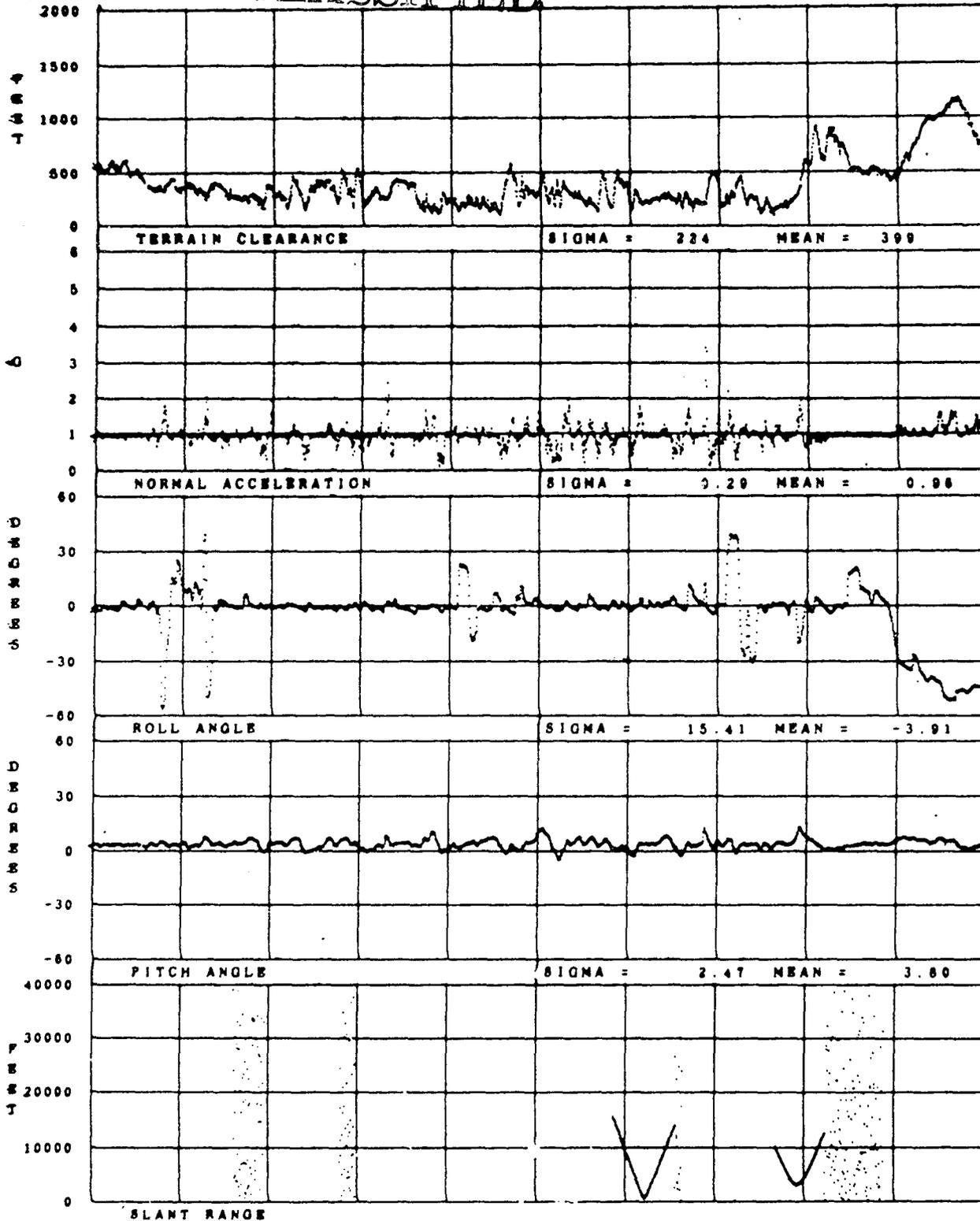


FIGURE 2-32 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED



SORTIE NUMBER 461C

OPERATIONAL DAY 9 SEPTEMBER 1967

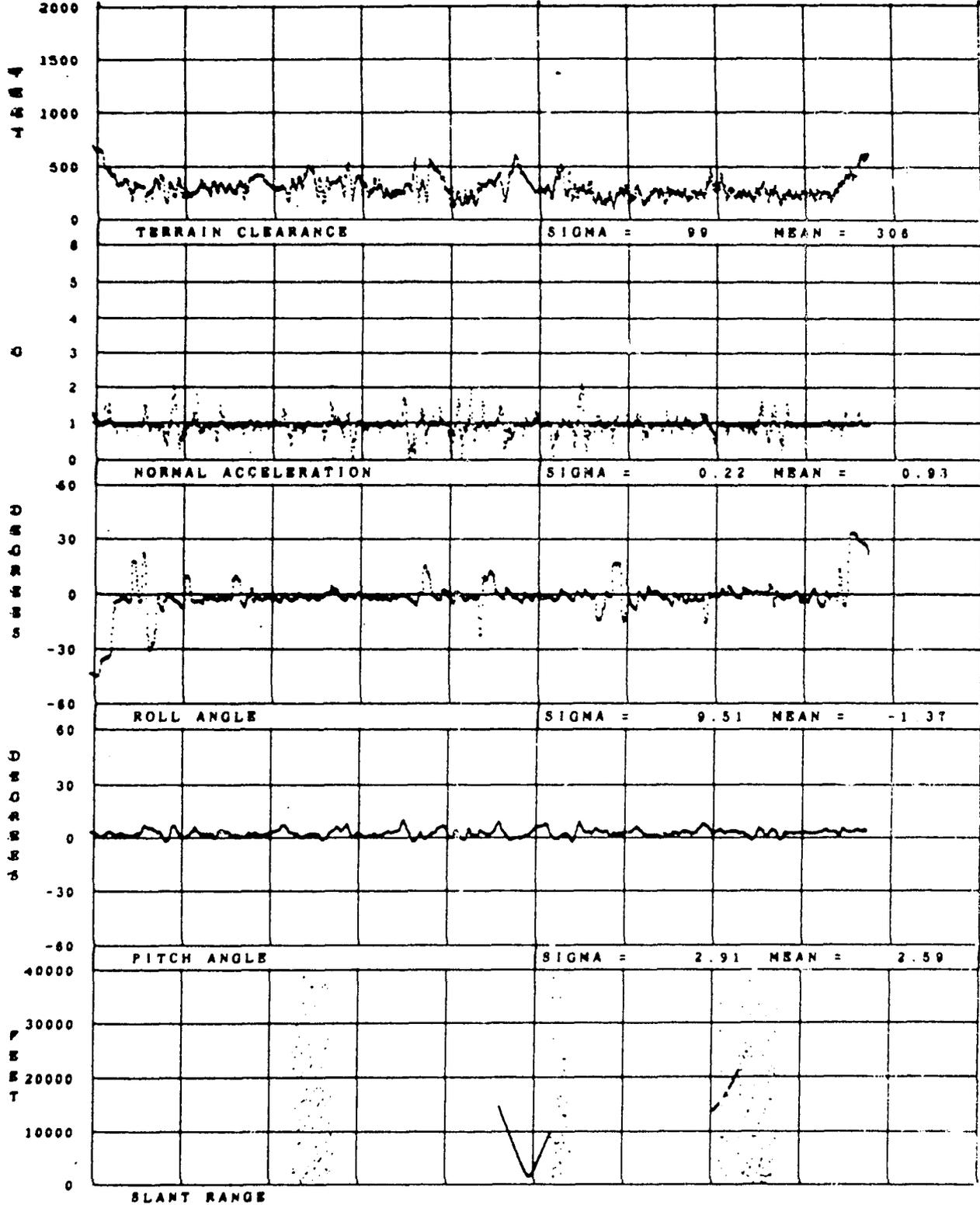
FIGURE 2-32 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

10 HR 13 MIN
2000

10 HR 18 MIN

10 HR 23 MIN



SORTIE NUMBER 461C

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-32 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 461C
			DATE 9-9-67
	10:04:09	Okay. I see it. No smoke, just strobe light.	
	10:04:12	Okay.	
	10:04:15	(****) it a bird. Ahhhh.	
	10:04:20	up there. Okay. 279. Proceeding. Let's start looking for some of these (****) coordinates I mean, ah...	
	10:04:30	Just make a take on that map. We'll give them the coordinates when we get back. That's the best we can do. Okay. I see another map down here on the floor, if I can get it out. You, you do see it now, huh? Yeah, I...	
	10:04:48	Okay, I haven't seen Dick yet.	
	10:04:52	Okay, I got it again. Okay.	
	10:04:57	Rest kind easy. I'm not a...	
	10:05:06	Okay, 20. Where are we, 28? Yeah, no, yeah, we're coming up on 27, 30 now.	
	10:05:17	Did we get to that check point about on time, do you remember? Yeah, right on top of it. Okay.	
	10:05:25	Okay, we should have just passed over a railroad track...yeah, and a road.	
	10:05:33	Okay, coming up on a river now.	
	10:05:37	Got a river right down here, we crossed it now. Okay, we're coming up on 28 minutes. Say again? We're 28 minutes in the route. Okay.	
	10:05:48	Okay, get this. Didn't see anything down there on that one. I didn't either. Okay, there's the river. Be looking for some of these trucks and (****).	
	10:06:01	All right. Hell what's the time on that ah... that next turning point? Okay, the next turn is at 33 minutes. 33 minutes. Okay. Rog. Okay, I don't see a thing. I didn't see anything either.	
	10:06:19	Coming up (****), more birds.	
	10:06:23	If we're on course...	
	10:06:29	Okay, crossing the road, there was a fork in the road about a mile north.	
	10:06:43	Okay, well, we'll be able to find ourselves in a, in a one minute, this just open spaces in here. In one minute we're going to come to a good sized a river, and a railroad track road complex right on the other side of it. Okay. Then we can find out where we are. And what's our, what's our way, there'll be a town about a mile to the left.	
	10:07:12	It's right up the road.	
	10:07:17	I don't see anything.	
	10:07:23	Zigging along out in the woods.	
	10:07:27	Okay, we're heading... that's considering we on time. We may hit there a little late. (****). Okay, it'll be down in a valley, kind of.	
	10:07:40	Okay, we got a valley coming up down here.	
	10:07:51	Okay, there's a little ri... there's a river. Okay. Okay, and...	
	10:08:01	Not much of a road, there's a railroad track. Pass the railroad. Okay, I haven't seen a (****) truck yet. I don't see a town down there.	
	10:08:13	Okay, we're about 30 seconds slow. All right.	
	10:08:29	Okay, should be passing a small creek pretty soon. I swear, I haven't seen anything. I haven't either. I saw some track back there a minute ago, but it looked like tractors. Didn't see where anything was put out or anything.	
	10:08:42	Okay....	
	10:08:54	How much... Okay. 30. Okay, we got 30 over 10, that right? Okay, here's some stuff down here. Let's see if any of this is military looking.	
	10:09:15	Okay, a road passing under us. There's a grader out there, but they weren't painted like military.	
	10:09:25	Hey, it looks like we're on course. We're still about 30 seconds behind. I'm going to, I'm gonna just slip the time.	
	10:09:46	Okay.	
	10:09:51	Okay, there's some cows down there. We should be passed. (****). More (****) birds. Yeah, I don't like those things.	
	10:10:01	Small house.	
1	12 10:10:03	Oh, holy mackerel. There was a whole bunch of stuff down to our right? Really? Yeah, did you, well, hack it. We'll spot it when we get back anyway. What'd they look like? Bunch of tanks and what not. Oh (****). In the woods here?	
	10:10:30	Okay, we're coming up on 33.	
	10:10:40	Okay, scan this area just down here on the ground. Okay, I'm looking.	
	10:10:48	Hey, we coming up on 33 you say? Well we're slow. We're at 33 minutes, but it, we won't turn until... oh (****), we just missed a target. There it is.	
	10:11:00	Ah, Phantom, ah, yea, Phantom 08 is point N2. Just... back there at 8 o'clock. Roger.	
	10:11:17	Okay. Holy mackerel. Maybe we'll see something on this nes.. next leg. Okay. Get organized here. Okay, I got my clock ready to punch off again.	
	10:11:29	Here's that (****).	
	10:11:32	Timber 1, Phantom 08. Over.	
	10:11:40	A yeah so come on talk to me.	
	10:11:50	Okay, you saw the...	
	10:11:55	You saw the road and the railroad complex we passed, didn't you? Yeah, okay.	
	10:12:01	Okay we got 7800 pounds. Yeah, I got it all figured out. Now (****) no. I'm waiting on them to talk to me.	
	10:12:07	Timber 1, Phantom 08. Over.	
	10:12:12	How about a vector to N3.	
	10:12:29	Thank you.	
	10:12:39	100.	
	10:12:52	Okay, that guy called a SAM site. He must be the one right ahead of us, so a... Yeah, I know. I was thinking about that myself. (****). Look at the (****) haze this way. Yeah.	
	10:13:11	Okay.	

FIGURE 2-33 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

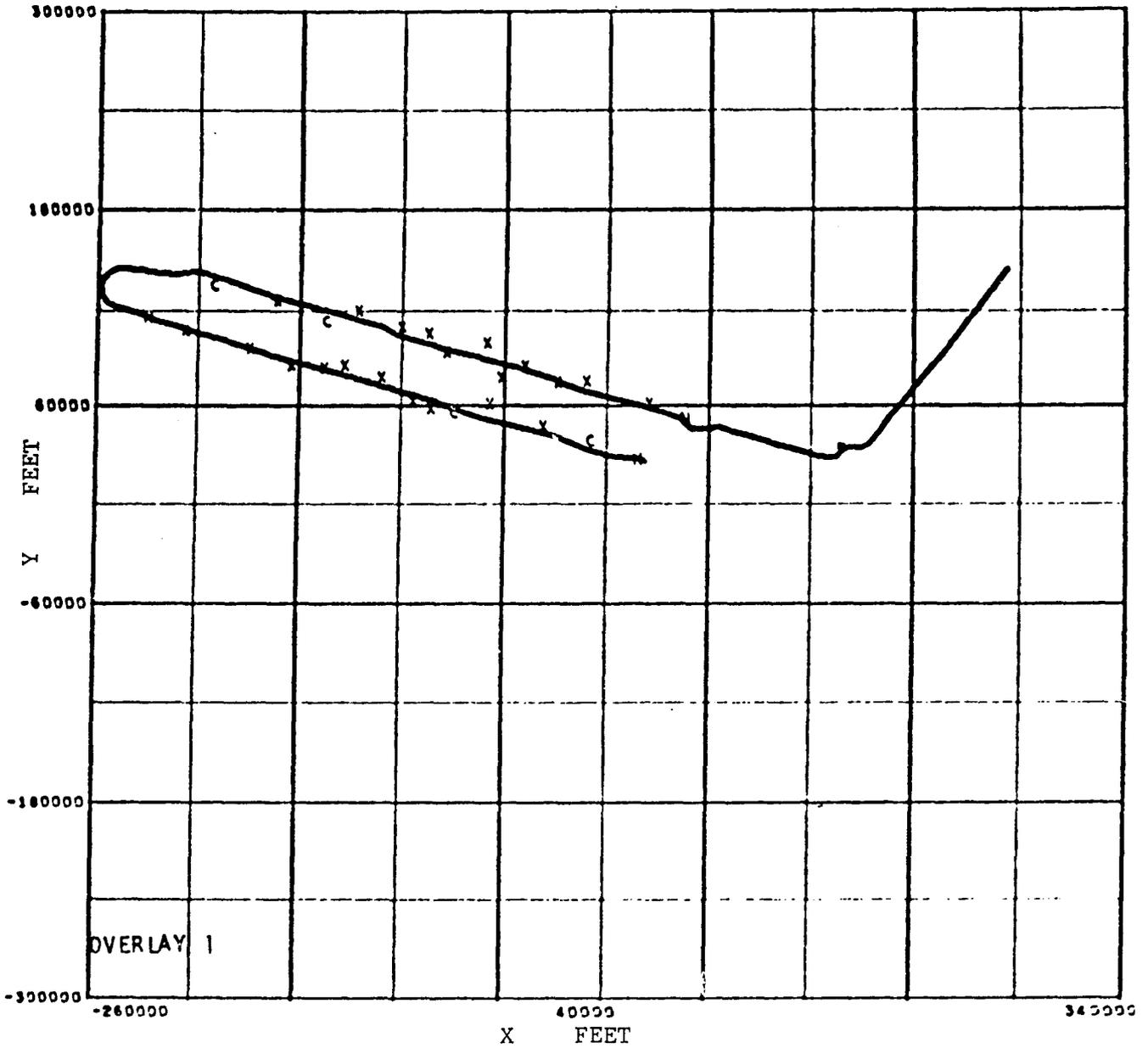
UNCLASSIFIED

RPT IGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 461C cont.
			DATE 9-9-67
	10:13:16	No joy, 08.	
	10:13:23	(****), you can't see (****) in this...	
	10:13:28	Okay, here, we should pass to the left of the end of this leg. We're looking good. Okay. Should be at. Ah, here it is.	
	10:13:36	08 reporting North 3.	
	10:13:42	Okay, head 099. Yep.	
	10:13:49	And I think I. Rog. Just look at this (****) this time. (****) hack.	
	10:14:09	Okay, there was... more birds.	
	10:14:27	You see anything down that way? I just saw something, we were passed it. I wrote it down though.	
	10:14:35	I can't see anything until it's going underneath us. I can't see anything until it's going underneath us. Okay, we're coming up on 1 minute.	
	10:14:46	We should be passing over a road here. Okay, there's trucks, I mean trails down there, but I don't see anything.	
	10:14:57	There's a bridge.	
	10:15:00	Okay, here's a road coming up on our left. Okay.	
3	15	10:15:05	Okay, there's a oh (****). Get your hack for that back there.
	10:15:13	Phantom 08 has 3 trucks. Coordinates Charlie Hotel 5-5, and a they're around a pond. They might be a wash (spot?).	
	10:15:28	08.	
4	16	10:15:35	What did you see there? There were 3 trucks, and here's a couple helicopters.
	10:15:40	Speedy, make that Phantom 08's got 2 choppers. See a helicopter pad, Charlie Dog 4-4.	
	10:15:46	You see anything else around there? Negative.	
	10:16:02	You ever got that thing. You ever got that map back yet? Roger. We'll, why don't we... Okay... I'll. If you know where we are, call off where in the hell these things are, and plot them on that thing. Okay.	
	10:16:19	Okay, we're 2-1/2 minutes in route. Okay, (****), cows over there.	
	10:16:31	Okay, how many minutes this (****) 7 minutes, down to the end of it. Is that right? Roger. Okay.	
	10:16:42	Okay, coming up on 3 minutes. Look for something down this way. Wee, road, railroad.	
	10:17:04	Okay, you say we passed over a road, railroad? Yeah.	
	10:17:20	Okay, be looking around for this (****) SAM site. Wait a minute here's something right here.	
4	20	10:17:24	That's Phantom 08. Got artillery pointing north. 2 ah 2 guns, 2 trucks, large truck pointing north Charlie Delta 8-4, Charlie Delta 8-4. (10:17:38)
5	21	10:17:40	Okay, top of the hill, there was nothing back there. 3 trucks around a water hole, would be a water supply.
	10:17:44	This is Speedy, make that Phantom 08. 3 trucks around a water hole. Coordinates ah, what are they? Okay, Charlie Echo 2-4, Charlie Echo 2-4. (10:17:56)	
	10:17:58	What was that, water supply? Yeah, okay.	
	10:18:02	Just crossed a road.	
	10:18:08	How much, how much time. 2 more minutes till we leave this thing? Roger. Okay, where's that (****) SAM site?	
	10:18:17	I don't know, it's kinda discouraging, though if we don't see it.	
	10:18:27	Something down there. I don't see it.	
	10:18:33	Bird up there.	
	10:18:44	Don't see (****) going into this haze. In this sun.	
	10:19:19	Okay, we got 6...6 hundred. We're going to slow it down here in a minute.	
	10:19:27	Oh, (****). Still don't see anything out here.	
	10:19:34	Okay, there should be a tower off to the left, if we're anywhere on course. A water tower. No cloudy tower. I don't know what in the world that is.	
	10:19:45	A building back there, you see anything in that field? I didn't see anything.	
	10:19:54	See anything down there in that ridge? I mean on that... creek. I'm looking.	
	10:20:03	How much time we got? Another 45 seconds. Okay, 6:15...	
	10:20:10	Okay, we should be passing over a pretty good sized creek here. Okay, here's a tower over here at 11 o'clock. We just passed a creek back there. Roger.	
	10:20:18	Tower's over there at 11 o'clock, a couple of miles.	
	10:20:44	Okay, 7 minutes. Break it off in about 15 seconds I guess. We should be about the to end of our course.	
	10:20:53	I sure didn't see any SAM site, though.	
	10:20:58	Okay, birds.	
	10:21:09	We supposed to have smoke or something there. Here's a railroad track. Signal Mountain tower. We, oh yeah, that's right.	
	10:21:18	I bet there's that (****) over there at 11 o'clock.	
	10:21:23	We did the railroad track, and ... we're right over, it. Yeah, we're through. Okay.	
	10:21:31	We must have been to the right... what's the heading down there to the next place?	
	10:21:36	Okay, I'll tell you in a second here. I don't know where the (****) it's at.	
	10:21:45	I want to go to Pod 1.	
	10:21:47	End of transmission.	

FIGURE 2-33 (U) VOICE TRANSCRIPT (2 OF 2)

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 466C

OPERATIONAL DAY 11 SEPTEMBER 1967

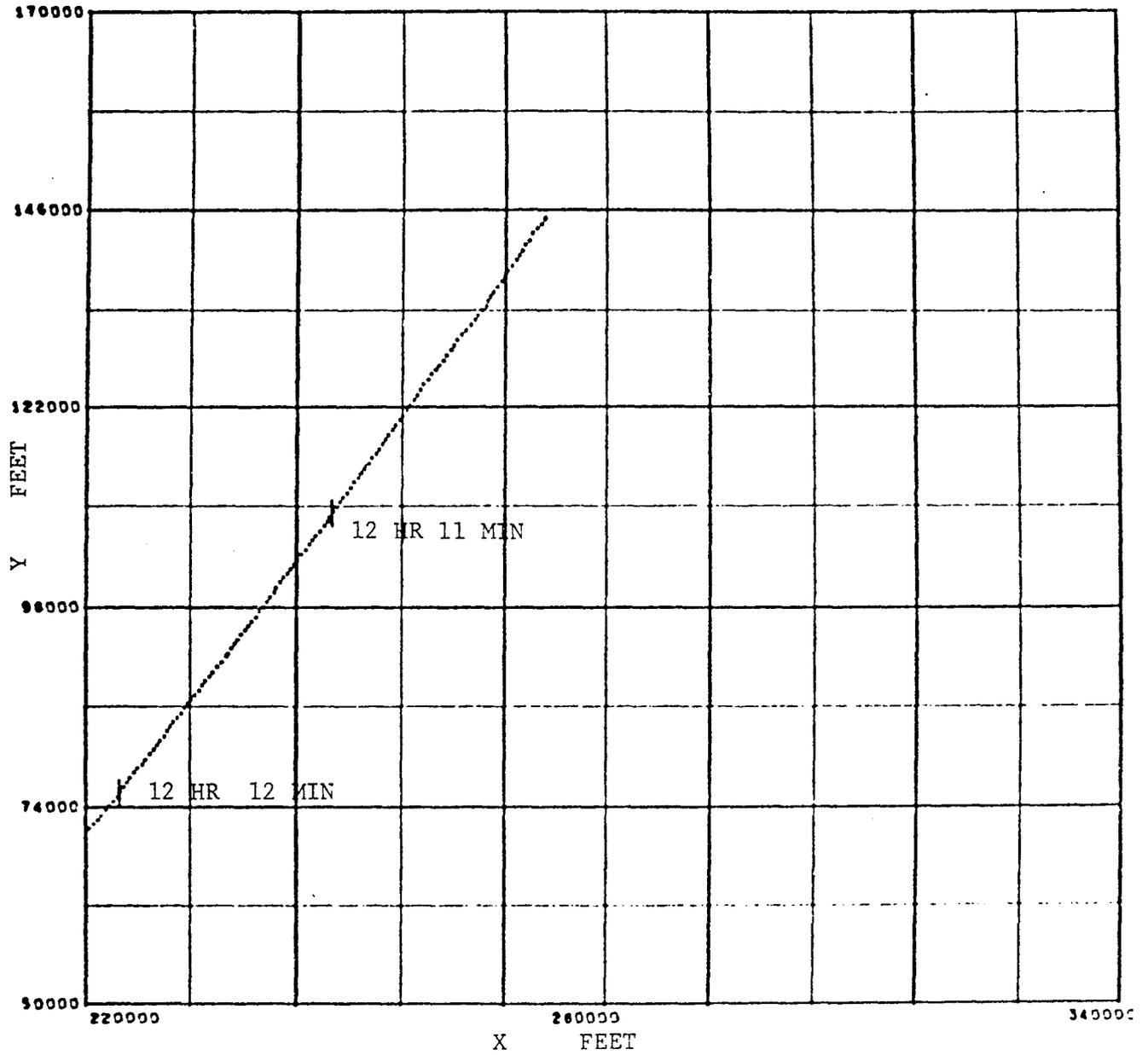
NORTH COURSE

FIGURE 2-34

AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

UNCLASSIFIED

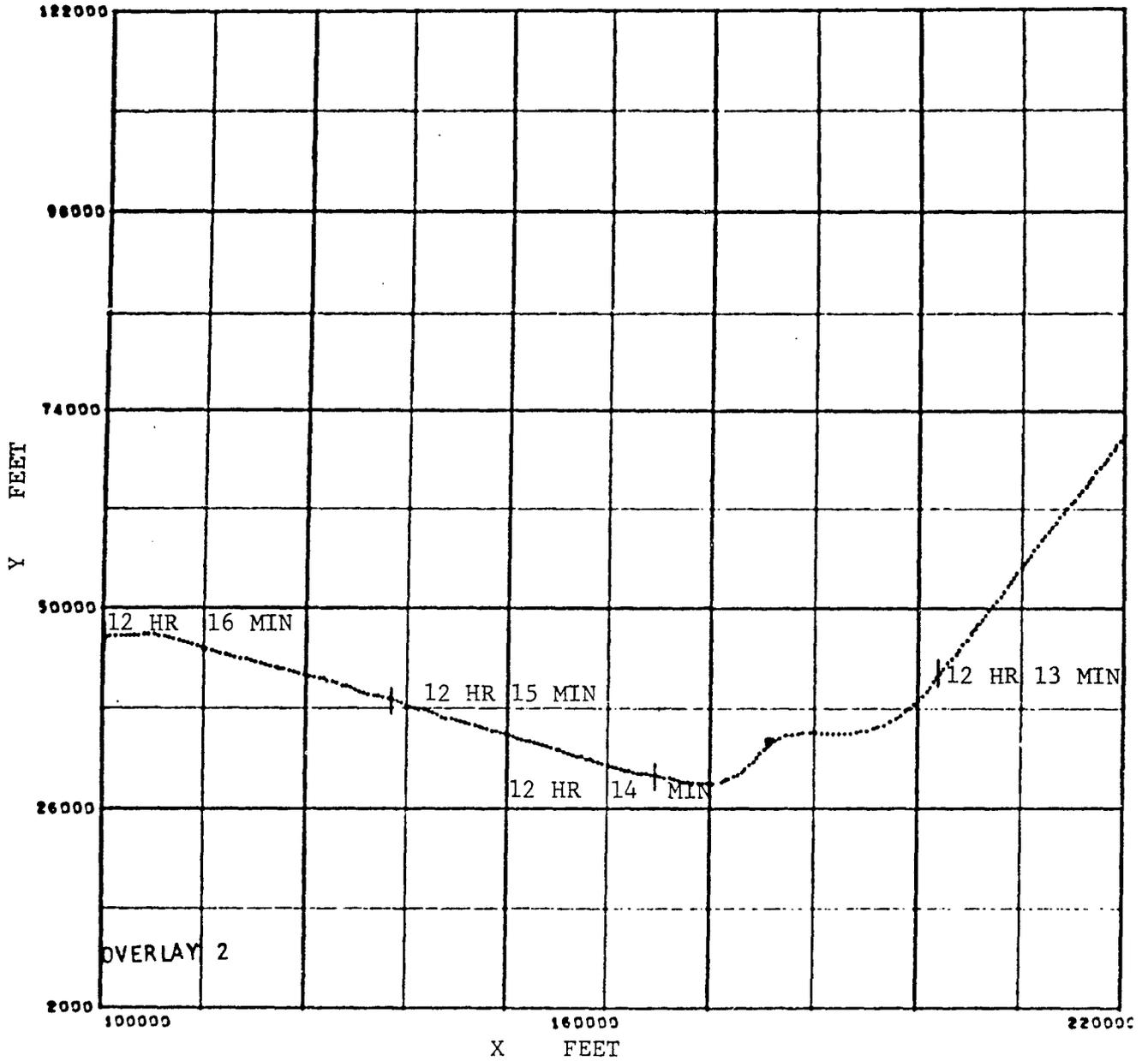


SORTIE NUMBER 466C

FIGURE 2-34
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED



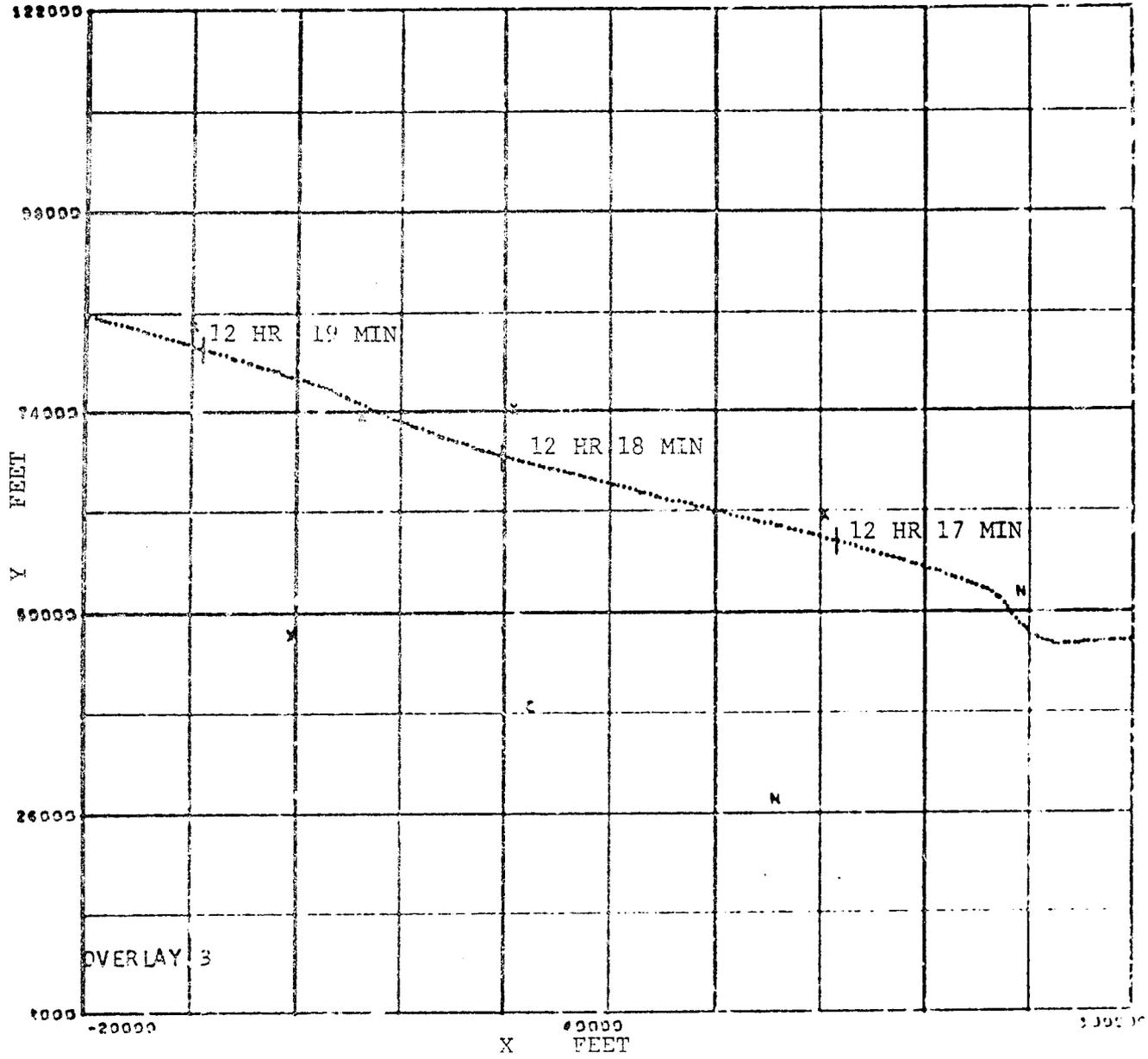
SORTIE NUMBER 466C

FIGURE 2-34

AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

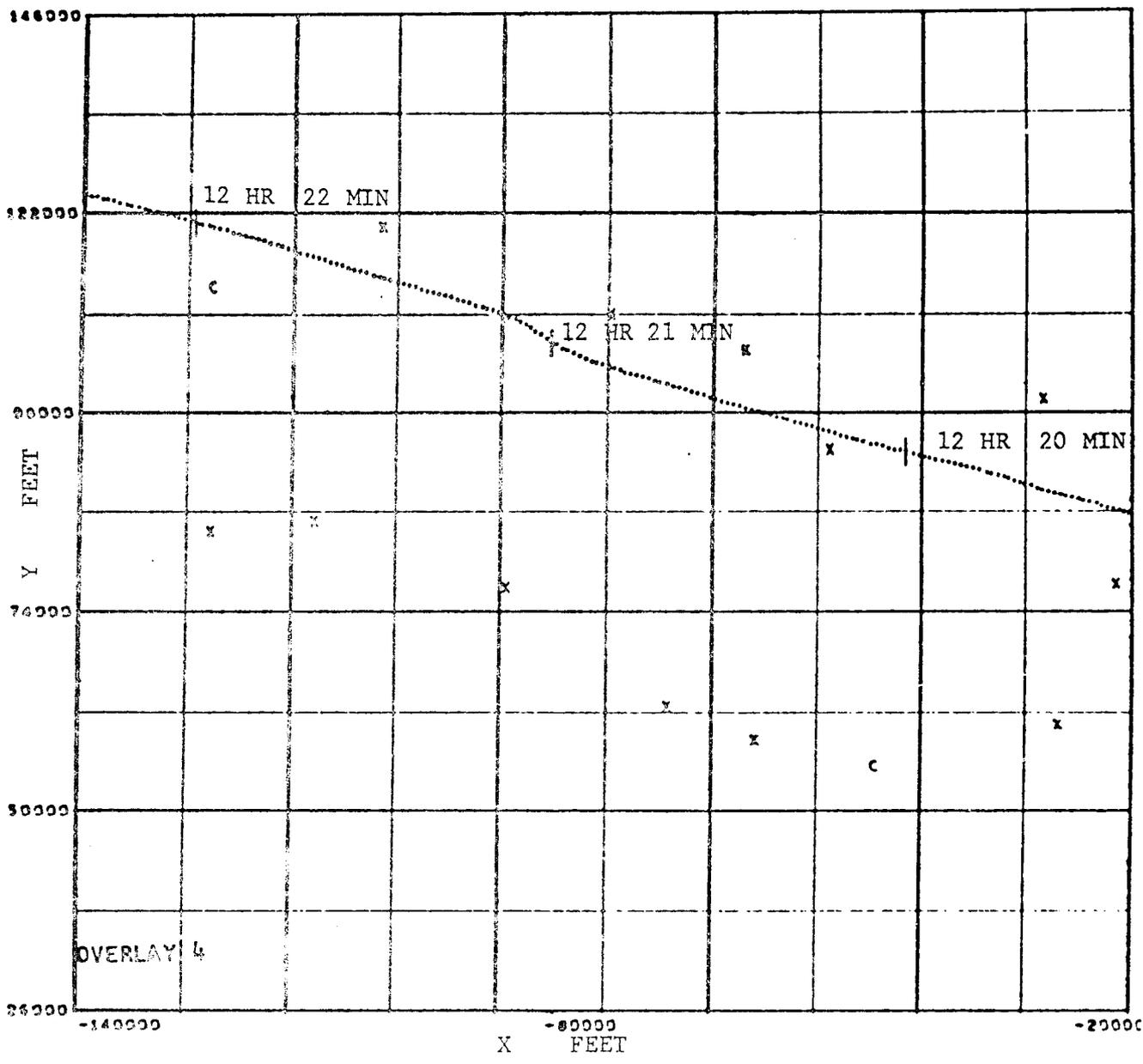
UNCLASSIFIED



SORTIE NUMBER 466C

FIGURE 2-34
AIRCRAFT POSITION DATA (U) 4 OF 8

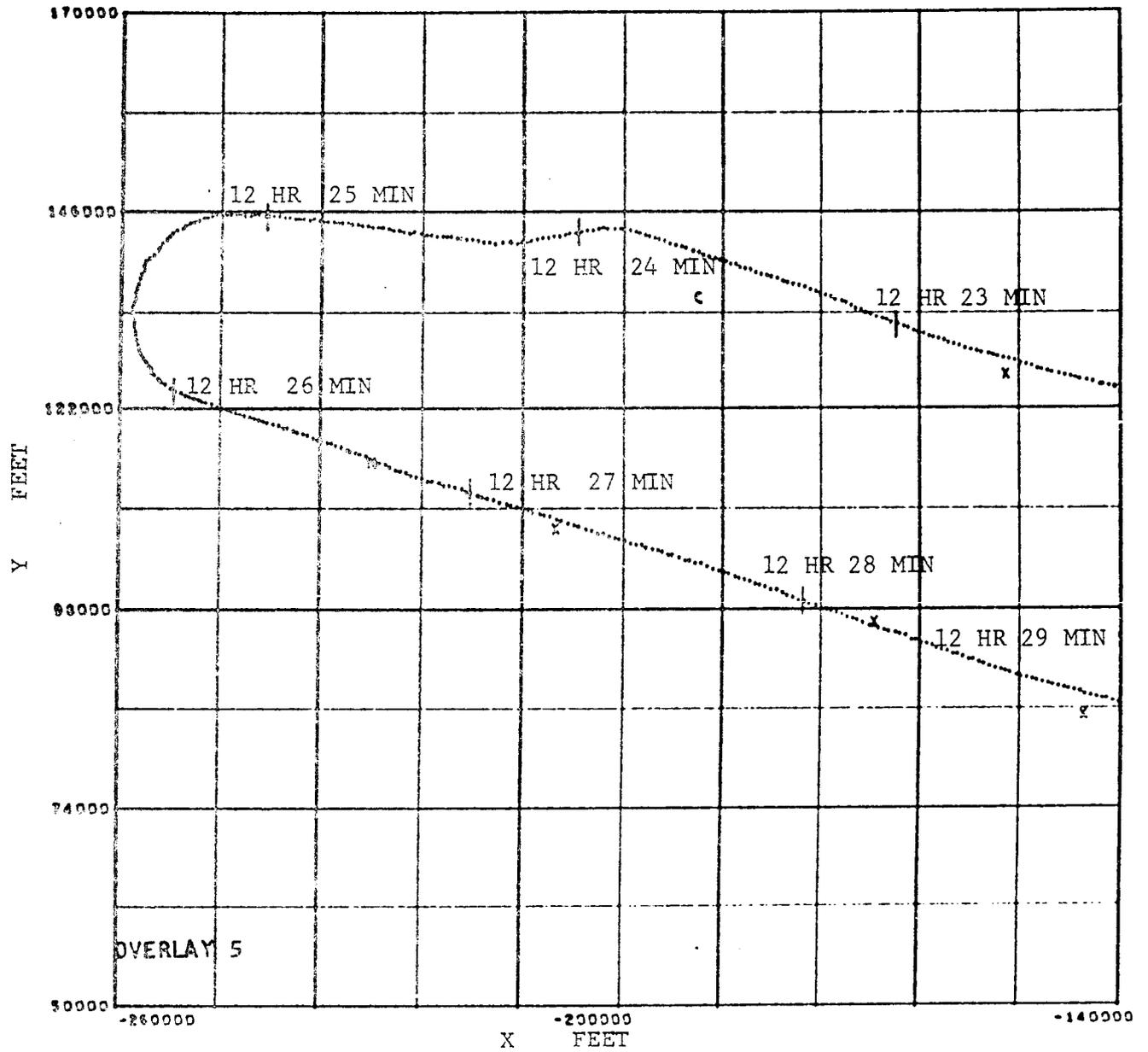
UNCLASSIFIED



SORTIE NUMBER 466C

FIGURE 2-34
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED



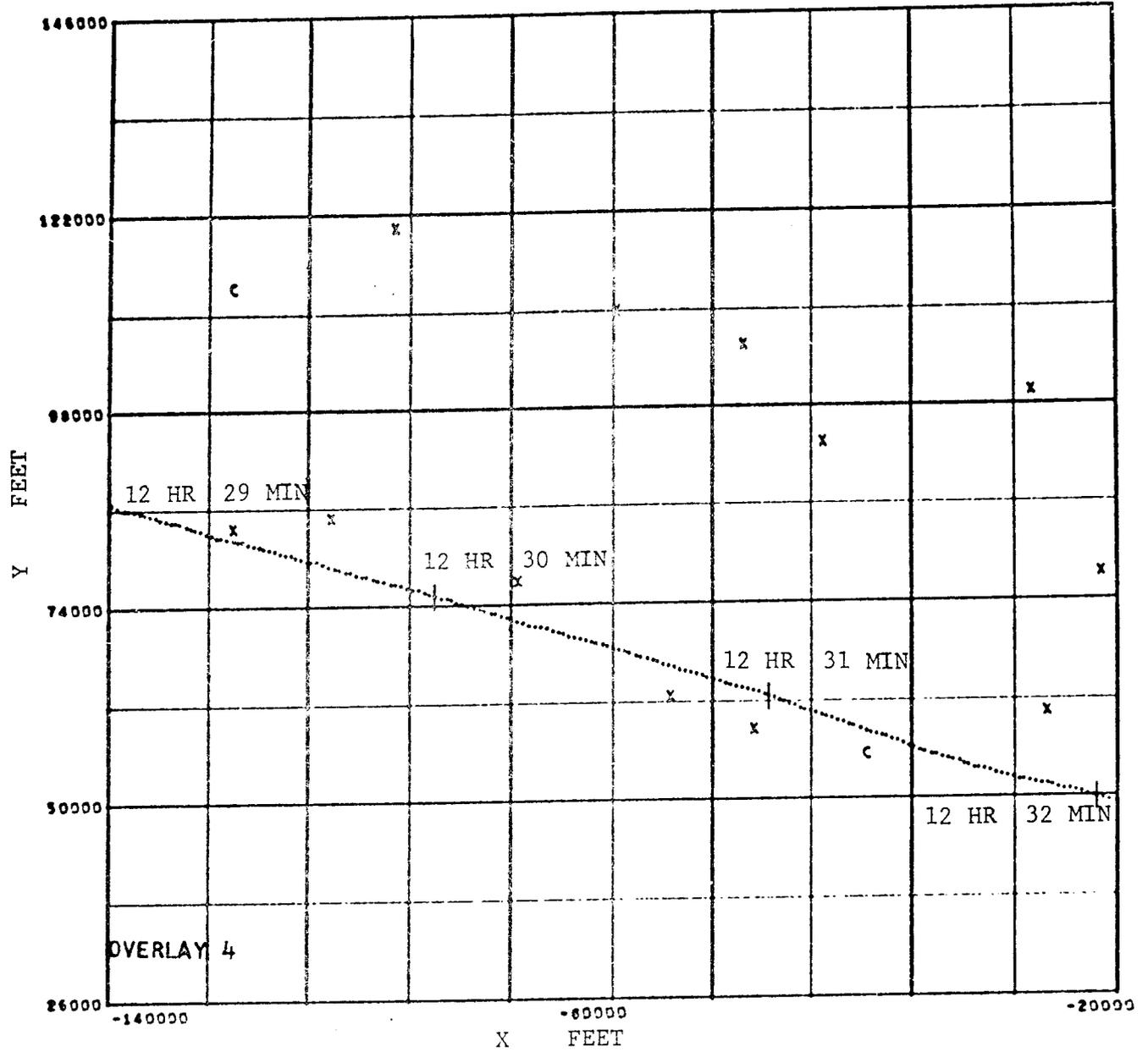
SORTIE NUMBER 466C

FIGURE 2-34

AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED

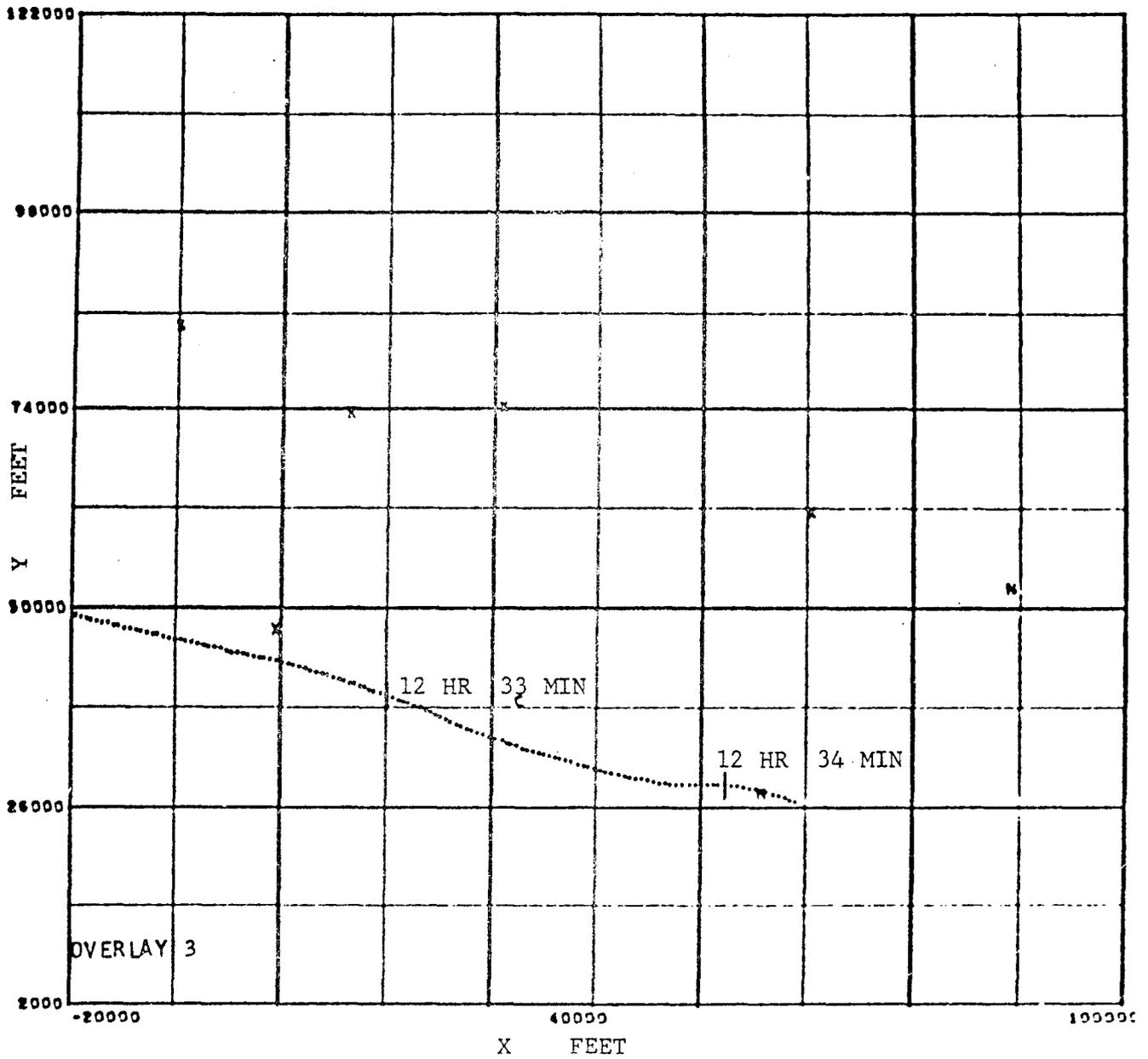


SORTIE NUMBER 466C

FIGURE 2-34

AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

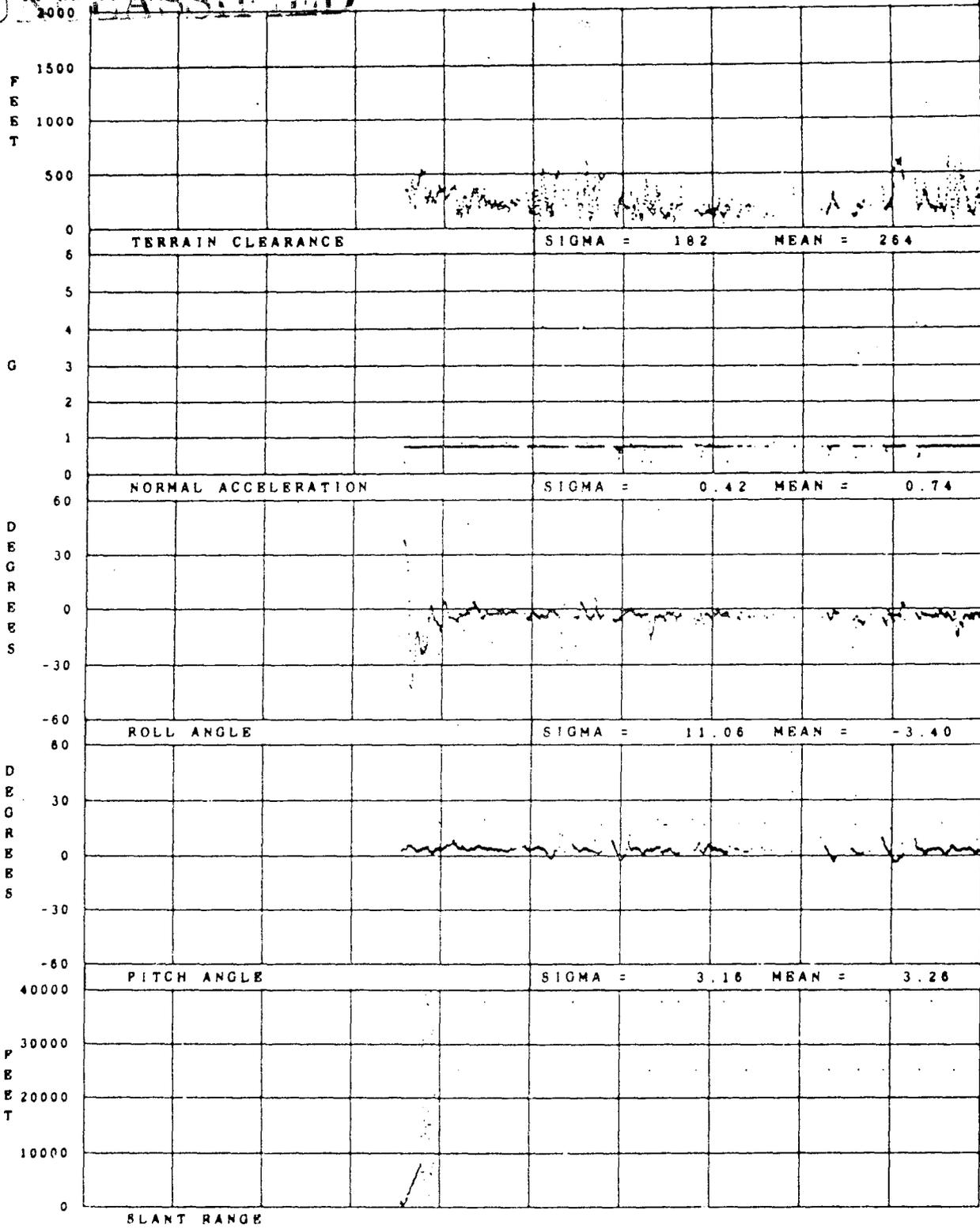


SORTIE NUMBER 466C

FIGURE 2-34

AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED



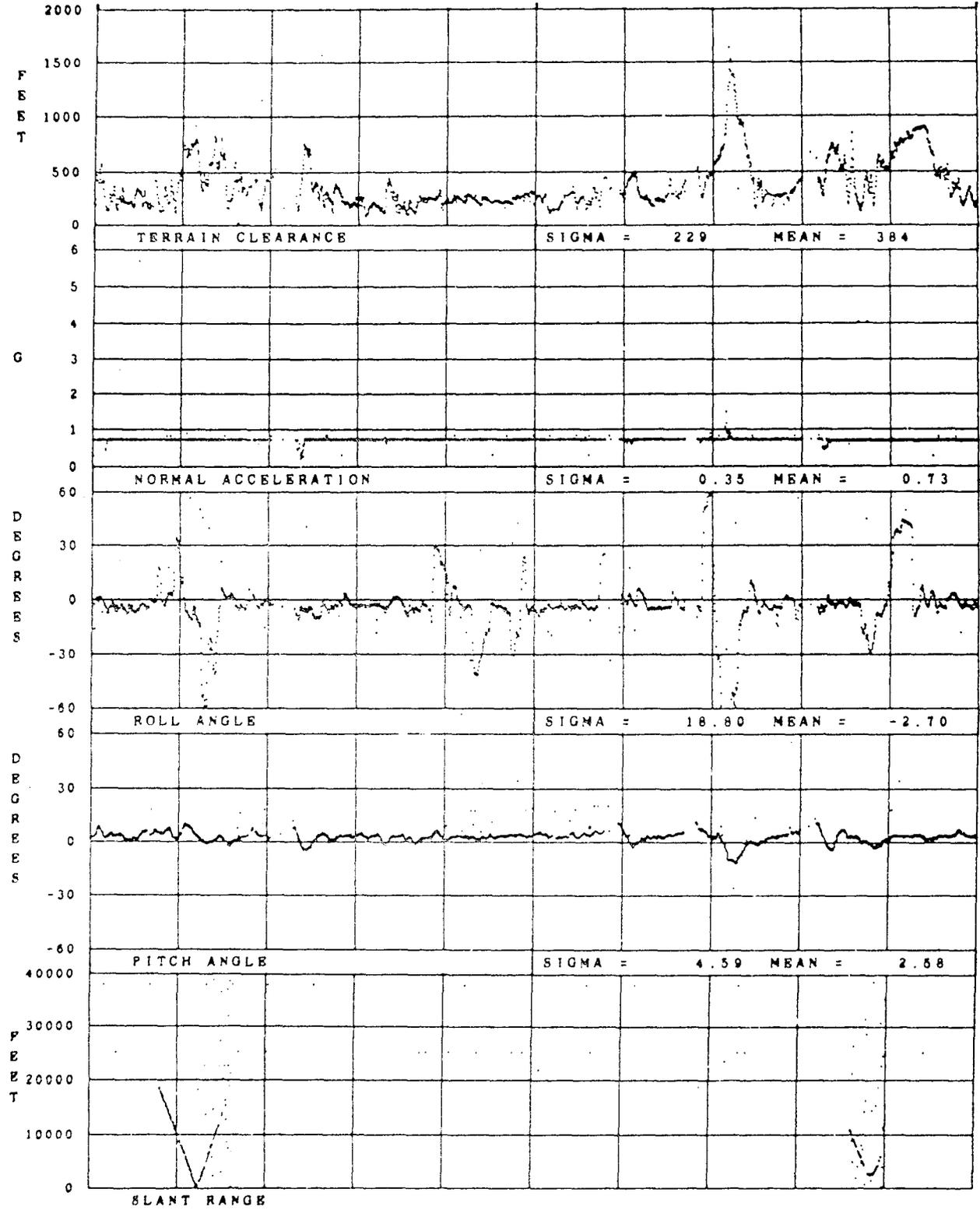
SORTIE NUMBER 466C

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-35 (U) TELEMETERED DATA (1 OF 5)

UNCLASSIFIED

11 HR 56 MIN 12 HR 01 MIN 12 HR 06 MIN

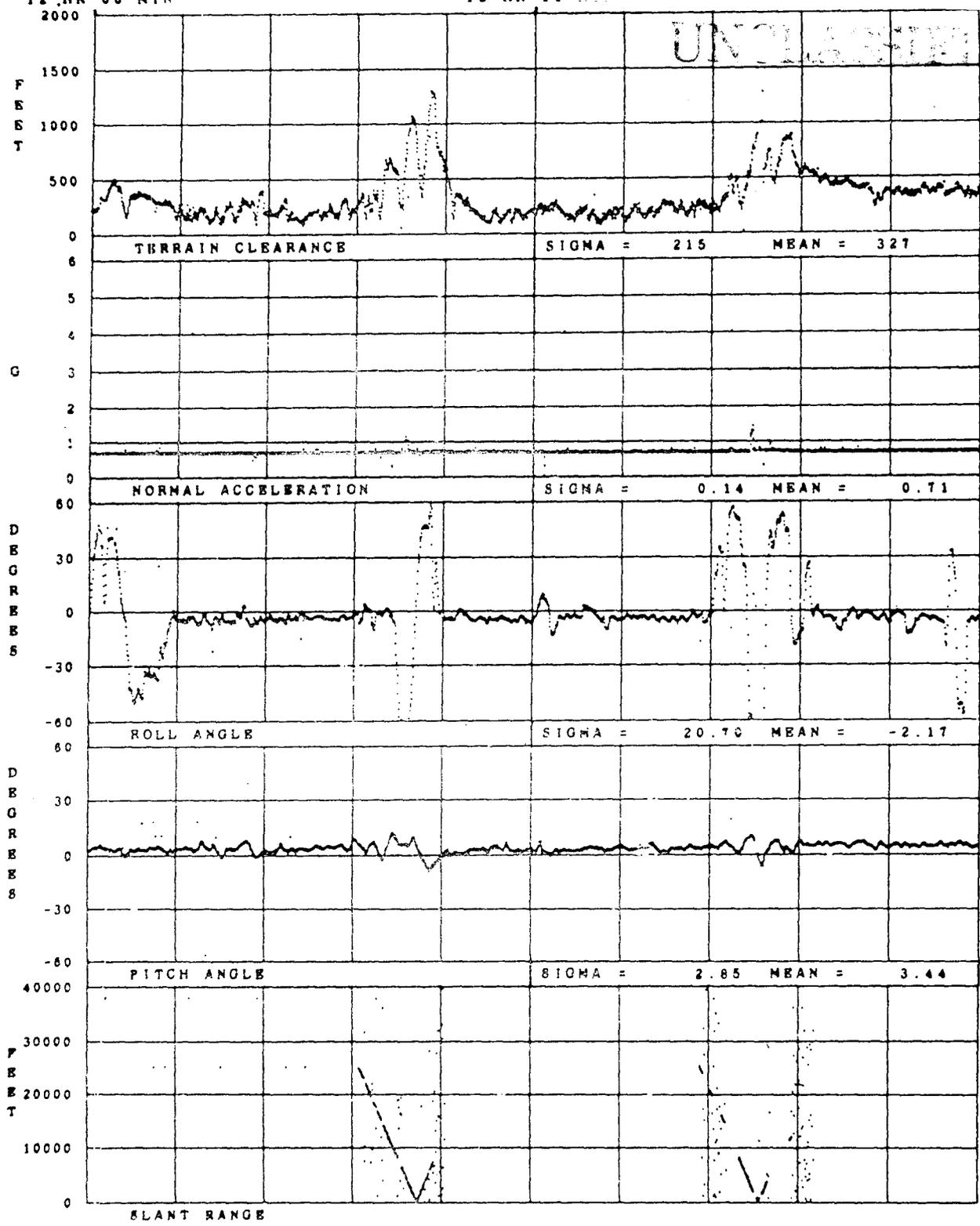


SORTIE NUMBER 466C OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-35 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 466C OPERATIONAL DAY 11 SEPTEMBER 1967

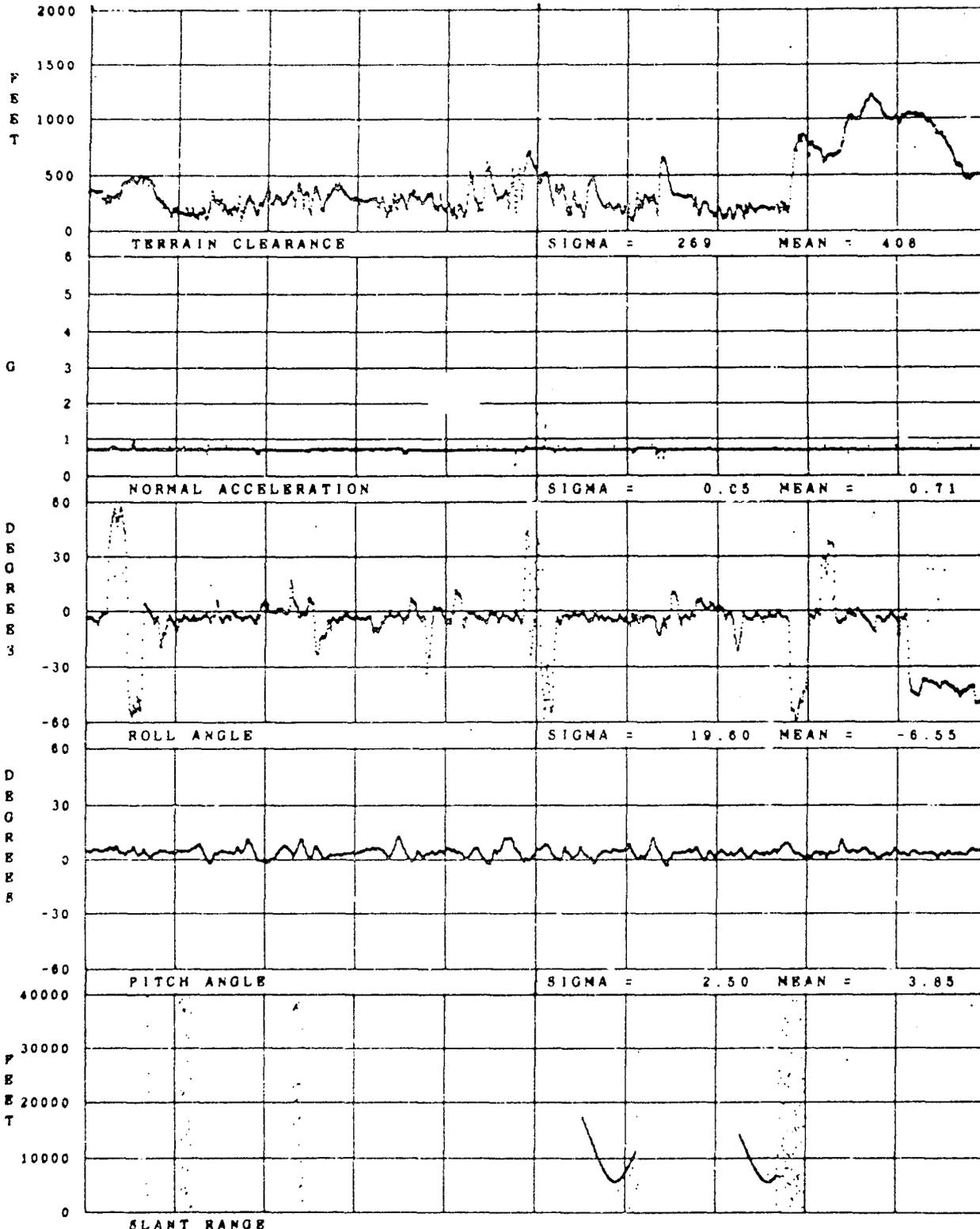
FIGURE 2-35 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED

12 HR 16 MIN

12 HR 21 MIN

12 HR 26 MIN



SORTIL NUMBER 466C

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-35 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

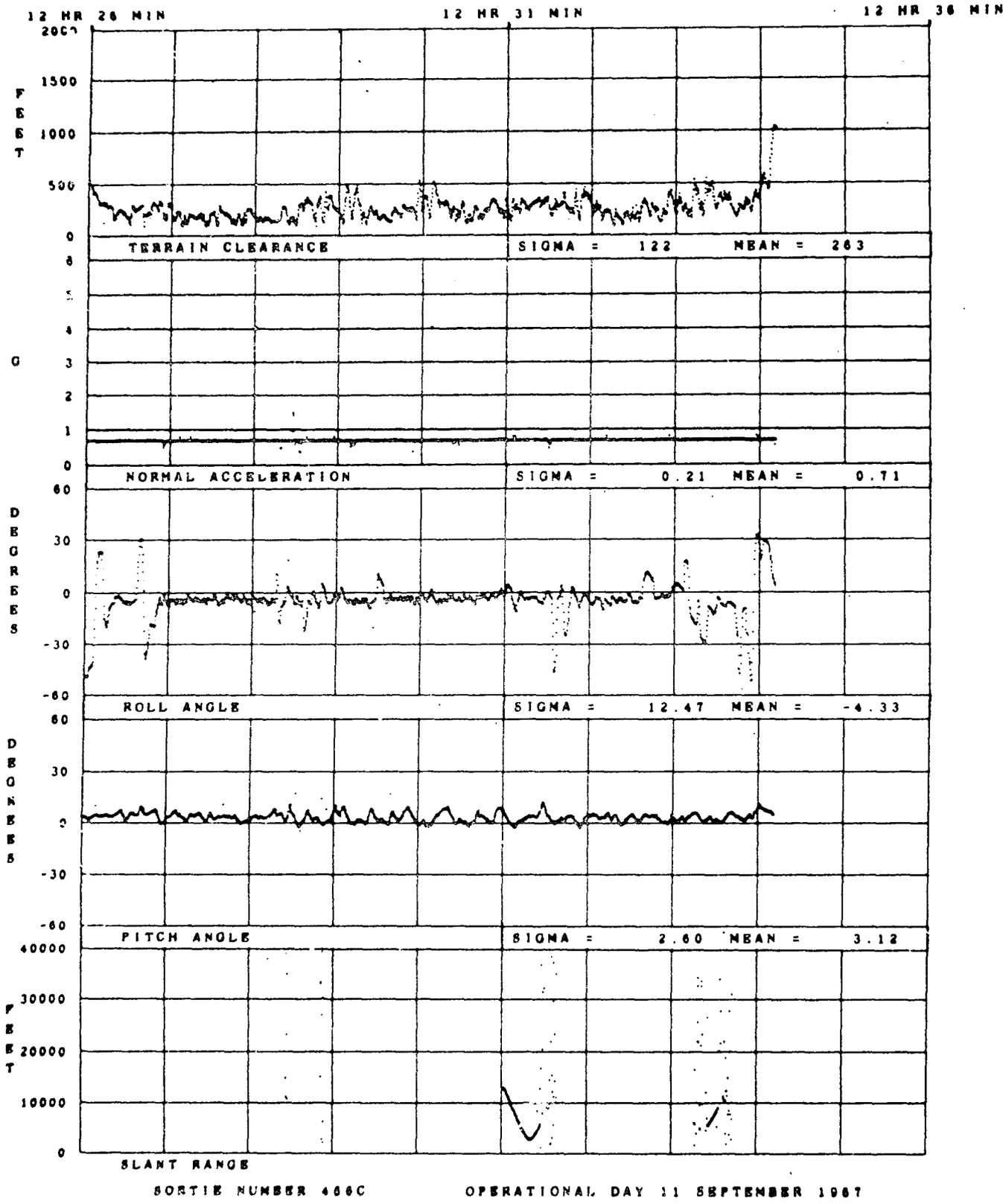


FIGURE 2-35 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

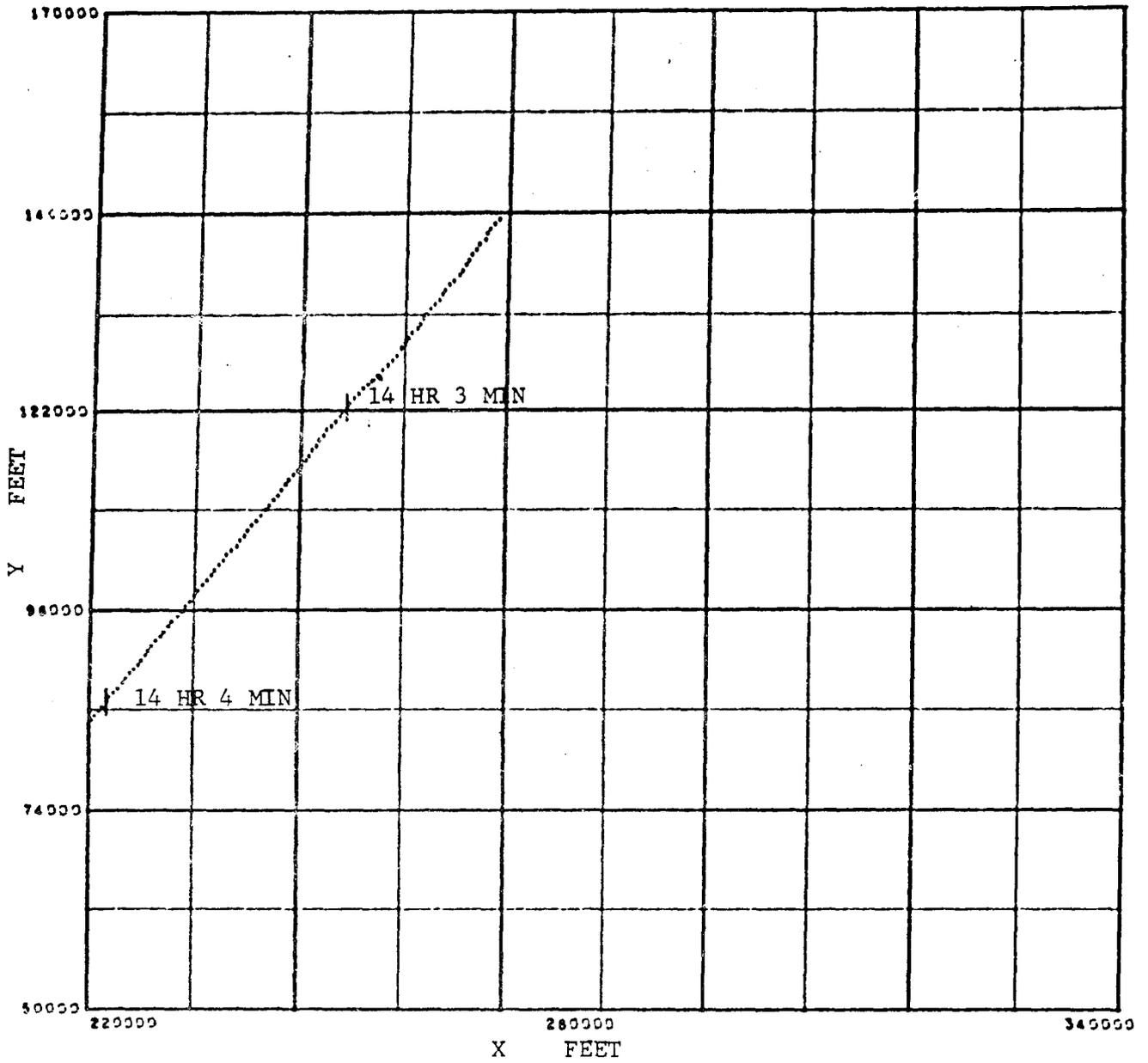
TIME		REAL TIME TRANSCRIPTION	SORTIE 466C
			DATE 9-11-67
	12:16:12	There it is . . . at 2:00, where, where? 2:00, 2:00.	
	12:16:17	Tallyho we're about a mile and a half left of course. Roger 34.	
	12:16:25	Ok, hack 280, 280 is the heading.	
	12:16:49	Ok the inertial looks good. Ground speed is 4 40. Ok. Oh (****). Ok we're showing 30 seconds out now. Ok.	
	12:17:11	Cleared area. Nothin'.	
	12:17:27	Ok 1 minute now.	
	12:17:29	Creek.	
	12:17:41	Gee whiz.	
	12:17:50	Ok a minute and a half now.	
	12:17:56	Is that a no. Is that a target off to our right, in that open field? Don't see one.	
	12:18:03	Yes it is it is.	
1	12:18:04	Phantom 34 has a target, a truck park, truck park, south it's approximately 12 or 14 medium size trucks.	
	12:18:20	Coordinates. What are the coordinates please? Coordinates Charlie Hotel 1-4.	
	12:18:25	You don't have to press the button they can hear everything. Ok.	
	12:18:28	Rog, the ah . . .	
	12:18:39		
	12:18:44	The trucks were facing ah north north ah were facing south appeared to be two rows of equal number. In a large open field on the side of the hill.	
	12:19:06	Passing the road at let's see three minutes and forty seconds. How does that look are we right over a little town, kind of?	
	12:19:23	What did I say the time was on that other one. I didn't say the time did I. No I don't think so. I don't know.	
	12:19:42	Ok ground speed is 4 10 watch your heading there. Don't want to get _____, we're about on course at the last time. If you maintain 280.	
	12:19:58	Don't want to get anything, they say we're by the left of course a little bit, ok showing 4 and a half. 4 40 right now.	
	12:20:10	Ok.	
	12:20:19	Ok crossing a tricky creek, coming down into the valley.	
	12:20:29	There's another creek there with a road off to the right, I don't know if you've got that on your map or not. Yeah. A railroad right now over a little bridge, yeah. How does it look? Ok I believe we're on course.	
	12:20:46	We're slightly left of course. We are left, yeah come right check right just a little bit.	
	12:20:58	A little bit more. Ok.	
	12:21:21	Easy.	
	12:21:37	There's a road off to our left going straight down there.	
	12:21:57	_____ for targets.	
	12:22:21	Excuse me.	
2	12:22:33	Ok should be about 40 seconds out now. Geez we haven't seen anything.	
12	12:22:52	We had a target. We did? Yeah we had a target parked, a dozen ah vans, looked like a communications sight. At ah . . . Alpha Echo 0-1 er 10. (12:23:10)	
	12:23:16	Park eccentrically, in an open field.	
	12:23:28	Ok we should be over there.	
	12:23:42	See that tower at 10:00? Yeah. It seems we overshot the ah N2. Ah no.	
	12:23:51	34's got 86. Roger.	
	12:23:59	Ok you can ask for vectors to N 1 . . . to N3.	
	12:24:02	Requesting vectors to N3. 34.	
	12:24:11	Whoops. People.	
	12:24:15	Ok Ok I let give an update on that dammit (?). That means that we went to the . . . we went right over N3. I think, but I didn't see anything. I'm not real sure I saw the farmhouse it looked . . . Yeah I saw a farmhouse too, I saw something that sure looked like the farm but I . . .	
	12:24:42	We gotta get this one the whole way.	
	12:25:10	095.	
	12:25:14		
	12:25:59	This next heading is gonna be (9, 90?) degrees. Alright.	
	12:26:04	Ok can you get an updated on this?	
	12:26:08	100. Thank you four miles to.	
	12:26:19	Ok I'm all set to update. Ok I'll tell you right when we go over it. And watch for the smoke Rog.	
	12:26:33	End of the lake here.	
	12:26:37	Tallyho smoke. We're going over it right now.	
	12:26:43	34's to 5. Yes we're past it now. Thank you.	
	12:26:50	Ok ground speed is 4 10.	
	12:26:54	Keep pushing that up just a shade.	
	12:26:58	400 now. Ok hold that.	
	12:27:07	Ok.	
	12:27:11	Ok thirty seconds out now.	
	12:27:14	Ok.	
14	12:27:17	Ok we had an ordinance now for the ammunitions dump at 3:01 at 35 seconds out. Two rows of amp . . .	
	12:27:28	two rows of ammunition boxes ah alongside a road, in an open field. Large open field about a . . . a half a mile across with a couple of ponds in it. Call that Bravo Bravo . . . 7-7. (12:27:45)	
	12:27:51	Ground speed 418. Ok. (****) keep your eyes open. Keep your eyes peeled here.	
4	15 12:28:11	The target about two tanks right under us right now. Ah there was three damnation I can't words. There's, I can't continue right now. Ok right there's ok, 3 armored, 2 tanks, and 1 armored vehicles 1 sitting in a triangle, around. Ok. Get the coordinates. Ok watch your heading. Yeah Bravo Charlie 4-5, Bravo Charlie 4-5. (12:28:38)	

FIGURE 2-36 (U) VOICE TRANSCRIPT (1 OF 2)

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RPT TGT	TIME	REAL TIME TRANSCRIPTION	SORTIE 466C cont.
			DATE 9-11-67
	12:29:02	These (****) ridge lines is what I gotta watch.	
	12:29:16	Ground speed is 392. Ok.	
	12:29:21	Pushing up. There's a bunch of cows. _____.	
	12:29:26	I can't figure out we just went over a creek there how does that look?	
	12:29:32	Ok three.	
	12:29:37	3 minutes, that looks pretty good.	
	12:29:51	Ok three minutes and ten seconds.	
	12:30:06	Two, oh we just went over a railroad track, ok I know where we are now.	
	12:30:13	Ok three minutes and 30 seconds. Ok should find something in that clearing.	
	12:30:21	Ok should be pretty much on course. Ok ground speed is 418.	
	12:30:32	We're showing about three minutes out, three and a half minutes out. Ok, Ok coming up on four minutes. Is that a . . . I see one truck over there.	
5 21	12:30:45	I see a target at 3:00 yeah it looks like a communications element, a couple of trucks and a couple of a . . . power units. And a couple of towers in a small open clearing.	
	12:30:58	Location is ah . . .	
	12:31:07	Charlie Echo 1-3. (12:31:08)	
	12:31:21	Ok, the road . . .	
	12:31:35	This things been off to our right hasn't it?	
	12:31:55	Ok watch for the ah . . . watch for the ah cloudy tower. Watch the what? Watch out for the a rain, a cloudy rain, a cloudy tower. You know the fire tower.	
	12:32:07	Should be off to our left.	
	12:32:11	Ok we're 13 miles out aren't we? Yeah. Yeah I see I know what you mean. I was thinking the wrong tower.	
	12:32:24	Ok there's the fire tower. Where? Is that a tree. No it is a fire tower. It's a fire tower. Fire tower at 9:00. Ok. That's at ah 5 minutes and 50 seconds.	
	12:32:37	Tell me where we are. Pretty, that looks pretty good as I can remember on course. Ok. And we're yeah . . . about a minute out, a minute out from the final checkpoint.	
	12:32:53	Ok.	
	12:32:57	(****) I didn't see any SAM site. I didn't either. I see ah . . . naw.	
	12:33:04	Ok watch for the targets to be . . . hey what's that over there on the right, no it's just a couple of bridges. Watch for the tower to be on your left. About 10, 10:00, er 10:30.	
	12:33:42	I got a tallyho on the final checkpoint.	
	12:33:48	Ok.	
	12:33:52	Ok, back over this way. You might pick up a target between now and then. Ok hit the acquisition button. Ok I hit it. Call.	
	12:34:04	34's at n . . . At N4. (****). No pod.	
	12:34:12	End of transmission.	

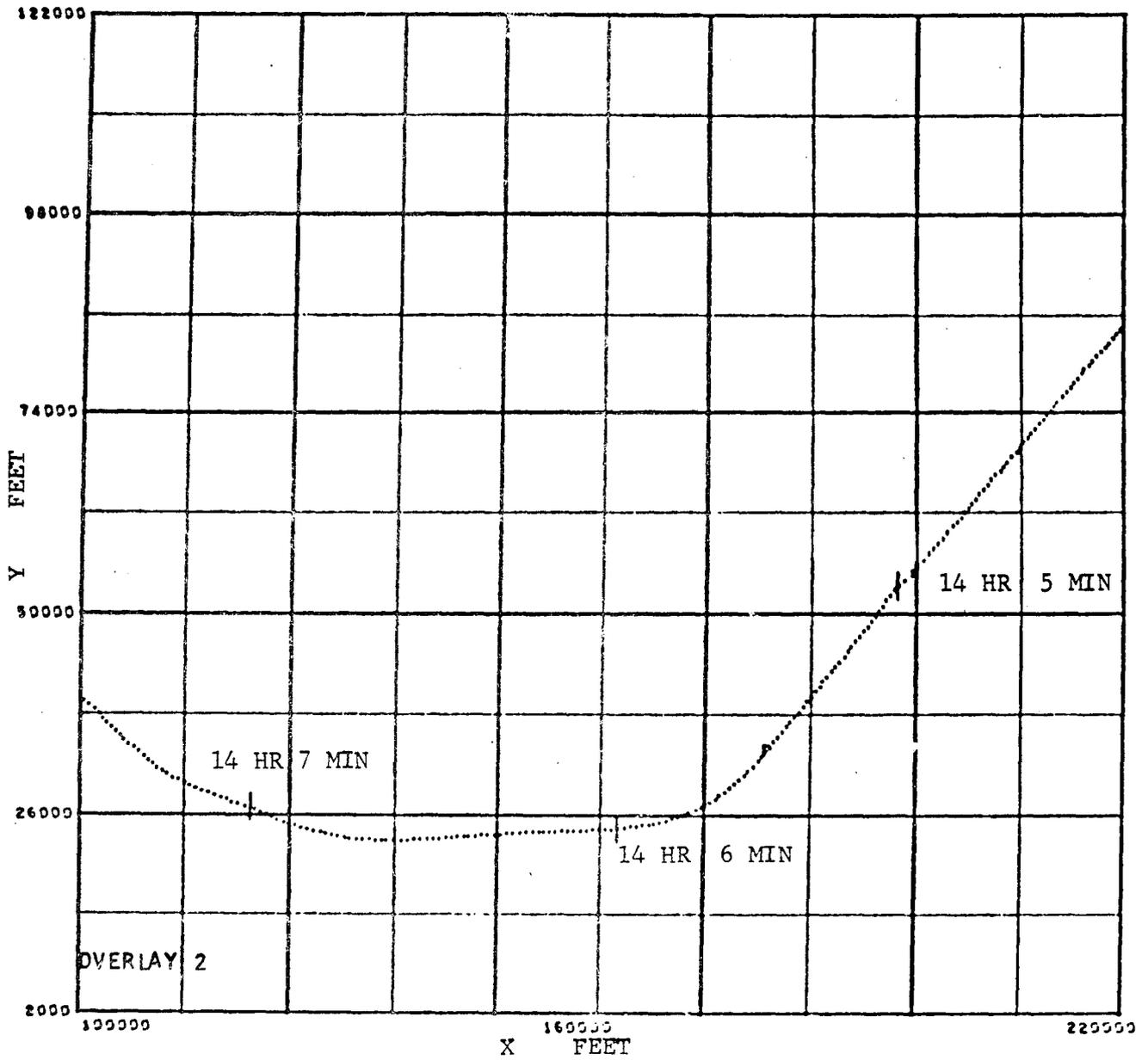
FIGURE 2-36 (U) VOICE TRANSCRIPT (2 OF 2)



SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 2 OF 8

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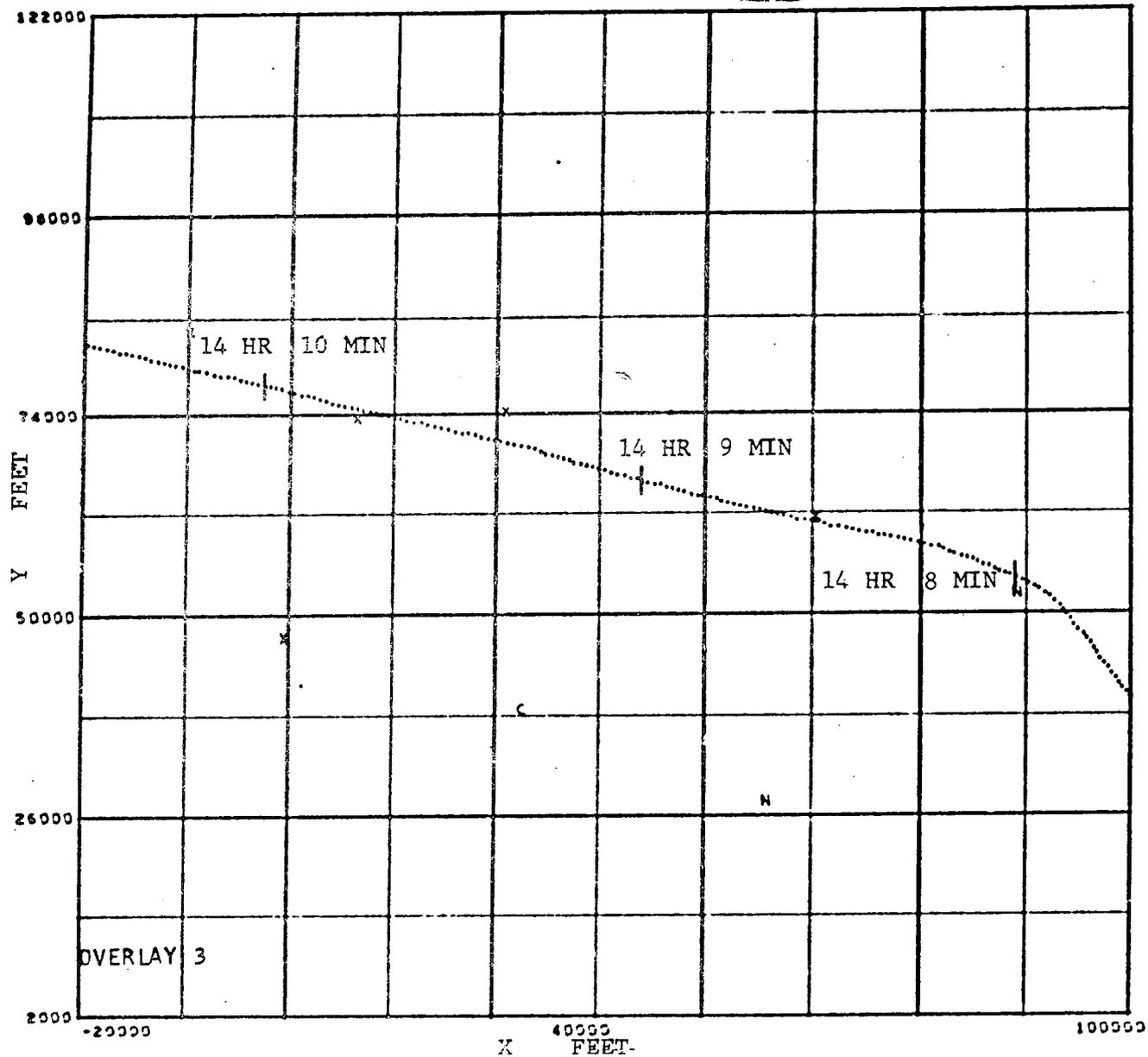


SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

UNCLASSIFIED

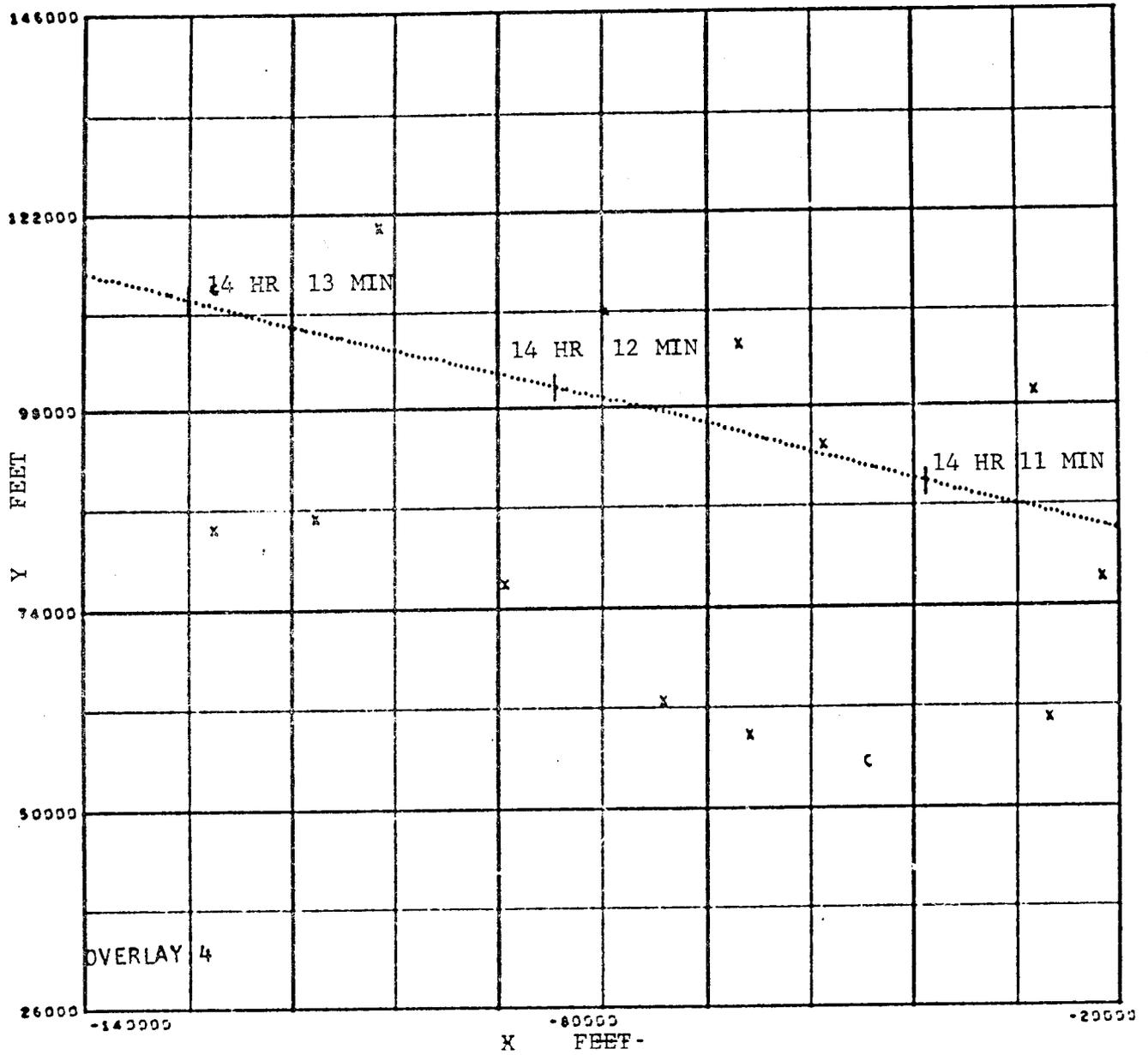


SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 4 OF 8

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UNCLASSIFIED

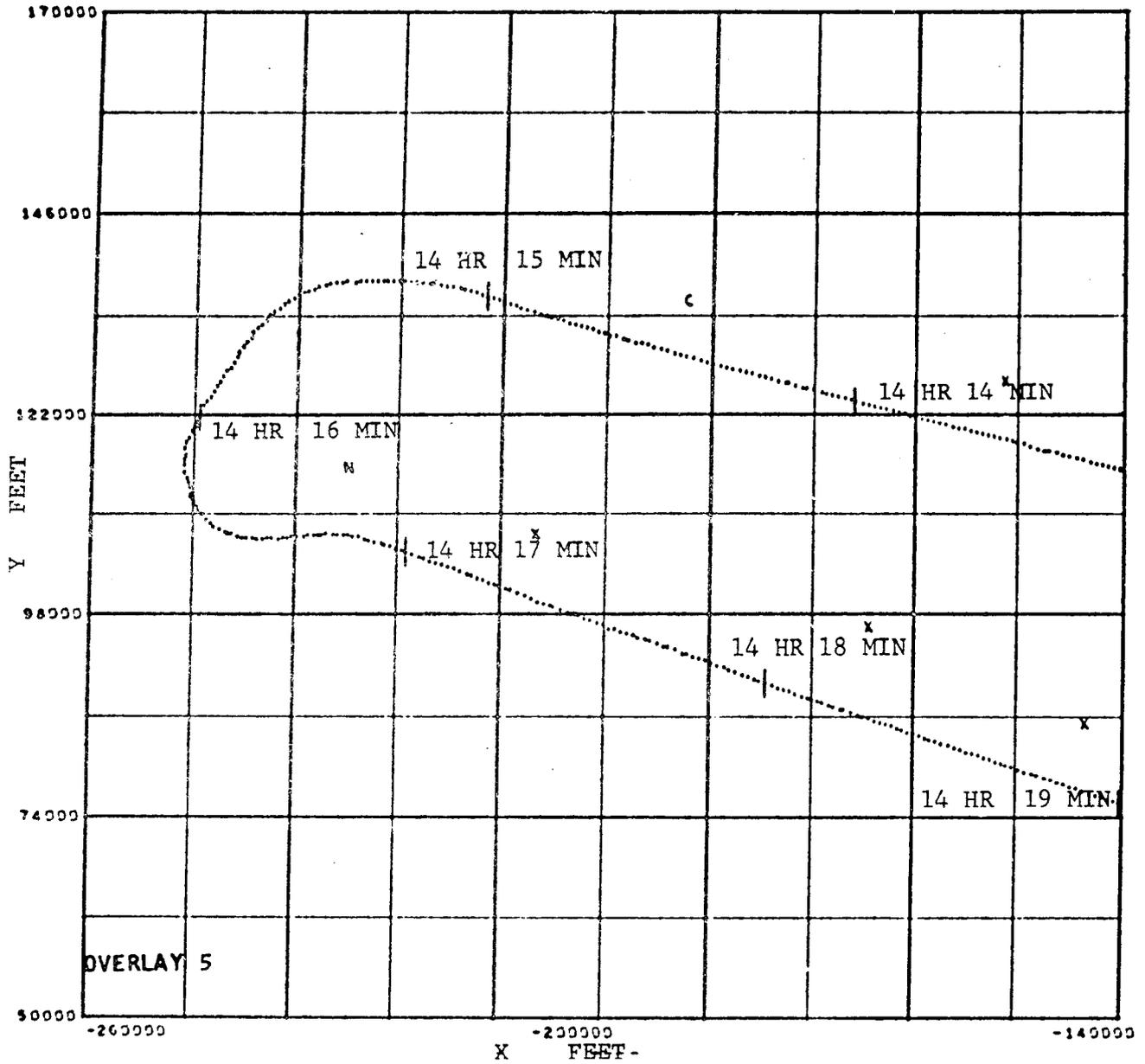


SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED

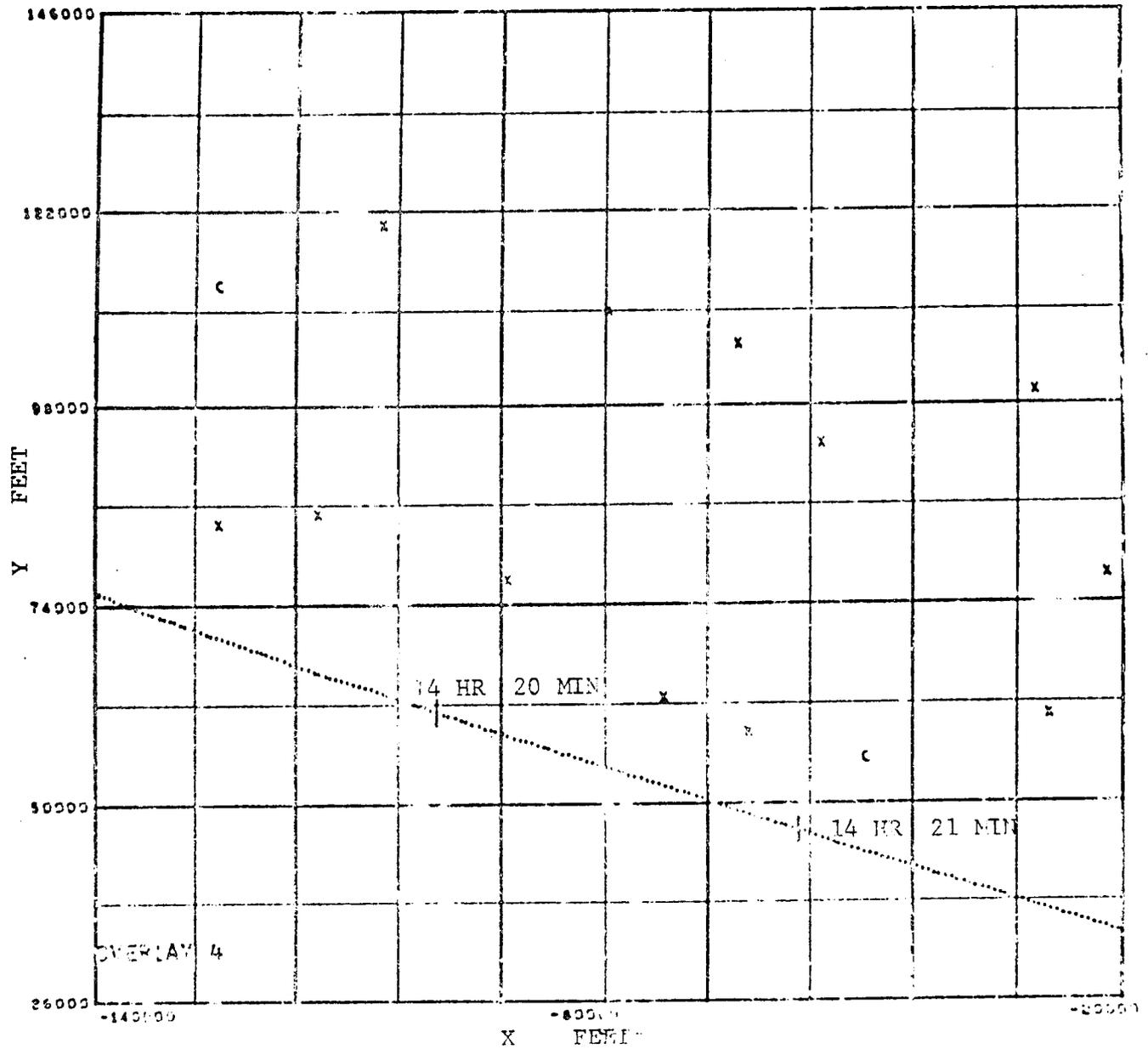


SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED

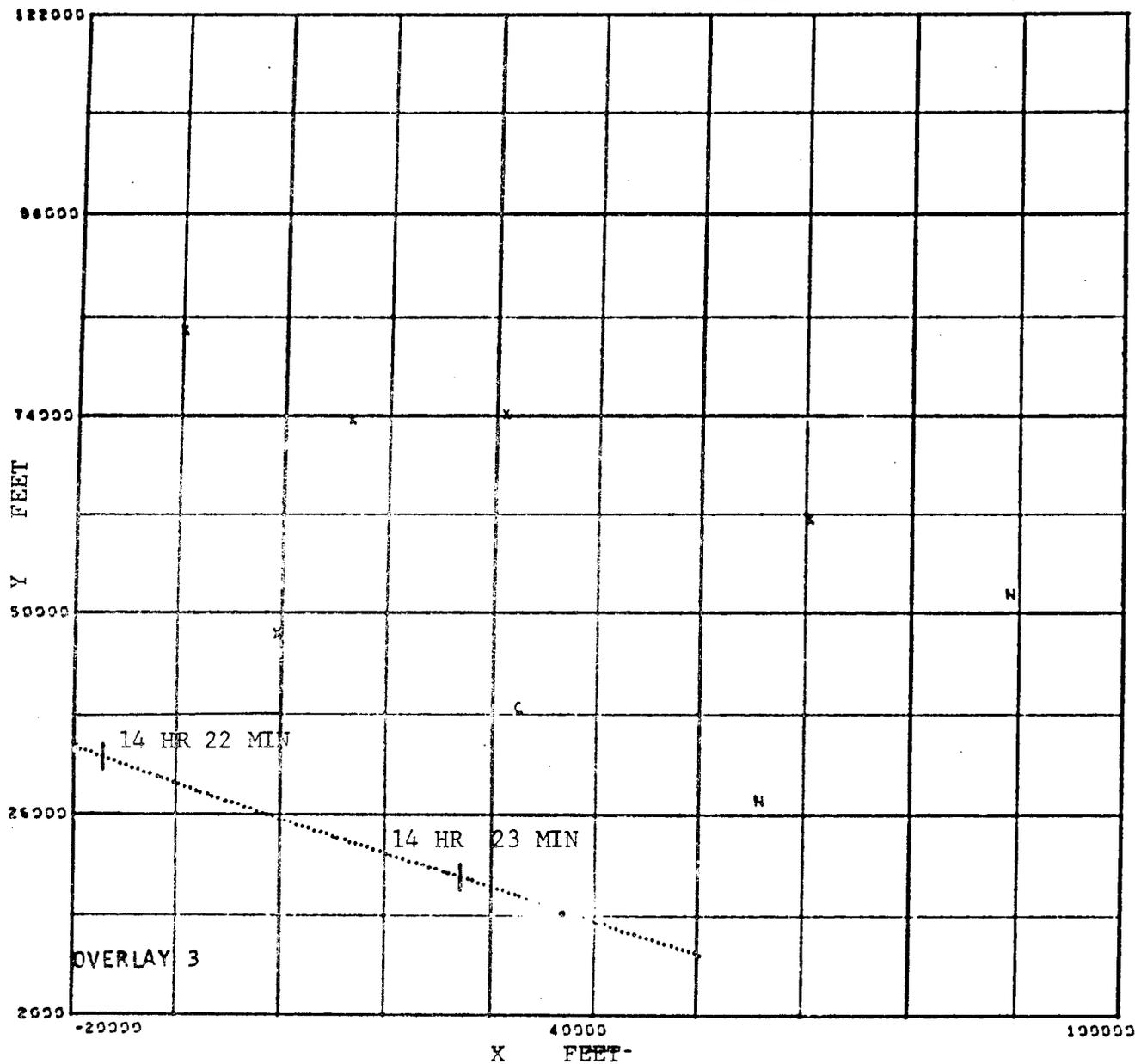


SORTIE NUMBER 468E

FIGURE 2-37

AIRCRAFT POSITION DATA (U) 7 OF 3

UNCLASSIFIED



SORTIE NUMBER 468B

FIGURE 2-37
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

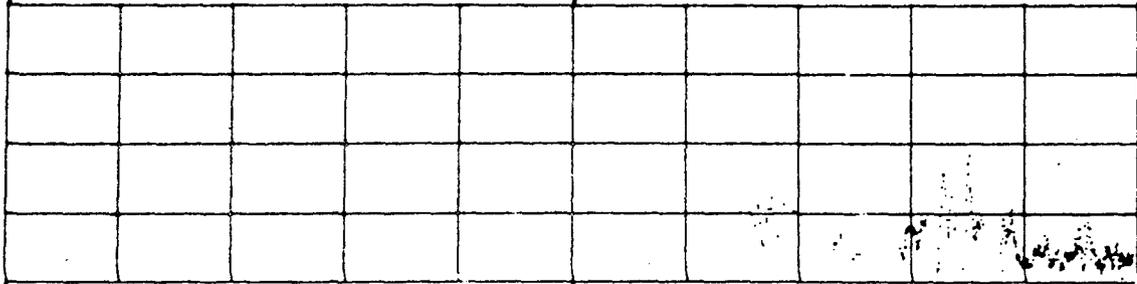
13 NR 36 MIN
2000

41 MIN

13 NR 48 MIN

FEET

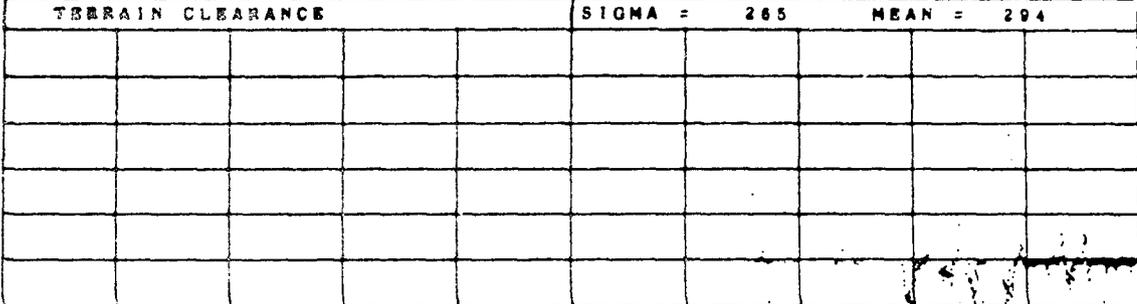
1500
1000
500
0



TERRAIN CLEARANCE SIGMA = 265 MEAN = 294

DEGREES

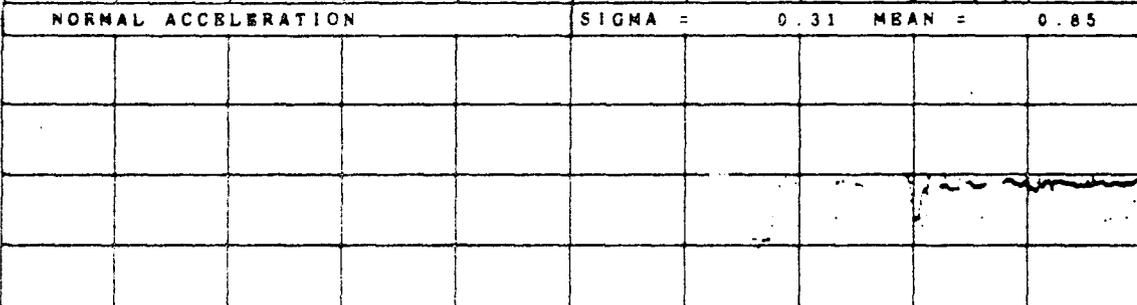
5
4
3
2
1
0



NORMAL ACCELERATION SIGMA = 0.31 MEAN = 0.85

DEGREES

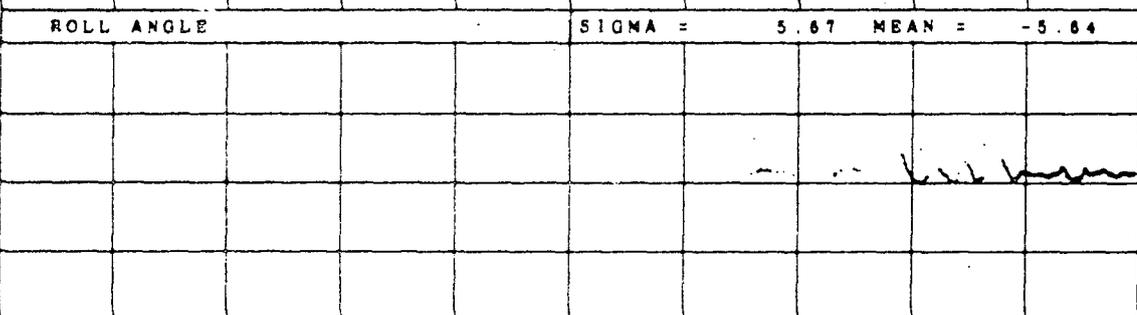
60
30
0
-30
-60



ROLL ANGLE SIGMA = 5.67 MEAN = -5.64

DEGREES

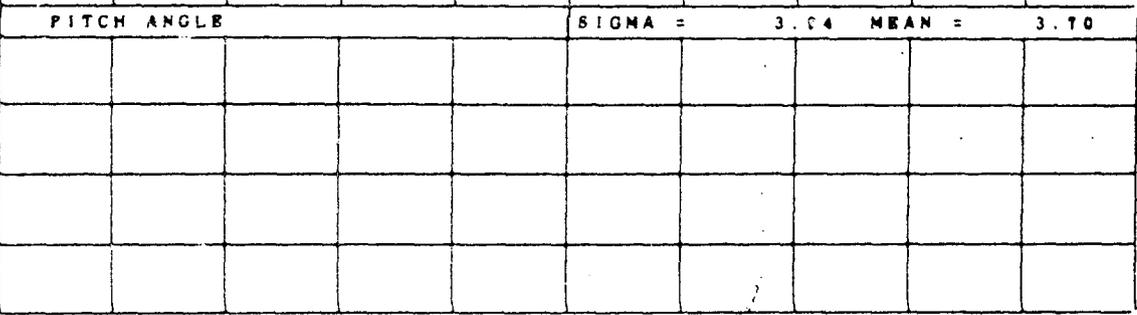
60
30
0
-30
-60



PITCH ANGLE SIGMA = 3.04 MEAN = 3.90

FEET

40000
30000
20000
10000
0



SLANT RANGE

SCRTIE NUMBER 4688

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-38 (U) TELEMETERED DATA (1 OF 5)

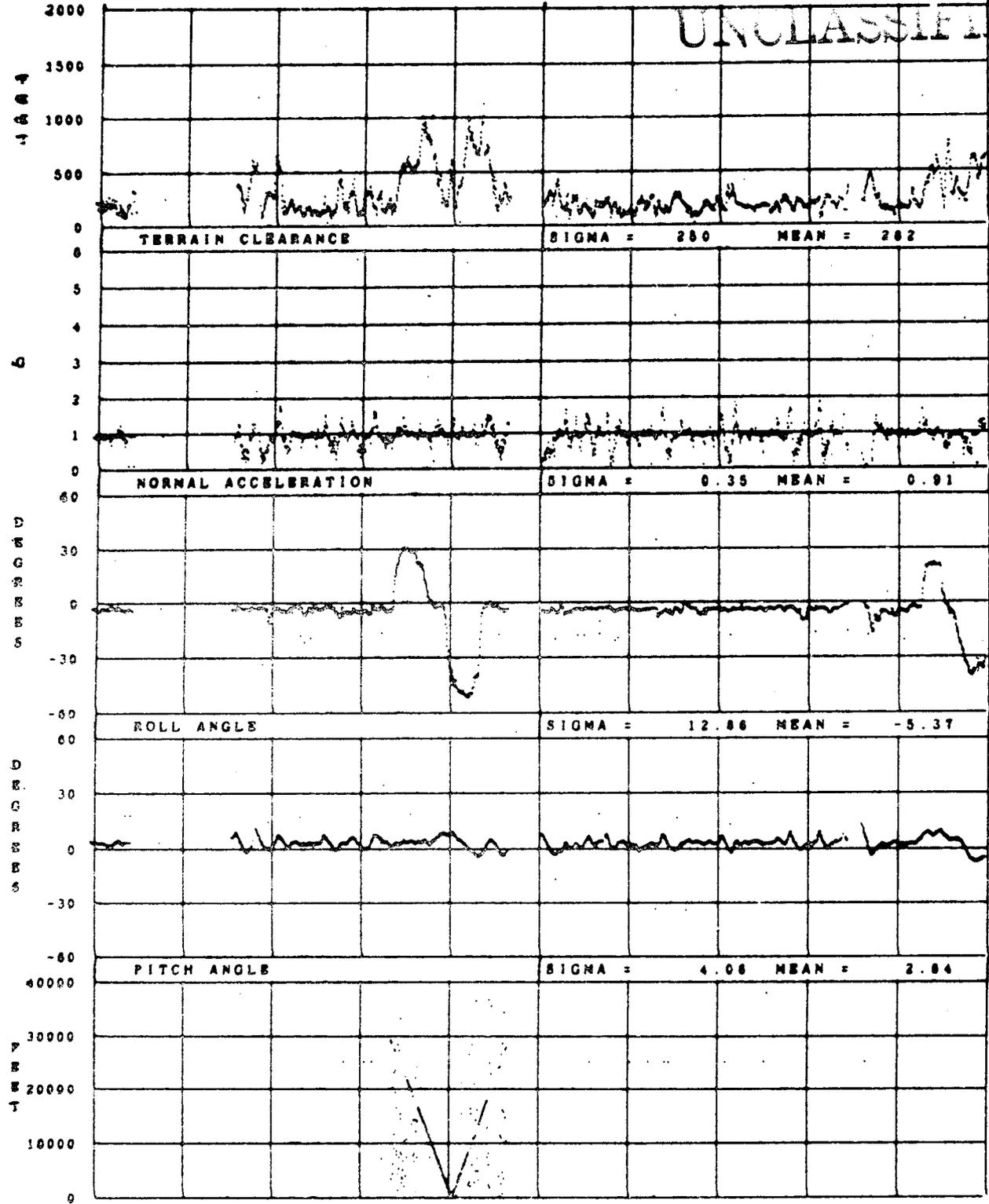
UNCLASSIFIED

13 HR 46 MIN

13 HR 51 MIN

13 HR 56 MIN

UNCLASSIFIED



SLANT RANGE
 BORTIE NUMBER 4695 OPERATIONAL DAY 9 SEPTEMBER 1967

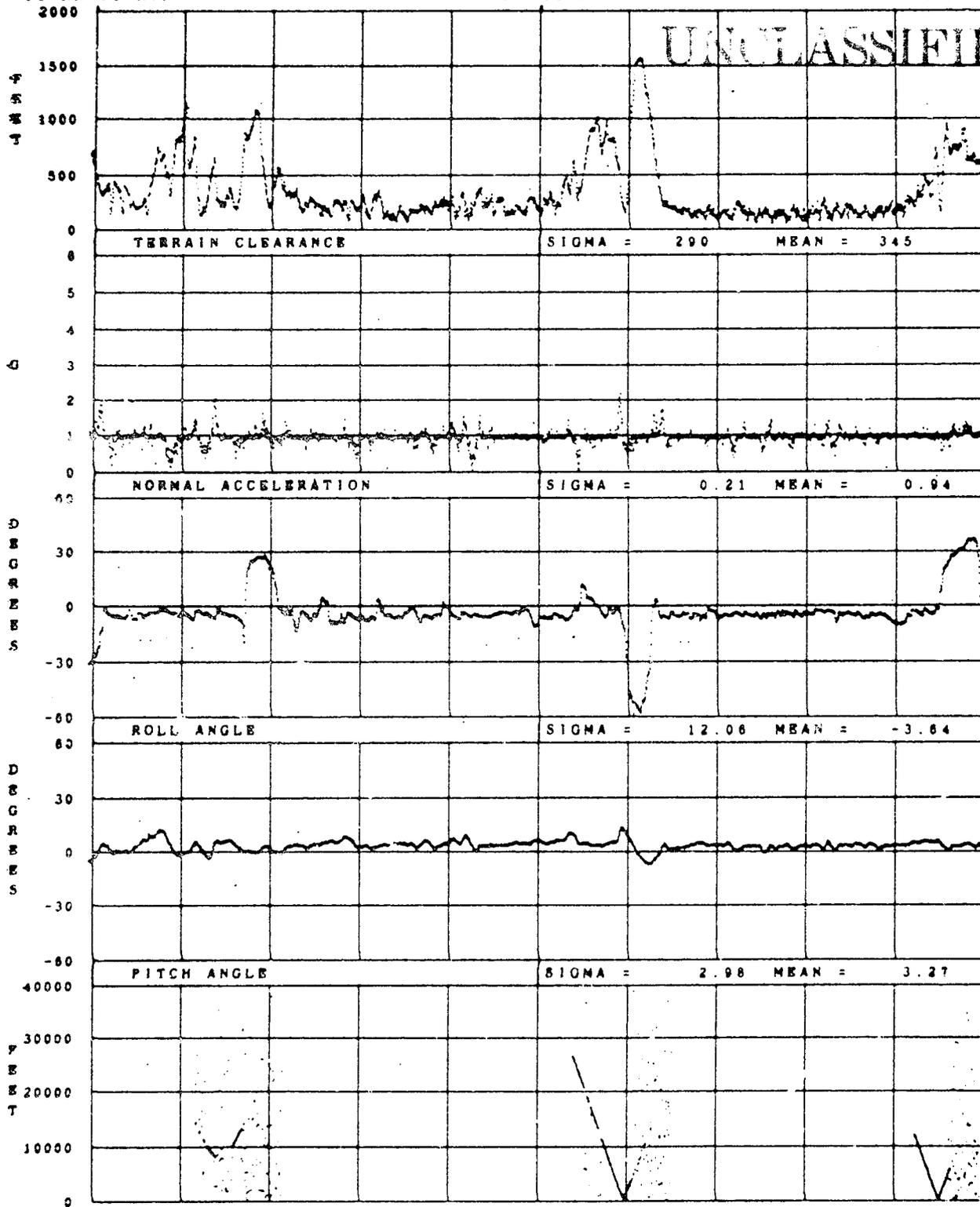
FIGURE 2-38 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

13 HR 58 MIN

14 HR 01 MIN

14 HR 06 MIN



SLANT RANGE

SORTIE NUMBER 468B

OPERATIONAL DAY 9 SEPTEMBER 1967

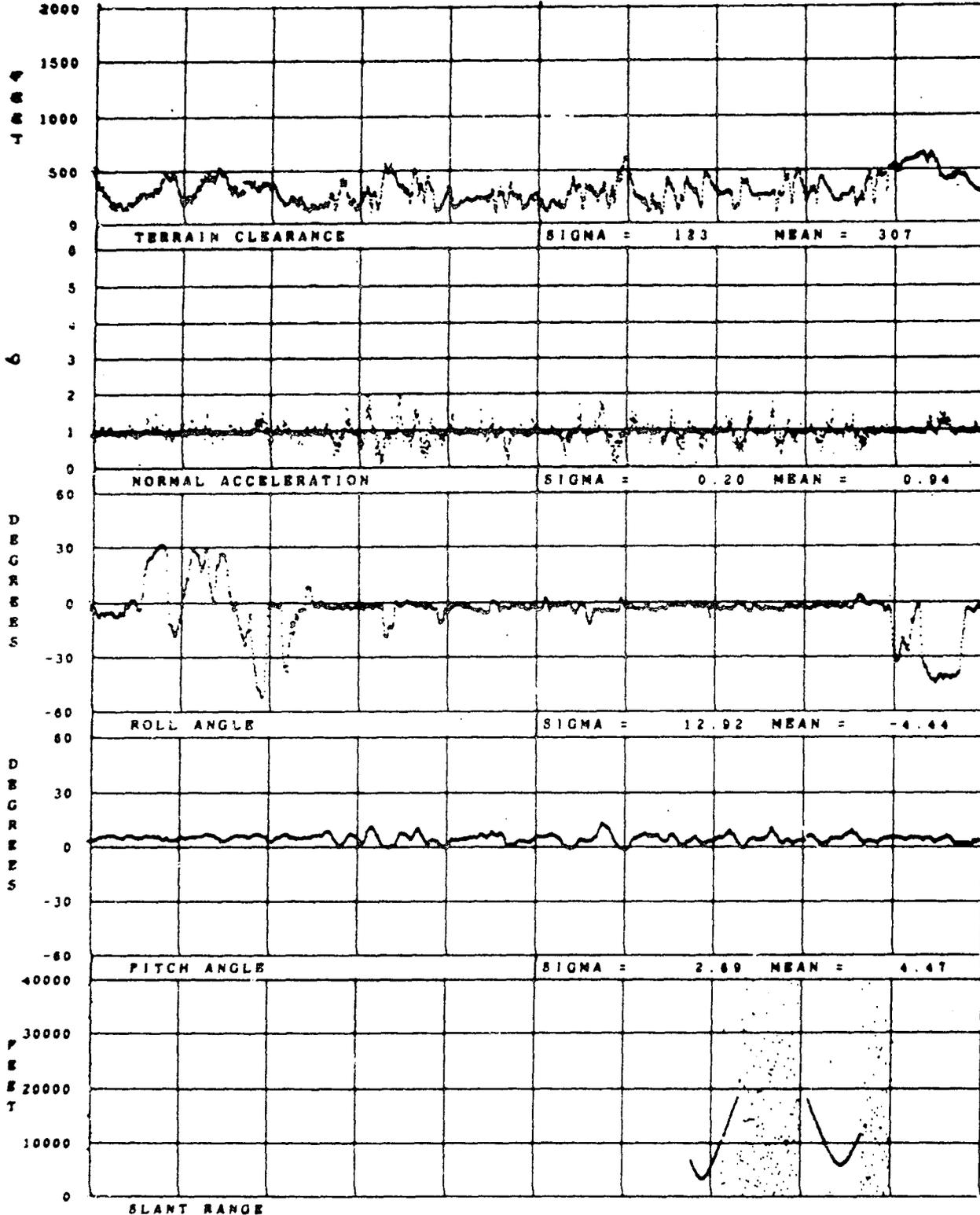
FIGURE 2-38 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED

14 HR 06 MIN

14 HR 11 MIN

14 HR 16 MIN



SLANT RANGE

SORTIE NUMBER 468B

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-38 (U) TELEMETERED DATA (4 OF 5)

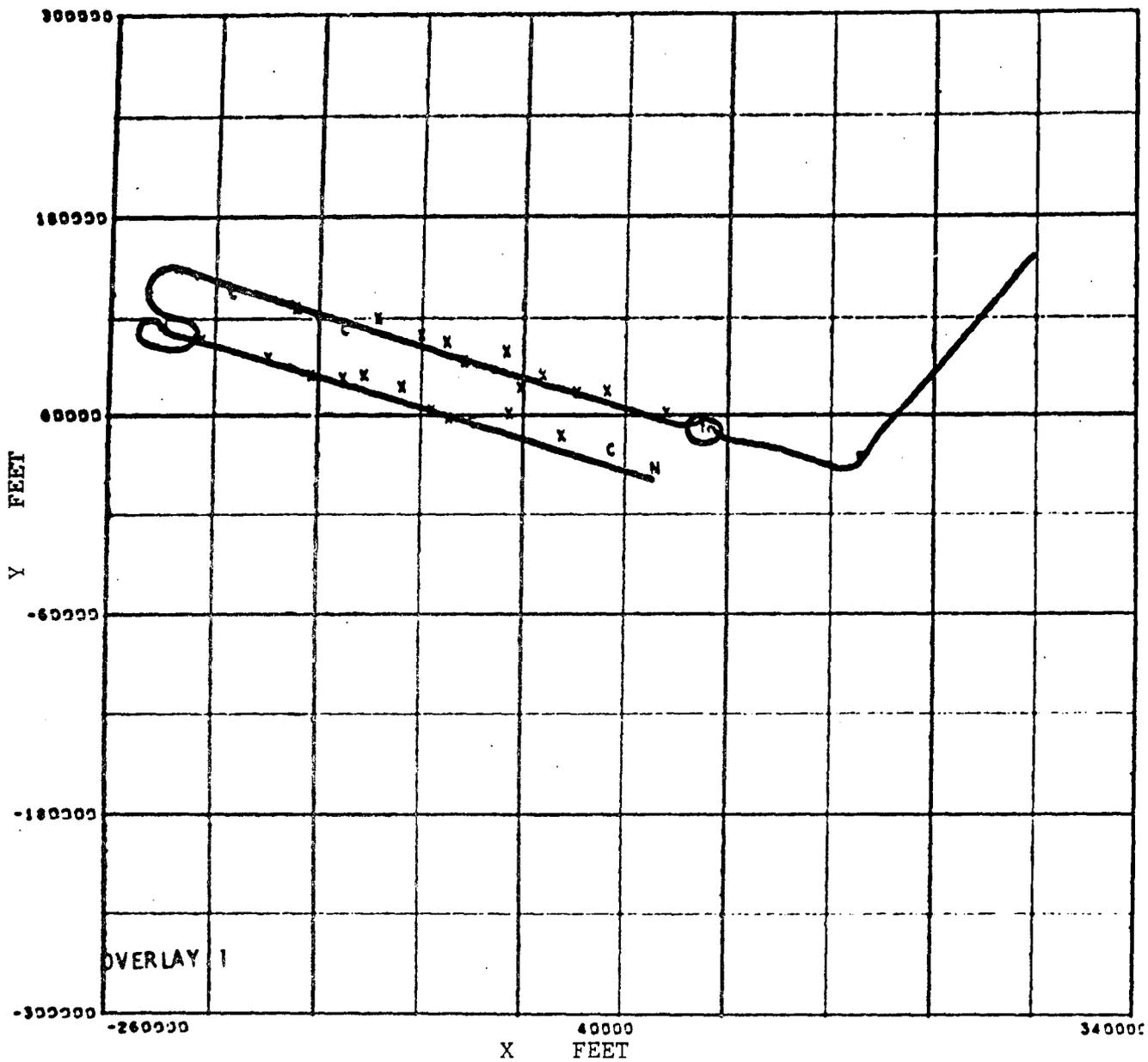
RPT Rec TG/TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 468B DATE 9-9-67
		14:07:55	Ah tallyho. Right there, right there. What's our next heading. 279, 279. Roger, we're passing N1. We activate our event button. 279. 279 right. Roger.	
		14:08:08	Okay, let me know...289 now. Going down. Right.	
		14:08:16	And our speed's. Okay, I'm going to go back 275 for just a minute.	
		14:08:21	279, right? Right. Thanks for catching that. Okay, okay, we're coming up on a power line here Charlie. Runs almost parallel to our course, are we about right? I haven't got it on my map.	
		14:08:43	Okay.	
		14:08:52	132, roger, understand.	
		14:09:00	279, 279.	
		14:09:06	Okay, let me know when we come up on where we think our SAM site might be. Okay.	
		14:09:23	Okay, here's a lake... a river. Okay. Pass right over a river.	
		14:09:30	Oh, (****).	
		14:09:34	_____ pass. Okay, the river's turning to our right here, Charlie. Right I got it see that. Okay, that's about right. We're about right? Yeah. Great.	
		14:09:45	A little bit, I mean a little bit fast, but, but that's about it. Okay.	
		14:09:51	One percent is make a is making a hell of a lot of difference in it. I just can't hack that for some reason. Ah, no cussing.	
		14:10:03	Okay, right about in here.	
		14:10:13	I don't see it.	
		14:10:17	Okay, we about the right track.	
		14:10:27	Just across the highway? Yeah 2 little towns on each side of it I think. Yeah. That was it. Ah.... Okay. We about on track, Charlie? Just about. I'm going to try to get a couple more bearings here in 2 minutes.	
		14:10:38	Okay, fuel. 64 over 74.	
		14:11:15	Would you say we're in approximate. One mile of our course here? Ah, I'd say so... Okay, we're coming...	
		14:11:29	Coming now, right another little valley here. There's another river. Same river.	
		14:11:38	Let's see, yeah. Yeah, I still can't tell. I come over... Okay you're coming up on a road. And a railroad track. Already? Yeah.	
		14:11:53	Well, we're pretty fast. We're too fast? Yeah.	
		14:12:05	You think we're about the right place? That's where _____ we're in.	
		14:12:11	Oh, boy. I wish I could tell you. I'm just trying to find something we can get ourselves oriented with.	
		14:12:41	Okay, we're coming upon a nice wide valley here. Maybe we'll see something in here probably. Like a SAM site or something.	
		14:12:54	Should be a SAM site here someplace.	
		14:12:56	Okay, a runway right here.	
1	11	14:12:57	Okay, there's something right there off to the right. Ah, 4 trucks, ? trucks, a wind flag, an airstrip. That's what it was, an airstrip. Okay, give me a... at 4:30 airstrip at 4:30. Ah, one... airstrip at 4:30. Okay it's a BE 8-8.	
		14:13:15	Okay. Okay.	
		14:13:17	This is Phantom 132. Had an airstrip with, how many trucks, Charlie? Ah, 2 trucks, 2 vans and airstrip a wind sock. At a BE 8-8, BE 8-8. Okay about five...	
		14:13:28	Roger.	
		14:13:32	Time's five minutes into the flight. Okay.	
		14:13:43	Nine o'clock. How we doing?	
		14:13:48	Okay. We doing okay? Yeah, we're a little bit fast. Okay. Next valley, next good ... the next place to look for something is right up here in this valley up here coming up. Roger.	
		14:13:57	And how much further we got til we get yonder? Ah, N2. 5,6, 6 minutes and 48 seconds. Coming up on 6.... about a minute. One minute? Yeah, okay, here's... about a minute. Here's a here's a valley here.	
		14:14:28	We're fast again. Roger. Well, damn if I saw anything in that valley. Roger. Okay, we know we're pretty well on course, we got... Okay there's it. Is that a relay tower up ahead? That the tower? Yeah. Is that what that N2? I don't know, what is N2? N2 is a GCI site. Okay.	
		14:14:49	If you'll remember, he said it was hard to see. Here's the road here. Okay, G, okay, we should be up on GCI site.	
		14:14:55	A Speedy 132 is N2. Request a vector to N3.	
		14:15:04	Well. Don't forget, we gotta... roger, we're 75.	
		14:15:16	Well, come on, turn it.	
		14:15:22	200, roger, thank you.	
		14:15:30	Okay have you got GCI...	
		14:15:36	No, I never got it. Oh....did you see, did you hit your event button? Roger. Yeah, but I wanted to raise that. I think there's a tower there, but I forget the GCI site. No, it was a farmhouse right in front of us. You know the GCI was sitting right in front of that farmhouse. Oh, okay.	
		14:15:54	Never did go over it though. No, we didn't. We turned before that.	
		14:15:56	I say 132's heading 200.	
		14:16:02	We're right 090... 099 is the heading.	
		14:16:10	Don't go over 70 we'll hold bank. Okay, I'll hold her right there. We should be coming up on it now.	
		14:16:18	Okay, should be ah, ah, those 2 bridges, remember?	
		14:16:26	O, 070.	
		14:16:36	I have a tallyho on it. 099. 099. I mean is the heading out of N1.	
		14:16:44	That is...	
		14:16:47	099, huh? Right.	
		14:16:55	Boy, has this been a (****), Charlie. O niner niner.	
		14:17:01	Did you, did you line up with the the 2 things. I tried to, but I couldn't see...	
		14:17:09	I think we're pretty well on course. Okay. We're right about on speed now. Okay.	

FIGURE 2-39 (U) VOICE TRANSCRIPT (1 OF 2)

TIME		REAL TIME TRANSCRIPTION	SORFIE 468B cont.
			DATE 9-9-67
14:17:18		Okay, there's a valley coming up. Should be coming up right now. Might be something in it, I don't know.	
14:17:31		Yeah, I'll...lake.	
14:17:41		Okay, crossing a road okay. Dirt road.	
14:17:49		I guess that's the civilian stuff right there. A bunch of trucks. Yeah....	
14:17:56		Okay, fuels' 71. 2 minutes. Okay, this valley, there ought to be something in it, doggone it. You'd think so, wouldn't you?	
14:18:43		Okay, a little river, stream. And ah, oh, wait a minute. Hold it. Which way is it running? And it's perpendicular to us almost. Perpendicular. Okay, a dirt road. Little valley here. Still don't see anything, doggone it.	
14:19:07		Okay, I see where we are. Yeah, okay. Dirt road and a river, I got it.	
14:19:14		Fuel?	
14:19:20		Want to check our fuel? Okay, our fuel's 69. Okay.	
14:19:31		Okay, there's a tower out there on the left there Charlie, or right there rather. Ah what? A tower, lookout tower. Lookout tower. Ohhhh dddaaa da dadada.... We're just crossing a river stream. Ohhhhhhhh, yes (his version of singing).	
14:19:45		We're okay? That was off to our right there. Okay. That sound like a winner? No. That's all right don't worry about it, cause it may not be on here. Here's this other valley here. Okay, a valley crossing the railroad tracks now.	
14:20:42		Okay, here's a good place for a SAM site, where is it though?	
14:20:56		Okay.	
14:21:11		(Mumbling). Okay.	
14:21:38		Humm. That's really a bear, isn't it? Yes it is _____.	
14:22:24		What's our last check point, Charlie? N4. It's a lookout tower. About how far out is it? It's about a minute and a half.	
14:22:36		Okay. One minute. Yeah, it's about a minute out there.	
14:22:42		Start looking around for it here.	
14:22:52		There's the river. Should be crossing 3 rivers. Yeah, it's about 20 seconds out. 30 seconds, huh? Yeah.	
14:23:03		Should be up on one of these ridges then. I sure don't see it. I got something down here at one o'clock. I don't know what that is. One o'clock? How far out. Ah, there's nothing but trees, nothing nothing.	
14:23:19		Okay, shouldn't we have been there by now? Yeah. Okay, there's something over there to the left.	
14:23:27		Lookout tower, yeah, I guess that's it. Okay.	
14:23:31		Speedy 132's N4.	
14:23:40		End of transmission.	

FIGURE 2-39 (U) VOICE TRANSCRIPT (2 OF 2)

UNCLASSIFIED



SORTIE NUMBER 468C

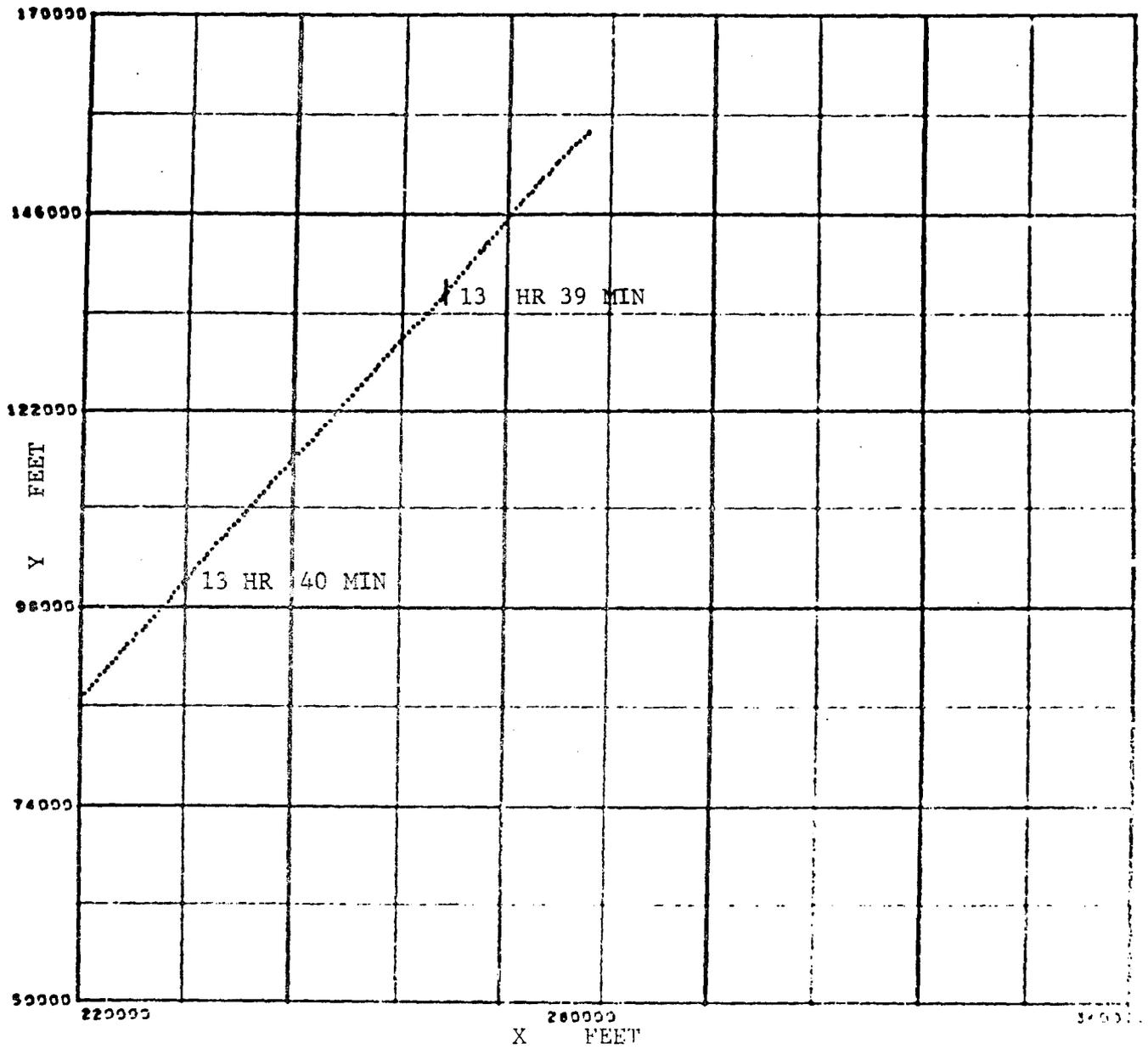
OPERATIONAL DAY 11 SEPTEMBER 1967

NORTH COURSE

FIGURE 2-40

AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

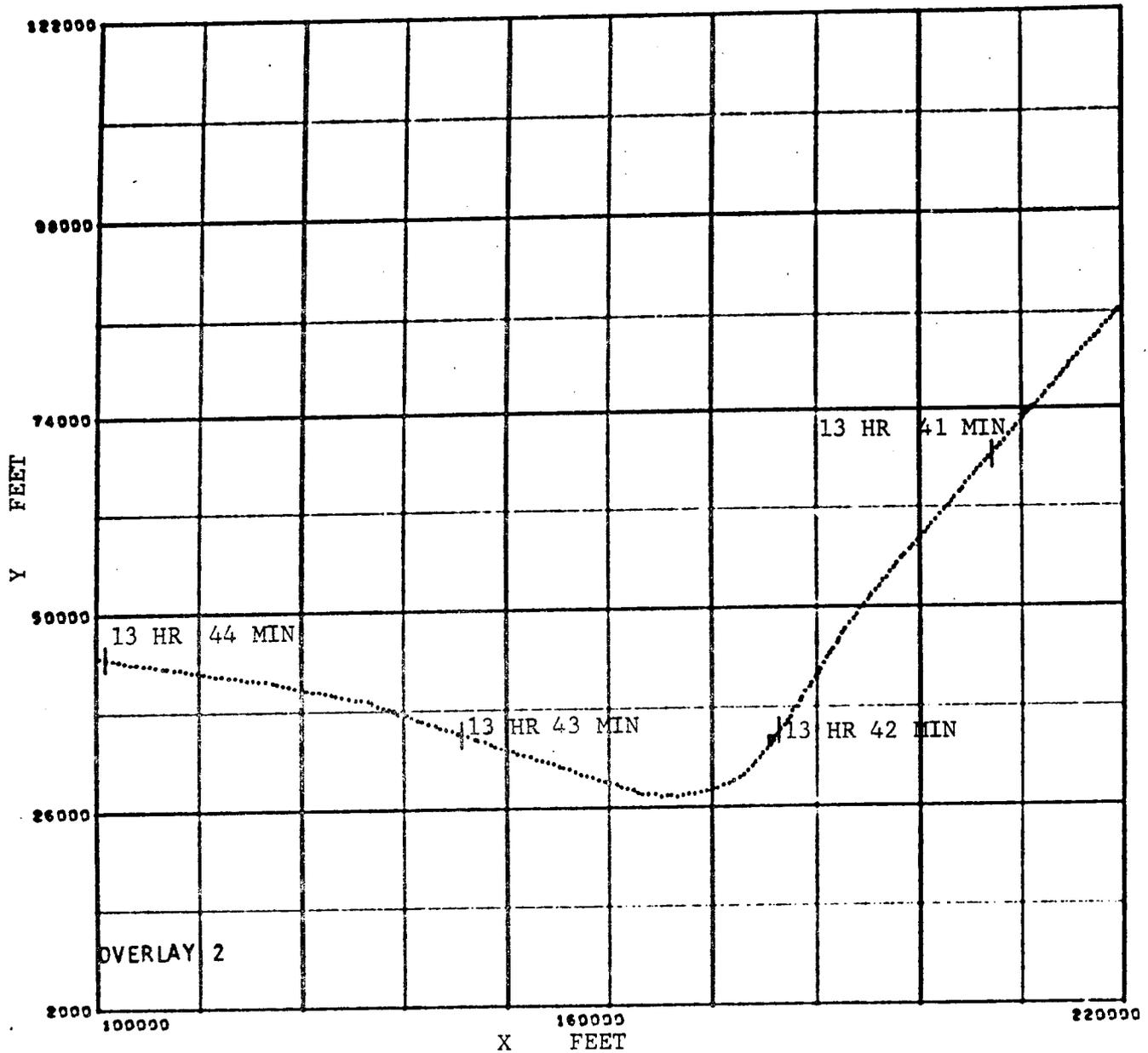


SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

UNCLASSIFIED

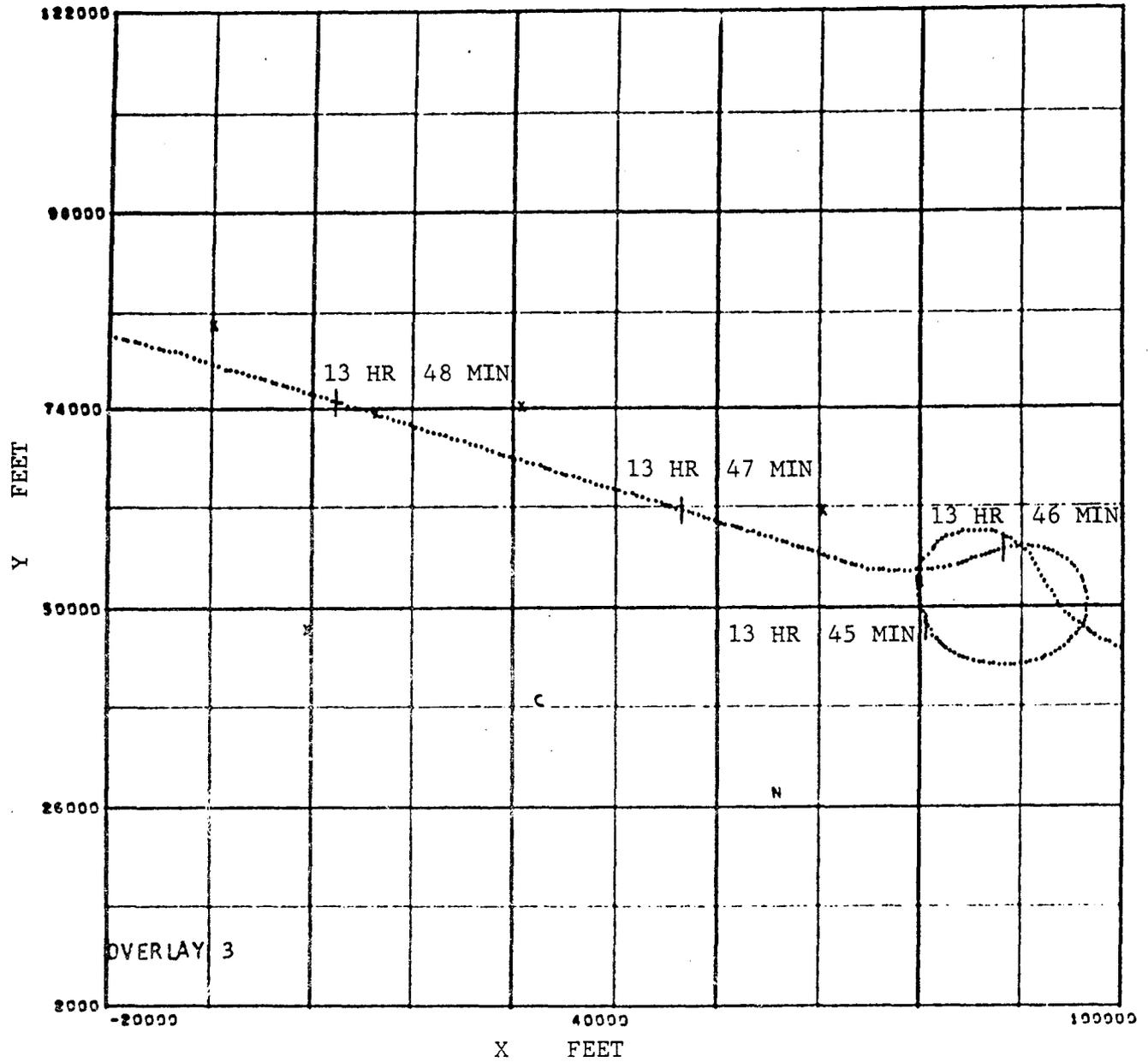


SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

UNCLASSIFIED

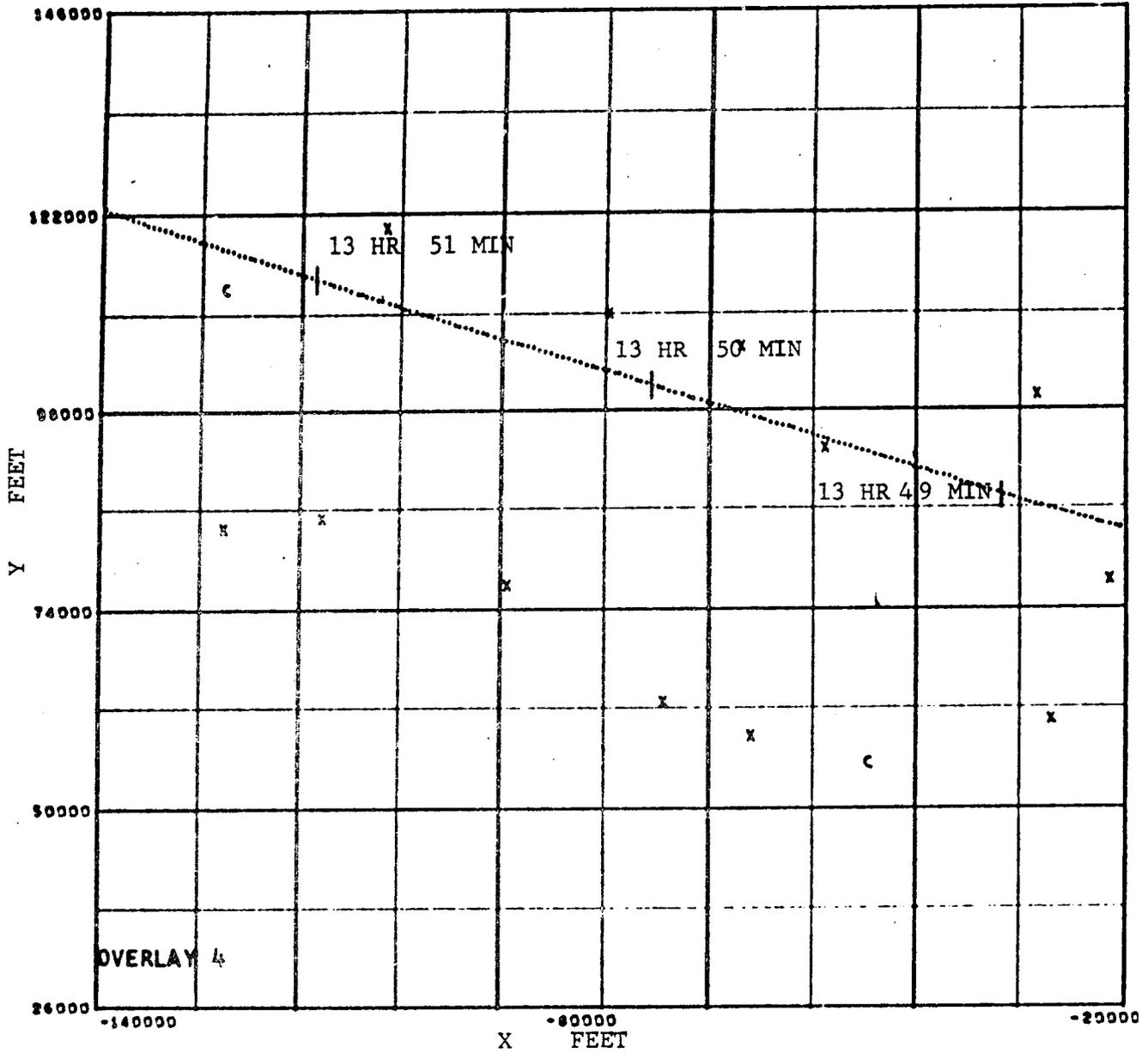


SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

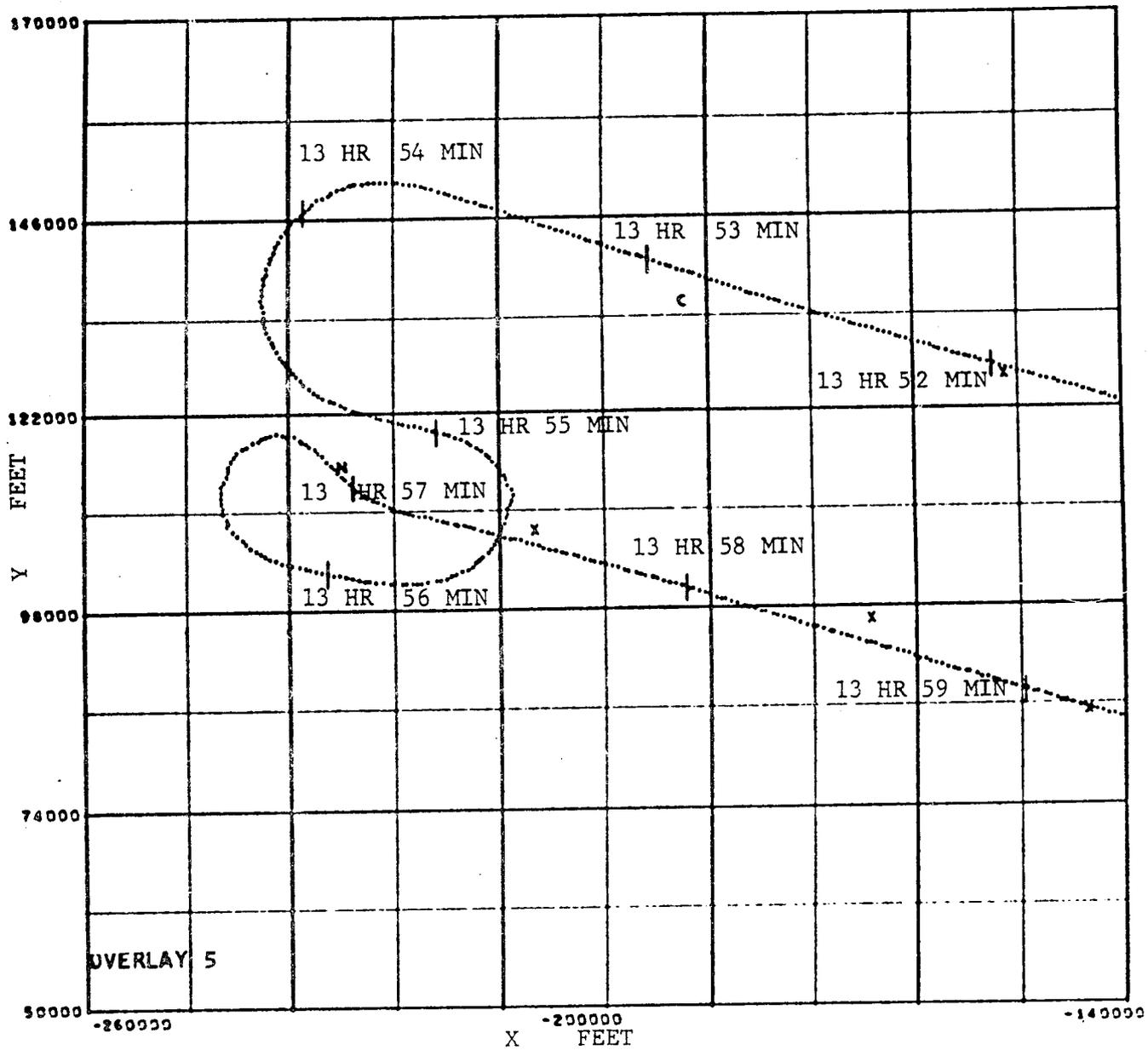


SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED



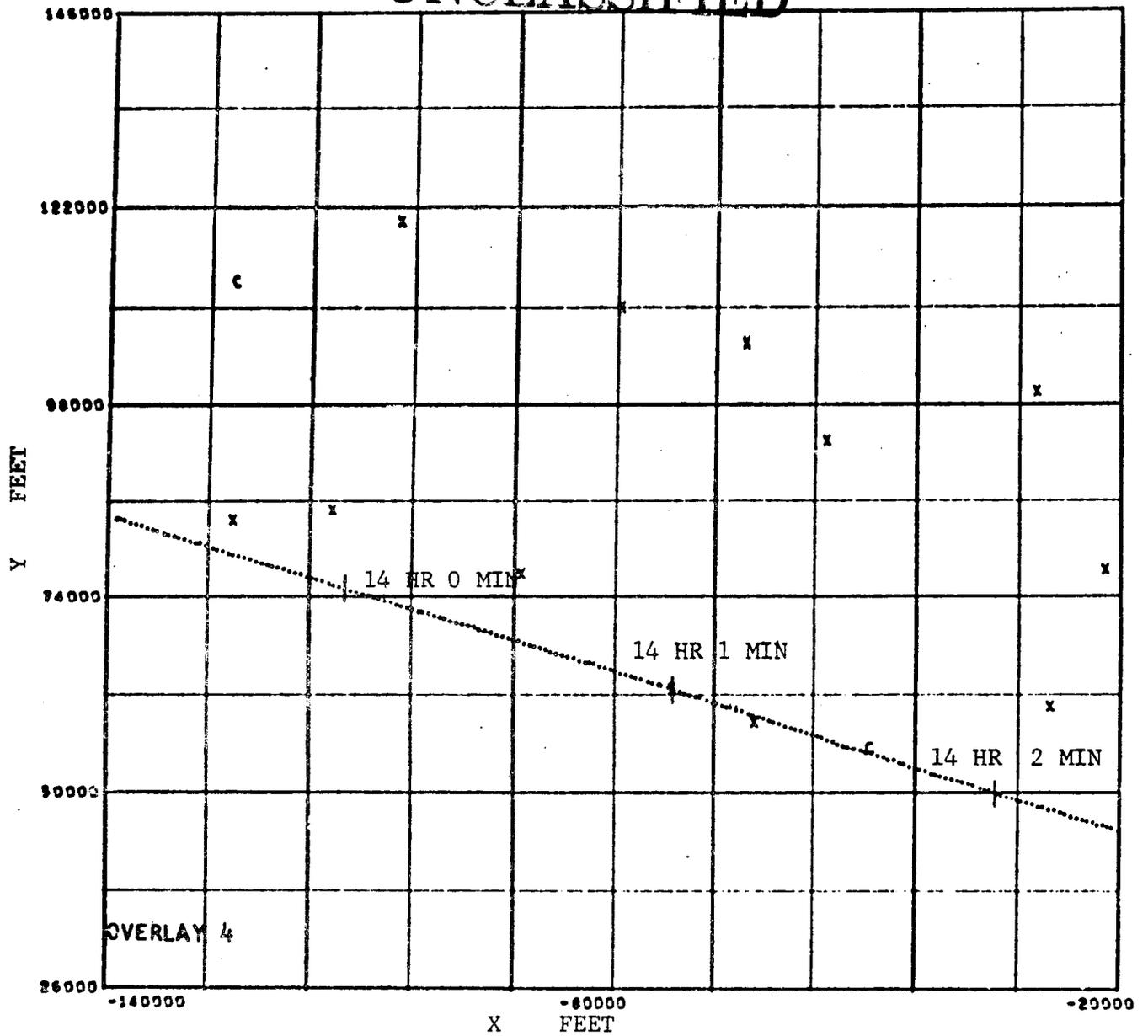
SORTIE NUMBER 468C

FIGURE 2-40

AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED



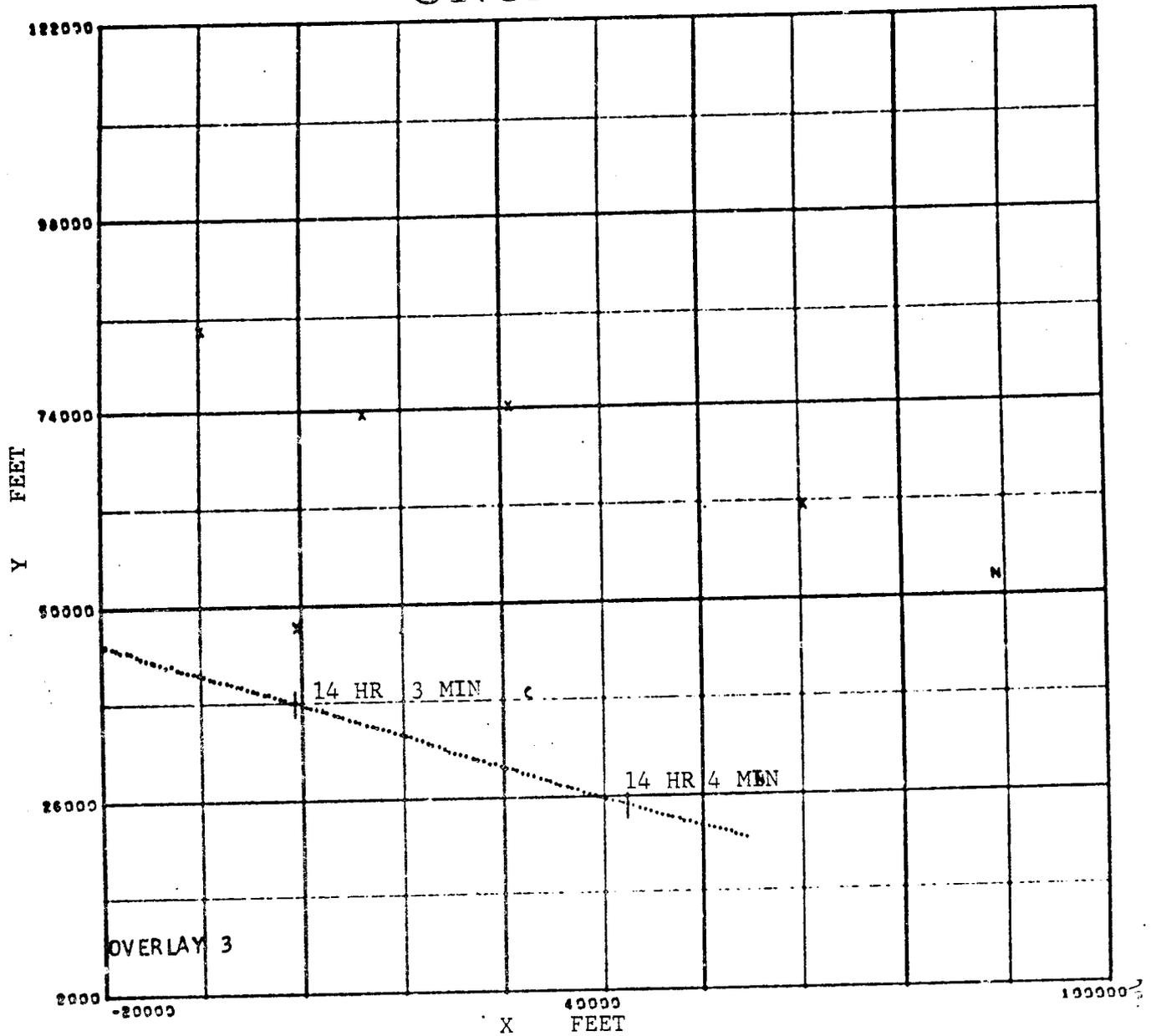
SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 7 OF 8

2-202

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SORTIE NUMBER 468C

FIGURE 2-40
AIRCRAFT POSITION DATA (U) 8 OF 8

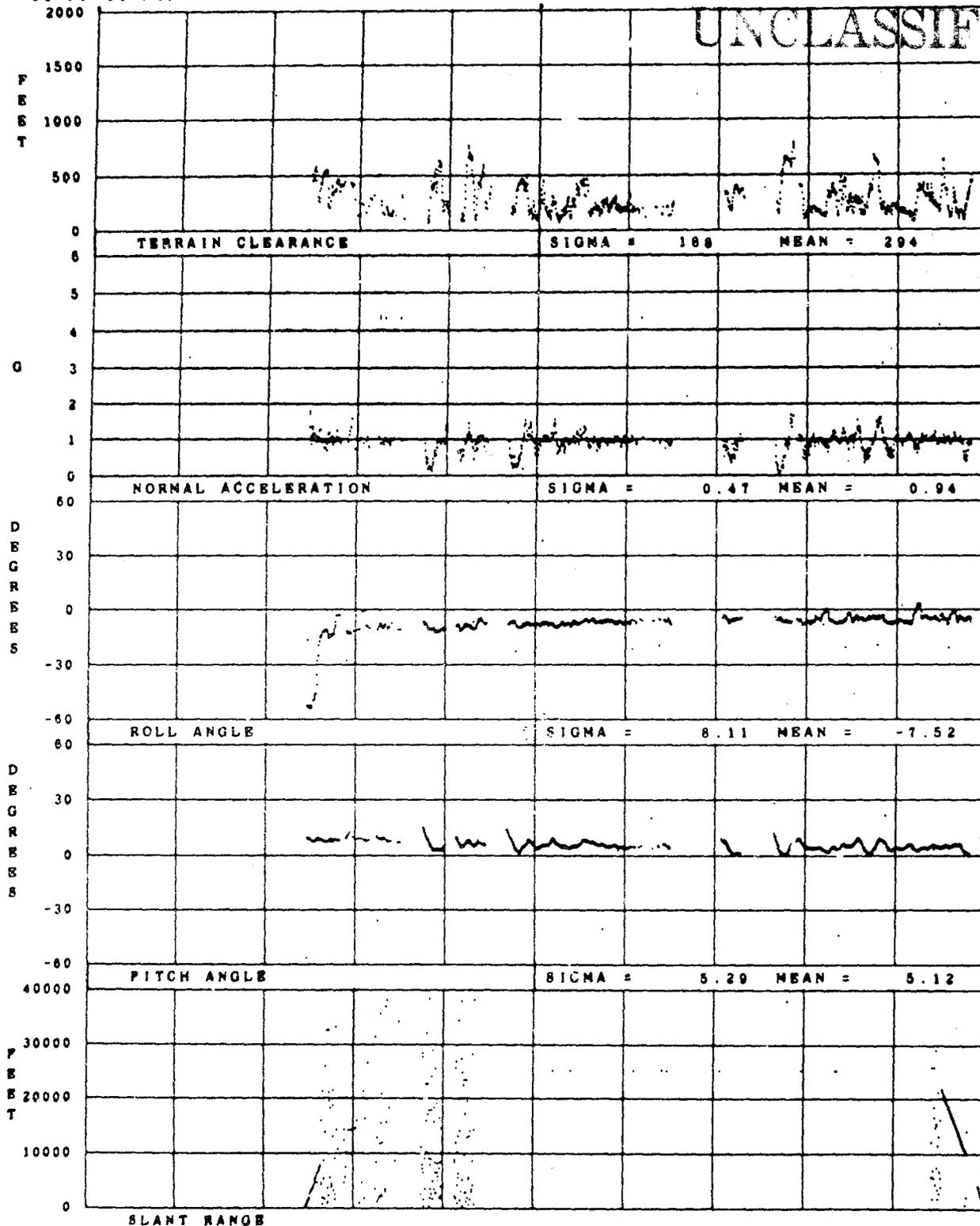
UNCLASSIFIED

13 HR 16 MIN

13 HR 21 MIN

13 HR 26 MIN

UNCLASSIFIED



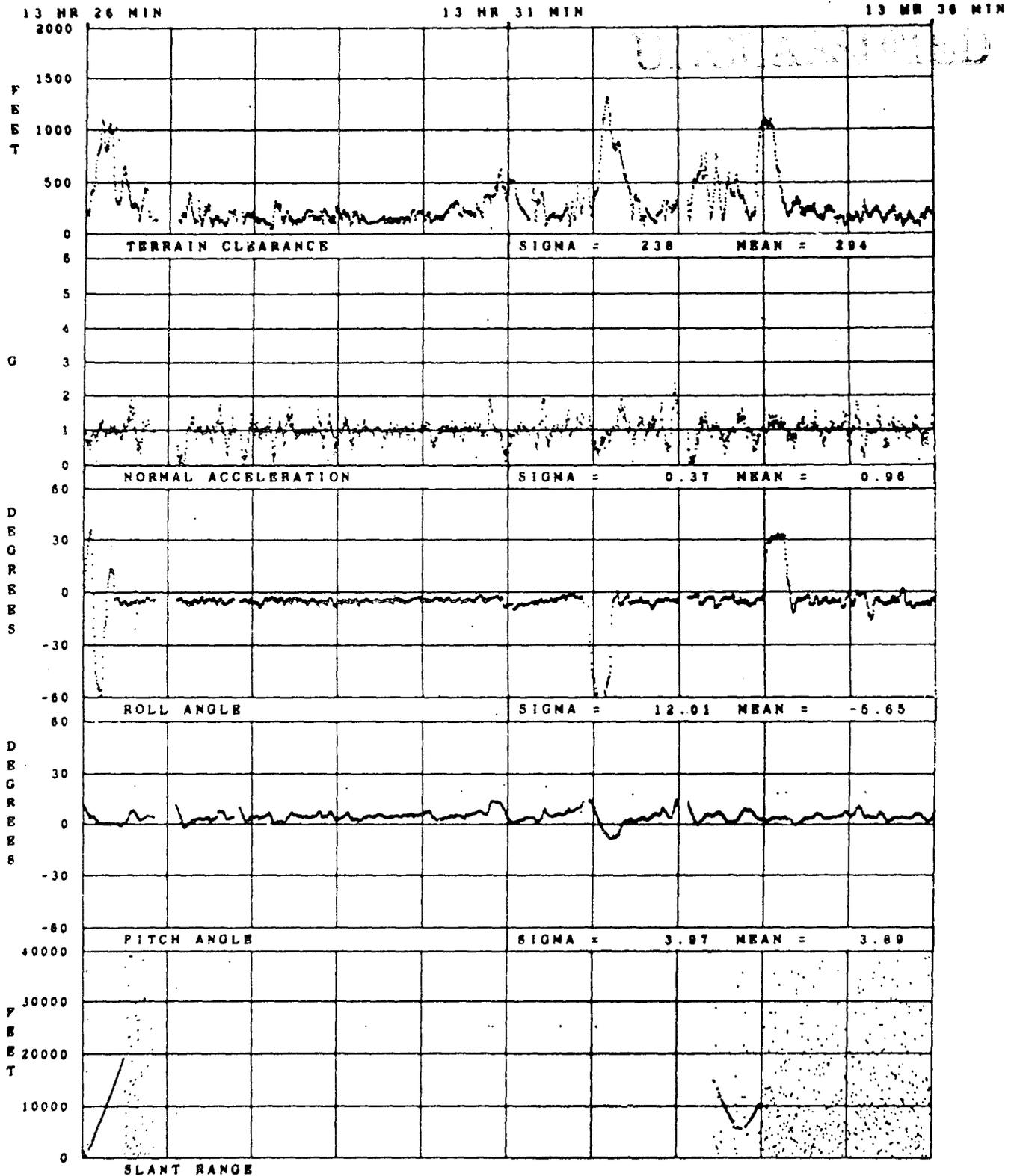
SORTIE NUMBER 468C

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-41 (U) TELEMETERED DATA (1 OF 5)

2-204

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SORTIE NUMBER 488C

OPERATIONAL DAY 11 SEPTEMBER 1967

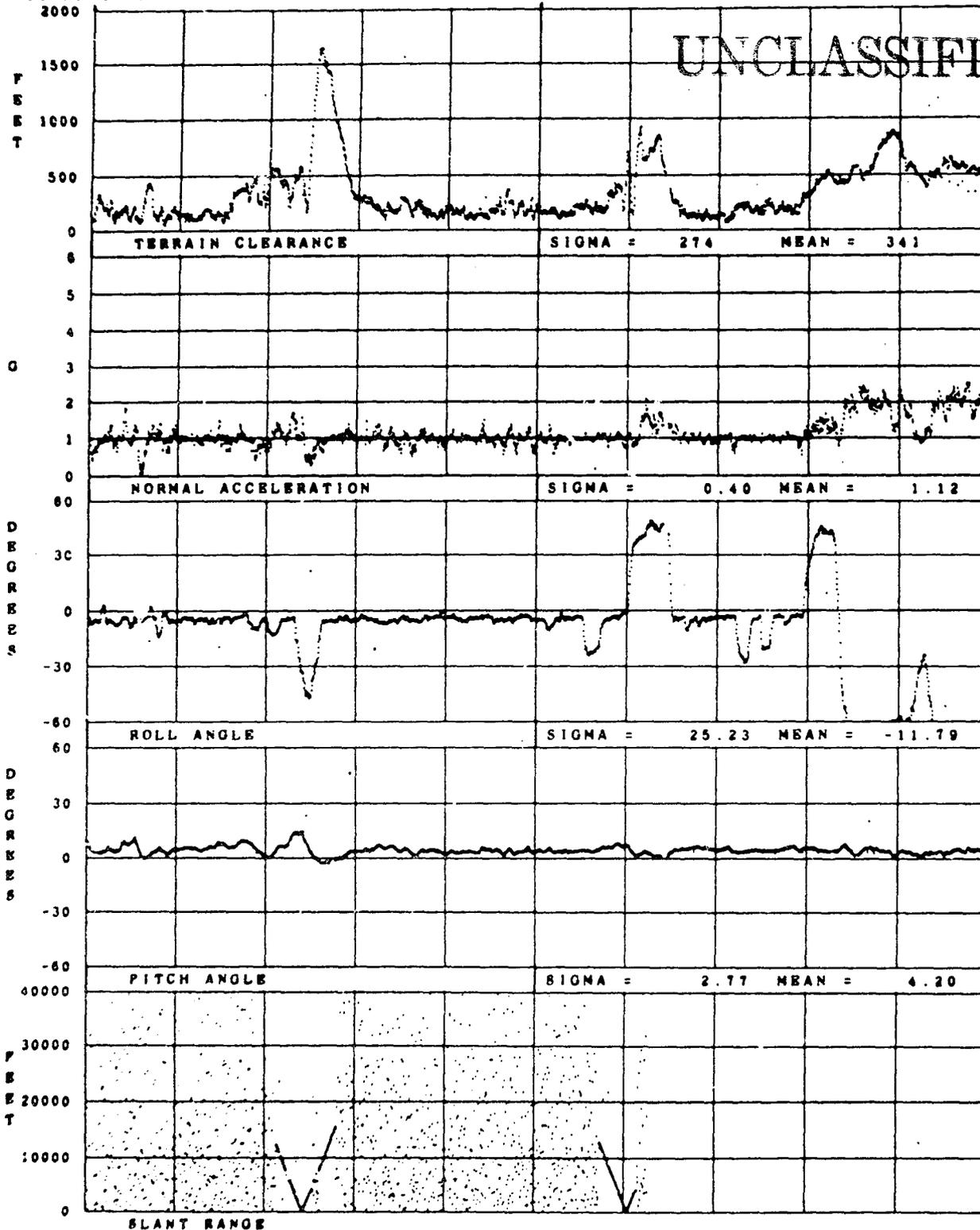
FIGURE 2-41 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

13 HR 36 MIN

13 HR 41 MIN

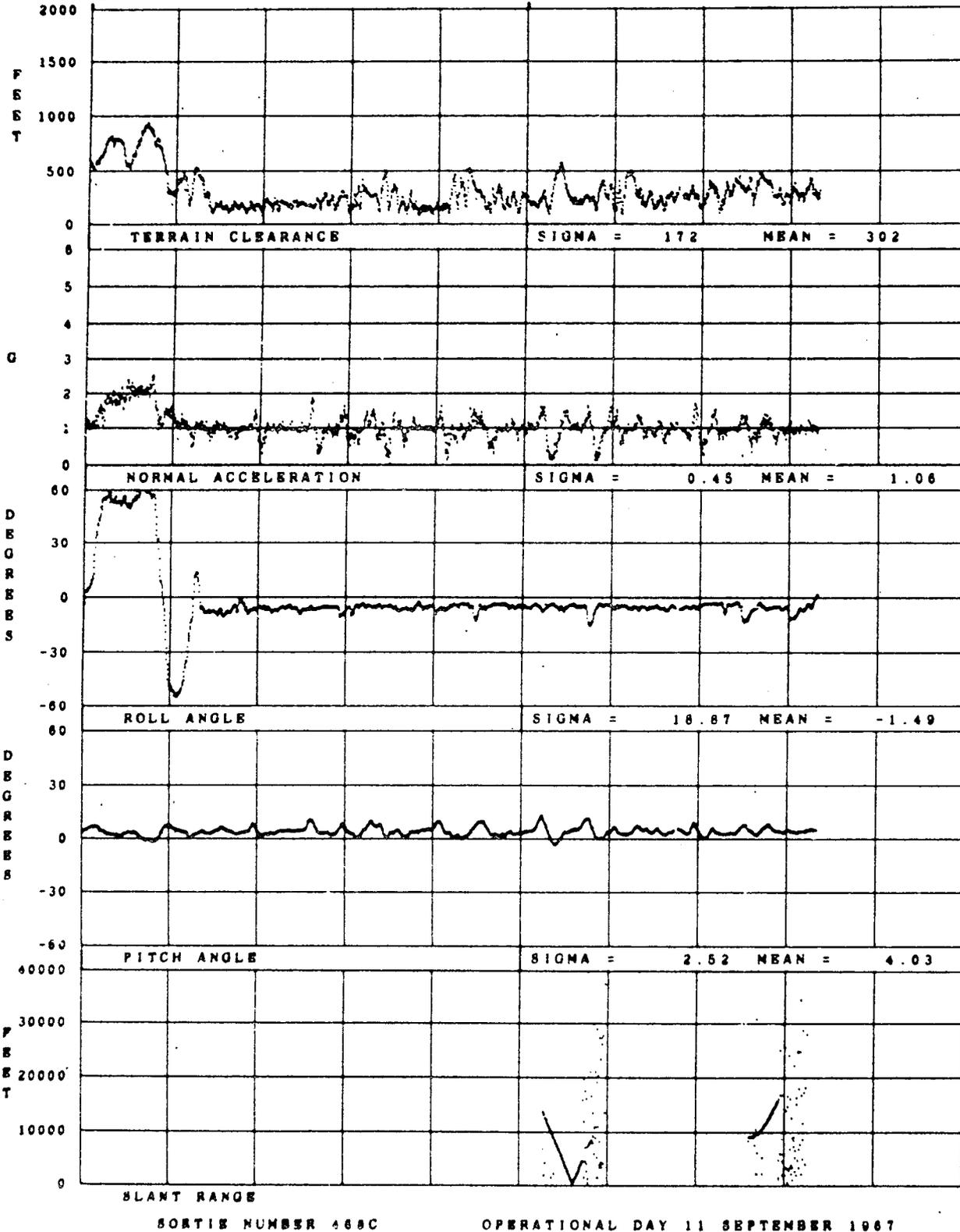
13 HR 46 MIN



BORTIE NUMBER 468C

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-41 (U) TELEMETERED DATA (3 OF 5)



SORTIE NUMBER 468C

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-41 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

RPT TG/TGT	TIME	REAL TIME TRANSCRIPTION	SOPTIE 46RC DATE 9-11-67
	13:44:20	There it is right there. 280.	
	13:44:26	Ah hell, we're gonna start off to the right of course. Huh? We got start off to the right of course.	
	13:44:33	Ah negative, we'll make a 360 here.	
	13:44:42	Oh (****) I still don't see it. I saw it. You did? Yea it was off to our left. Here's a highway. (static) Say again wait to left turn. Screw I want left turn.	
	13:44:55	It was off to the left.	
	13:44:56	There it is, see the smoke, over there off at nine o'clock right now. Nine o'clock. I don't have a joy. Ok. I see smoke, but I don't . . . Red smoke that's it. The smoke? See the red smoke? I still don't see it. Ok, follow. Ok, I got it, I got it. Ok, plan to roll out on that heading 280. Ok.	
	13:45:17	Phantom 132 has a tally on N1.	
	13:45:23	2 80 right. Yes. A flat . . . I lost the smoke. I got it, I got it. Gonna roll out on that heading 280 huh. I hope so. Over the smoke heading 280. Roger. We're gonna be slightly left, it looks like. Where the hell is the smoke, I lost the smoke again. Nine, it's nine o'clock.	
	13:45:44	Ok, yeah I see it.	
	13:45:52	Ok, we're gonna have to swing back just a little here.	
	13:45:59	Phantom 132 is passing N1.	
	13:46:05	280 right? 280. Right. Let me see Rog. About right in line here. Ok.	
	13:46:15	Ok we're just passing over a highway now. I'm sitting at right now 95, 53.	
	13:46:29	95, 53. 95. Ok. Open up for targets. Check our air speed Charlie. Ok, it's down.	
	13:46:40	Ok, we're coming up on one minute into the course.	
	13:46:52	(****).	
	13:46:56	One minute. Ok, _____ down here.	
	13:46:59	We should be slightly to the right of course I don't think so. It should be ok now, it's swung back. Nothing down there.	
	13:47:17	We should be about right on course I think Charlie. Ok, got about one thirty. Ok.	
	13:47:26	Ok, coming through a valley. Yea, ok.	
	13:47:32	Oh, this isn't bad. Crossing a river. Ok, I think we're (too, 27 too, 27) ah . . . thirty.	
	13:47:46	There's a dirt road, coming on two minutes. I still think we're to the right of course. Slightly about ah, half a mile. Ok, there's that valley over there, we've seen that thing before. Ok, that's right. Ok, heads up.	
	13:48:08	Ok, Two minutes and ten sec. Coming into a big valley. Right. Not a big one but . .	
	13:48:25	Here's the road there. Big road. Intersection.	
	13:48:46	Coming up on three minutes.	
	13:48:51	That was a highway. Got _____ in sight ok, got 74 over 84. Three minutes, three minutes.	
1	5	13:49:00 Nothing in there. Ok, look like military target, give me ah . . . off the right about a half mile back. Three ten, three minutes.	
	13:49:18	C F. Ok, this is Phantom 132 . . . 3 9. Look like we have some artillery in place in C F 2 9. C F 2 9. They look like numerous artillery weapons, ah, lined up in a trench type pairs.	
	13:49:29	Ok heads up.	
	13:49:33	Were they off to the left or right? They were off to the right. Off to the right? Yes.	
	13:49:40	Two thirty, two forty-five. Should be in a valley. Should be in a valley here we are. Heads up. We are in the valley, heads up.	
	13:49:56	Ah, this is ah give me a give me another . . . B G 2 5, 2 4. Ok.	
2	9	13:50:04 This is Phantom 132 I saw some more looked like emplacements, dug out in a field, and ah _____ what was that again Charlie? B G. 2 4. B G 2 4. Looked like numerous artillery weapons. Again. (13:50:18)	
	13:50:20	Four minutes, twenty-one seconds in places.	
	13:50:32	You got the inertial on? Yes. What's it say? It doesn't, it's off, it's off to the right. Ok.	
	13:50:44	Ok, I got us head, too coming up on five minutes. Should be hit, coming into a valley. Roger, roger. Good place here for some targets. Roger. Coming up on right, you should be coming up on the valley right . . . now. Roger.	
	13:50:59	Ok, sing out if you see anything.	
	13:51:25	Nope.	
	13:51:32	Ok, coming across a little valley with a road in it. Five thirty. Right. Does it look good? Ah, yeah looks real good. Ok, another big valley. Right. Heads up. Five thirty. Yes.	
	13:51:46	Five thirty. Five forty-five.	
	13:51:56	Ok. Coming over it right now. Ok. Five, six minutes. Six minutes. Ok. J B.	
3	12	13:52:05 Phantom 132 we have some armored personnel carriers. 43. About eight of them in a semi-circle. In references. A D 43. Say again? A D 43. Alpha Delta 43. Six fifteen. Numerous.	
	13:52:17	Ok. APC's about forty minutes to go, forty seconds to go. Roger six thirty. Should be dead off the nose. Forty seconds? Less than that.	
	13:52:28	Fifteen seconds. Twenty seconds to go. Ok, it should be . . . no we got a little further to go than that Charlie. We're coming . . . No. . . . We're coming across another valley. Right, that's right. And it's in this valley. It is? Yes it is. N2? Yes it is.	
	13:52:45	In fact looks like we should be there now. You see that tower. I don't see the tower. Tower should be up ahead. Oh, I got the tower. Ok, I got it now. Give me give me ah, I got it, I got it. Just off the left there.	
	13:52:59	Ok, give me a time hack.	
	13:53:02	Seven minutes ok.	
	13:53:06	There's the highway. There's there's the tower right there. Ok. Beautiful. We got another seven minutes right. What's our heading? 09 what? 090.	

FIGURE 2-42 (U) VOICE TRANSCRIPT (1 OF 3)

UNCLASSIFIED

RPT TGTT	Real TIME	REAL TIME TRANSCRIPTION	SORTIE 468C cont.
			DATE 9-11-67
	13:53:18	Ah . . . Highway, 76 and we'll be turning in a minute. Rog. Affirmative.	
	13:53:28	How much time. Eight thirty. We got turn it fifteen seconds, ten seconds. Ok. Turn, start your turn now.	
	13:53:40	45 degrees. Ok.	
	13:53:46	Let's go up a bit so we can look. Ok.	
	13:53:51	I need a hack. Ok.	
	13:53:57	09er9er right? Right.	
	13:54:11	You see the lake yet? Negative, I don't see (****), the visibility's so bad out here. I'm sorry there microphone.	
	13:54:21	And ah Timber 1 Phantom 132 need a vector to N3 please.	
	13:54:34	We got to go for this ridge now. We should be a minute or two as soon as I roll out Charlie, away from the road. No, we're not a minute.	
	13:54:44	Roger. What he say? We're one and a half.	
	13:54:52	Ah I believe we be passing over it now?	
	13:54:58	Ah negative, we'll have to do a 360 here.	
	13:55:03	That was it. Yeah. That was good timing, but we should have gone . . . Oh we haven't got a visual yet.	
	13:55:11	Ok, we'll turn around and why don't you give us another hack here.	
	13:55:18	I didn't see it somehow I didn't either, I know that's where it's supposed to be, but I didn't see it. Right on this ridge, off this ridge.	
	13:55:30	I still don't see that (****) . . . There's the lake there, there's that. See that up there . . . (static). At one o'clock.	
	13:55:37	And there should be another small one up there. Ahead of me. (****) mess.	
	13:55:47	Oh, thank you much. 270.	
	13:55:52	I didn't see any smoke. Is she smoking?	
	13:56:00	Should be right, oh over the right there someplace. Ok, I have the smoke in sight now.	
	13:56:09	Roger. You do have the smoke in sight? Yeah. Yeah. I'm glad you do cause I don't . . . Right where the bend in the road is there, see.	
	13:56:25	Boy you got those good eyes. Ok, we're going real good. Ok, into that lake, though, it's just . . . See that smoke. At ah two o'clock. Two o'clock. Don't forget to look up those two, two pylon type dudes. I'm looking for 'em. I know what they're for. I need a hack, when you think we're over the point. You got the smoke though, definitely? Roger. You got the two bridges? Ah, yeah.	
	13:56:53	099. Ok, hack. Ok, there's the pylon right there. 099. Got it quick? Rog. Ok.	
	13:57:05	Ok, let me steer you 09 for targets for. It's right here. For what? 09. You need some what.	
	13:57:14	Phantom 132 is departing N3.	
	13:57:22	I don't know if hacked that. I got a hack. 09er9er. Right. That I think we're to the right of course, could be just slightly huh? Yes.	
	13:57:33	There's the tod there it is, there's something out here. Bunch of trucks.	
4 14	13:57:35	Phantom 132 bunch of trucks along the road. Not trucks, ah storage dumps, barrels along the road. Ok, let's get a . . . AT a B B 9, 8. 8.	
	13:57:47	That's good. Yeah that's good. (13:57:52)	
	13:57:53	Coming up on one minute. BB 8 9. Yea. Oil drums along the ah . . . Check your air speed. 422. Oh. Ok.	
	13:58:04	Coming up on one minute. Ok. Fuel 69. Ok.	
	13:58:09	Heads up. Heads up.	
	13:58:18	Should be something in here. Yeah, looks like it doesn't it?	
	13:58:25	130.	
	13:58:36	Wonder where the hell that . . . Wonder where that (****) . . . coming up on two minutes. That dang SAM site is, I ain't seen it yet. I didn't see a SAM site. Coming up on two minutes.	
	13:58:57	Two minutes. Two minutes.	
5 16	13:59:10	Ok, helicopters right there. Where? Ok. It's six fifteen, two fifteen I mean. Roger. Ok. What was it. C C 1 9. (13:59:20)	
	13:59:21	Ok, this is Phantom 132 we had several large helicopters at C C 2 9. (13:59:26)	
	13:59:29	Two thirty.	
	13:59:43	Ah, two forty five.	
	13:59:54	Coming up on three. Ok, should be a ridge. We should be hitting a ridge about three fifteen.	
	13:59:59	Ok, just passed a river. Alright, here's the ridge right here. Oh, ok. Heads up heads up.	
	14:00:15	Ok, there should be a highway, and railroad track, and everything down here. There, there it is, river, and all.	
	14:00:25	No joy on anything. Where is that (****) SAM site, (****). Three thirty. Yeah.	
	14:00:40	We got a valley at four minutes so . . . Roger.	
	14:00:46	Have we passed that one river yet? Don't think so have we? Yea we passed that one one river. Ok.	
	14:00:52	Coming up on four minutes. Here's the valley. Should be something.	
	14:00:57	Ok, give me coordinates right now. Ok, C E 3 4. 3 3. Ok.	
6 21	14:01:05	This is Phantom 132 had two looks like power vans, at C E 3 3. Look like communications vans.	
	14:01:14	Ok, what's our fuel here. Ok, we got 6 4. That's fast.	
	14:01:22	Oh boy 65 over 74 ev Ok. let's really some cords. Easy this is only about two miles here. This good valley good place to look for stuff. Here we go. Ok. Nothing there. Four thirty. Ok.	
7 22	14:01:35	Hack now. Four thirty five. Ok. There's a missile site ah correction there was a Honest John missiles.	
	14:01:41	Phantom 132 has an Honest John missile site, with one truck with missile aboard. Three support trucks at coordinates ah D C 9 9. D C 9 9. That's as close as I get it. Alright. (14:01:54)	

FIGURE 2-42 (U) VOICE TRANSCRIPT (2 OF 3)

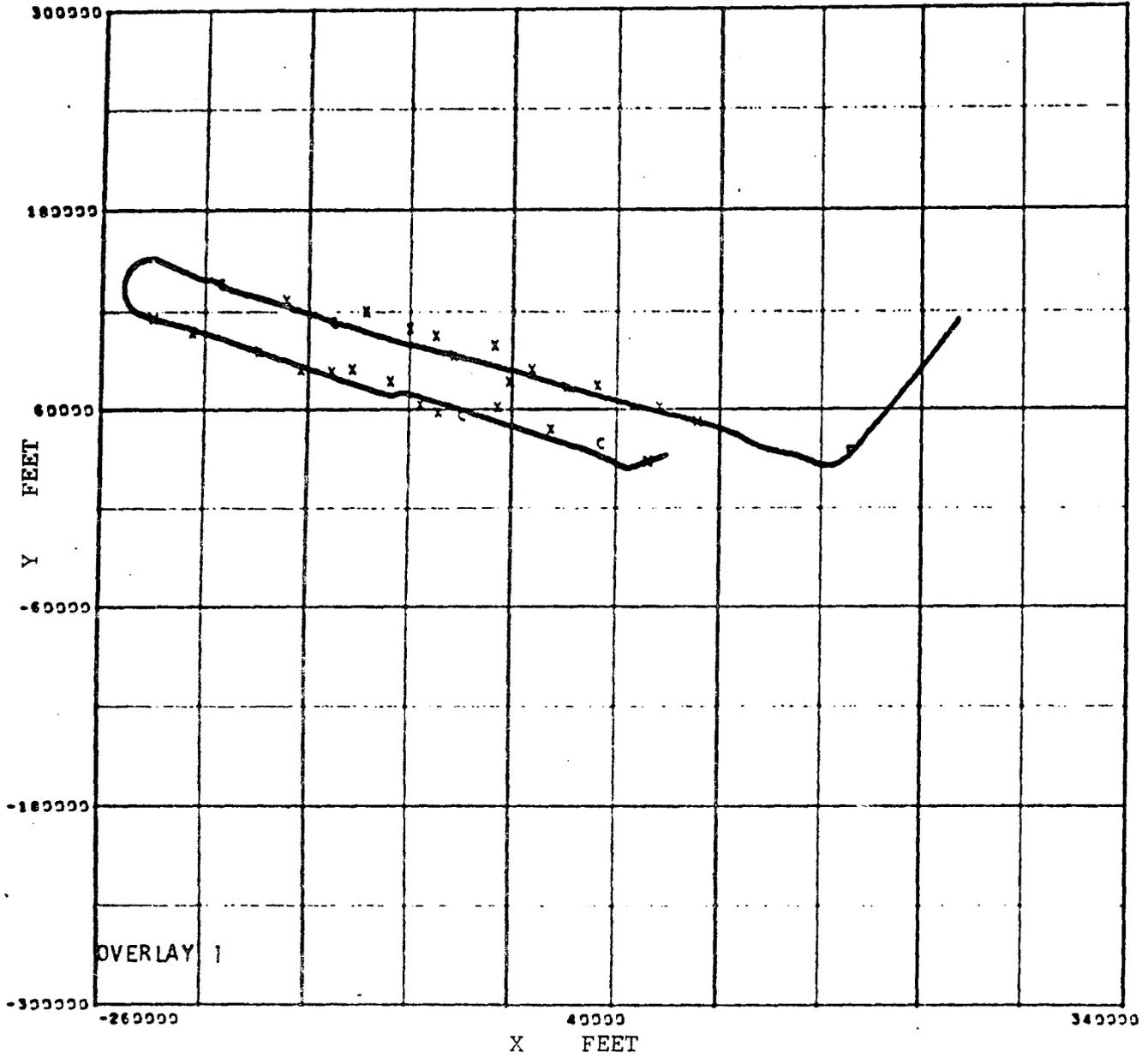
UNCLASSIFIED

RPT TG	Real TG	TIME	REAL TIME TRANSCRIPTION	SORTIE 468C cont.
				DATE 9-11-67
		14:01:56	Coming up on five minutes.	
		14:02:03	Two minutes to go. Yes, only two minutes and eight seconds. Here's a valley.	
		14:02:10	Nothing down to the right. Here's the road. Ok.	
		14:02:18	Ok. That's five minute look out tower should be off to the left somewhere so . . . no that's the one, that's the one, but you want the other one. Yea I know I know. Off to the left somewhere. But, should be way off to the left cause we're a little bit right of course I guess.	
		14:02:32	Ok, I have a tally on it. You got a tally on the tower. Roger. It off to the left? Roger, I think that's it. Either . . . Yeah there it is right there I got it. Ok, we're crossing it at five forty-five.	
		14:02:45	Little bit slow but not much. That is that tower. Yea, that's the tower. Yea . . . tower. Looks like we're pretty good. Pretty well on course.	
		14:02:57	How far out from ah N4. One minute and eight seconds.	
		14:03:02	Ok. There's a little valley coming up here. Right about now.	
		14:03:11	It's just a little one though. Ok, N4 should be on a big ridge up ahead, shouldn't it. Ah, is about third ridge I guess. Yeah.	
		14:03:24	Ok. There's the river, that's a river. Yeah, that's right. Should be about forty- five seconds hey? Right.	
		14:03:32	Here it is again.	
		14:03:35	Well we must be heading right for it, but the vis is so poor now I can't see that far.	
		14:03:40	Nothing down there. Ok, about twenty seconds.	
		14:03:51	Don't forget it might be slightly off to the left. Yeah. I'm looking up on that hill up there. Ok. We got seven, ten seconds. Supposedly. Ok.	
		14:03:59	I've got a tally on it.	
		14:04:02	Phantom 132 has N4 in sight.	
		14:04:08	There it is Charlie. Yeah off to the left there. Right. Yeah. How far?	
		14:04:13	Timber 1 Phantom 132 passing N4.	
		14:04:21	End of transmission.	

FIGURE 2-42 (U) VOICE TRANSCRIPT (3 OF 3)

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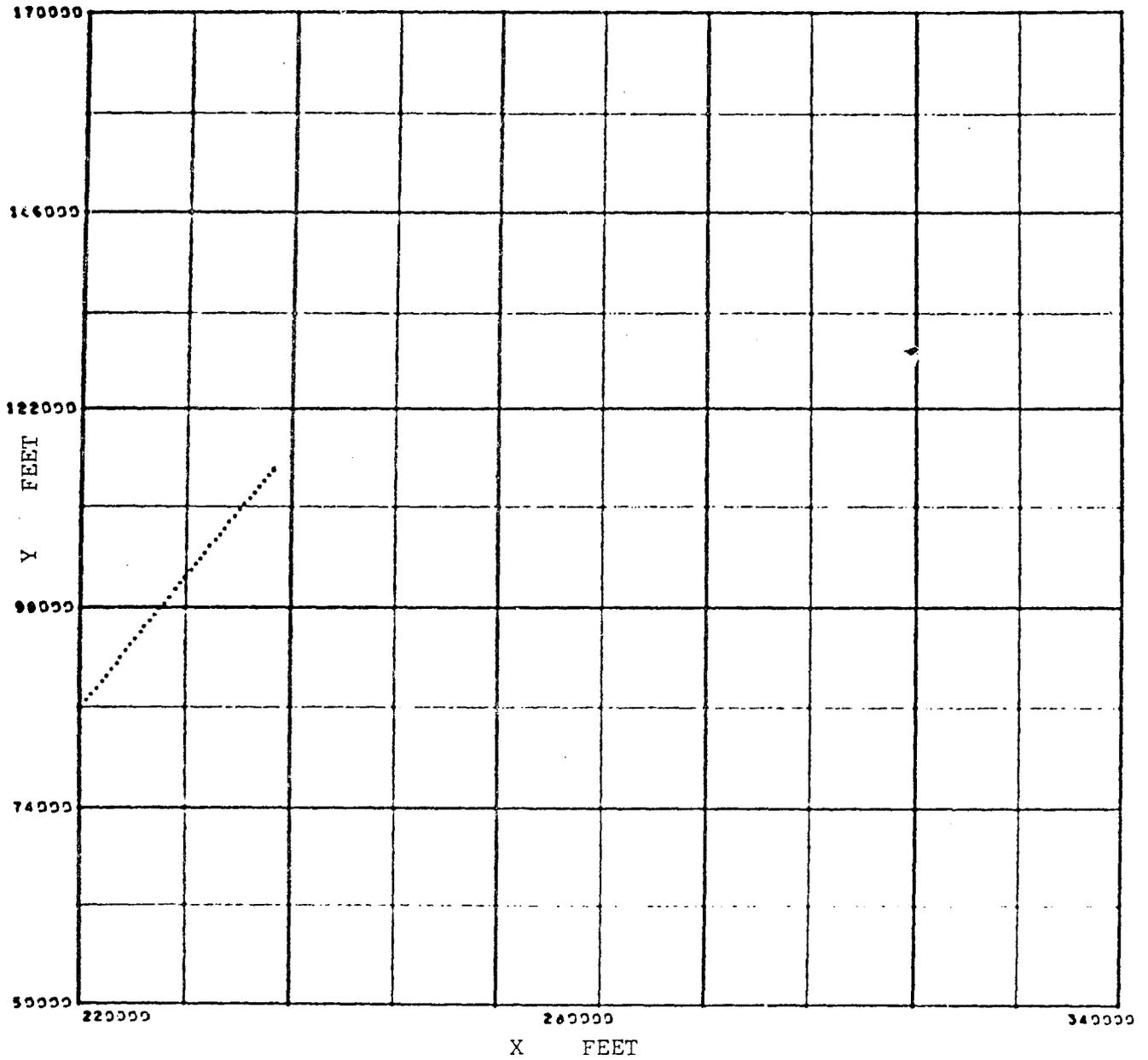
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SORTIE NUMBER 473A
OPERATIONAL DAY 8 SEPTEMBER 1967
NORTH COURSE
FIGURE 2-43
AIRCRAFT POSITION DATA (U) 1 OF 8

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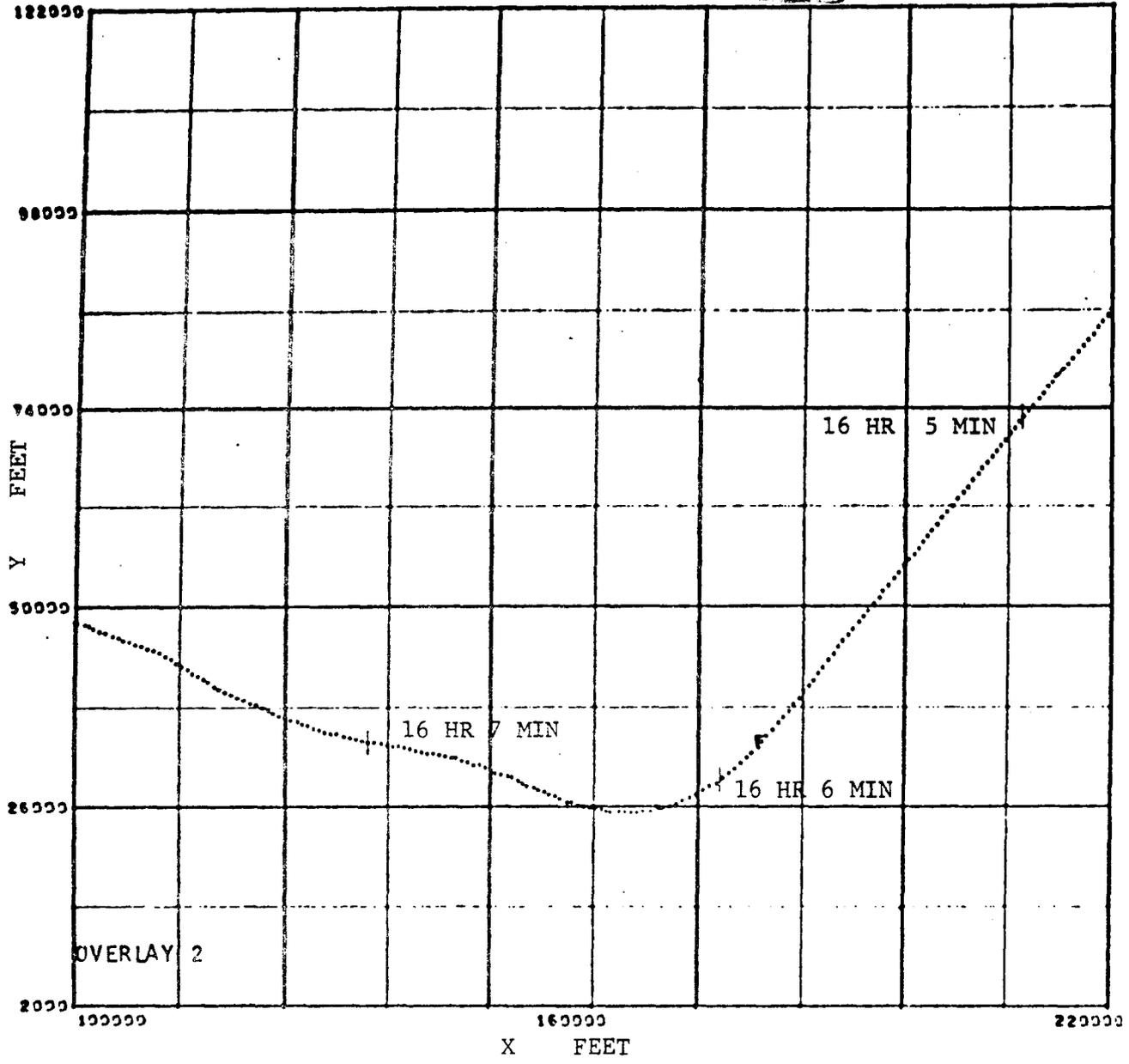


SORTIE NUMBER 473A

FIGURE 2-43
AIRCRAFT POSITION DATA (U) 2 OF 8

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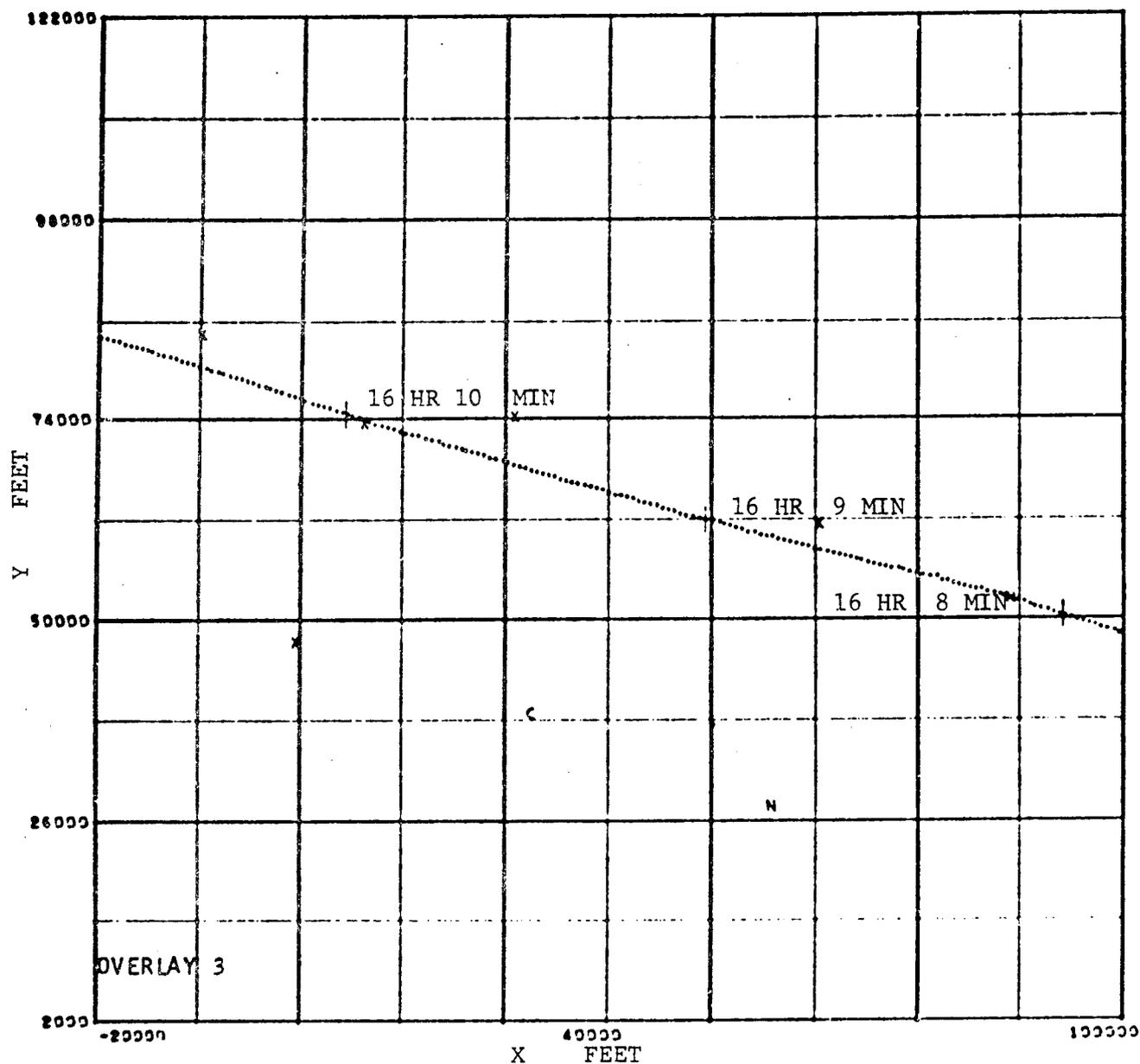


SORTIE NUMBER 473A

FIGURE 2-43
AIRCRAFT POSITION DATA (U) 3 OF 8

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SORTIE NUMBER 473A

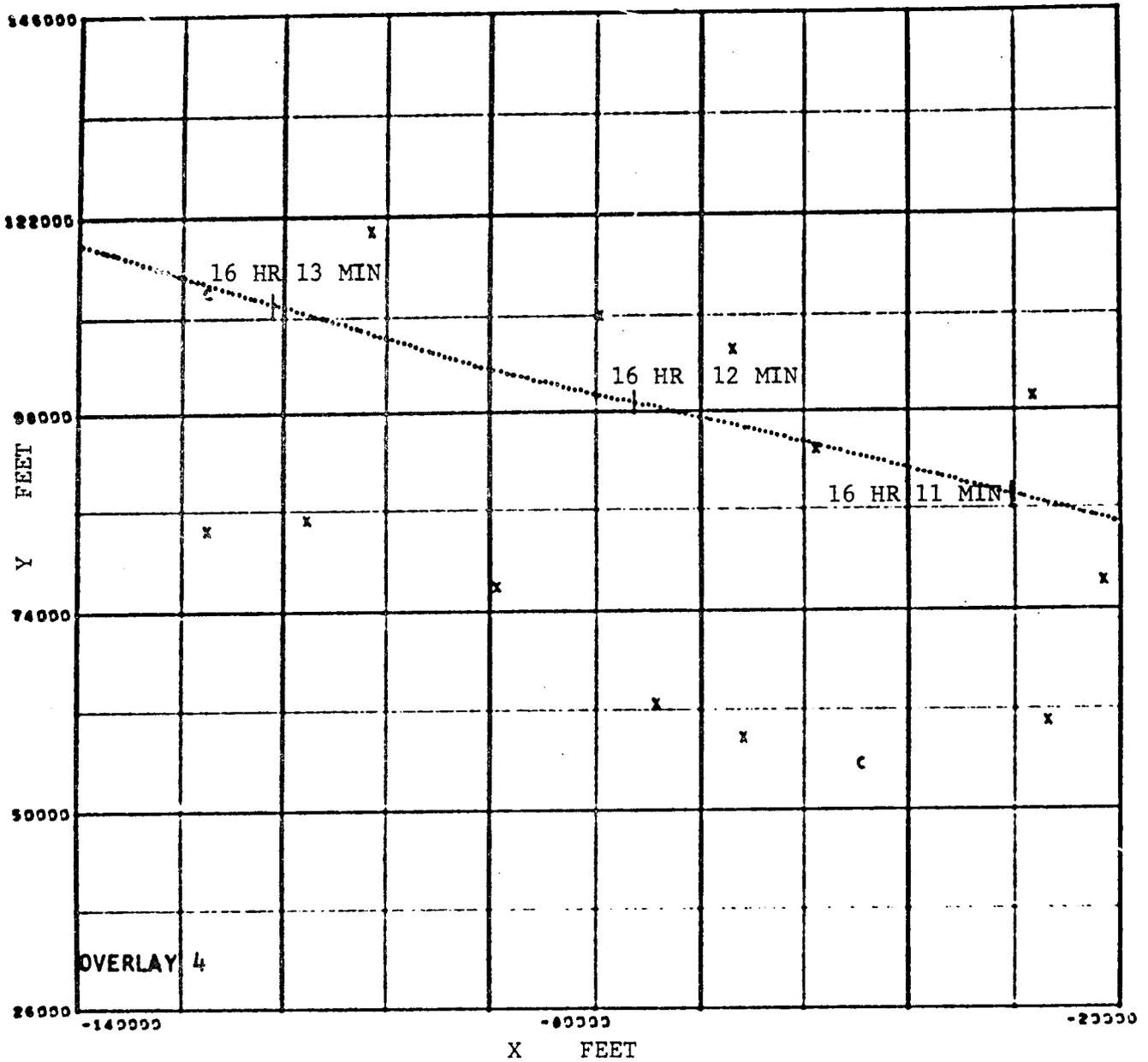
FIGURE 2-43

AIRCRAFT POSITION DATA (U) 4 OF 8

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2-215

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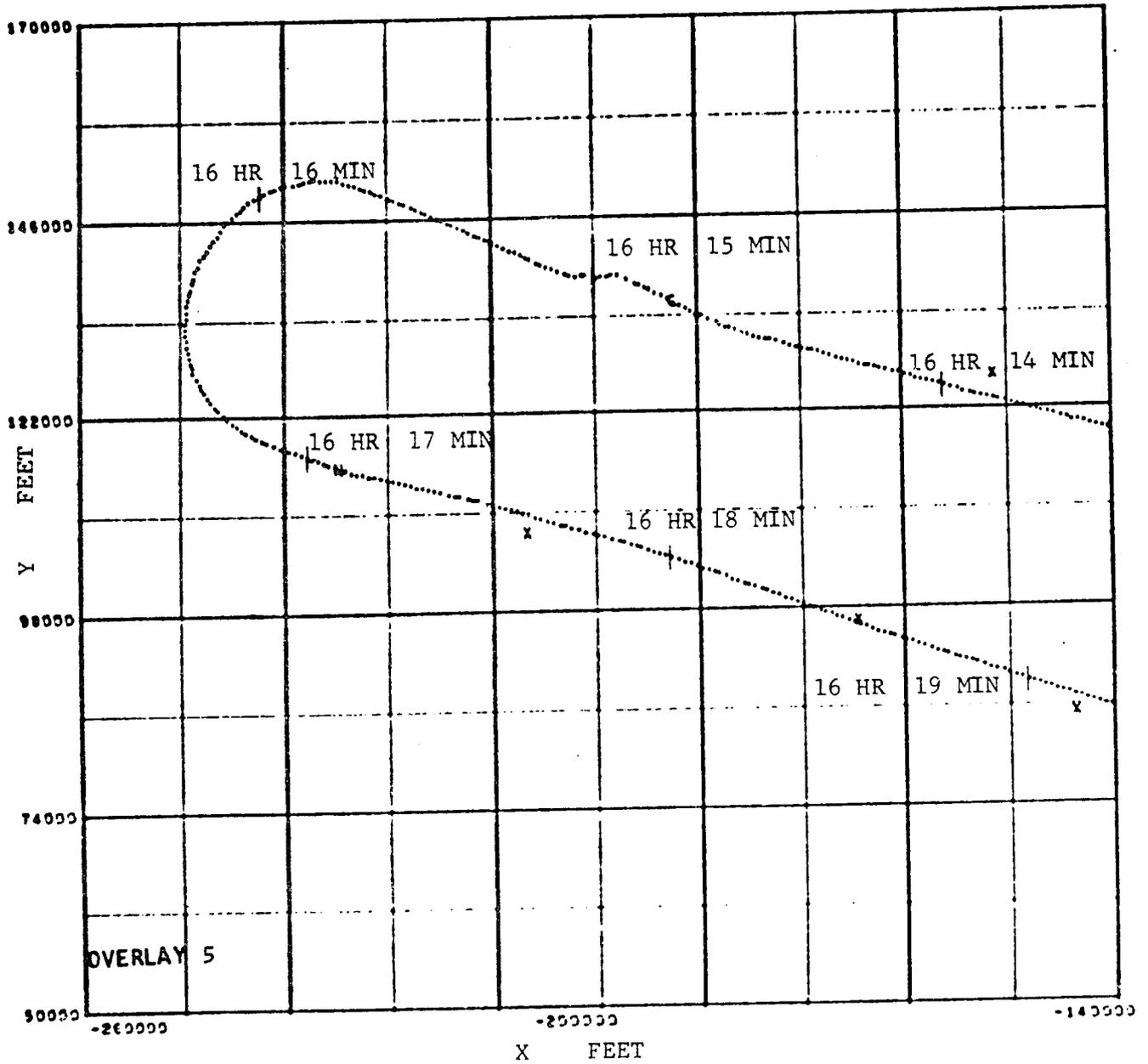
SORTIE NUMBER 473A

FIGURE 2-43

AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

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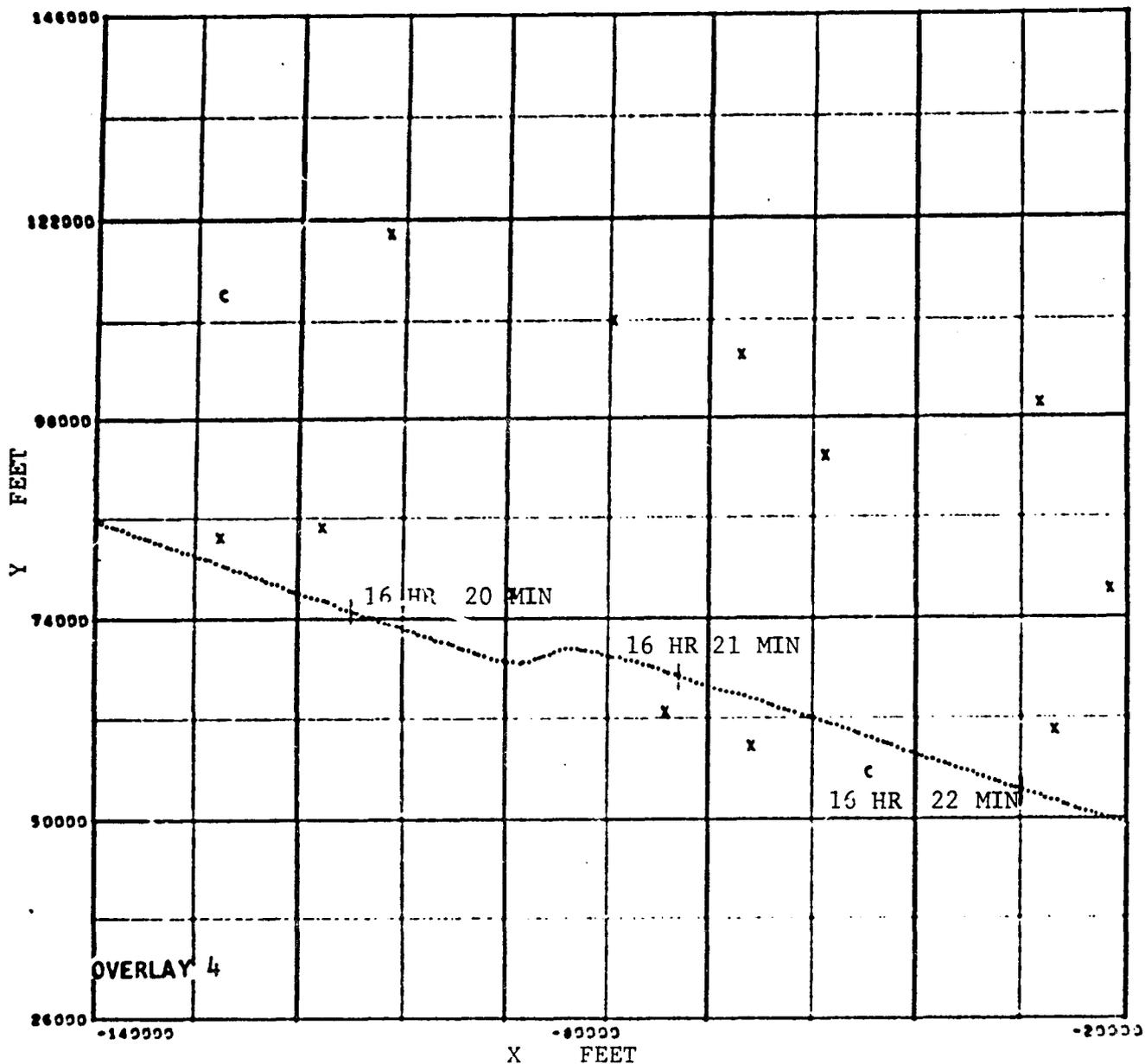


SORTIE NUMBER 473A

FIGURE 2-43
AIRCRAFT POSITION DATA (U) 6 OF 8

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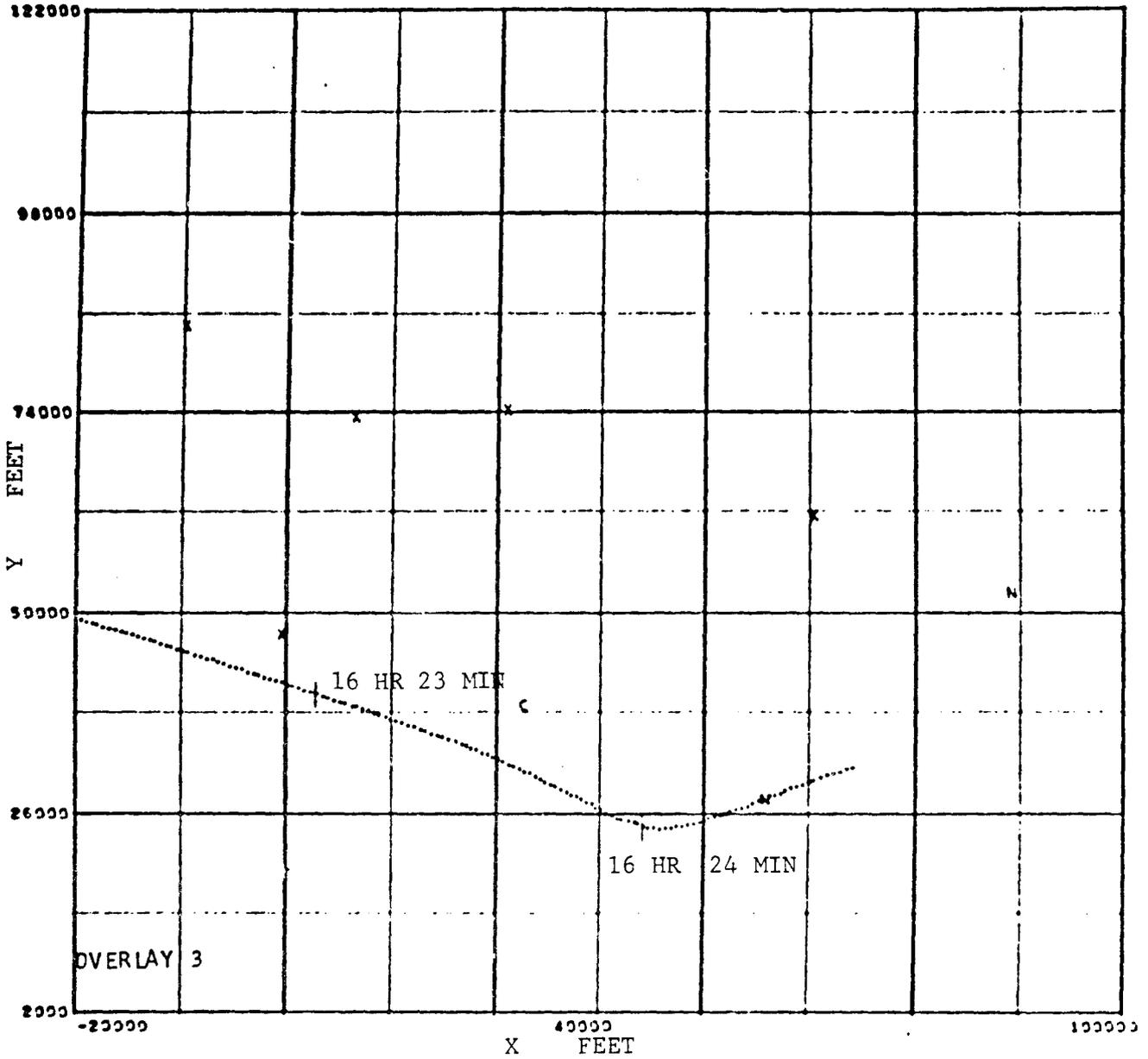


SORTIE NUMBER 473A

FIGURE 2-43
AIRCRAFT POSITION DATA (U) 7 OF 8

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SORTIE NUMBER 473A

FIGURE 2-43
AIRCRAFT POSITION DATA (U) 8 OF 8

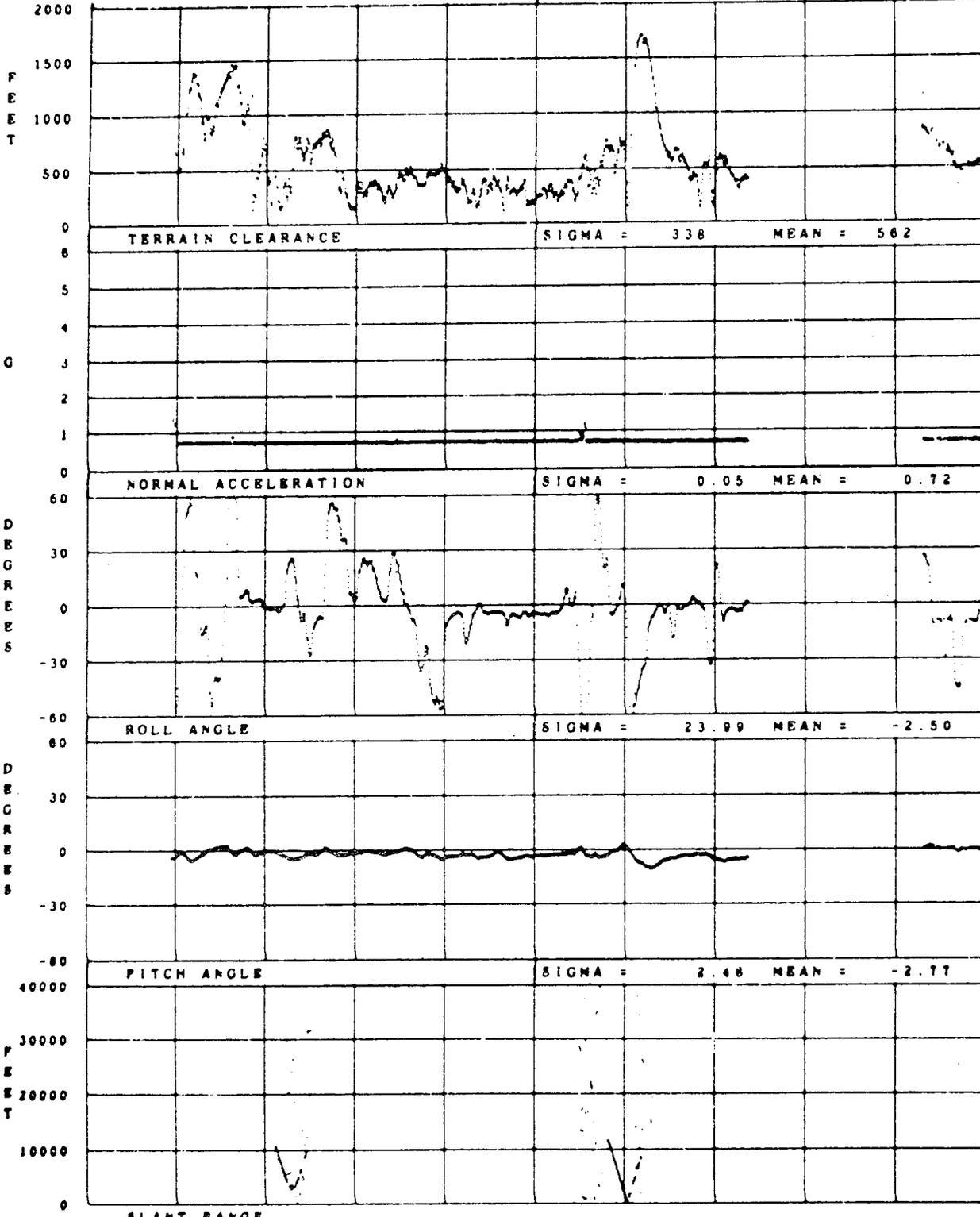
UNCLASSIFIED

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15 HR 57 MIN

16 HR 02 MIN

16 HR 07 MIN



BORTIE NUMBER 413A

OPERATIONAL DAY 8 SEPTEMBER 1967

FIGURE 2-44 (U) TELEMETERED DATA (1 OF 3)

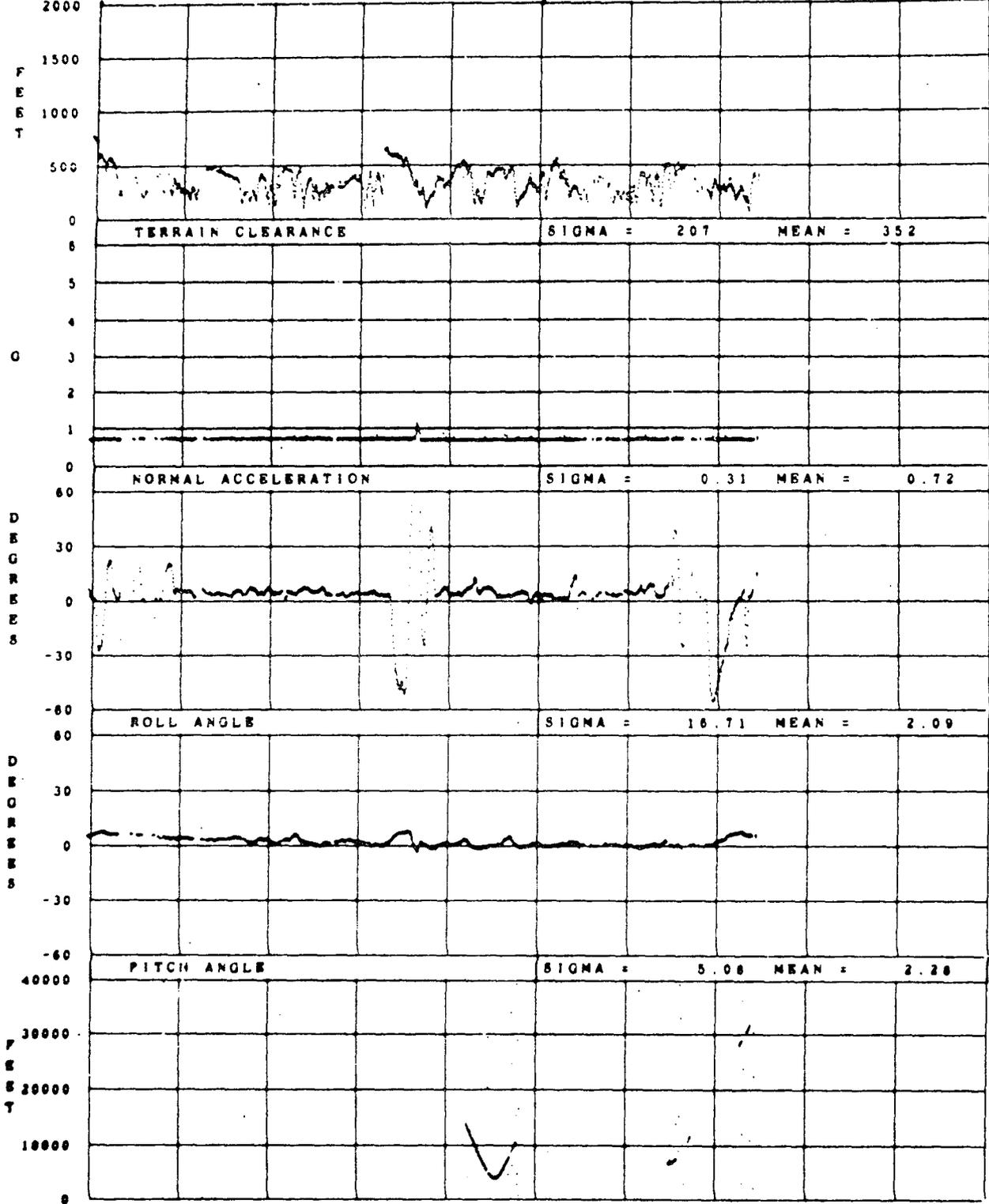
UNCLASSIFIED

UNCLASSIFIED

16 HR 17 MIN

16 HR 22 MIN

16 HR 27 MIN



SORTIE NUMBER 473A OPERATIONAL DAY 6 SEPTEMBER 1967

FIGURE 2-44 (U) TELEMETERED DATA (3 OF 3)

UNCLASSIFIED

UNCLASSIFIED

RPT Real TGT TGT		TIME	REAL TIME TRANSCRIPTION	SORTIE 473A
				DATE 9-8-67
		16:07:30	We have uh smoke in sight. _____ . Ok, we're coming right over it. Ok, get ready to hack. Tell me when to hack. Ok.	
		16:08:07	Hack now. 279? Yah 279, how's the ground speed? Good. 3 knots slow. 3 knots slow. You're ok.	
		16:08:43	About 4 knots slow.	
		16:08:57	(Two verses break a line) (mumbles)	
		16:09:12	Uh after we come over this ridge line. If it's at 12:00 the stream will be on the other side of it. You want to know how it looks? Yah. Going to pass over it perpendicular and then have it go parallel to us going towards the West. On our right side. Uh I don't have the stream. Ok it should be. Ok there's Coming over quick. Man I haven't seen anything yet. There's the stream. And down off there to our right. We're a little bit left of course, not much. Pull about 1 more degree to the right. 281, 30 yah. Ok I know where we are. There's that road we just passed. Want to be coming on the right side of this ridge.	
1	3	16:09:58	131 artillery position on top of that ridge. Ok. This is 131. Got marked. Got artillery position at uh about 3 large guns. Location? Charlie, g, uh George. Charlie George. Charlie George 64. Roger. (16:10:16)	
		16:10:20	Ok, spot this. Highway intersection at 12:00 here, with a bunch of roads coming out of it. We're ok. Break right on. Bridge on the left, good. Hold the setting.	
		16:10:49	About 9 knots slow, J.B. 9 knots.	
		16:10:59	Road will passing up the right rear to left front. Yah there it is. No targets on it. Blue truck. Ha, ha. 1 blue truck.	
		16:11:16	Son of a gun, there's that stream. We're right on the money time wise. Ok. You're a little fast, I'm sorry.	
2	7	16:11:29	Ok a SAM mobile. 131. Position report passed it on the left there, Paul. That's at Bravo. Uh mo. George 61. Roger, it's a mobile surface to air, surface missile launcher. Uh 1 truck 1 missile on the launcher poised ready for flight.	
		16:11:46	How the hell are we going to attack that son of a gun? Aren't supposed to. Not that one, were we? We're supposed to attack a SAM site yah. That wasn't a SAM site though. Oh ho what was it? It was a mobile surface missile. Surface to surface missile launcher. Ok we're on course. Put you past right over that bridge.	
		16:12:17	A stream right there. Yah hold about 281 degrees for a while J.B. Were a little bit left. Ok. And you're about 9 knots fast again. When you came over the side of that hill. Where that times just about on. Ok. You're holding good air speed.	
		16:12:41	There uh the time elapse now is 5 something isn't it? 5:30? No. 4:30. 4:30 right now? Yah coming over that ridge. (mumbles)	
		16:12:53	Ok back to 280. We're doing good I think. Right there good. Ok we're just a. Hey you should see that road right at 2:00. Yah. Were, you want to go a little bit further to the right J.B. Is that road bent?	
3	11	16:13:09	There's an airfield. Airfield, roger.	
		16:13:11	Speedy 131, technical airfield. Approximately 100. Bravo Echo 68. Bravo Echo 68, approximately 100 feet wide. About 2,000 feet long. Oriented 240, 060. (16:13:27)	
		16:13:29	Ok.	
4	12	16:13:50	Oh there's uh artillery convoy.	
		16:13:52	Speedy 131, this. Say again? 3:00 Paul. Speedy 131 I have a artillery complex, APC's it's about 8 correction about 11 APC's. Alpha Delta 72. Right. I think they were just in a park, there were no pattern arrangements to them. They were headed, some headed East. Some headed West. Suspect it's just a storage area.	
		16:14:18	We're a little slow and a little low, I think it looks like. Let's hold exactly right here, we've about got it.	
		16:14:31	Ok (assisted radio) GCI site. _____ Ok uh, rog I got the GCI site. Pickled.	
		16:14:40	Ok, I got the uh _____ there. Pickled. Disregard that GCI site. Any 27, back to 280. Want to pass just to the left of that J.B. On a heading of 280.	
		16:15:00	Speedy 131 departed N2. Ok. Uh. Ok you got about (40 minutes?) till we turn. Ok there's uh next point down there. Yah. Ok we should hit this thing at about 7:20. Oops we're a little fast. So we can turn a little sooner. On uh 750.	
		16:15:26	Ok there's uh that road.	
		16:15:30	131 is 99 hundred. Ok ready to turn now? Well we're a little fast. Start, go ahead and start your turn and come on around it a little slow. Ok at about uh. 48 degrees to bank.	
		16:15:47	Ok here's the little town. Ok we're going on it right. I got it on the map, where, but we're fast. I want to get our time back. Or else we can rehack. Use about yah about 45 since we're slower. Yah going back up to 420. Ok that ought to about do it. Moving just a little bit. Ok, here's the big road. Continue right on it. Around to 099. And you, we can see the reservoir from here on the other side. Pass over the left hand end of the reservoir.	
		16:16:30	Ok the road should be just on the side of the water, right? Uh we're just about right on time. About 099 you say? Right 099 degrees. 429 you got. Say here's that road we're looking good. Ok uh yah I got it. Rog. Good. Yah.	
		16:16:59	131 is passing over S correction N3. Ok speed it up a little, we're a little slow. I didn't see the smoke. I saw the pylons first. Ok now I'm going. Ok speed it up a little J.B. we're a little slow, I uh over _____ . Ok. I know where we are though, we're doing good. Ok is it, the hack working out all right? Yah. 099 you say? 099 degrees. Oops. I got you on 093. Course. Ok.	
		16:17:34	Uh we should have crossed a little zig zaggy road. I think we want to go.	
5	14	16:17:38	Ok there's a.	
		16:17:39	131 uh position 4 going to 5:00 is an ordnance storage point. Uh no vehicles. 2 roads. The location? Is Bravo Charlie, 0, 06. Roger and uh 2 rows of ordnance supplies, rows about 4 feet wide uh 80 feet long. (16:17:59)	
		16:18:06	Ok right after we get over this here climb. There will be a clearing. Rog. Should be able to see something. I. I'm checking the right side. Ok I'll look on the left.	

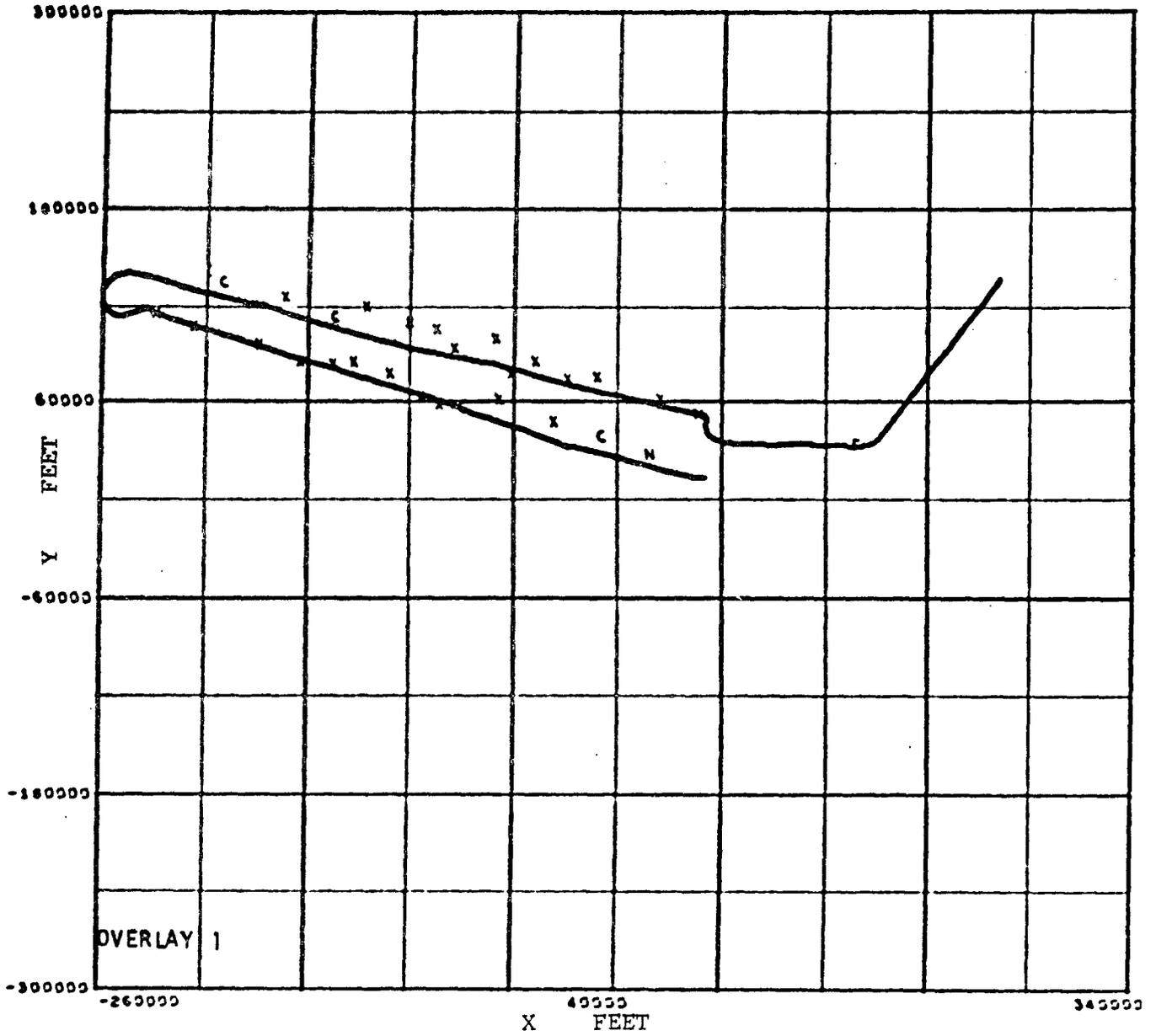
FIGURE 2-45 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

	16:18:19	Birds.
	16:18:24	Say this is where we reach uh zig zag road there that I drew on your map. Right. Ok. Yes.
	16:18:37	See we're right on course. And I didn't see a target, hah. Hey what's that up on the left? Civilian stuff? Yah civilian stuff. Ok it's not military. Sorry.. Well, I'll mark it anyway. School buses in case it was military. Pretty good road here in just a few minutes coming uh. Uh ok we, we can slow it back down now to 420.
6	16:19:08	Ok a helicopter pad on the right side. 2 helicopters and uh several drums of fuel. Location?
	16:19:19	Is Speedy 131. Coco, Coco, 08. Roger. (16:19:23)
	16:19:27	What's the uh ground speed. Ok 434, slow down a little more. Ok. How much tailwind do we have? We've got about a 30 knot tailwind. 30 knot tailwind.
	16:19:42	Ok road going under us here. Yah I spotted it at 11:30. We're right on time.
	16:19:51	again. Same ok. You're right on your air speed. Right over, right over this next uh ridge line we'll come to a road and railroad cross off to our left and then that stream. It's marked.
	16:20:18	There's a stream we should have crossed up there to our left, I believe, J.B. Yah. We're off to our right. Yah a little bit left.
	16:20:35	Ok we're about back on now? Yah. Pull it back 09 uh 6 degrees for a while. That's that's ok. Ok looking good. 099.
7	16:20:56	Ok there's uh vehicle over in that. See it at 3:00? 1 single long vehicle. 2 of them. Possible communications site.
	16:21:05	For Speed 131 the location is uh? Charlie Dog 21. (16:21:13)
	16:21:16	Yah we should have crossed right over that edge there. We're. Ok just a few seconds we'll cross a road. Passing on my right rear to left front.
	16:21:36	There it is. It zig zags back to the right. Right, we're right on course . . . Yah we're right on course. Maybe a 100 yards to the right.
	16:21:56	Ok there's uh. In about 10 seconds.
	16:22:02	Ok what's the uh? What's the total elapsed time? I'm trying to figure out how much longer to. Ok almost 14 minutes. Ok. Right here's that road and I didn't see any targets on it. I didn't either. Ok we're a little bit slow again, but that's all right. That's good I know where we are.
	16:22:28	Hey we're, yah. Just hold this heading I think and we'll about hack it. Hack it. It should be a tower up to our left. Yah I can see it now at 10:00. Right. Did. I figure that took us about 14. Yah we're still a little slow. We're looking good. We're slow right now? Yah we're all right.
	16:22:56	Ok in about, in about 15 seconds we'll pass over the stream. At, we'll get with the straight portion and there's a zigzag to our left. Ok. In about 5 seconds as soon as we get. Ok there's the stream.
	16:23:23	Ok here's uh. Uh we're, we're to the left of course. Turn right to about 095. Left to 095. No no it's to the right, I'm sorry. Ok we. Ok we should see the tower.
	16:23:44	Say there's an F4 over here.
	16:23:48	131 has an enemy uh bogie. Got him, thank you pops.
	16:23:53	Hey it's uh to our left I believe, J.B. How much longer. Is that the end of the course? Yah it should be that tower up there. Ok. This is kind of (****) hazardous.
	16:24:06	Ok I pickled.
	16:24:10	Yah that's the end of the course.
	16:24:15	Let's go back VF and R. Man we sure didn't see that target.
	16:24:24	Go up and see who that is. Ha, ha, ah.
	16:24:27	Uh Timber 1, Speedy 131 departed N4 when we're leaving your frequency to go VFR.
	16:24:36	End of transmission.

FIGURE 2-45 (U) VOICE TRANSCRIPT (2 OF 2)

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SORTIE NUMBER 480

OPERATIONAL DAY 9 SEPTEMBER 1967

NORTH COURSE

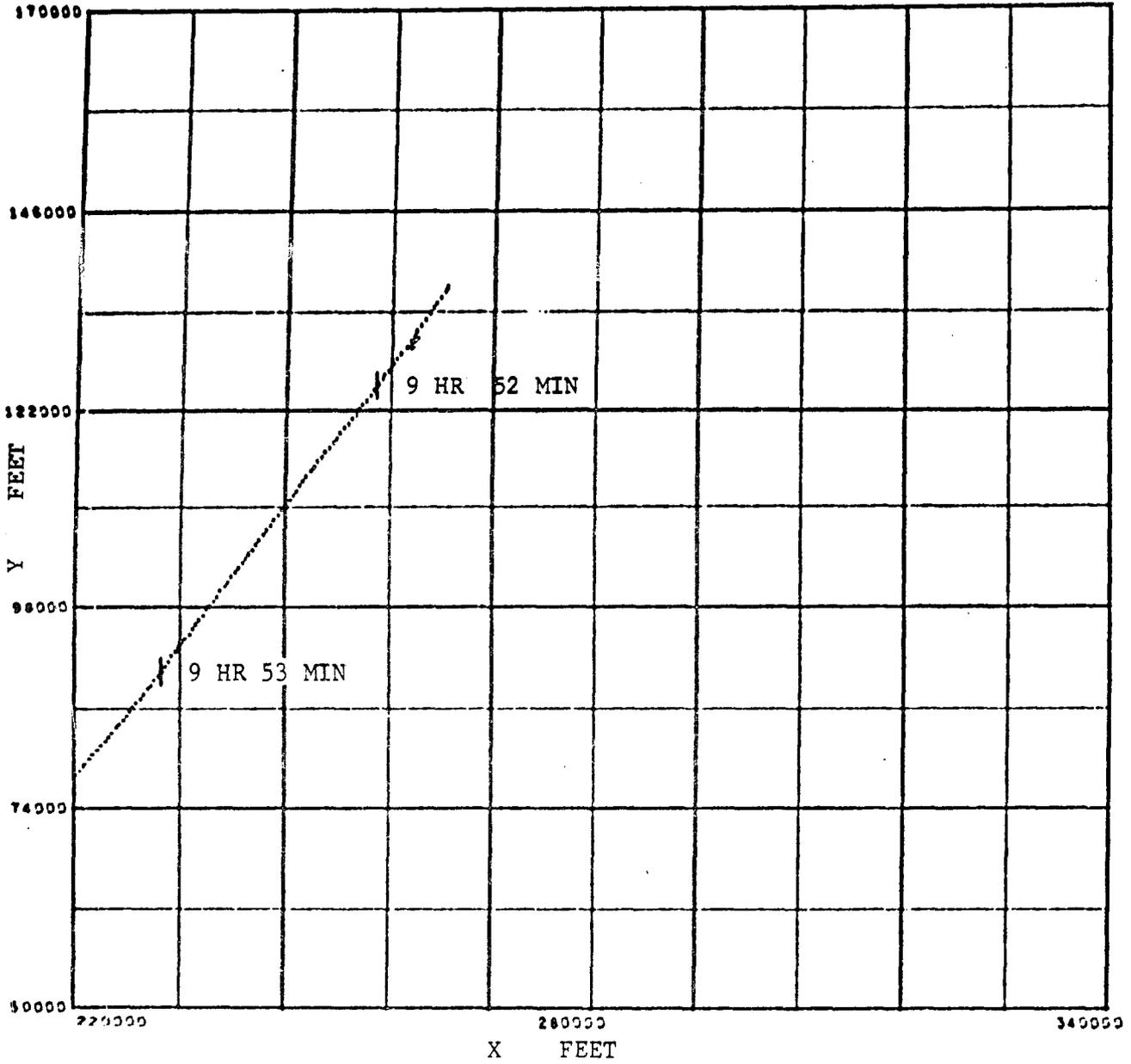
FIGURE 2-46

AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

2-225

258



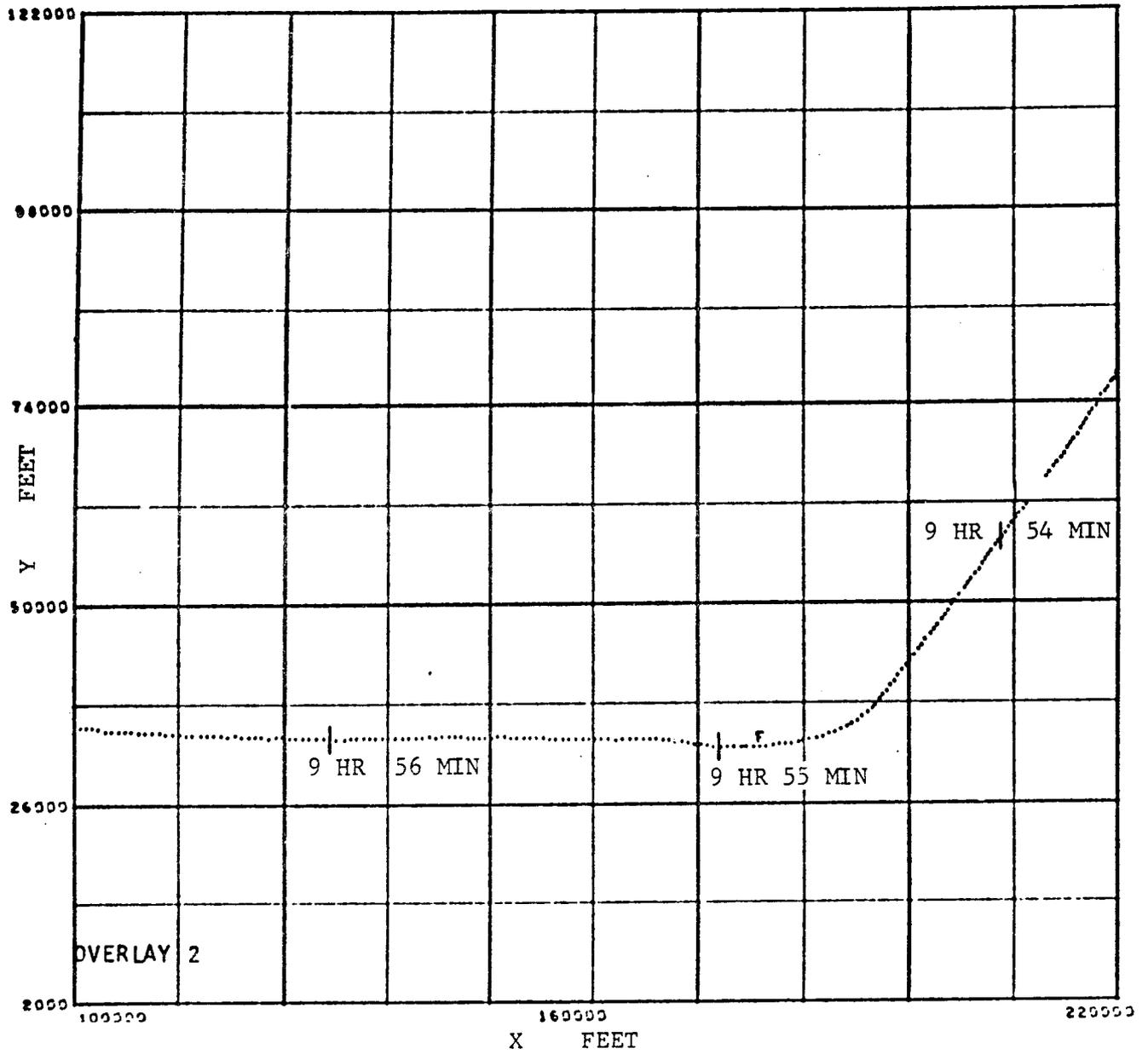
SORTIE NUMBER 480

FIGURE 2-46
AIRCRAFT POSITION DATA (U) 2 OF 8

UNCLASSIFIED

207

UNCLASSIFIED



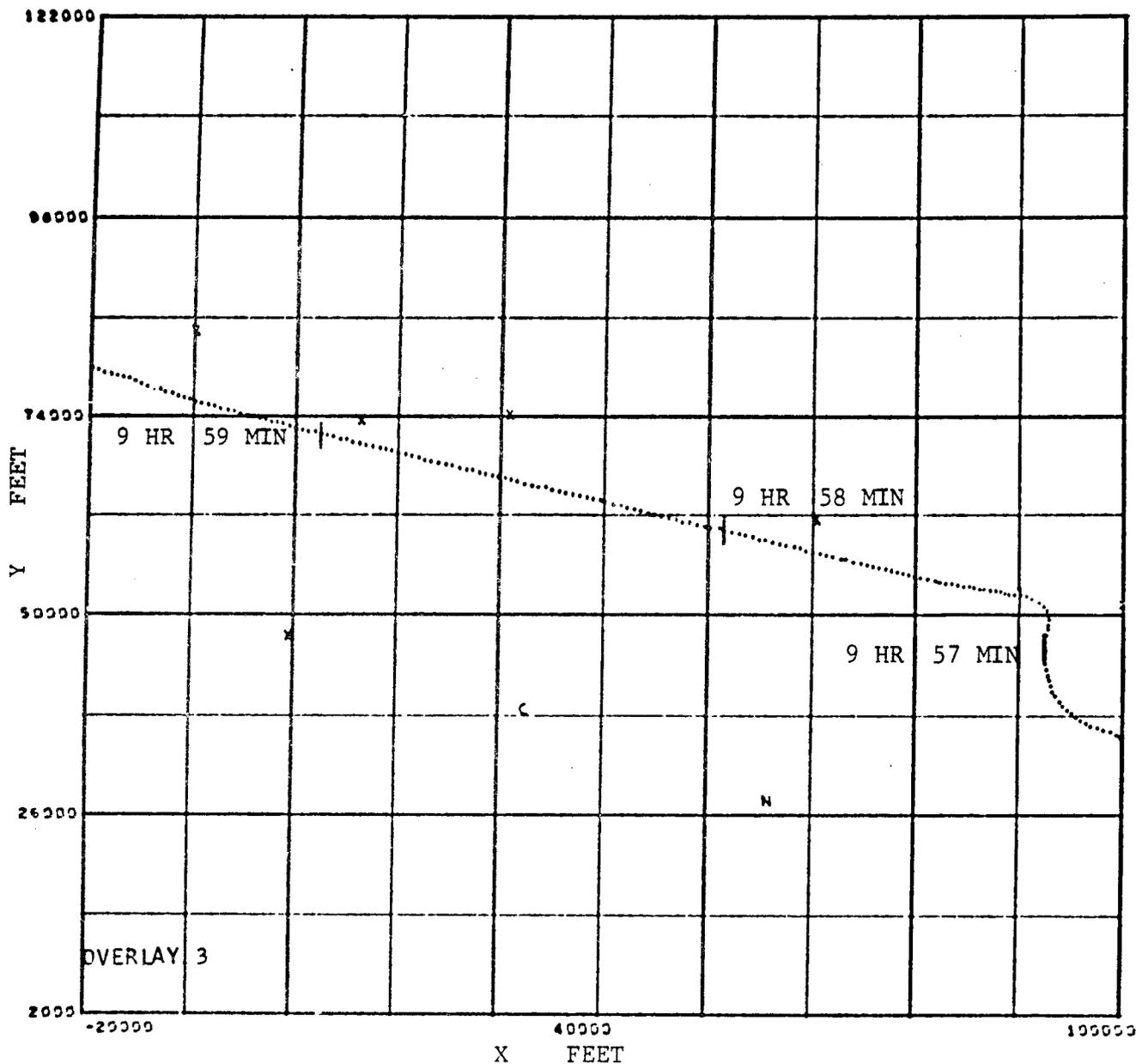
SORTIE NUMBER 480

FIGURE 2-46

AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

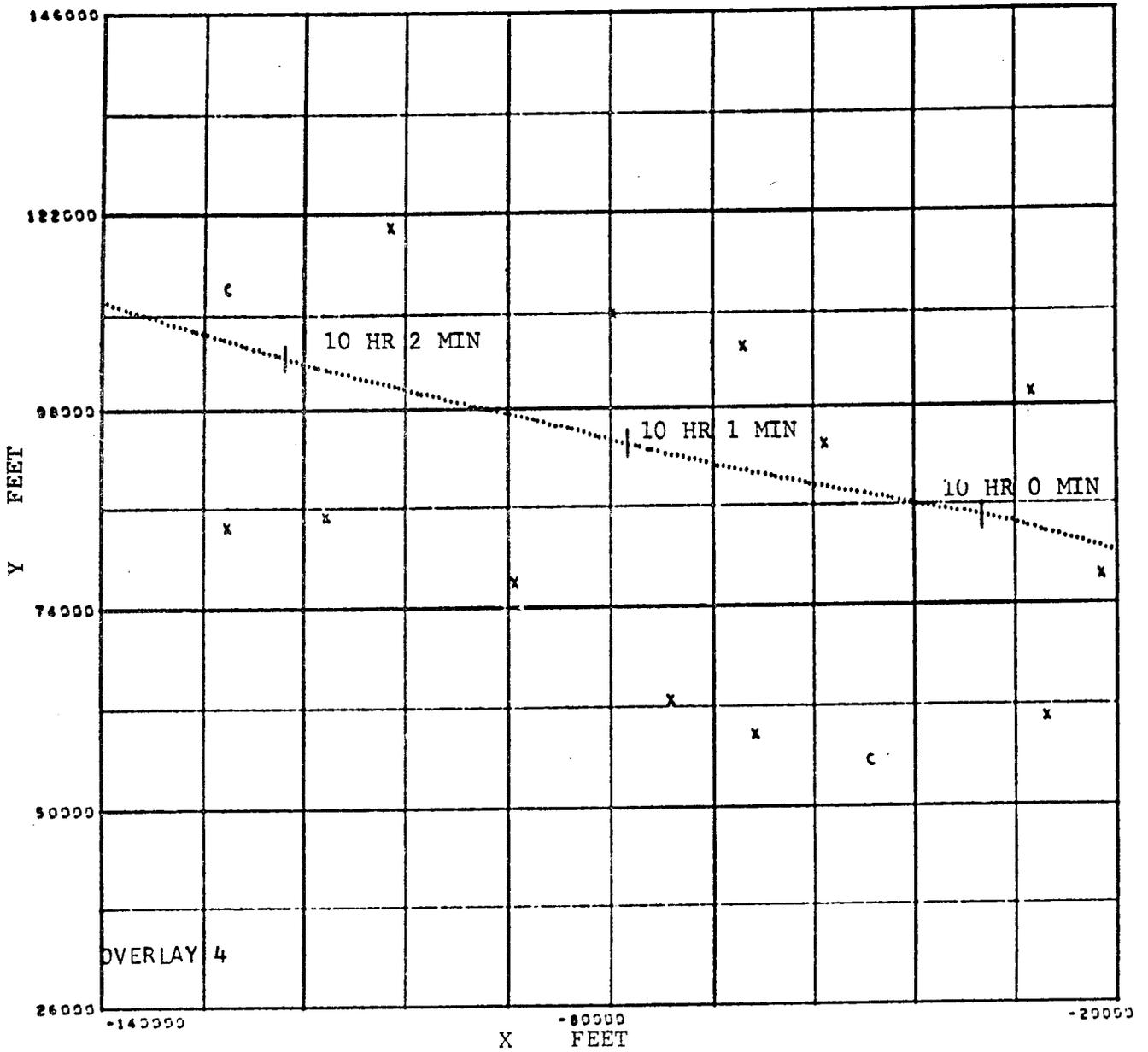
2-227



SORTIE NUMBER 480

FIGURE 2-46
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED



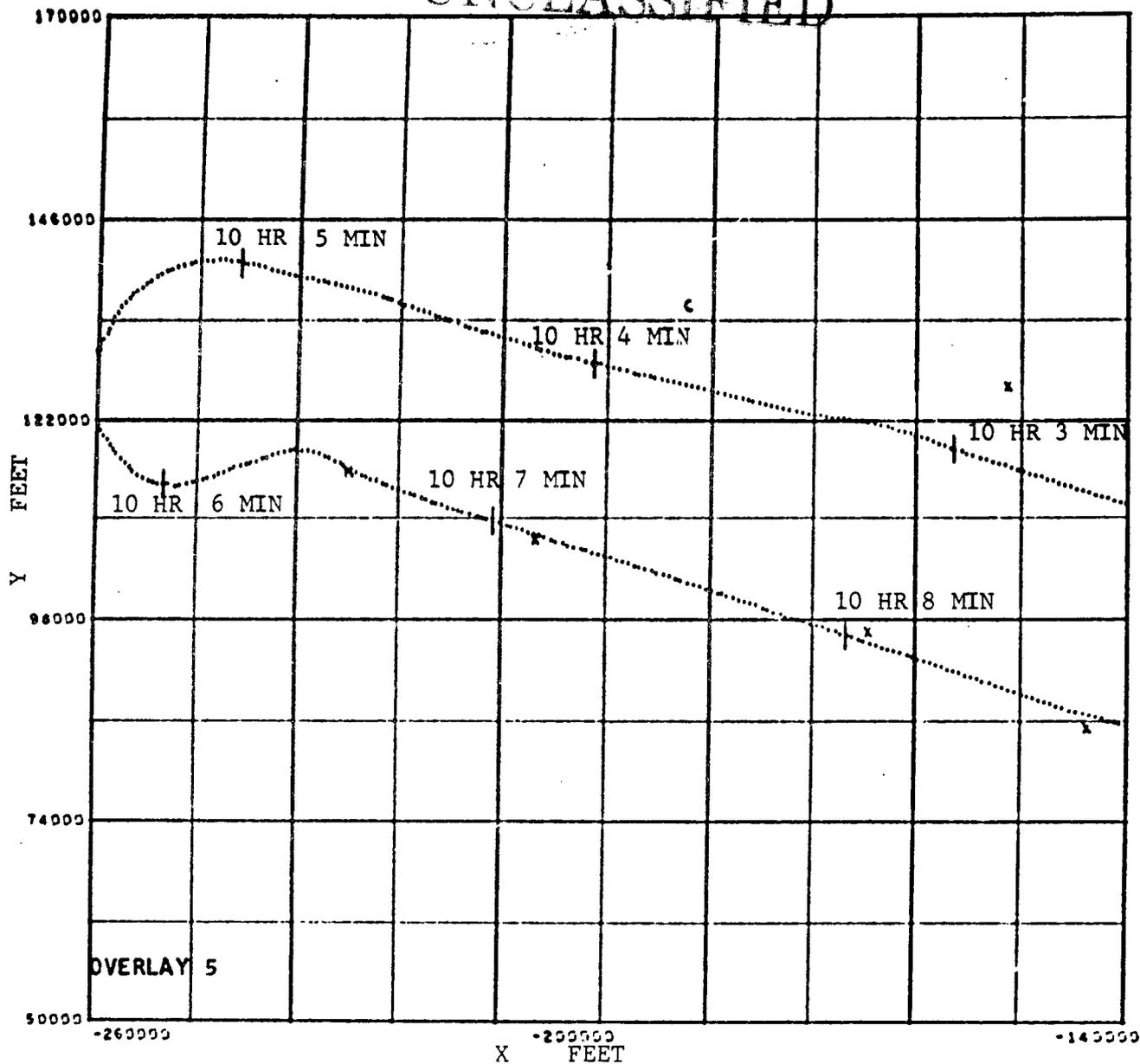
SORTIE NUMBER 480

FIGURE 2-46

AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

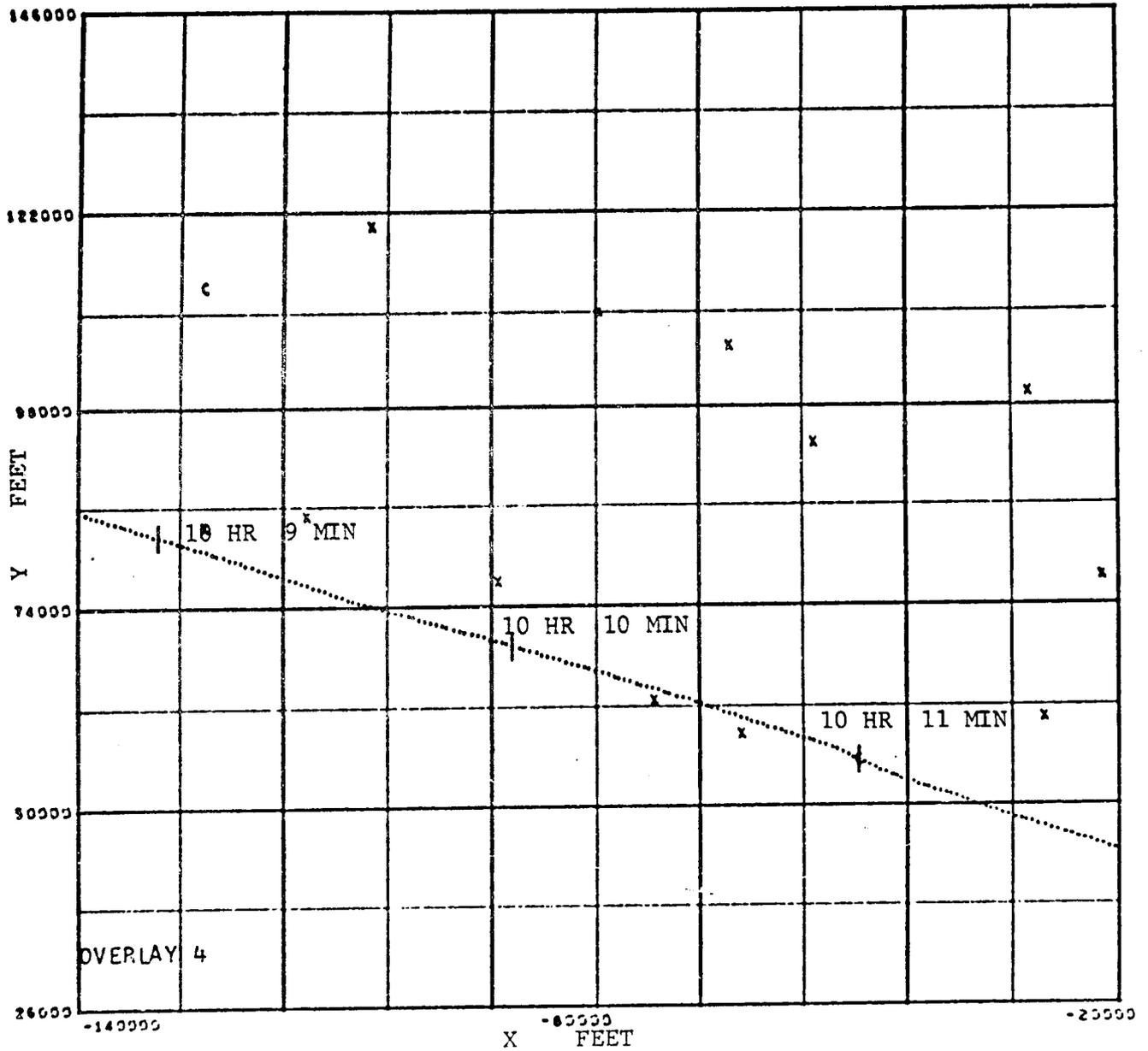
2-229



SORTIE NUMBER 480

FIGURE 2-46
AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

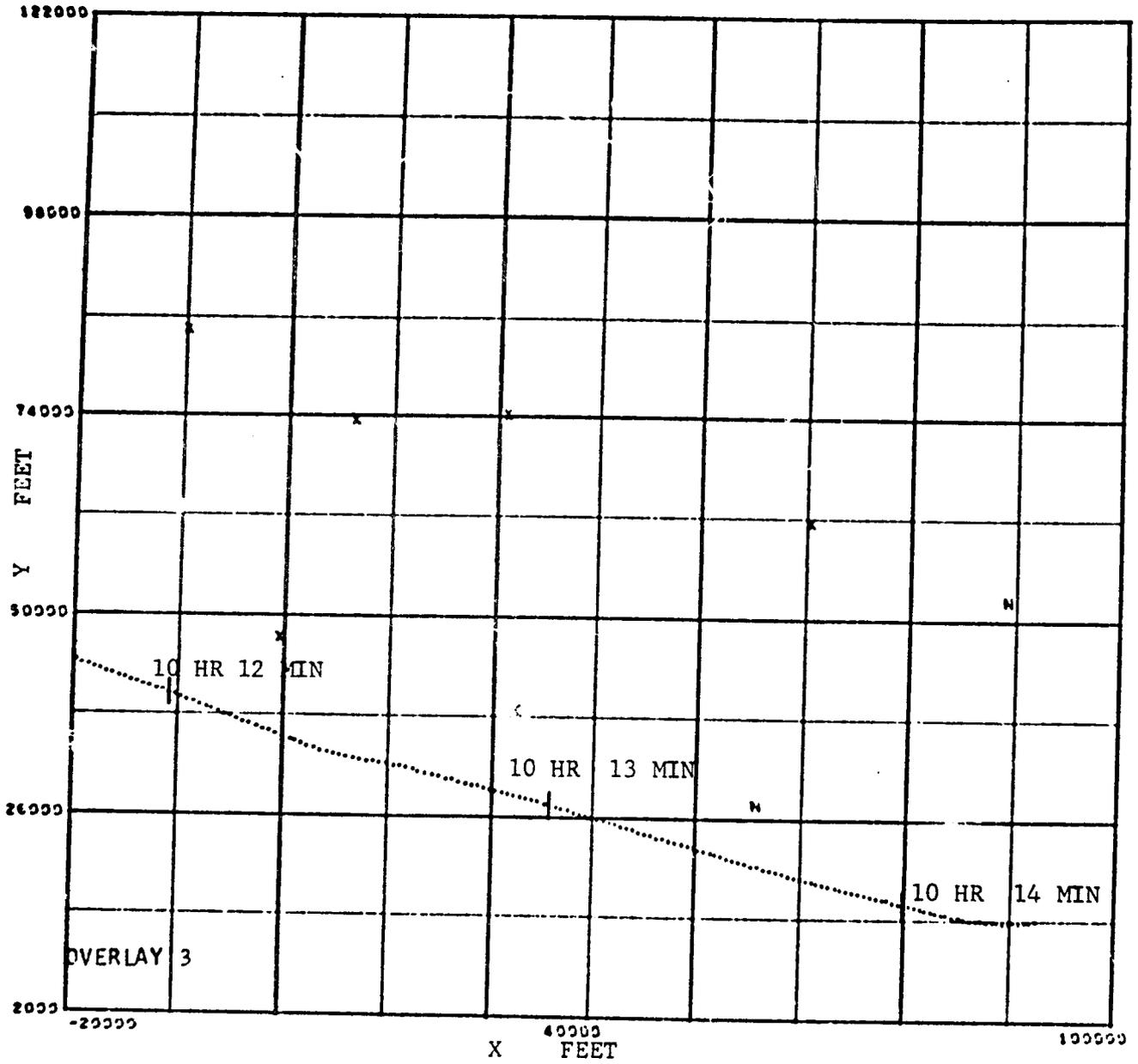


SORTIE NUMBER 480

FIGURE 2-46
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED

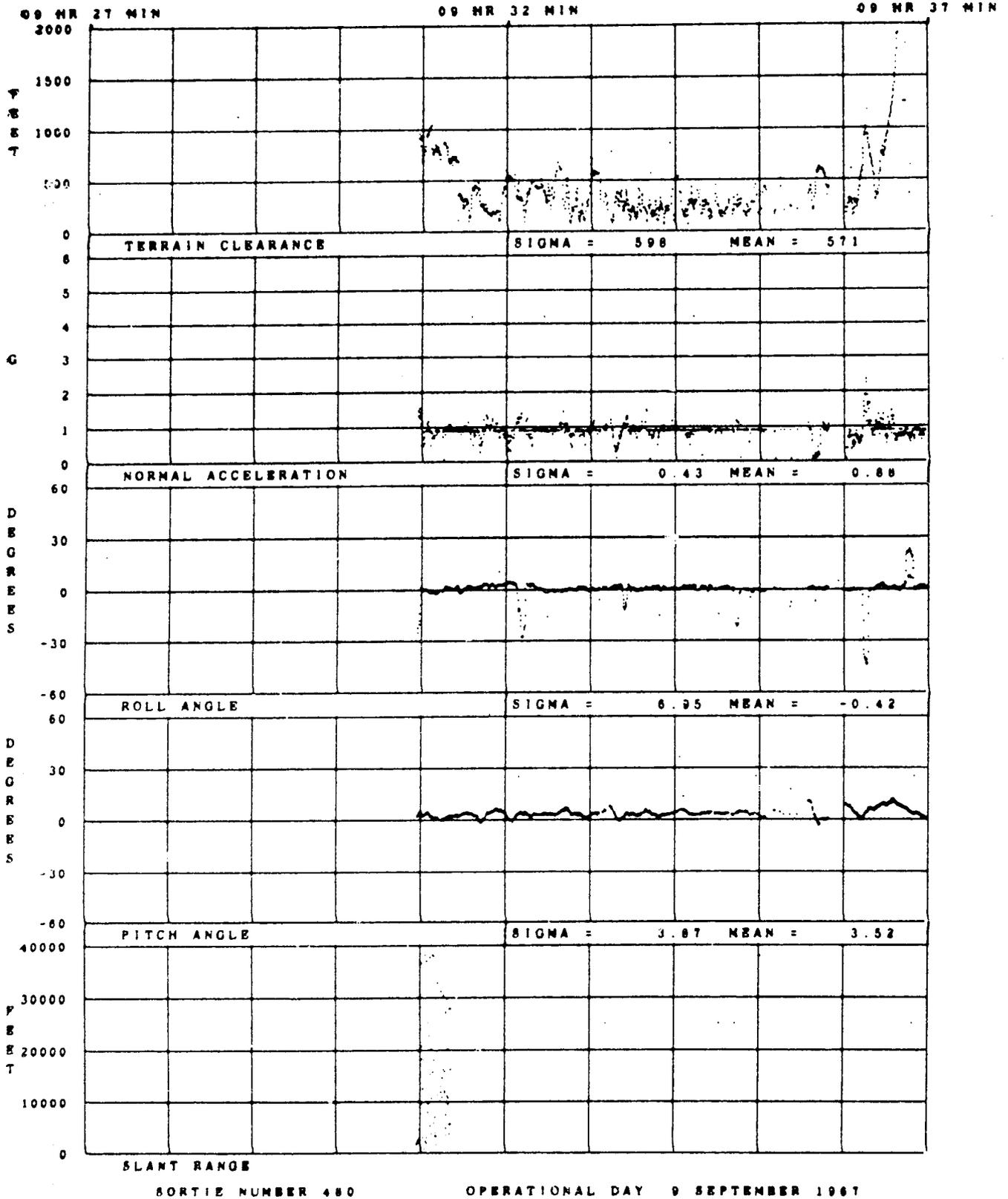


SORTIE NUMBER 480

FIGURE 2-46
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

UNCLASSIFIED



BORTIE NUMBER 480

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-47 (U) TELEMETERED DATA (1 OF 5)

UNCLASSIFIED

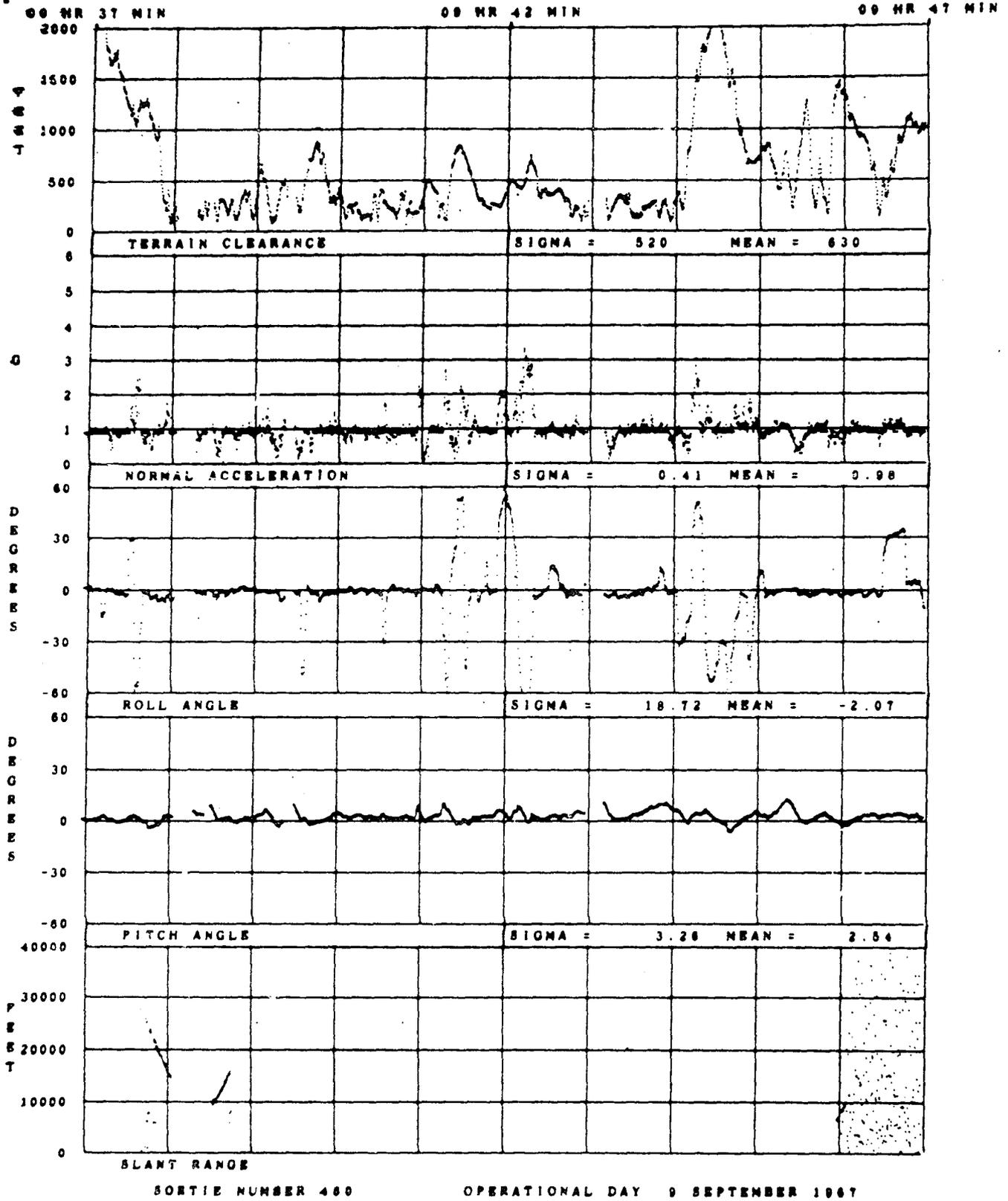


FIGURE 2-47 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED

UNCLASSIFIED

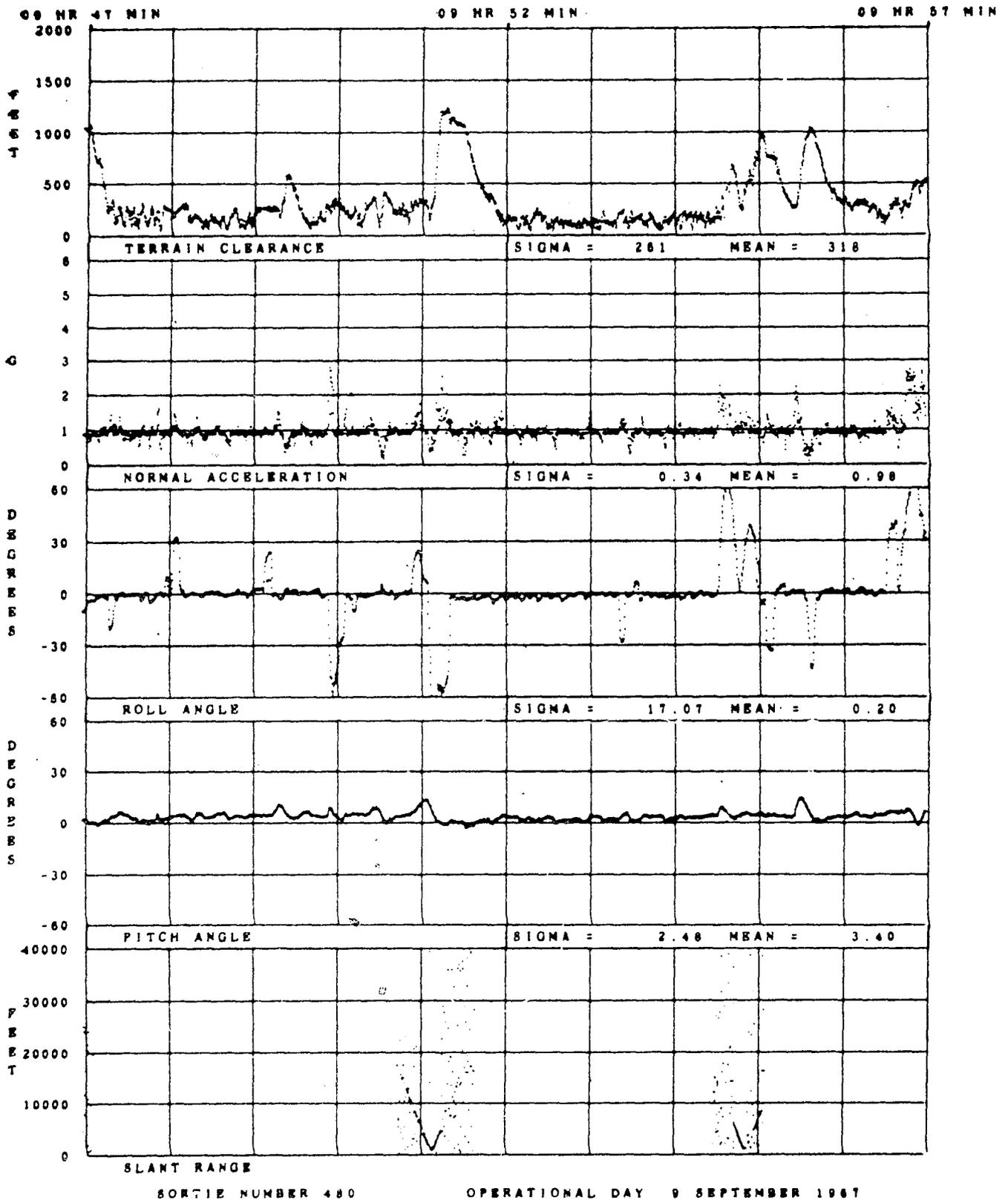


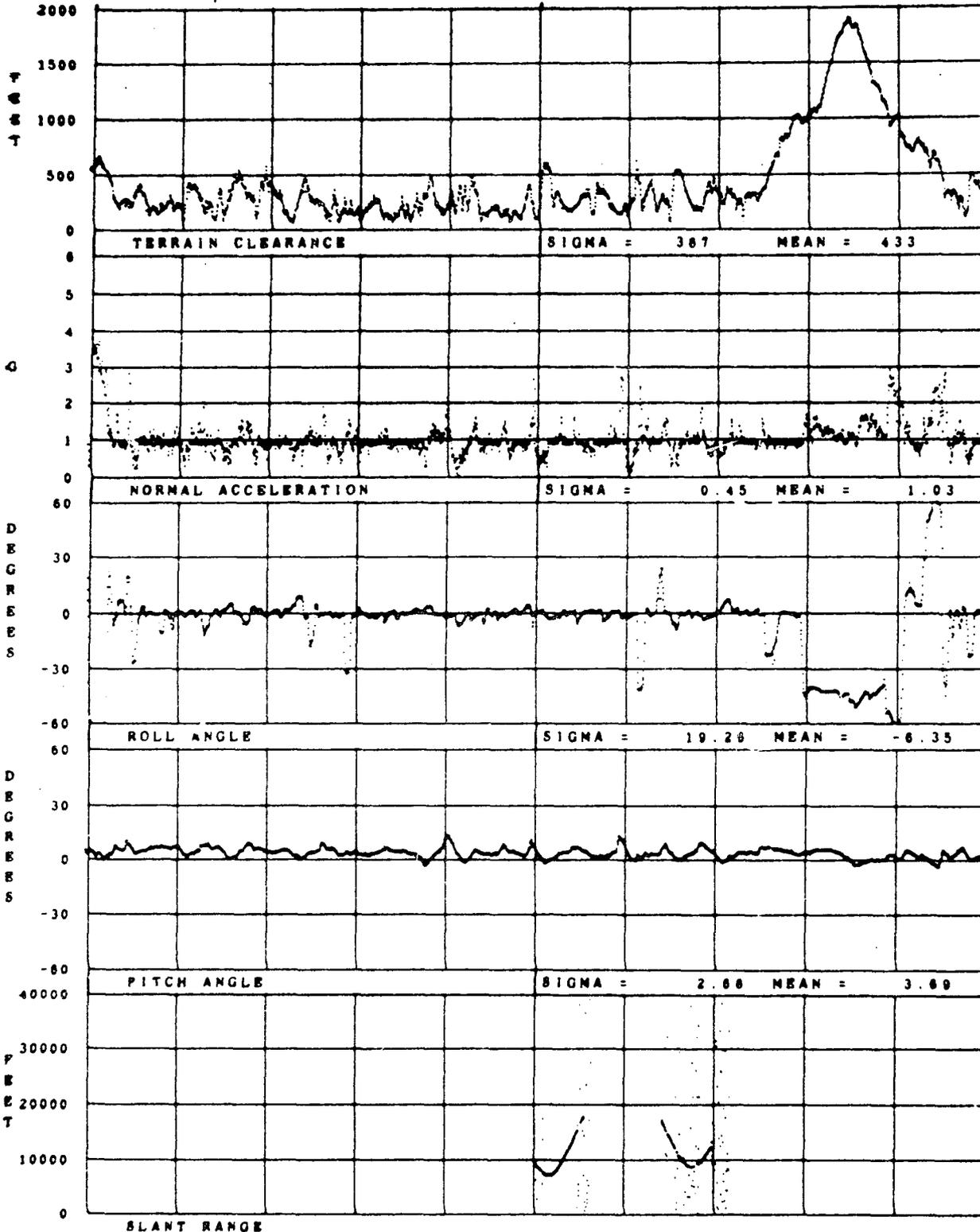
FIGURE 2-47 (U) TELEMETERED DATA (3 OF 5)

UNCLASSIFIED

08 HR 57 MIN
2000

10 HR 02 MIN

10 HR 07 MIN



SLANT RANGE

SORTIE NUMBER 460

OPERATIONAL DAY 9 SEPTEMBER 1967

FIGURE 2-47 (U) TELEMETERED DATA (4 OF 5)

UNCLASSIFIED

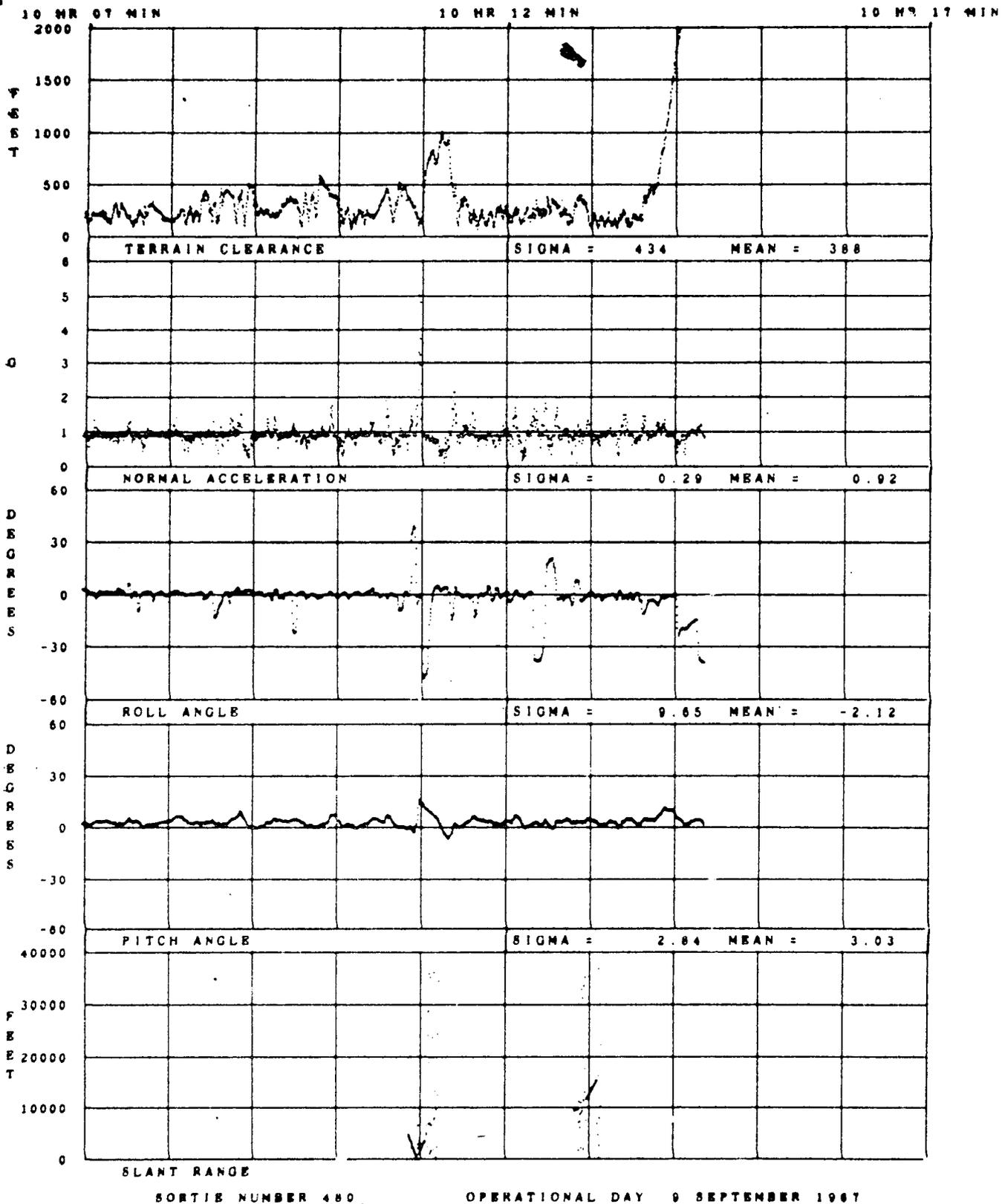


FIGURE 2-47 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

RPT TG	TIME	REAL TIME TRANSCRIPTION	SORTIE 480 DATE 9-9-67
	09:56:45	kog, I have the smoke. Okay. Got that it, see if we find up. Okay, hack again.	UNCLASSIFIED
	09:57:04	Yeah, I'll have roll back left. 90 degrees across it. Power line here, fix it.	
	09:57:18	Oh, boy. There's the ah, hickey dickey. Okay, we're off... Did you re-hack. Did you re-hack your time. Rog. Okay, good.	
	09:57:34	I didn't...ah keep my eye out for those birds. Go down birds.	
	09:57:48	Okay, 280 you're just right. Okay. We're looking for goodies now. Ah, hell I forgot to punch the (****) button on that thing. You got to remind on these acquisition bits. Okay. I don't like to punch brown buttons, unless I'm shooting people. Okay.	
	09:58:04	Kind of hard to break the habit. We like Coors. There it is.	
	09:58:13	All the time you can spent...for targets across a power line any time now. Okay, all the time you can spend ah, possibly scanning in addition. Do it yourself.	
	09:58:40	A field on the right.	
	09:58:45	Ah, doesn't show it. Air speed's off a little.	
	09:58:52	In a minute should see two bridges on the road, either side of course. Got a gun off to the right.	
1	3 09:58:58	This is Phantom 1 ah 36. I have a heavy artillery gun emplaced on ah, crest of a hill. Position was...	
	09:59:11	Work out that position back there. Oh, right, be Charlie Hotel 2, 2 3. Roger. (09:59:23)	
	09:59:26	Oh you need _____. You're drifting right. Okay. Heading check.	
	09:59:38	-----Those goodies. We're two minutes fifteen seconds out. Should be crossing an intersection. On a highway. We've already gone across that I believe.	
	09:59:54	Forget...(****) heading. This damn airplane. Drifts to the right.	
	10:00:01	Check that clearing. Check.	
	10:00:12	-----	
	10:00:19	Coming up on three minutes.	
	10:00:43	Okay three and a half minutes. Okay. A river. We're a little bit ahead cour, ahead of time. Yeah. This'd be a good area to have targets in. Ah, got a bridge on the right, we already had it. Okay, we're pretty good shape. Just going up the hillside here.	
	10:01:25	Speed? 412. 47 just slightly left.	
	10:01:34	Okay, heading. What's our next nav check point? Okay. Coming up on four and a half minutes. Should be travelling across a peak. Say again? That's where we line up with two peaks, we're in good shape. Two peaks? Yeah, I think we had them there. Okay.	
	10:01:56	Okay, we should be coming up on a, an open valley. Ah I doubt. Yeah, ah open valley in front. Now, this, this ought to be an area with targets, they can't get stuff back in this heavy.... cover. They can in this valley, so look broad. Check it. Keep a checking.	
	10:02:20	Coming across the bridge on this thing.	
2	12 10:02:26	Gun emplacement to the right, camouflaged. Approximately eight, ten. Looked like a ah.	
	10:02:32	This Phantom 136 I have a target, I saw three ah, towed guns. Approximately ten to twelve other vehicles. Under camouflaged nettings, in an open field. Position was ... Bravo Echo 5 8. (10:02:50)	
	10:02:53	Okay, another valley.	
	10:02:57	Ah, better pull up. Appears to be a stream....	
	10:03:07	What's your heading. Check heading.	
	10:03:14	And, coming up on six minutes.	
	10:03:21	Be approaching ah, N2. Where's (our, are?) pull. Approaching our run, Napalm run?	
	10:03:31	Coming up pretty soon, I would assume.	
	10:03:37	Keep looking. This is a target area. Okay, should see it...GCI site somewhere around here. Ought to have that COM site, where? Just over this next crest? Six and a half minutes, it should be within about five, fifteen seconds. Okay, we have crossed over it or it's coming up. There's a tower to the right. Tower right, that's good.	
	10:04:03	Or, wait a minute is it. Is that tower the one that's beyond it?	
	10:04:11	Oh... Is that the tower that's beyond it.	
	10:04:16	I ah believe it probably is. Yeah, here's the river, we missed it. Check. 47 seconds for our turn.	
	10:04:27	Ah, that was. Ah hell I punched the button for no good reason. Ah.	
	10:04:39	Phantom 136 crossed N2.	
	10:04:48	Tell me when I'm 47 seconds is out. Okay well we do. We went across that river? Yeah, yeah, that was the river back there, and a. Better turn now then, cause we were ah 47 seconds from N2, turn. Turn now? Rog. Okay.	
	10:05:12	It was in that valley just prior to the ah.... Yeah, it should have been....We we're to the left course I believe.	
	10:05:26	Heading is 0...1 to 00 right. Rog. 100.	
	10:05:36	There's the big water. Ah, go ahead Timber 1. Rog.	
	10:05:43	Roger. See the water up there. Yeah, we were pretty far to the left when we finally, go to N ah, N2. Yeah.	
	10:05:53	I don't have the smoke yet. Here's the finger. Okay, there's the lake. I can----- ---. Turn a little harder left here.	
	10:06:06	Ah, roger, I've got 73 over 75.	
	10:06:13	Good.	
	10:06:21	Roger, I have...smoke. I have smoke. I've got the point.	
	10:06:30	Roger. 100 gosh darn heading out of here.	
	10:06:39	Keep looking.	
	10:06:46	00 ah (****) heading. Heading check my air speed. Rog, a little slow, twenty knots. Okay.	

FIGURE 2-48 (U) VOICE TRANSCRIPT (1 OF 2)

UNCLASSIFIED

RPT Ref		TIME	REAL TIME TRANSCRIPTION	SORTIE 480 cont.			
TG	TG			DATE	9-9-67		
3	14	10:07:00	Oh-----.				
		10:07:07	Okay, that's a POL dump.				
		10:07:10	This is Phantom 136 I have a POL dump. Location, ...Call out position. Roger. Bravo Bravo 5 7. Roger. Dump consisted of approximately two two rows of fifty-five gallon drums stacked three high. Approximately one hundred yards long. Along a dirt access road.				
		10:08:01	Oooohohchoho there's a road.				
		10:08:20	Ah, have to cool this damn thing down a little.				
		10:08:26	Check that clearing good.				
		10:08:33	A ah, valley.				
		10:08:37	More clearings coming.				
		4	16	10:08:38	Ah, this is Phantom 136 I have a small, ah, field, airport. We got two heavy helicopters in position on the strip, adjacent to several houses. Position is Bravo Delta 6 1. (10:08:56)		
				10:09:19	Check these clearings.		
10:09:30	Back, to my heading. Keep drifting right.						
10:09:38	Check the ridge lines.						
10:09:45	Clearings coming up. Keep your eyes out.						
10:09:58	Big black angus cows out there.						
10:10:05	Next check point? Aaaaaah....						
10:10:15	Buildings on either side. Say again? Just buildings on either side about....						
5	20			10:10:24	This is Phantom 136 I have two heavy trucks in an open field. Position is.... Charlie Delta 9 1. Ah 9 4. (10:10:36)		
				10:10:40	That's all I could see there, you spot them. Naw, I didn't get to see them. Yeah, they were right on course, barely off to the right there. Okay, now we should have a little town to the right, and a road coming up.		
		10:10:55	Okay, we got I'd say Nike site. SAMs site.				
		6	22	10:11:01	This is Phantom 136 I just, hit a SAM site. I saw 1 missile on launchers....Ah. -----0 1 missiles on launchers. And several other vehicles in the complex. Position was Charlie Echo 8 7. (10:11:26)		
				10:11:27	By (****) I could have hit them too. Could have hit them. We've been lined up more than ten degrees or so more off course. Hee, hee. Never mind I can hit him now.		
				10:11:53	Next check point is... You know, come to think of it, while I'm think second thoughts on that damn thing, I only saw one SAM and launchers, and the vehicles seemed a lot bigger than it would be normally for a...ah SAM site. The Complex area was not really as broad as it should be I bet you that was a ah,.... Like an honest John rocket or something. Ah, we'll see.		
				10:12:17	It looked more like a SAM site.		
				10:12:22	I'm off heading again. Damn it. Air speed's high.		
				10:12:29	You're high air speed. Yeah. Keep talking to me on that stuff. Okay, you're looking for a tower for our check point. Navigation check point.		
				10:12:41	Good sized river right here, at ten minutes...Good sharp bend in it. See that?		
10:12:49	How much time have the run. Okay, we got six minutes fifteen, we only got about 45 seconds, a little better than that.						
10:13:01	Haven't seen tank one. Unless they were camouflaged.						
10:13:31	There's a tower off to the left. You have it....						
10:13:35	And that should be our N4.						
10:13:39	Ah, this is.... Okay, let's pull it on up. Looking.... Say my departure heading.						
10:13:46	Say my departure heading. 1 4.						
10:13:51	Phantom 136 out of N4, climbing.						
10:14:10	Ah, negative, it's too damned hazy out here, I think we better go ah, IFR -----.						
10:14:21	Ah, roger going Pod Option 1 turning left.						
10:14:24	End of transmission.						

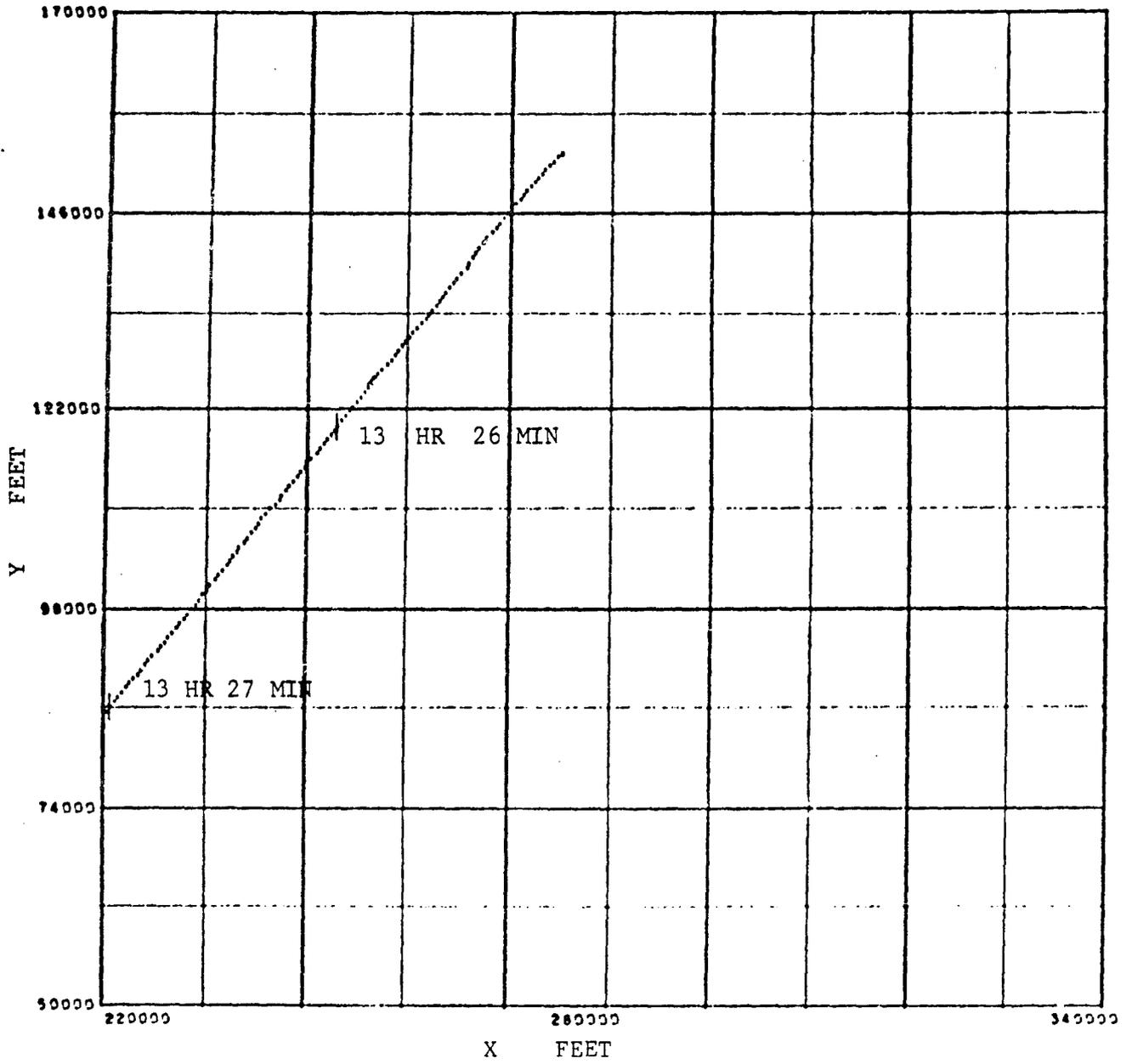
FIGURE 2-48 (U) VOICE TRANSCRIPT (2 OF 2)

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SORTIE NUMBER 512
OPERATIONAL DAY 11 SEPTEMBER 1967
NORTH COURSE
FIGURE 2-49
AIRCRAFT POSITION DATA (U) 1 OF 8

UNCLASSIFIED

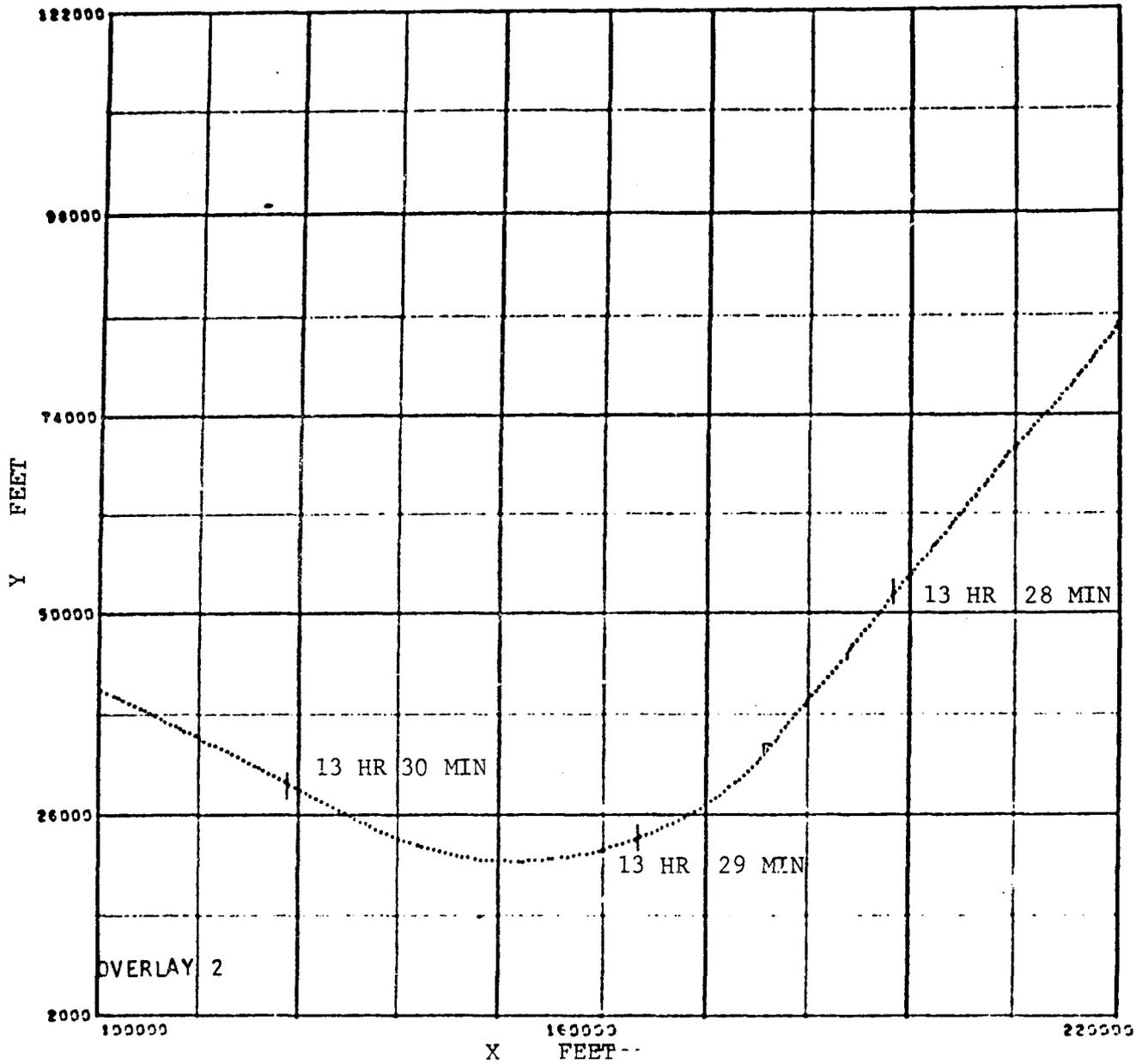


SORTIE NUMBER 512

FIGURE 2-49

AIRCRAFT POSITION DATA (U) 2 OF 8

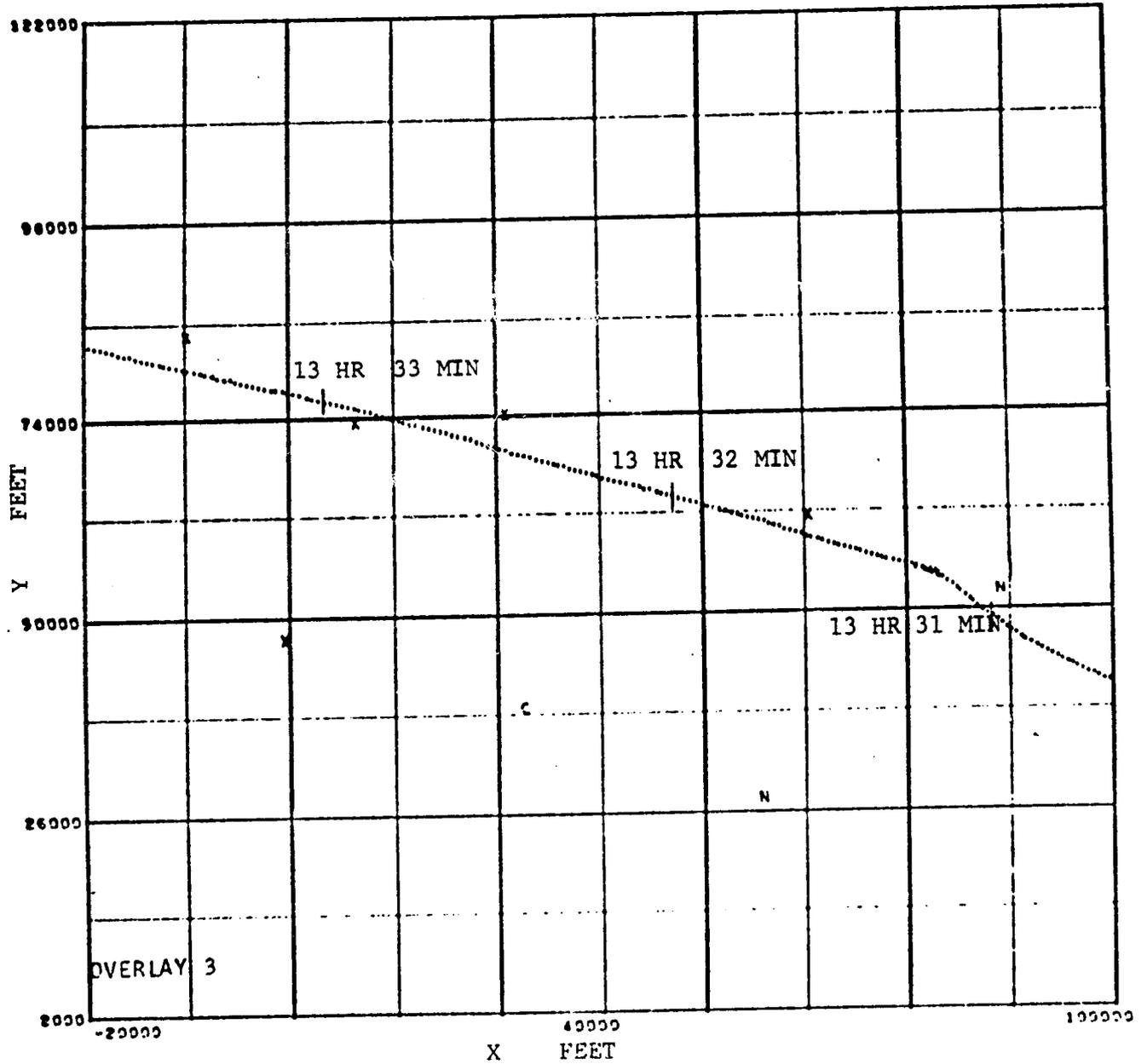
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SORTIE NUMBER 512

FIGURE 2-49
AIRCRAFT POSITION DATA (U) 3 OF 8

UNCLASSIFIED

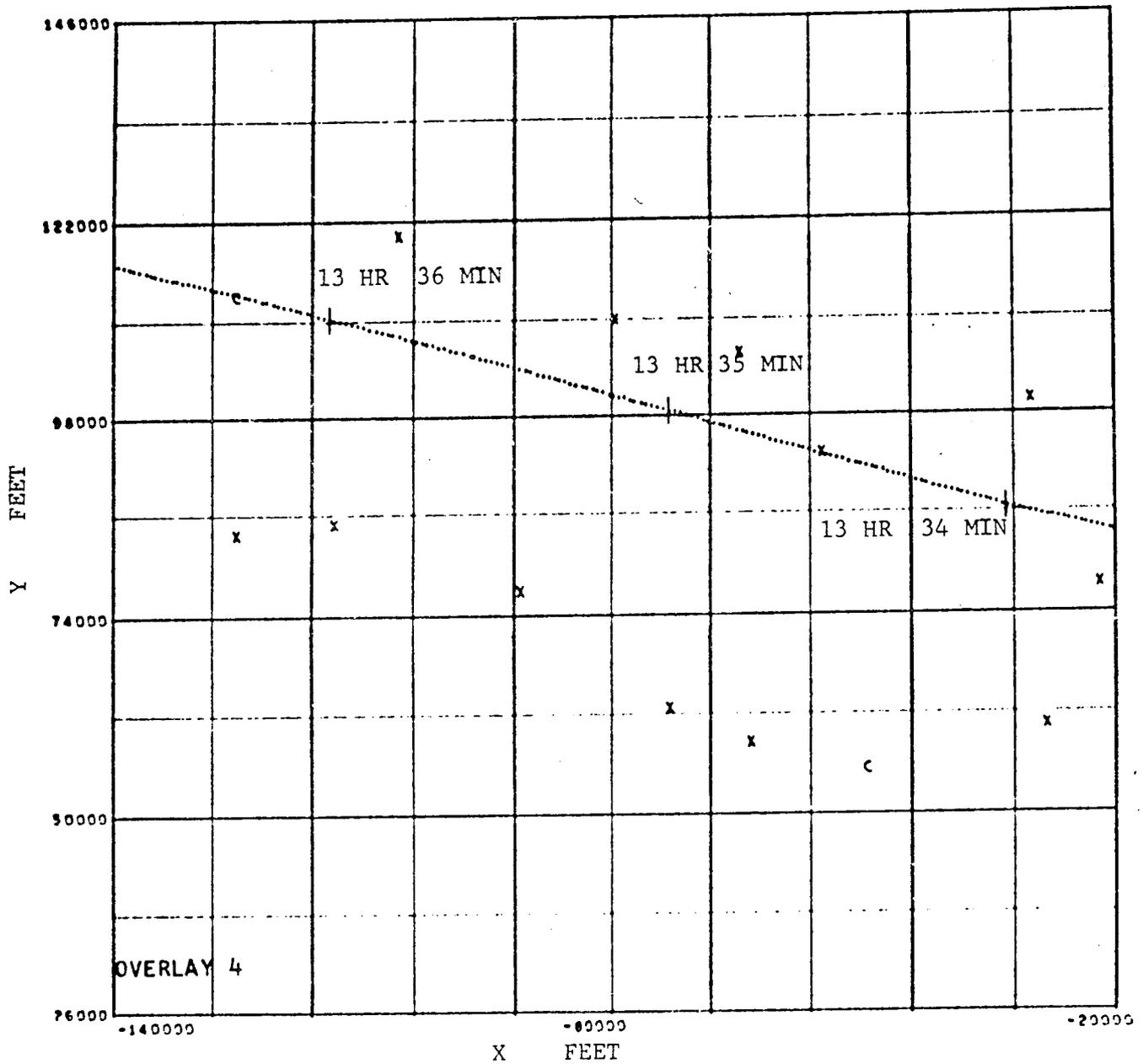


SORTIE NUMBER 512

FIGURE 2-49
AIRCRAFT POSITION DATA (U) 4 OF 8

UNCLASSIFIED

UNCLASSIFIED

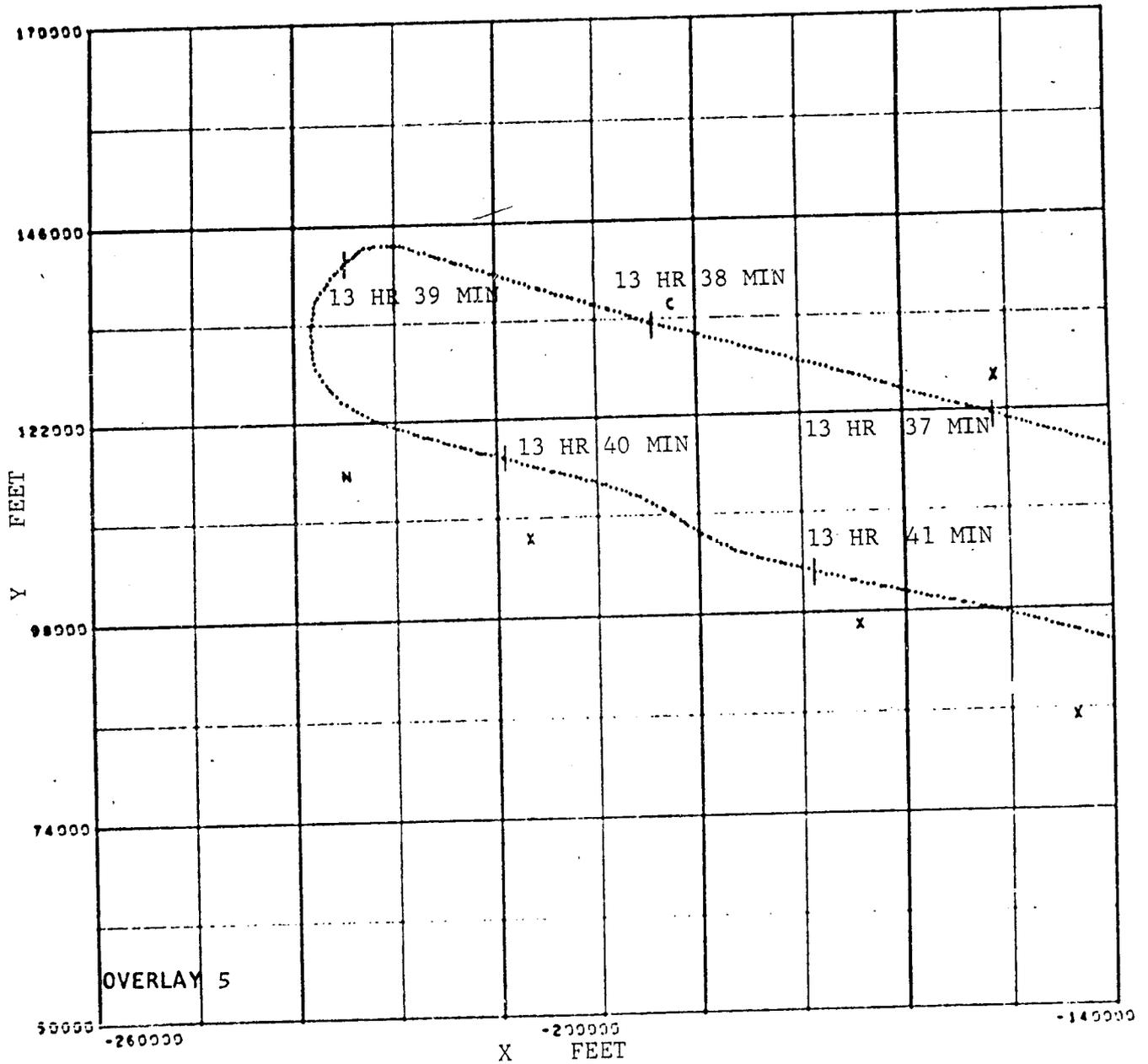


SORTIE NUMBER 512

FIGURE 2-49
AIRCRAFT POSITION DATA (U) 5 OF 8

UNCLASSIFIED

UNCLASSIFIED



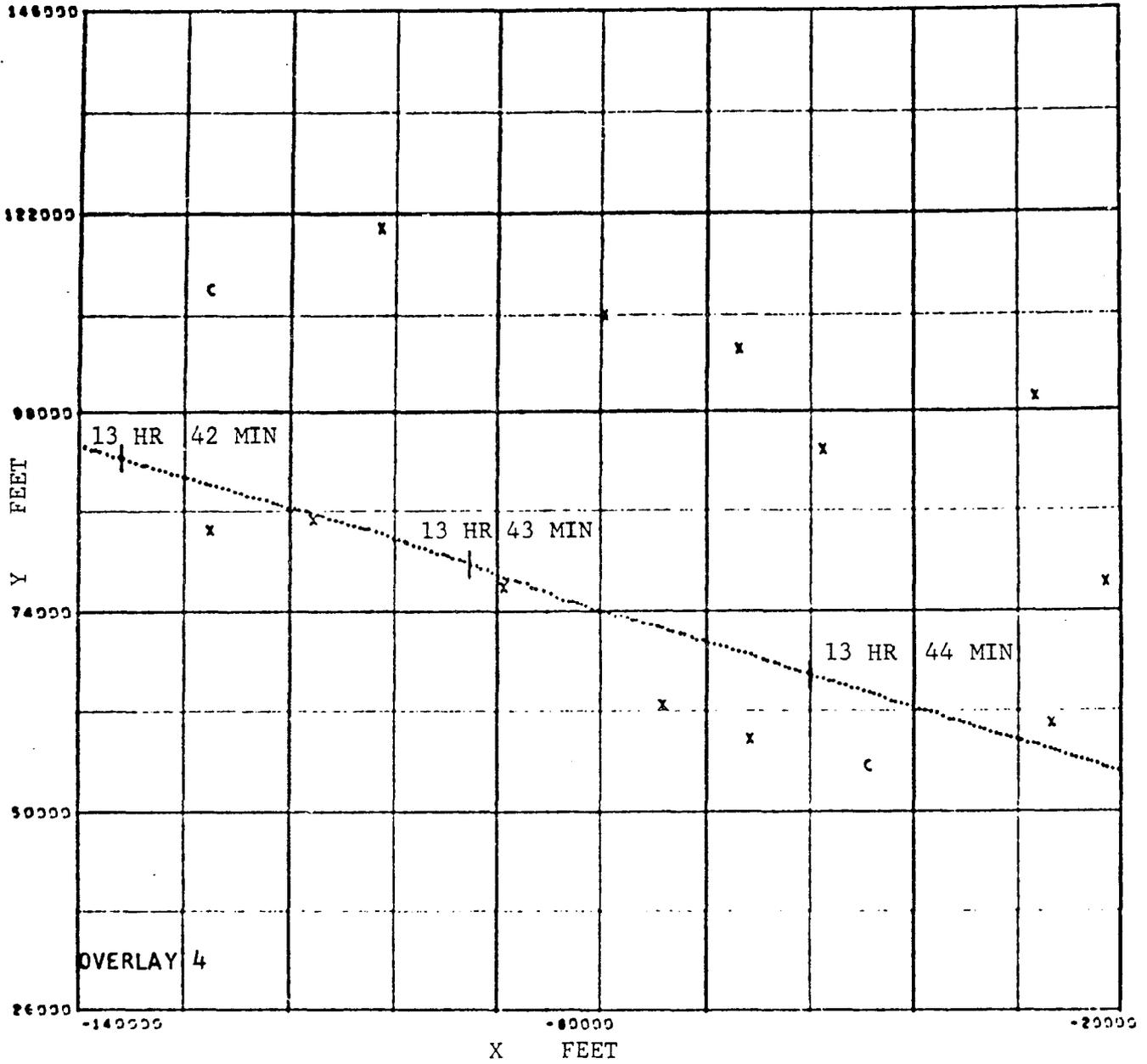
SORTIE NUMBER 512

FIGURE 2-49

AIRCRAFT POSITION DATA (U) 6 OF 8

UNCLASSIFIED

UNCLASSIFIED

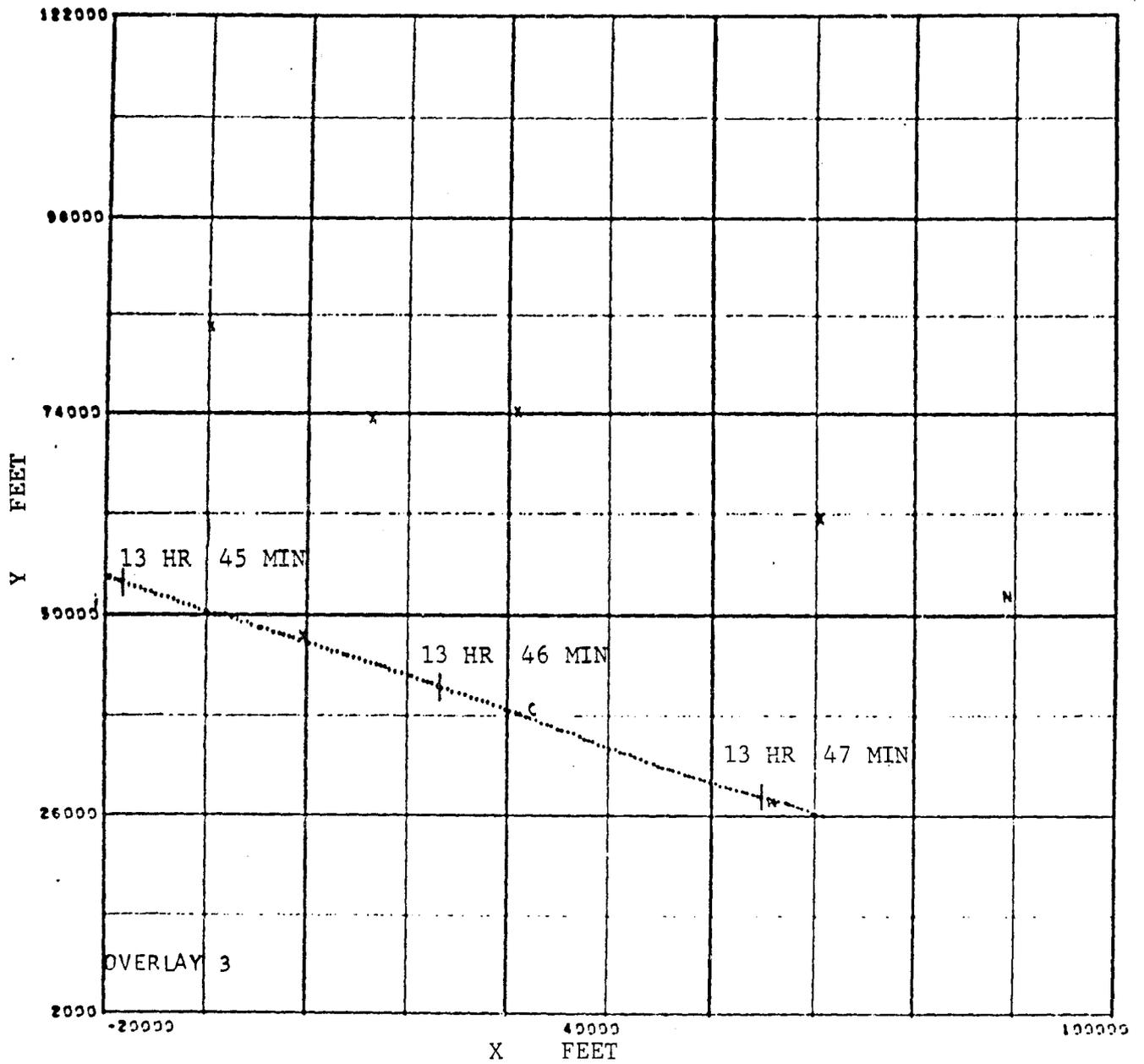


SORTIE NUMBER 512

FIGURE 2-49
AIRCRAFT POSITION DATA (U) 7 OF 8

UNCLASSIFIED

UNCLASSIFIED



SORTIE NUMBER 512

FIGURE 2-49

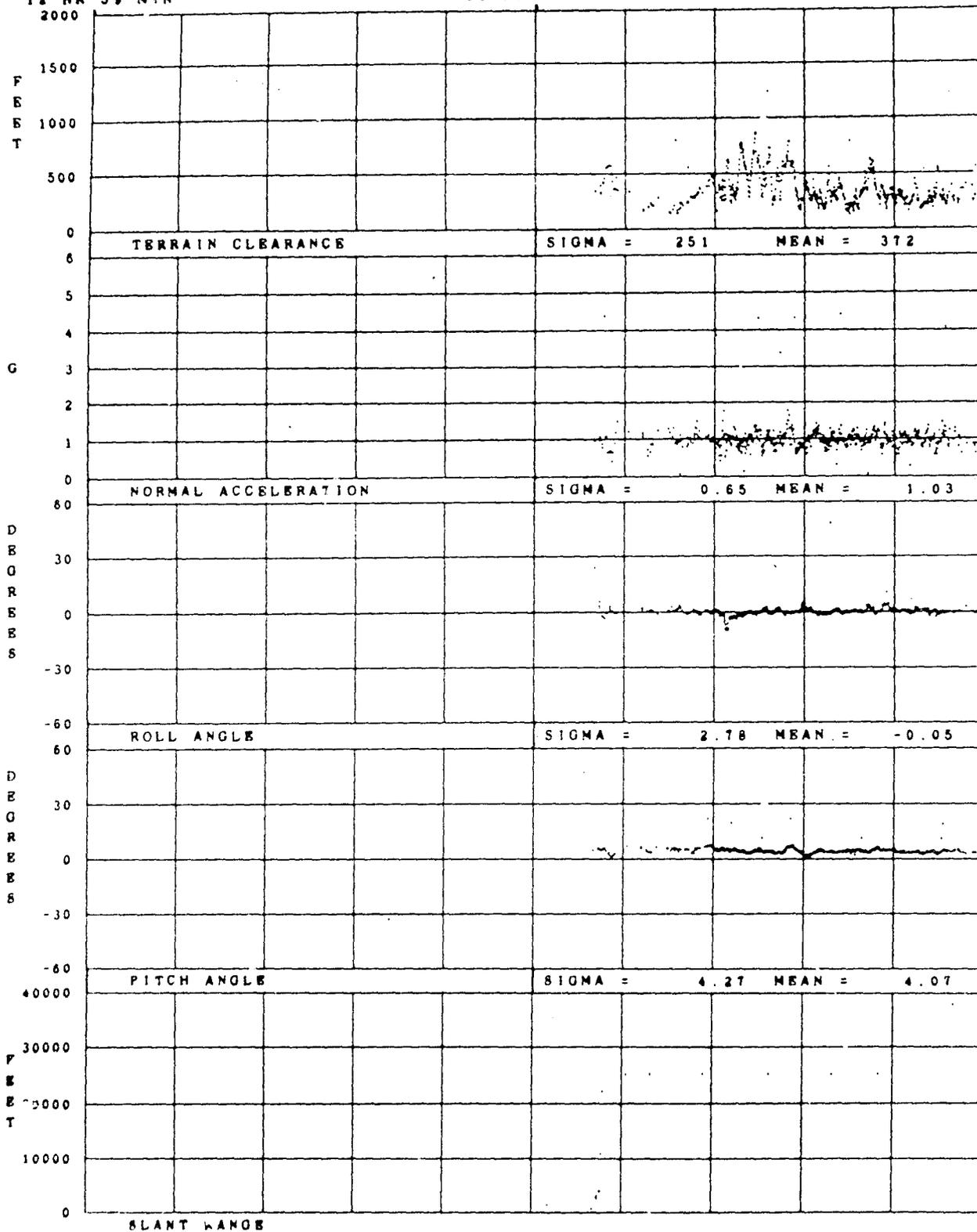
AIRCRAFT POSITION DATA (U) 8 OF 8

UNCLASSIFIED

12 HR 59 MIN

13 HR 04 MIN

13 HR 09 MIN



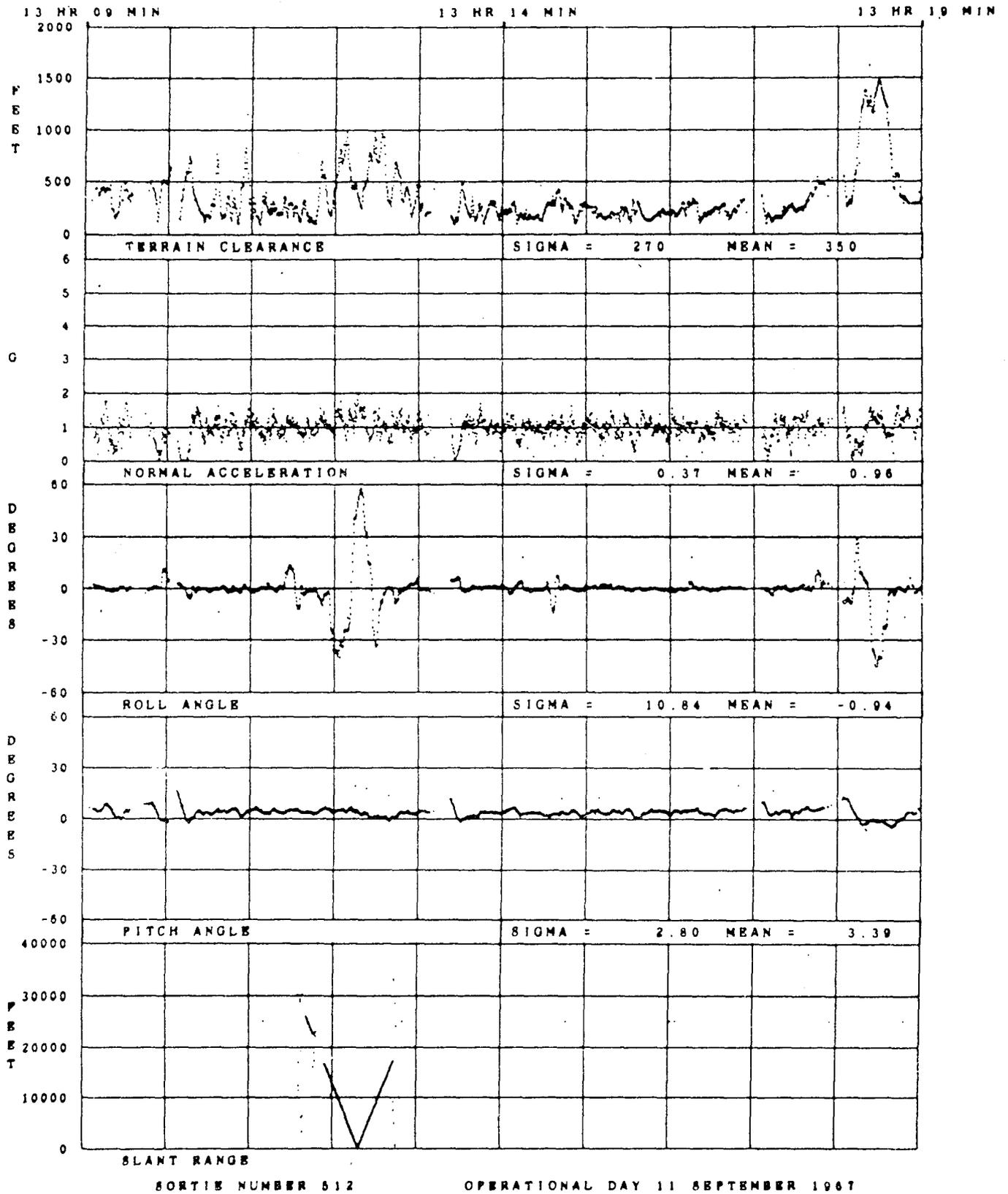
SLANT RANGE

SORTIE NUMBER 512

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-50 (U) TELEMETERED DATA (1 OF 5)

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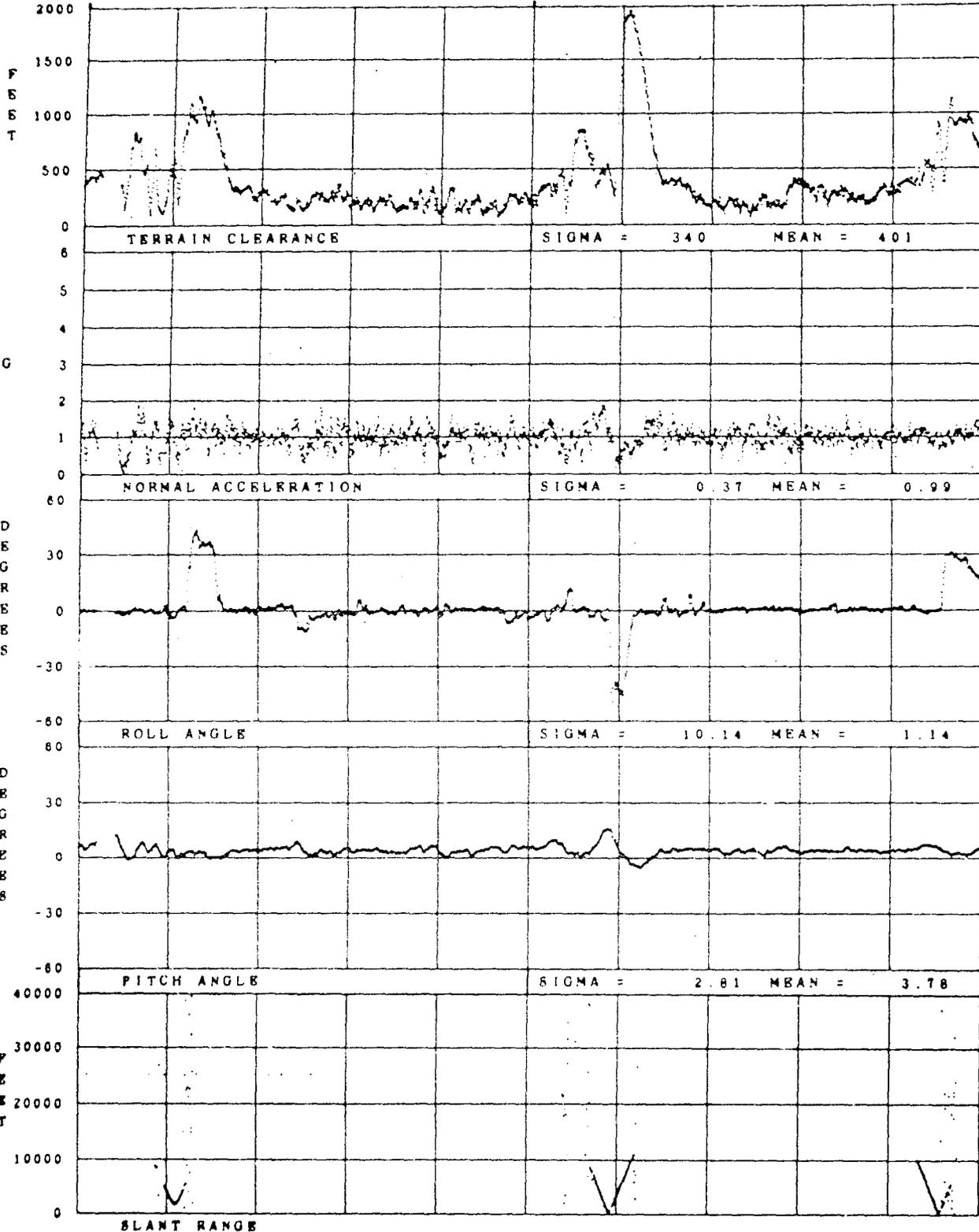


SORTIE NUMBER 512

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-50 (U) TELEMETERED DATA (2 OF 5)

UNCLASSIFIED



BORTIE NUMBER 312

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-50 (U) TELEMETERED DATA (3 OF 5)

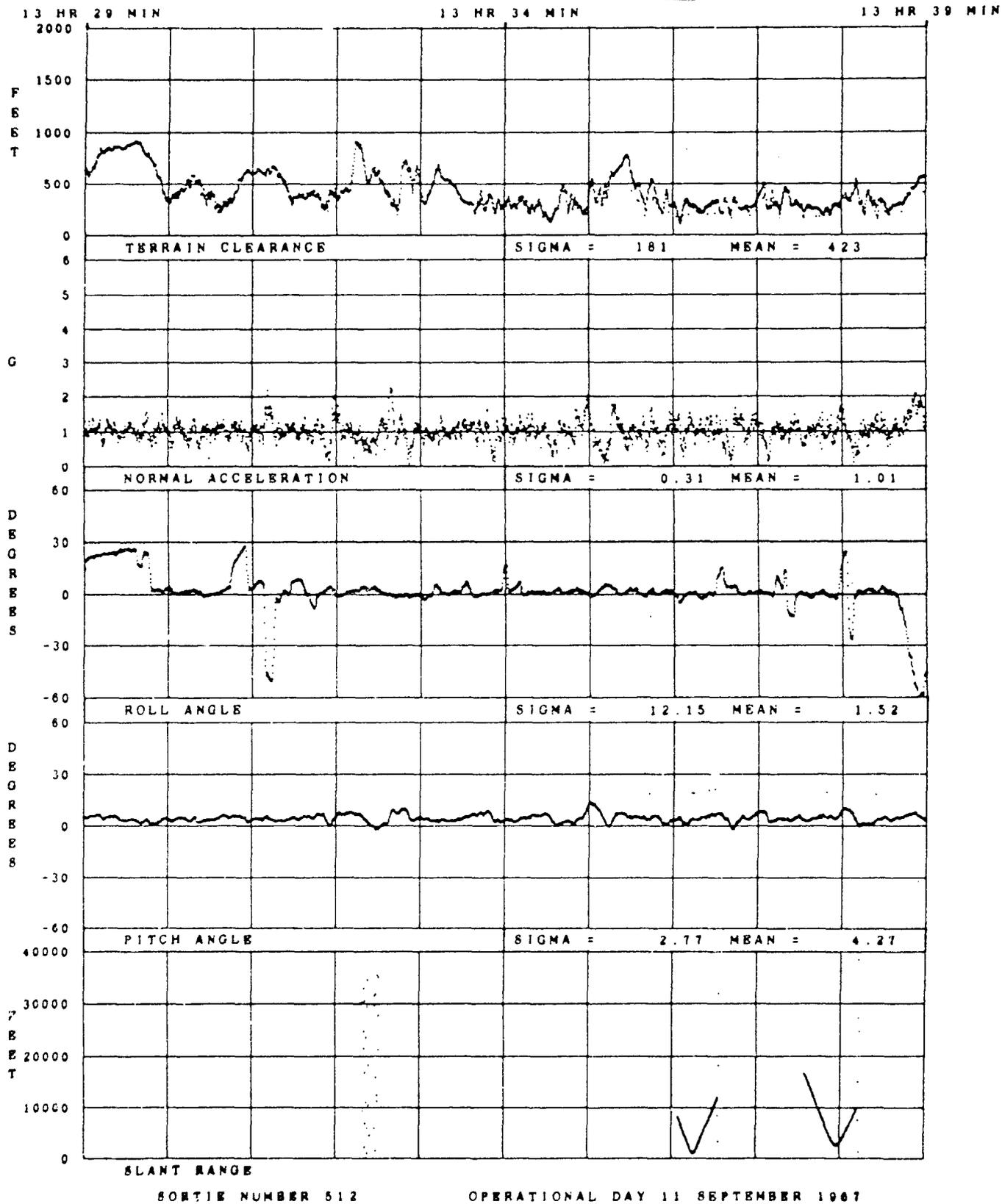
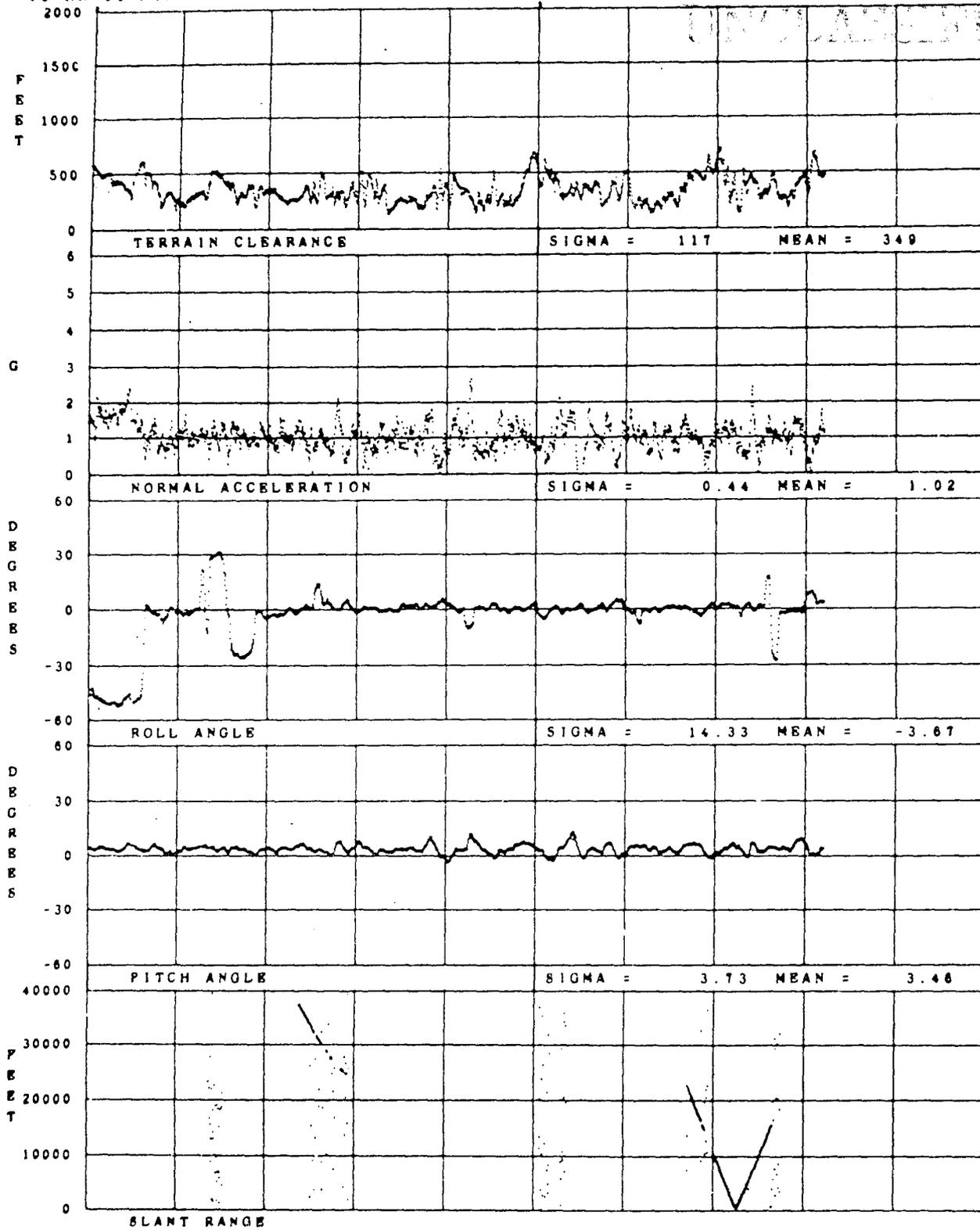


FIGURE 2-50 (U) TELEMETERED DATA (4 OF 5)

13 HR 39 MIN

13 HR 44 MIN

13 HR 49 MIN



SORTIE NUMBER 110

OPERATIONAL DAY 11 SEPTEMBER 1967

FIGURE 2-50 (U) TELEMETERED DATA (5 OF 5)

UNCLASSIFIED

UNCLASSIFIED

RPT TGT	TIME	REAL TIME TRANSCRIPTION	SOURCE ALT
			DATE 04-11-67
	13:30:51	There's smoke. Yea, there's smoke. Right off the nose. Hold your wings level.	
	13:30:58	Yea, but I don't know if that's the right smoke or not. It's just white smoke. Yea, that white smoke. I don't know. That looks like a garbage dump to me. Hey we just passed it, it's back here at 5 o'clock. Ok. Yea, tallyho. Ok. Now 280. 120, roger, tally.	
	13:31:14	280.	
	13:31:20	Ok, 280. I'm doing 28 right now. Ok, I've got you 2 degrees left. Rog.	
	13:31:29	Ok. Slow it down.	
	13:31:31	Ok, we're right at 490 ft. Maintain, maintain this altitude.	
	13:31:42	Ok, compensate for my ah . . . (stumbling).	
	13:31:56	Forget it, I didn't get a very. Pretty good time hack.	
	13:32:22	You know, this visibility's about a mile. Yea. Well even less over down on the left. Yea. Well see, I don't know.	
	13:32:28	Press on. Ok, there's our stream.	
	13:32:37	Pull her up. Coming up that damn hill there. Ok. I _____ I know where we are.	
	13:32:46	Ok, stream, ok, we're good track, good track.	
	13:32:49	Maintain that heading then. Ok, push up, level off now.	
1	13:32:55	Ok, there's an artillery position, on top of a hill. There's the stream. Right there.	
	13:32:59	Phantom 120. Ah, artillery position on top of a hill ah, consisted of about 4 guns. Ah, position Charlie Charlie 8-4. (13:33:16)	
	13:33:19	I need to know, I'll mark it.	
	13:33:22	Ok, here's the town. There's a curve in the road. Ok, yea, right. Ok, we're ok, the heading good, just maintain the heading. All I have to do now is look for targets.	
	13:33:39	Came up on that stream.	
	13:33:46	Was in a clearing.	
	13:33:55	Yea, these 4 guns were sitting on a hill there in a clearing, ah . . .	
	13:34:04	Here's a dirt road.	
	13:34:08	Ok, there it is.	
	13:34:15	I don't see many damn targets.	
2	13:34:33	Ok, there's a, right up there.	
7	13:34:36	There was a surface to surface missile. It was pointing that a way. Ok, it's a Phantom 120, ah . . . surface to surface missiles, ah, pointing to the north, a one missile was all I saw. Coordinates Bravo George oh. . . there.	
	13:34:47	We're past, yea ok, that must have been a ridge there that you (deftly?) when you went over there. Ok, well.	
	13:35:16	I say, they gotta be along in here now.	
	13:35:25	Fortunately I don't have any really good checkpoints. No.	
	13:35:33	Ok, here's a here's a here's a next ridge I would assume. Ok, that's looking good, I think. I think that puts us about right here. We should be coming into a valley up here shortly. Yea, I can see it. Ah, right.	
	13:35:43	Keep your eyes open for that damn SAM.	
	13:36:01	Our heading seems to be good. That doesn't seem to be any problem there.	
3	11	13:36:16 There's an airfield. In this valley. Yep airfield, right here. Runway orientated with the valley? No, it's, yea, ok.	
	13:36:21	Phantom 120 dirt strip airfield ah, looked like about 1 thousand ft. length with a control tower, and runway located Bravo Echo 6, 6-8. (13:36:33)	
	13:36:49	Now, I gotta locate myself, you know, cause there's a road coming up . . .	
	13:36:58	(Laugh). Ok, there's the dirt road.	
	13:37:01	Ok, right there we are, Wayne, I believe. You know, if anything, well, we may be slightly left of c . . . track.	
	13:37:10	Slightly left. Go, go right 5 degrees then back left. Go to 285 and then back to 280. Ok.	
	13:37:23	I'll get . . . well, you're a couple degrees off. Ok, that's good, just hold it. Here we come into the other valley here.	
	13:37:40	That GCI site going to be up there at 12 o'clock. I gotta activate the event button on it. Well let's see. Ok, just hold it. Ok, should be there in about 20 seconds. Yea, I know it.	
	13:37:41	It's up here just before you get to these ridges.	
	13:37:47	Ok.	
	13:37:56	There, is that it, the right? Right. Ok, right. Ok, there it is.	
	13:38:00	Ok, everything's on, we gotta bomb, it don't see? No, that's all right, just press on. We're not going to make a 368. Ok, press on, roll your wings level, roll your wings level. We're heading back to 280. Roll your (???) wings level. Well, I wasn't at 28 yet. I'm . . . You gotta hold your wings level, that's all I want. When I say . . . cause I know where we are. There's the tower right there.	
	13:38:29	There's a highway.	
	13:38:30	Phantom 120, point November 2.	
	13:38:36	There's a dirt road.	
	13:38:40	Start your turn, Wayne.	
	13:38:42	Start my turn?	
	13:38:42	Phantom 120 7 over 89. Start your turn, 50 degrees of bank. 50 degrees, right. 50 degrees.	
	13:38:51	Ok, he's making some locals over there. Yea, not true, we can do.	
	13:38:58	You got, well, that's good. Just, just hold 60. I'm way slow.	
	13:39:03	Don't worry about your power now.	
	13:39:18	Ok, this next heading running inbound is ah 100, 100.	
	13:39:29	(static). That damn smoke here. If there's smoke here, I didn't see it. Should have little lakes. Those 2 lakes. It's a bring your wing down. Ah . . .	
	13:39:41	Ok, we passed it. I didn't see it. I didn't see it either. Ok.	
	13:39:56	Should be a big lake there. Well, there's no lake there, that's for sure.	

FIGURE 2-51 (U) VOICE TRANSCRIPT (1 OF 2)

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TIME		REAL TIME TRANSCRIPTION	SORTIE 512 cont.
			DATE 9-11-67
	13:40:04	We didn't miss a it. There's a ridge there, that we never did see. Ok, there's a . . . Ok, Wayne, go correct to the right 20 degrees, and then back to the heading. To 120? Correct right 20 degrees, and then . . . I can't . . . Go to 120 . . . 120	
	13:40:35	Ok, correct to the right 20 degrees and then back to our original heading. Ok. I have (zer' one) that should put us pretty much back on track. Ok.	
	13:41:16	Hey, that's a damn good location for a SAM site, but I don't see it.	
	13:41:28	How do we look track wise sir. Well right there we are, ah . . .	
	13:41:35	I'd say we're . . . 120, negative.	
	13:41:43	We have to report it we didn't see it.	
	13:41:50	Ok, there's the ridge there. Pretty difficult to tell along in here.	
	13:41:57	Affirm.	
	13:41:58	120, roger.	
	13:42:05	There's several ridges along in there.	
	13:42:14	Ok, I see something off to the left here that's white. That's the roof of a building.	
	13:42:28	Here's an open area down here in the valley. Ok, it's.	
	13:42:32	Ok, right there's a truck park. Yea. Trucks looks like. Yea, might look like it might be right in there then.	
4	18 13:42:37	Phantom 120, a truck a park consisting of medium to heavy vehicles, a 6 to 10 trucks. Location Charlie Charlie ah, 8-7. (13:42:52)	
	13:43:01	Ok, there's something down there to the left. I don't . . . High _____ building. Ok.	
5	19 13:43:06	Ok, there's some tanks emplacement. Ok, tank emplacement. Right, that's right there.	
	13:43:10	Phantom 120 tank emplacement. Ah, location Charlie Delta 6-, 6-1.	
	13:43:23	Tank emplacement consisted of what, 5 tanks? Yep. In a line, in a line pointed south. Yea, well they were right, were they in a line? Yep. Ok, pointed south. (13:43:34)	
	13:43:37	We'll have to go through the tape. I'm not mark, I'm just marking down the location on my (2000) map. Ok, no sweat.	
	13:43:44	Ok, pretty good ridge up there. We've already passed it. Should be a stream.	
	13:43:53	Ok, that's _____ but I don't know if that's river here _____. I don't think so. No, that's a river here.	
6	21 13:44:23	Ok, I got a gun emplacement off to the left. Ok. 4 o'clock. Right.	
	13:44:31	How many guns? What? How many guns? Looked like 8. Radar control ok. Gun emplacement . . . and the location is ah Charlie Delta 6-7. (13:44:43)	
	13:44:48	Gosh, I let my air speed drop off. Don't worry about the air speed. I'm not worried about time now.	
	13:44:57	Miss. Ok.	
	13:45:00	I mean, I'm not going to worry about 5 knots. That's not going to make that much when we get to it.	
	13:45:07	Ok, we're coming up here.	
	13:45:13	Ok, we're 7, 78. Ok, fine.	
	13:45:35	Let's see, this is a peak, right here.	
	13:45:46	Should be coming up on a road and a valley over here on the right. Shortly.	
	13:45:57	Ok, here's a river.	
	13:46:04	Boy, here's a big. Boy, we must be further down the track than . . .	
7	25 13:46:12	We should be just about finished with the track. In about a minute.	
	13:46:15	There's SAM site. Left. Ok, right. Ok. Ok SAM site sitting right there. Did you activate your event button? No. Ok, there it is.	
	13:46:32	100, ok, I'm slightly to the left. Whoops, wrong way. (laughs).	
	13:46:41	ok, did you (get? get?) a time back on this leg? I didn't. No, I hacked it over. Let's see 7 14, min. 2 minutes of a turn, 16. We should have about 45 seconds left on this leg.	
	13:46:49	I got N 4. You have. Tallyho. I've already hit the event button. Ok. Right over here on the right. Right here! Right, see? Whoop.	
	13:47:02	Phantom 120 over N4, going Pod option 1.	
	13:47:12	End of transmission.	

FIGURE 2-51 (U) VOICE TRANSCRIPT (2 OF 2)

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