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METHODOLOGY FOR MITIGATION OF SEISMIC HAZARDS IN EXISTING UNREINFORCED MASONRY BUILDINGS:

DIAPHRAGM TESTING

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FOREWORD

This topical report is one of several reports prepared by ABK, A Joint Venture, for the National Science Foundation under Contract No. NSF-C-PFR78-19200. The overall objective of the contract is to derive a methodology for the mitigation of seismic hazards in existing unreinforced masonry buildings. This research supports the objective of the Disaster and Natural Hazard Research being conducted under the Applied Science and Research Applications program of the National Science Foundation.

The Joint Venture ABK consists of the three firms, Agbabian Associates (AA), S. B. Barnes & Associates (SBB&A), and Kariotis & Associates (K&A), all in the Los Angeles area. The principal investigators for the three firms are R. D. Ewing for AA, A. W. Johnson for SBB&A, and J. C. Kariotis for K&A. The editor for the reports is J. Athey of AA.

This report presents a description of the experimental program conducted on horizontal diaphragms subjected to quasi-static, cyclic, in-plane displacements and dynamic in-plane shaking. It includes the basic data obtained from the tests. The interpretation of the test results are reported in a separate volume (ABK, 1982). Principal contributors to this report are R. D. Ewing from AA and A. W. Johnson from SBB&A.

Dr. J. B. Scalzi served as Technical Director of this project for the National Science Foundation and maintained scientific and technical liaison with the joint venture throughout all phases of the research program. His contributions and support are greatly appreciated.

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EXECUTIVE SUMMARY

This report describes an experimental program conducted on horizontal diaphragms subjected to quasi-static, cyclic, in-plane displacement and dynamic, in-plane earthquake shaking. The experimental program is one of several tasks in an overall research program, sponsored by the National Science Foundation, whose objective is to develop a methodology for mitigation of seismic hazards in existing unreinforced masonry (URM) buildings.

The objectives of the experimental program are (1) to determine the nonlinear, hysteretic stiffness characteristics of typical diaphragms; (2) to assess the degree of nonlinearity; (3) to study their dynamic response to earthquake loading; (4) to evaluate their energy-absorption capacity or amplification characteristics; (5) to evaluate the effects of various retrofit procedures on their response; (6) to verify and calibrate mathematical models for the analysis of typical diaphragms in URM buildings; (7) to compare with existing static tests that are the basis for existing seismic design; (8) to compare diaphragm response over a range of diaphragm stiffnesses; and (9) to determine the anchorage forces of walls to diaphragms.

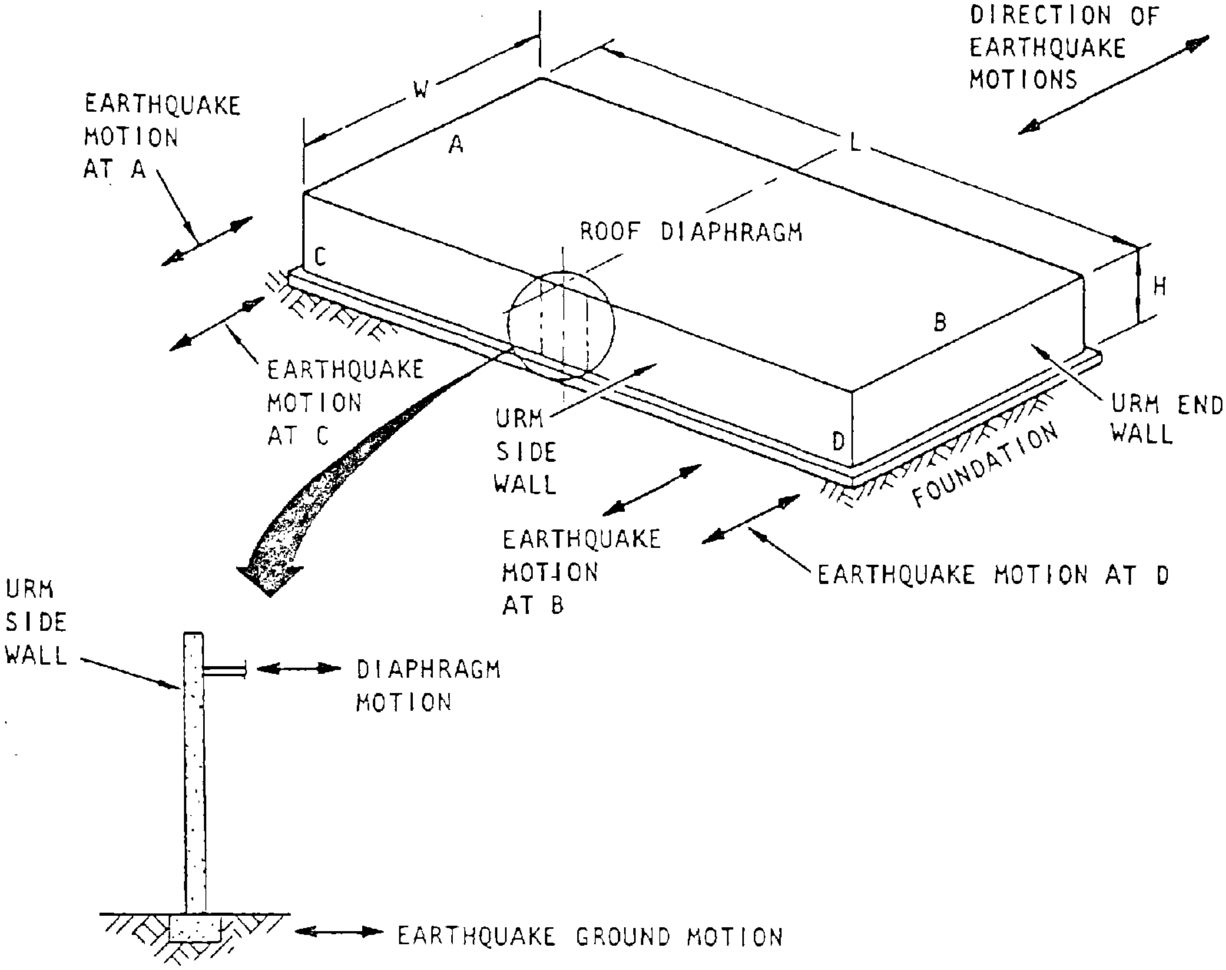
Full-scale component tests on horizontal diaphragms subjected to quasi-static, cyclic, in-plane displacement and dynamic, in-plane earthquake shaking were designed and conducted on 14 diaphragm specimens subjected to 139 test sequences that were comprised of intermingled static and dynamic loadings. The quasi-static tests produced deformations in the diaphragms that ranged from elastic excursions to excursions that produced ductilities of 2, 3, 4, and 6; however, only one diaphragm was driven to the ductility of 6. The dynamic earthquake loadings covered the full range of seismicity in the United States from an Effective Peak Acceleration (EPA) of 0.1 g to 0.4 g (ABK, 1981b).

The dynamic component tests were designed to account, as closely as possible, for the nonlinear, dynamic interaction between the URM walls and the horizontal diaphragm of typical URM buildings. The schema of a typical one-story URM building is shown in Figure 1, and supporting analyses have shown that the URM end walls transmit the earthquake ground motion from the foundation level (C and D in Figure 1a) to the roof level (A and B) with little modification for reasonable ranges of end wall aspect ratios and soil stiffnesses. The URM side walls are expected to crack and rock about the cracks when subjected to the dynamic out-of-plane excitations delivered by the diaphragm, and the mass of the cracked side walls were included in the tests and in pretest analyses models as shown in Figure 1b. A companion component test program for typical URM walls subjected to out-of-plane motions (ABK, 1981c) was coordinated with this test program because of the interaction between the URM side walls and the diaphragms. To meet one of the test objectives, a pretest and correlation analyis model was formulated for the analysis of typical URM buildings that includes the nonlinear, hysteretic characteristics of diaphragms typified by the cyclic test results shown in Figure 2. An analytical model was formulated for this type of diaphragm and is shown in Figure 3, where Figure 3a shows the overall force-deflection envelope and Figure 3b shows a typical cyclic load path. In the analytical model, the diaphragm was idealized as a deep shear beam and was divided into several segments with a mass at each segment interface (node). Each nodal mass represented the tributary mass of the appropriate diaphragm segment as well as the tributary mass of the URM side walls. This model was used in the pretest predictions for the diaphragms and will be used in the correlation phase (ABK, 1982). In addition, this model was used to provide the kinematic environment at the top and base of the URM walls for the component test program on walls (ABK, 1981c).

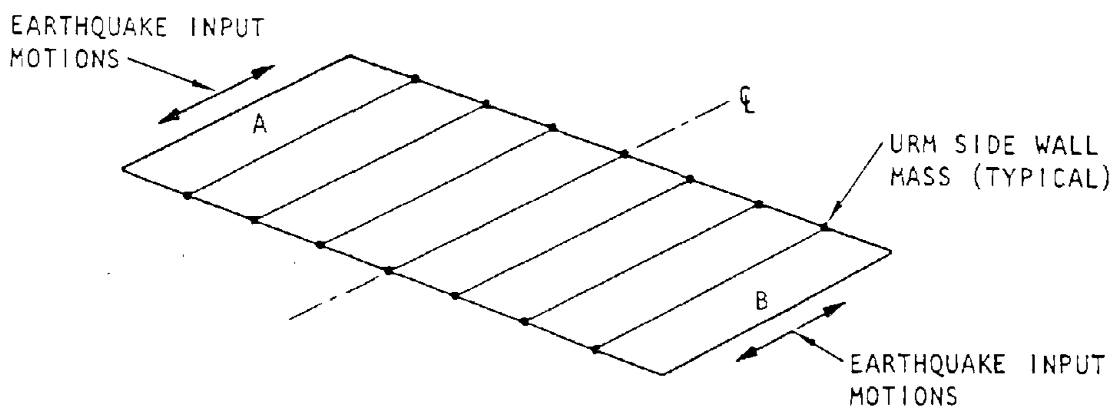
A study of existing URM buildings in the United States (ABK, 1981a) was conducted to identify and categorize the current inventory of this class of buildings and to identify their materials and methods of construction. The specimens tested were as representative as possible of typical horizontal diaphragms found in this study. The specimens consisted of 14 configurations of 20 ft by 60 ft (6.1 m by 18.3 m) wood sheathed and metal deck diaphragms, including some retrofit specimens. Table 1 gives a brief summary description of the diaphragms tested.

The test setups for the dynamic, in-plane shaking and the quasi-static, cyclic, in-plane displacement of the diaphragms are shown schematically in Figures 4 and 5, respectively. The diaphragm specimens were supported on low friction, roller assemblies and were displaced, in-plane, at the two ends by servocontrolled hydraulic actuators. As shown in Figure 4, lead weights, seperately supported on low friction roller assemblies, were attached to each of the 60-ft (18.3 m) sides of the diaphragm. The lead weights were intended to simulate the inertial effect of the URM side walls during the dynamic testing. In the dynamic tests, the diaphragm with the attached weights was shaken in its plane by the hydraulic actuators which were programmed to produce the displacement time history of the selected, scaled earthquake ground motions given in Table 2. For the quasi-static tests, removable reaction pillars were moved into place at the diaphragm's third points and the diaphragm was cyclically displaced in its plane by the hydraulic actuators. The testing sequence of most of the diaphragms involved the intermingling of the quasi-static and dynamic tests in which the quasi-static, cyclic amplitudes of displacement and dynamic motions were sequentially inreased to progressively produce more severe levels of relative deformation within the diaphragm. In order to reduce the time required to change between the quasi-static and dynamic testing, the lead weights were left in place for both types of tests. However, due to the very low testing speeds used for the quasi-static tests, the lead weights did not induce any appreciable inertial loads in the diaphragms. The diaphragm specimens were instrumented with load cells, accelerometers, and displacement sensors; and the data from each instrument was recorded on magnetic tape in digital form. Additional data was recorded in the form of still photographs, motion pictures, and observer notes or test logs. Most of this data are reported herein; however, all of the data have been archived for future use in data interpretation and presentation.

The tests demonstrated that typical diaphragms have highly nonlinear, hysteretic stiffness characteristics and produced valuable data for establishing properties for typical diaphragms. In addition, the tests showed that the proposed analytical model is a good representation of the quasi-static test results. The tests also produced valuable data for assessing the dynamic response of diaphragms subjected to earthquake loadings and for evaluating the effects of various retrofit procedures. It is clear from the dynamic test results that the dynamic response of diaphragms is dominated by their nonlinear, hysteretic characteristics for EPAs greater than 0.1 g, and elastic analyses are not valid for these earthquake intensity levels. For the most part, the diaphragm specimens were relatively undamaged for all levels of earthquake ground motions tested, and when damage occurred, the diaphragms were still serviceable and the damage was repairable. The built-up roofing adds stiffness as long as it remains attached and detachment occurred at EPAs of approximately 0.2 g. The interpretation of the results of the diaphragm tests are reported in a separate volume (ABK,1982).



(a) Interaction between the diaphragm and side wall



(b) Diaphragm/wall model

FIGURE 1. SINGLE-STORY URM BUILDING

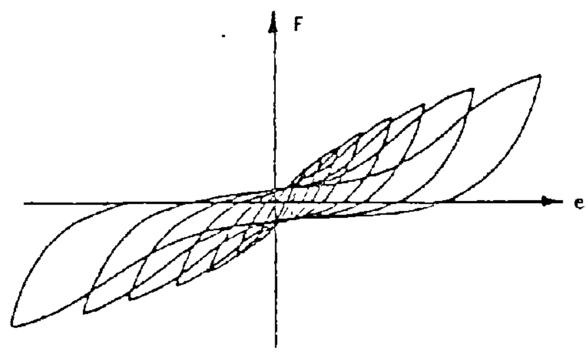
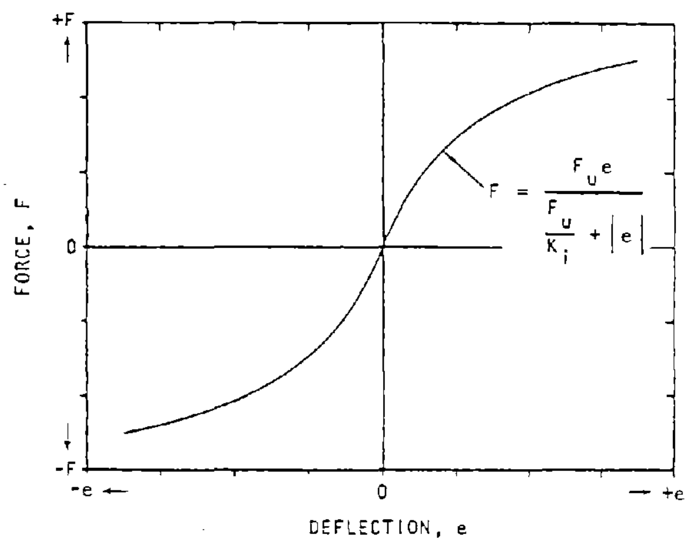
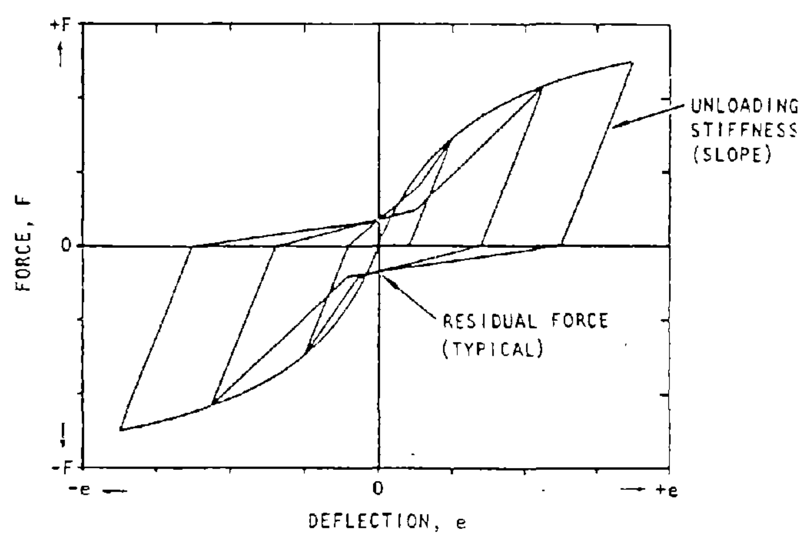


FIGURE 2. TYPICAL CYCLIC LOAD DEFLECTION DIAGRAM FOR PLYWOOD DIAPHRAGMS



(a) Force-deflection envelope of model



(b) Typical cyclic load-deflection diagram for model

FIGURE 3. LOAD DEFLECTION MODEL FOR WOOD DIAPHRAGMS

TABLE 1. DIAPHRAGM SPECIMEN DESCRIPTION

SHOWN IN SEQUENCE TESTED

Diaphragm Identification	Description
Q	20-ga steel decking, unfilled, unchorded, button-punched seams 18" O.C.
R	20-ga steel decking, unfilled, chorded, button-punched seams 6" O.C.
C	1/2" plywood, unblocked, unchorded, built-up roofing
D	1/2" plywood, unblocked, chorded, built-up roofing, roofing retrofit nailing
B	1/2" plywood, unblocked, chorded
E	1" x 6" straight sheathing, unchorded, built-up roofing
E_1	1" x 6" straight sheathing, unchorded, built-up roofing, roofing retrofit nailing
H	1" x 6" straight sheathing, 5/16" plywood overlay, chorded
I	1" x 6" diagonal sheathing, unchorded, built-up roofing
I_1	1" x 6" diagonal sheathing, unchorded, built-up roofing, roofing retrofit nailing
K	1" x 6" diagonal sheathing, 1" x 6" straight sheathing overlay, chorded
N	1/2" plywood, blocked, chorded
P	3/4" plywood, 3/4" plywood overlay, blocked, chorded
S	20-ga steel decking, 2-1/2" concrete fill, chorded, button-punched seams 18" O.C.

NOTE: 1 in. = 25.4 mm

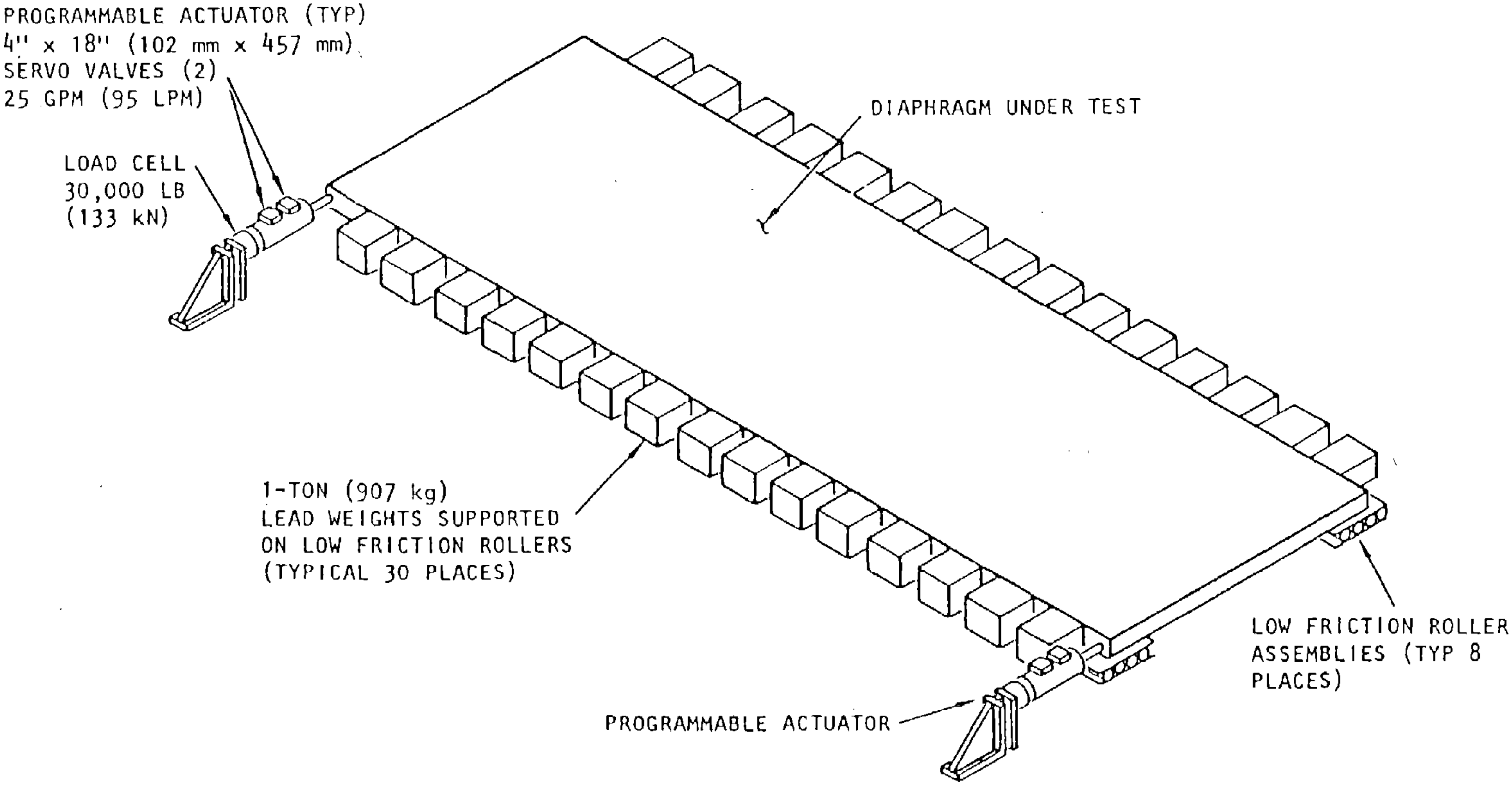


FIGURE 4. SCHEMATIC OF THE TEST SETUP FOR DYNAMIC TESTING OF DIAPHRAGMS

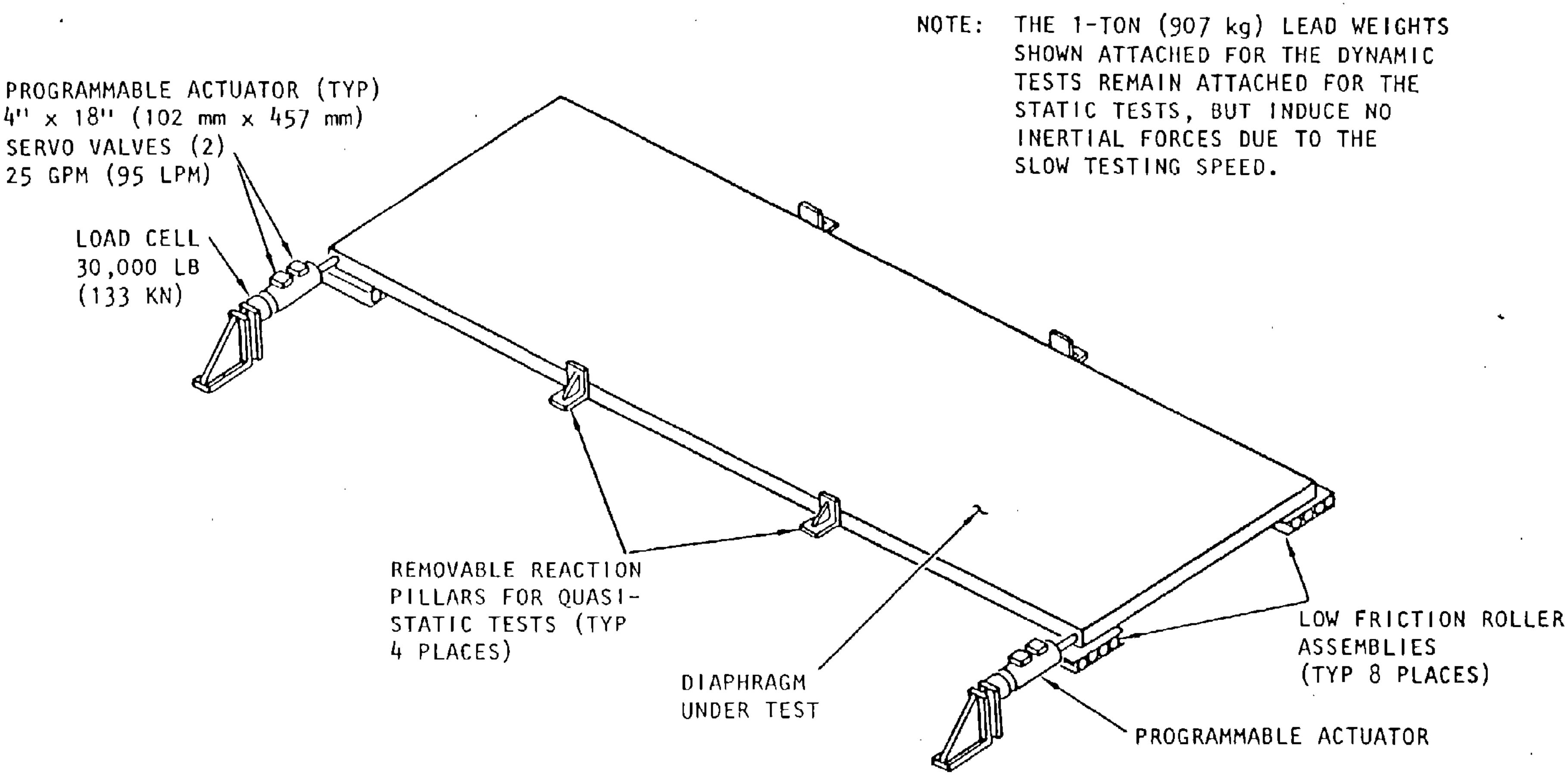


FIGURE 5. SCHEMATIC OF THE TEST SETUP FOR QUASI-STATIC TESTING OF DIAPHRAGMS

TABLE 2. EARTHQUAKE GROUND MOTION FOR THE DYNAMIC TESTS

Earthquake Ground Motion No.	Geographical Region	Effective Peak Acceleration, g	Earthquake Record	Scale Factor
1	New England, Carolina, New Madrid-St. Louis	0.1	Taft, 1954, N21E	1.6
2	New Madrid-St. Louis	0.1	Hollywood Storage P.E. Lot, 1971, N90E	0.5
3	Puget Sound, New Madrid-Memphis	0.2	Olympia, 1949, S04E	1.1
4	Wasatch	0.2	Castaic, 1971, N69W	1.0
5	California Coast and Central Nevada	0.4	Castaic, 1971, N69W	1.8
6	California Coast and Central Nevada	0.4	El Centro, 1940, S00E	1.25

SECTION 1

INTRODUCTION

Building construction using unreinforced masonry (URM) predates the development of seismic criteria that guide the design and construction of present-day buildings. A substantial number of these URM buildings are still being used in areas considered seismically active, even though investigations of earthquake damage have confirmed that this type of building has been a major contributor to personal injury or loss of life during relatively high intensity earthquakes. Yet the cost of rehabilitating existing URM buildings to new construction standards is usually unacceptable. Also, URM construction is still being introduced in some parts of the United States that have experienced lesser intensity earthquakes.

Public agencies and the private sector are becoming more concerned about the potential for personal injury or death resulting from failure of these buildings. However, political jurisdictions struggling with limited budgets can rarely afford the extensive research programs required to develop rehabilitation standards. It is apparent that a system of analysis methods and procedures (a methodology) is needed for determining realistic hazard-mitigation requirements and cost-effective methods of retrofit to fill such requirements. Research that can provide usable tools to meet these goals will have a major impact on cities squeezed between the threat to life safety and economic constraints. The developed methodology and standards could reduce the enormous investment now required to make existing buildings conform to standards for new construction, or eliminate the economic loss that will result from demolition of these buildings.

In 1977, the National Science Foundation (NSF) initiated a multi-phased program for the mitigation of seismic hazards, which resulted in a study to develop a methodology for the mitigation of seismic hazards in existing URM buildings. A program plan for this study was formulated that was based on existing research, observed damage in past earthquakes, and an assessment of the response of typical URM buildings. A review of the existing research work on masonry, available at that time, showed that most of the effort had been directed toward determining the response of reinforced masonry components to in-plane forces; and little or no effort had been devoted to typical URM building response. Reports of observed damage in past earthquakes indicated degrees of damage that varied from minor cracking of URM walls to separation of the walls from the diaphragm and, in some instances, the subsequent collapse of the URM walls. A key observation taken from these damage reports is that some structures sustained more damage than others, and the researchers were led to the assumption that the interaction among the building components was a vital issue in explaining and predicting building damage. Accordingly, a study of typical URM building response was conducted and three related component responses and their interactions were identified for further study; namely,

- Horizontal diaphragms subjected to inplane motions
- URM walls subjected to out-of-plane motions
- Anchorage between the URM walls and the diaphragm

Moreover, a review of the existing research work showed that the first two items, the response of diaphragms to in-plane motions and the response of URM walls subjected to out-of-plane motions, have received little or no attention. As part of the overall study to develop the methodology, analytical and experimental investigations were conducted on these two items. The experimental investigation of the response of horizontal diaphragms subjected to in-plane motions is the subject of this report. The experimental work on URM walls subjected to out-of-plane motions is reported separately (ABK, 1981c).

The objectives of the tests on the reponse of horizontal diaphragms to in-plane motions are (1) to determine the nonlinear, hysteretic stiffness characteritics of typical diaphragms; (2) to assess the degree of nonlinearity; (3) to study their dynamic response to earthquake loading; (4) to evaluate their energy-absorption capacity or amplification characteristics; (5) to evaluate the effects of various retrofit procedures on their response; (6) to verify and calibrate mathematical models for the analysis of typical diaphragms in URM buildings; (7) to compare with existing static tests that are the basis for existing seismic design; (8) to compare diaphragm response over a range of diaphragm stiffnesses; and (9) to determine the anchorage forces of walls to diaphragms.

Section 2 contains an overview of the complete test program including the test rationale, analysis model, brief description of the specimens, test setup, instrumentation, test modes and input, hydraulic actuation system, and test data acquisition. Section 3 provides a detailed description of the materials and construction procedures used for each diaphragm specimen that are summarized in Appendix A. The visual observations made during the testing of each diaphragm are contained in Section 4. Section 5 describes the test data acquired from the instrumentation system that is reported in Appendixes B, C, D, and E. The conclusions of the test program are contained in Section 6.

SECTION 2

DIAPHRAGM TEST DESCRIPTION

2.1 RATIONALE OF THE TESTS

2.1.1 EXPERIMENTAL PHILOSOPHY

There are several structural response considerations that must be addressed in the development of a methodology for the mitigation of seismic hazards in existing URM buildings. The actual response of these structures is nonlinear and involves interaction among many of the structural elements, such as the end walls, diaphragm, side walls, and wall/diaphragm anchorage. The most ideal method of hazard assessment would combine nonlinear dynamic analyses of complete structures and the dynamic, full-scale testing of the same structures, where the testing would be used to verify and/or calibrate the analyses. However, facilities do not currently exist in the United States for the testing of complete structures at full scale. Moreover, if such facilities did exist they would be very expensive when parametric variations are required, and would only be used in final validation tests.

The experimental philosophy used in this study is based on the development of full-scale component tests and analyses that account for the interaction among the structural elements. Of course, the accountability cannot be perfect, but acceptable levels can be obtained. The main interactions in typical URM buildings that must be given careful attention in the development of component tests are:

a. The interaction between the end wall and the supporting soil, with all of the natural nonlinearities of both

b. The interaction between the horizontal diaphragm and the side wall, including the anchorage between them and their nonlinearities

For all practical purposes (both testing and analysis), Items a and b can be considered to be uncoupled; however, the response of the end wall has a direct effect on the input to the horizontal diaphragm, as the end wall drives the diaphragm.

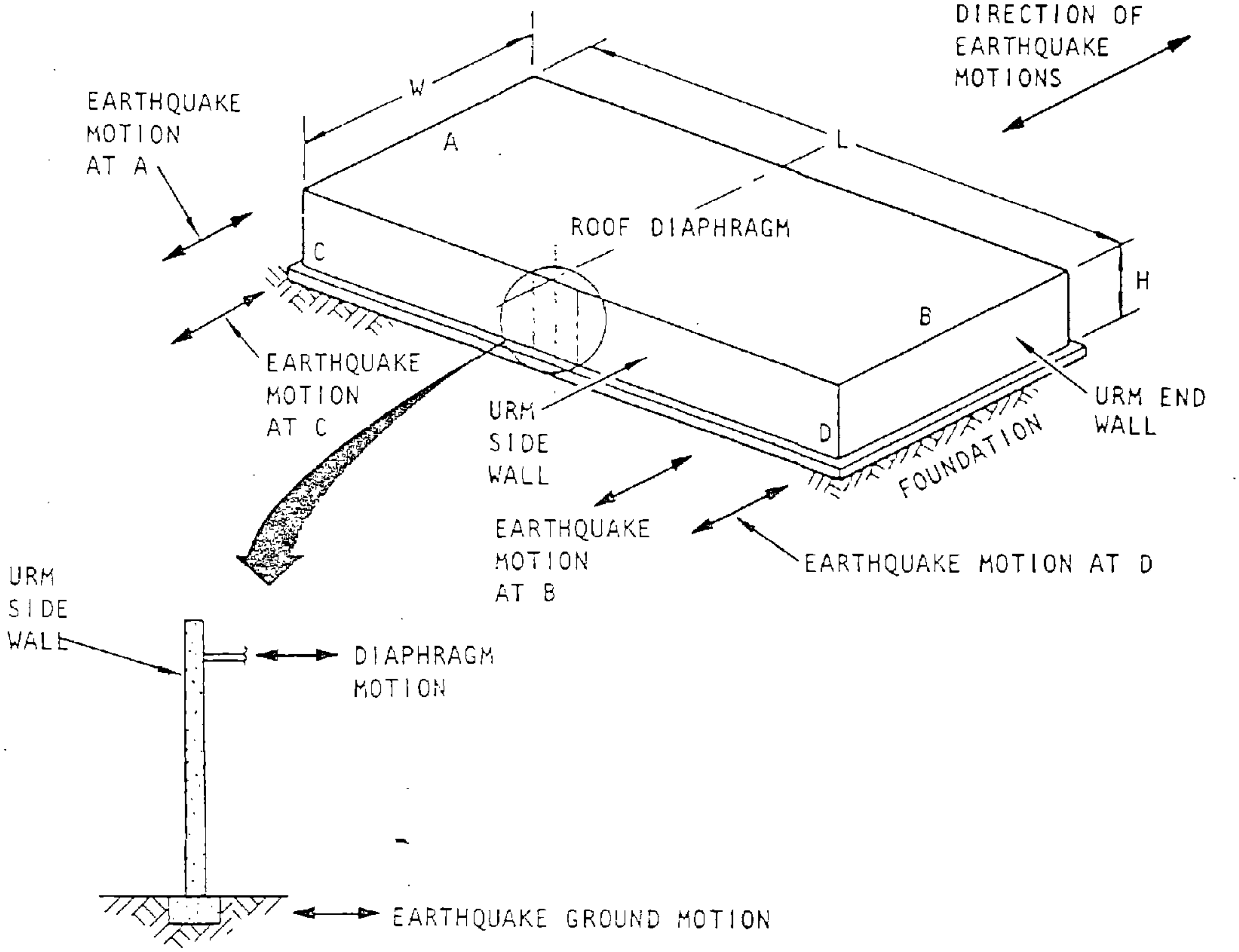
2.1.2 COMPONENT TEST DESIGN

The component testing of horizontal diaphragms subjected to in-plane motions is the subject of the work reported herein, and the interaction of the URM side walls with the diaphragm and anchors must be given consideration in the development of the test program. The scheme of a typical one-story URM building is shown in Figure 2-1a. The building consists of a wood roof diaphragm supported on four edges by URM walls. The most critical orientation of the earthquake motions with respect to the building for the URM side wall/diaphragm interaction is normal to the side wall.

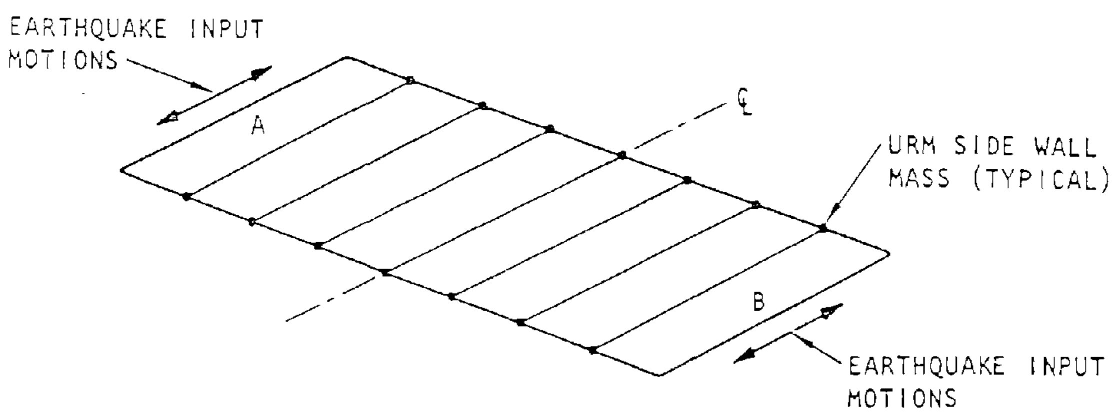
An analysis/testing model can be formulated that includes several important effects, namely:

- o Foundation stiffness and nonlinearities
- o URM end walls with perforations
- o End wall aspect ratio (i.e., height-to-width ratio)
- o URM side wall stiffness and mass
- o Diaphragm stiffness with nonlinearities and damping
- o Anchorage of URM walls to the diaphragm

A preliminary study of rigid, in-plane, end wall overturning due to seismic loading has been performed for a reasonable range of foundation stiffnesses and wall aspect ratios (Adham & Ewing, 1978). This study indicates that the end walls transmit the earthquake ground motion from the foundation level (C and D in Figure 2-1a) to the roof level (A and B) with little modification. Engineering judgment clearly indicates that perforations and nonlinearities in the URM end walls will not amplify the ground motion delivered to the ends of the diaphragm by the end walls. Accordingly, the effects of foundation stiffness, end-wall aspect ratio, and in-plane deformations of the URM end walls can conservatively be neglected, and the earthquake ground motions can be assumed to be transmitted to the ends of the roof diaphragm with little modification. The URM side walls are expected to crack and rock about the cracks when subjected to the out-of-plane excitations delivered by the diaphragm. Since the cracked side wall/foundation system has little lateral stiffness, the stiffness interaction between the side walls and the roof dia-



(a) Interaction between the diaphragm and side wall



(b) Diaphragm/wall model

FIGURE 2-1. SINGLE-STORY URM BUILDING

phragm can be neglected. However, the mass of the cracked side walls will affect the response of the diaphragm/wall system, and was included in the interaction model and tests as shown in Figure 2-1b. Although yielding anchors could be included, rigid attachment of the side walls to the diaphragm was assumed and all of the test results reported herein are based on this assumption.

2.1.3 ANALYSIS MODEL

In order to meet the objectives given in Section 1, the diaphragm tests were designed to produce data on static, cyclic stiffness characteristics, and dynamic responses. In addition, the tests were required to produce data for the verification and calibration of mathematical models that could be used for the analysis of typical diaphragms in URM buildings. Accordingly, a lumped parameter model was formulated to include the side wall mass and the nonlinear, hysteretic behavior of wood diaphragms typified by the cyclic test results shown in Figure 2-2. An analytic model for this type of diaphragm is shown in Figure 2-3, where Figure 2-3a shows the overall force-deflection envelope and Figure 2-3b shows a typical cyclic load path. A second-order curve was selected to represent the force-deflection envelope of the diaphragm stiffness as given below:

$$F(e) = \frac{F_u e}{\frac{F_u}{K_i} + |e|}$$

where

$F(e)$ = Spring force

e = Spring deformation

F_u = Ultimate capacity of spring at large values of e

K_i = Initial spring stiffness

In the analytical model the diaphragm was idealized as a deep shear beam and

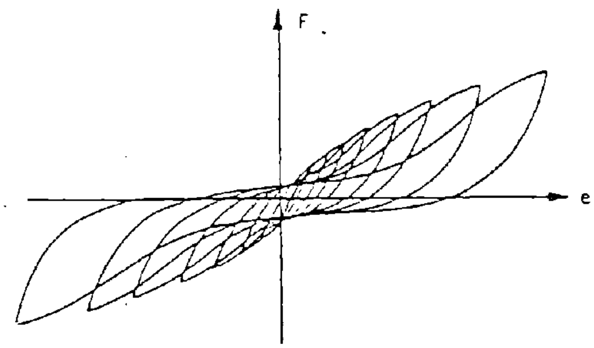
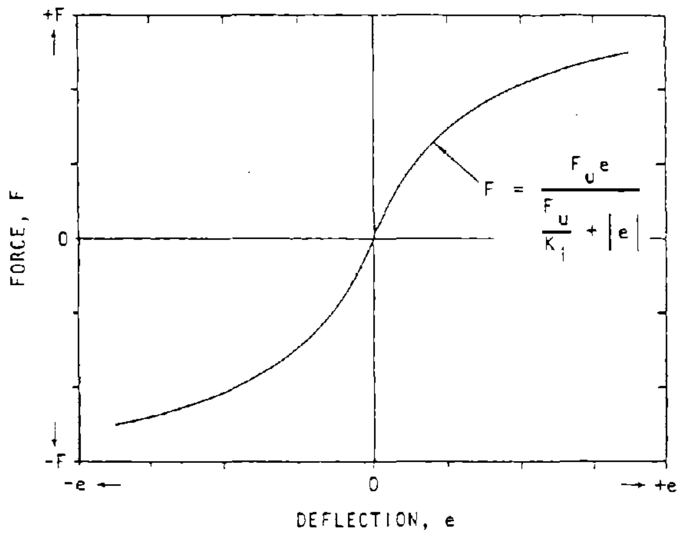
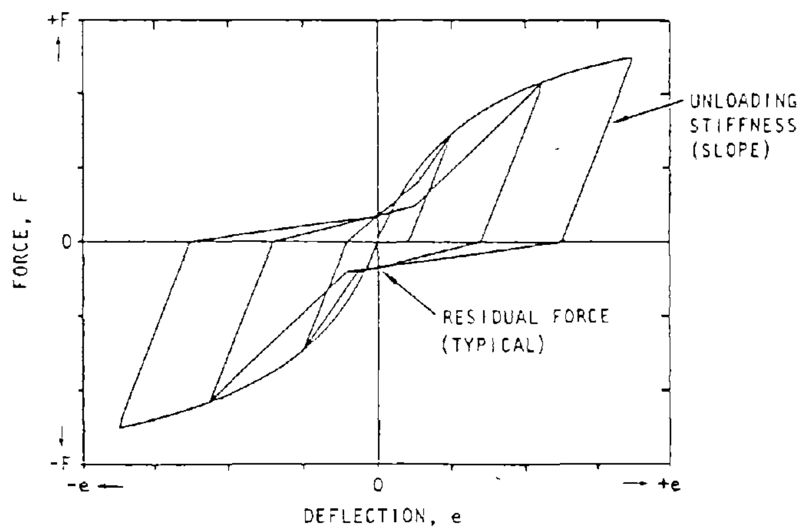


FIGURE 2-2. TYPICAL CYCLIC LOAD DEFLECTION DIAGRAM FOR PLYWOOD DIAPHRAGMS



(a) Force-deflection envelope of model



(b) Typical cyclic load-deflection diagram for model

FIGURE 2-3. LOAD DEFLECTION MODEL FOR WOOD DIAPHRAGMS was divided into several segments with a mass at each segment interface (node). Each nodal mass represented the tributary mass of the appropriate diaphragm segment as well as the tributary mass of the attached side walls. The earthquake motions at each end were assumed to be identical, so due to symmetry only a half model was analyzed. The resulting lumped parameter model is shown in Figure 2-4.

Internal springs 1 through 4 of Figure 2-4 represent the nonlinear, hysteretic shear characteristics of the diaphragm, and internal dampers 5 through 8 represent viscous damping in the diaphragm. The earthquake input motion at the end walls is described by degree of freedom (DOF) X1, and the independent DOF of the diaphragm/wall system are described by DOF X2 through X5. The displacement gages 9 through 12 shown connecting the DOF X2 through X5 with DOF X1 (the ground) are used to monitor the relative out-of-plane motions induced between the base and top of the side wall. The pretest analyses were performed using the STARS/III computer program (AA, 1981), and this computer program will be used in the posttest correlation phase of the overall study (ABK, 1982).

2.2 BRIEF DESCRIPTION OF SPECIMENS

A study of existing URM buildings in the United States (ABK, 1981a) was conducted to identify and categorize the current inventory of this class of buildings and to identify their materials and methods of construction. The specimens tested were as representative as possible of typical horizontal diaphragms found in this study.

The diaphragm specimens consisted of 14 configurations of 20 ft by 60 ft (6.1 m by 18.3 m) diaphragms including some retrofitted specimens. Table 2-1 gives a brief summary description of the diaphragm specimens. An alphabetic identification system was used for the diaphragms, with the original test plan utilizing diaphragms A through S. However, for cost effectiveness some of the diaphragm specimens were deleted, but the original alphabetic identification for the remaining specimens was retained. The wood sheathed diaphragms were constructed using a wood framing system fabricated with 4 inch by 12 inch (102 mm by 305 mm) edge and end members and 2 inch by 12 inch (51 mm by 305 mm) rafters; and metal bridging was used between the rafters. All lumber was Douglas Fir, and the plywood was Douglas Fir Struc-

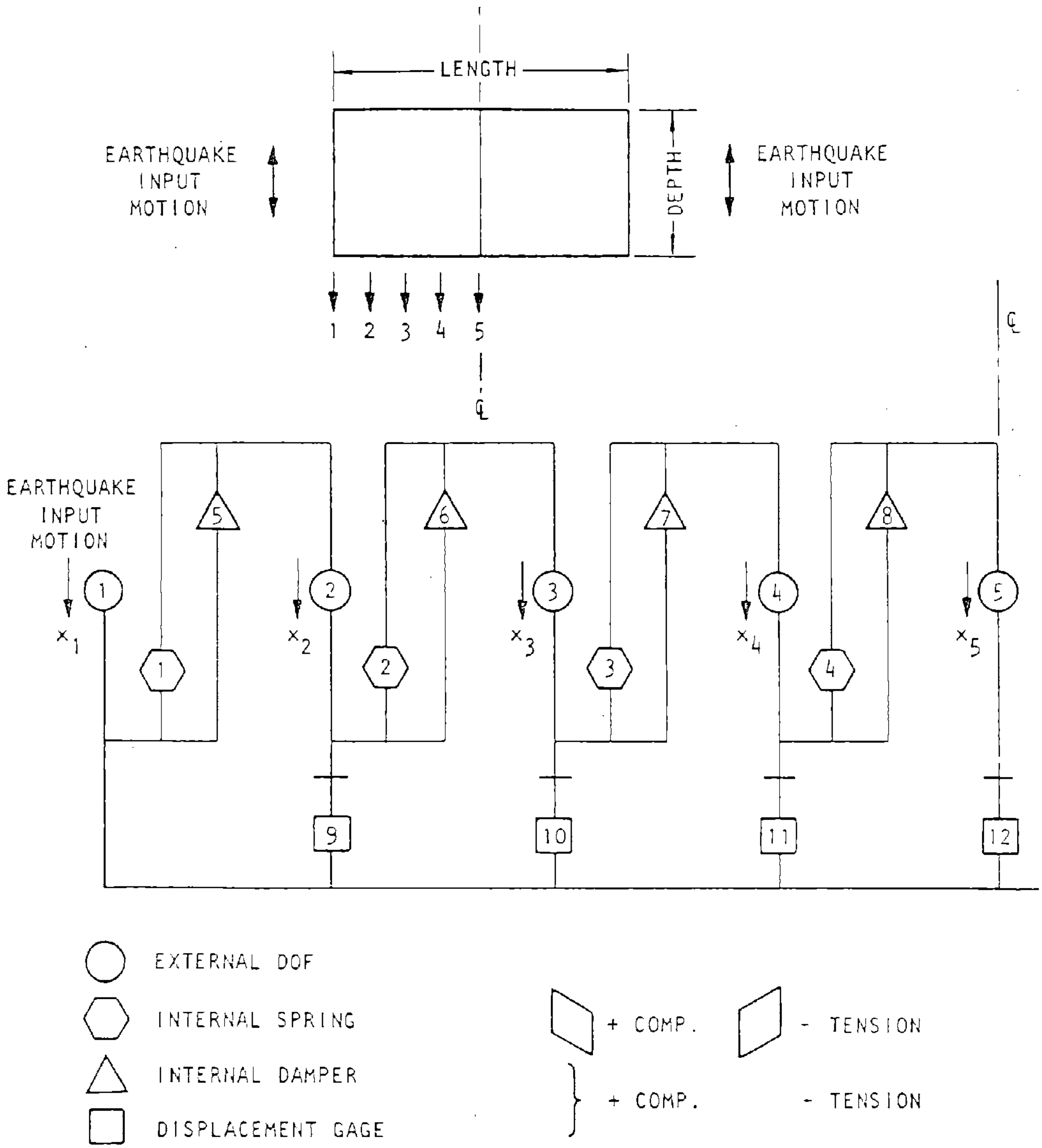


FIGURE 2-4. LUMPED PARAMETER MODEL (8 SEGMENTS — HALF MODEL)

TABLE 2-1. DIAPHRAGM SPECIMEN DESCRIPTION

SHOWN IN SEQUENCE TESTED

Diaphragm Identification	Description
Q	20-ga steel decking, unfilled, unchorded, button-punched seams 18" O.C.
R	20-ga steel decking, unfilled, chorded, button-punched seams 6" O.C.
C	1/2" plywood, unblocked, unchorded, built-up roofing
D	1/2" plywood, unblocked, chorded, built-up roofing, roofing retrofit nailing
B	1/2" plywood, unblocked, chorded
E	1" x 6" straight sheathing, unchorded, built-up roofing
E_1	1" x 6" straight sheathing, unchorded, built-up roofing, roofing retrofit nailing
H	1" x 6" straight sheathing, 5/16" plywood overlay, chorded
I	1" x 6" diagonal sheathing, unchorded, built-up roofing
I_1	1" x 6" diagonal sheathing, unchorded, built-up roofing, roofing retrofit nailing
K	1" x 6" diagonal sheathing, 1" x 6" straight sheathing overlay, chorded
N	1/2" plywood, blocked, chorded
P	3/4" plywood, 3/4" plywood overlay, blocked, chorded
S	20-ga steel decking, 2-1/2" concrete fill, chorded, button-punched seams 18" O.C.

NOTE: 1 in. = 25.4 mm

tural I, Exterior Glue, Grade C-D. The sheathing was attached to the framing system with 8d nails. The metal deck diaphragms were constructed using a bolted steel framing system fabricated with wide flange members.

The retrofitting procedures included in these tests consisted of the application of chords, overlays, and roofing attachments. For example, diaphragm E was retrofitted to diaphragm E_1, by nailing the roofing to the diaphragm using 1-1/4 inch (32 mm) roofing nails with 2-3/4 inch (70 mm) diameter tin disks placed between the roofing and the nail heads; then diaphragm E1 was retrofitted to diaphragm H by removing the roofing, applying a plywood overlay, and connecting a chord system. A similar retrofit procedure was used for diaphragms I, I1, and K.

A more detailed description of the construction of the diaphragm specimens is given in Section 3.

2.3 TEST SETUP AND INSTRUMENTATION

The test setups for the dynamic, in-plane shaking and the quasi-static, in-plane displacement of the diaphragms are shown schematically in Figures 2-5 and 2-6, respectively. The diaphragm specimens were supported on eight low friction roller assemblies and were displaced, in-plane, at the two ends by programmable hydraulic actuators. As shown in Figure 2-5, 15 1-ton (907 kg) lead weights, separately supported on low friction roller assemblies, were attached to each of the 60-ft (18.3 m) sides of the diaphragm. The lead weights were intended to simulate the inertial effect of the URM side walls during the dynamic testing. Since the cracked URM side-wall/foundation system was assumed to provide little or no lateral stiffness, no provision was made to simulate any URM side-wall/foundation system stiffness effects.

In the dynamic tests (Figure 2-5), the diaphragm with the attached lead weights was shaken in its plane by hydraulic actuators that were programmed to produce the displacement time history of selected earthquake ground motions. For the quasi-static tests (Figure 2-6), removable reaction pillars were moved into place at the diaphragm's third points and the diaphragm was cyclically displaced in its plane by the hydraulic actuators.

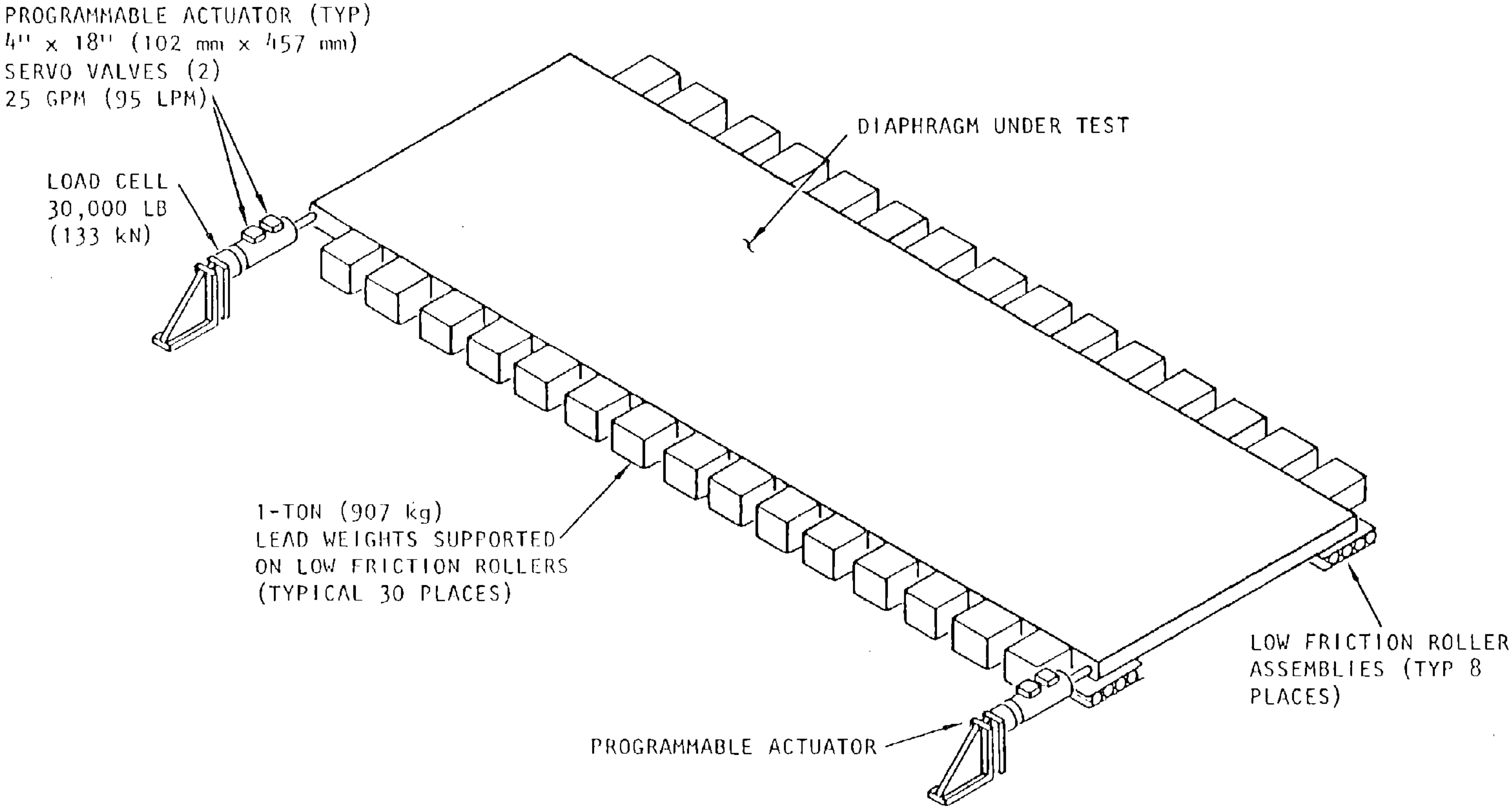


FIGURE 2-5. SCHEMATIC OF THE TEST SETUP FOR DYNAMIC TESTING OF DIAPHRAGMS

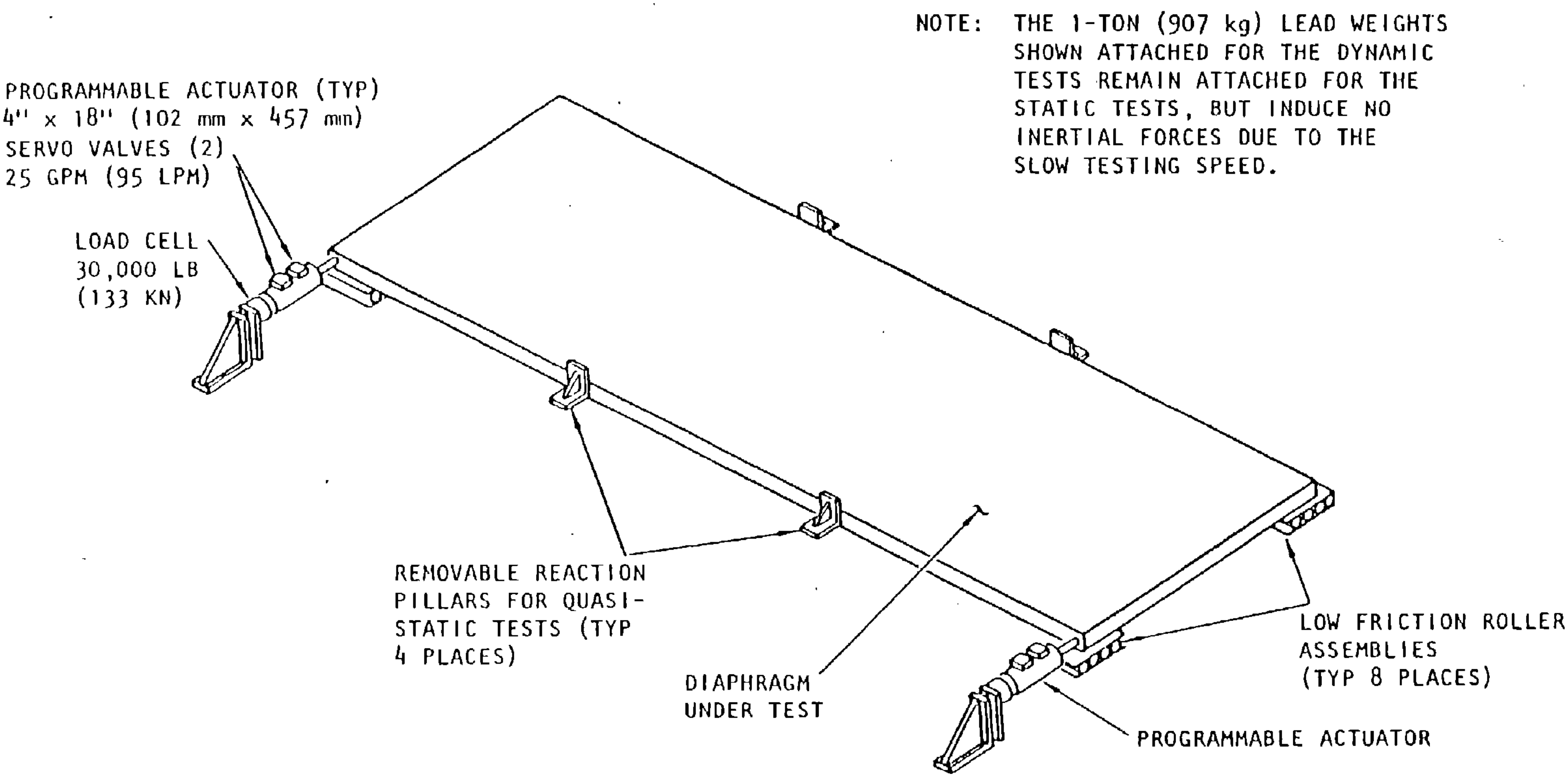


FIGURE 2-6. SCHEMATIC OF THE TEST SETUP FOR QUASI-STATIC TESTING OF DIAPHRAGMS

As stated in Section 2.4, the testing of most of the diaphragms involved the intermingling of the quasi-static and dynamic tests. In order to reduce the time required to change between quasi-static and dynamic testing, the lead weights were left in place for both types of tests. However, due to the very low testing speeds (less than 28 mm/sec) used for the quasi-static tests, the lead weights did not induce any appreciable inertial loads in the diaphragms.

The basic instrumentation for the measurement of the diaphragm responses and forcing functions is shown in Figure 2-7 and consisted of displacement sensors, accelerometers, and load cells; and all of the instrumentation measured in-plane responses and forcing functions. The displacements were measured using string potentiometers. The displacement sensors, including feedback deflection sensors, were mounted to a stable reference frame that was independent of the frame for the forcing system. This type of instrument mounting was used to eliminate the need to account for the flexibility of the actuator reaction stands.

The data from each instrument was recorded on magnetic tape in digital form. In the data recording each instrument was sampled and recorded with a common time base. The raw source data tapes were interpreted and written on new tapes, using a standard format with some data compression, for use in data presentation and interpretation. More detailed information on the data tapes is given in Section 2.6.

Additional data recording was taken in the form of still photographs and motion pictures, as well as observer notes or test logs. The photographic coverage and observer notes are given in Sections 3 and 4.

2.4 TEST MODES AND SEQUENCES

The test modes and sequences of the complete diaphragm test program are shown in Table 2-2 and comprise intermingled quasi-static, cyclic loadings and dynamic earthquake loadings. In the test program most of the diaphragms were subjected to a sequence of tests in which the quasi-static, cyclic amplitudes of displacement and dynamic motions were sequentially increased to progressively produce more severe levels of relative deformation within the diaphragm. The normalized quasi-static, cyclic loading cycles

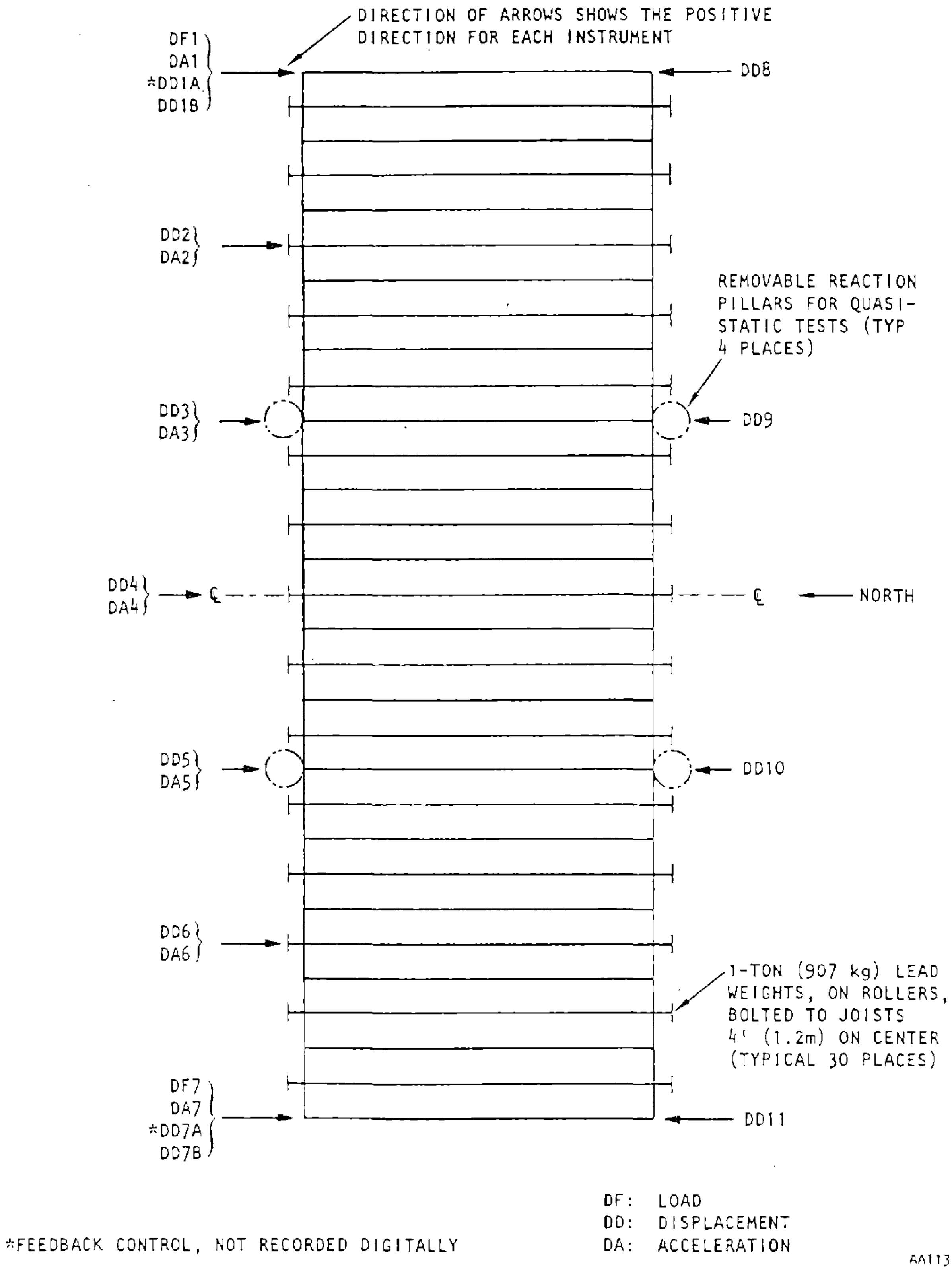


FIGURE 2-7. DIAPHRAGM INSTRUMENTATION

TABLE 2-2. DIAPHRAGM TEST MODES AND SEQUENCE

Diaphragm Identification	E	E_1	H	I	I_1	K	C	D	B	N	P	Q	R	S
Basic Static Deflection, Δ inches	0.6	0.6	0.4	0.72	0.72	0.3	0.4	0.4	0.4	0.4	0.25	0.4	0.4	0.1
Test Sequence	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3 QS 4 GM 4 GM 6 GM 5	GM 3 GM 4 GM 6 GM 5	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3 QS 4 GM 4 GM 6 GM 5-1 GM 5-2	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3 GM 4 GM 6 GM 5	GM 3 GM 4 GM 6 GM 5	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3 QS 4-1* QS 4-2 GM 4 GM 6 GM 5-1 GM 5-2	QS 1 GM 2 GM 1 QS 2 GM 4 QS 3 GM 3 QS 4 GM 5 GM 6	QS 1 GM 2 GM 1 QS 2 GM 4-1 GM 4-2† QS 3 GM 3 QS 4 GM 5 GM 6	QS 1 GM 2 GM 1 QS 2 GM 4 QS 3 GM 3 QS 4 GM 5 GM 6	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3-1 QS 4 GM 4-1 GM 6-1 GM 5-1 GM 5-2 GM 6-2 GM 4-2 GM 3-2	QS 1 QS 2 QS 4 GM 3 GM 4-1 QS 6 GM 6-1 GM 5 GM 6-2 GM 4-2	QS 1 SS 1 GM 2-1† GM 1-1† GM 2-2 GM 1-2 QS 2 GM 4 QS 3 GM 3 QS 4 GM 5 GM 6	QS 1 GM 2 GM 1 QS 2 GM 4 QS 3 GM 3 QS 4 GM 5 GM 6	QS 1 GM 2 GM 1 QS 2 QS 3 GM 3 QS 4 GM 4 GM 6 GM 5-1 GM 5-2

* Partial test

† Data lost

QS 1, QS 2, QS 3, QS 4, QS 6 - Quasi-static test. Maximum end deflection in multiples of the basic Δ (See Table 2-3)

GM 1, GM 2, GM 3, GM 4, GM 5, GM 6 - Dynamic test. Earthquake ground motions 1 through 6 (See Table 2-4)

SS 1 - Discrete Step, sine-sweep test. Constant acceleration of 0.1 g from 10 Hz to 2.2 Hz, then constant displacement of 0.2 in. from 2.2 Hz to 0.5 Hz.

Note: 1 in. = 25.4 mm

(QS 1, QS 2, QS 3, QS 4, and QS 6) are defined in Table 2-3, and the dynamic earthquake ground motions (GM 1 through GM 6) are defined in Table 2-4.

The quasi-static loading cycles defined in Table 2-3 are normalized in terms of multiplicative factors of the basic static deflection Δ of each diaphragm that are given in Table 2-2. The Δ for each diaphragm corresponds to an estimate of the approximate elastic limit of the diaphragm. Accordingly, QS 1 approximates an elastic test and QS 2, 3, 4, and 6, correspond to tests that produce ductilities of 2, 3, 4, and 6 respectively. The quasi-static tests were primarily under displacement control. The only exception was when control was momentarily switched to force control, noted by F(0) in the table, for unloading to near zero values of end force. The quasi-static tests were run using testing speeds that ranged between 16 mm/sec to 28 mm/sec.

The dynamic earthquake ground motions or kinematic motions used in the test program are based on actual earthquake ground motion records that correspond to seven major geographical regions of the United States (ABK, 1981b). The ground motion records were scaled so as to cover the full range of seismicity from an Effective Peak Acceleration (EPA) of 0.1 g to 0.4 g; the scale factors are given in Table 2-4. Displacement time-history plots for an EPA of 0.1 g (GM 1 and GM 2), 0.2 g (GM 3 and GM 4), and 0.4 g (GM 5 and GM 6) are given in Figures 2-8, 2-9, and 2-10, repectively, for the first 30 sec of the motion; however, 60-sec records were used in the test program.

The testing sequence shown in Table 2-2 shows a discrete step, sine sweep test (SS 1) for diaphragm Q, the first diaphragm tested. In this test the reaction pillars were removed and the diaphragm was subjected to a constant acceleration input of 0.1 g from 10 Hz to 2.2 Hz and then to a constant displacement input of 0.2 inch (5 mm) from 2.2 Hz to 0.5 Hz. The objective of this test was to determine the first mode frequency of vibration of the diaphragm. In addition, sine-beat-and-dwell tests at the resonant frequencies were planned to determine damping values. However, diaphragm Q resonated during the SS 1 test and damaged the button punched seams of the metal deck and the attachment welds to the metal frame on one end of the diaphragm. This type of uncontrolled damage was judged to be very undesirable, as it would reduce the value of the remaining tests that were planned. Accordingly,

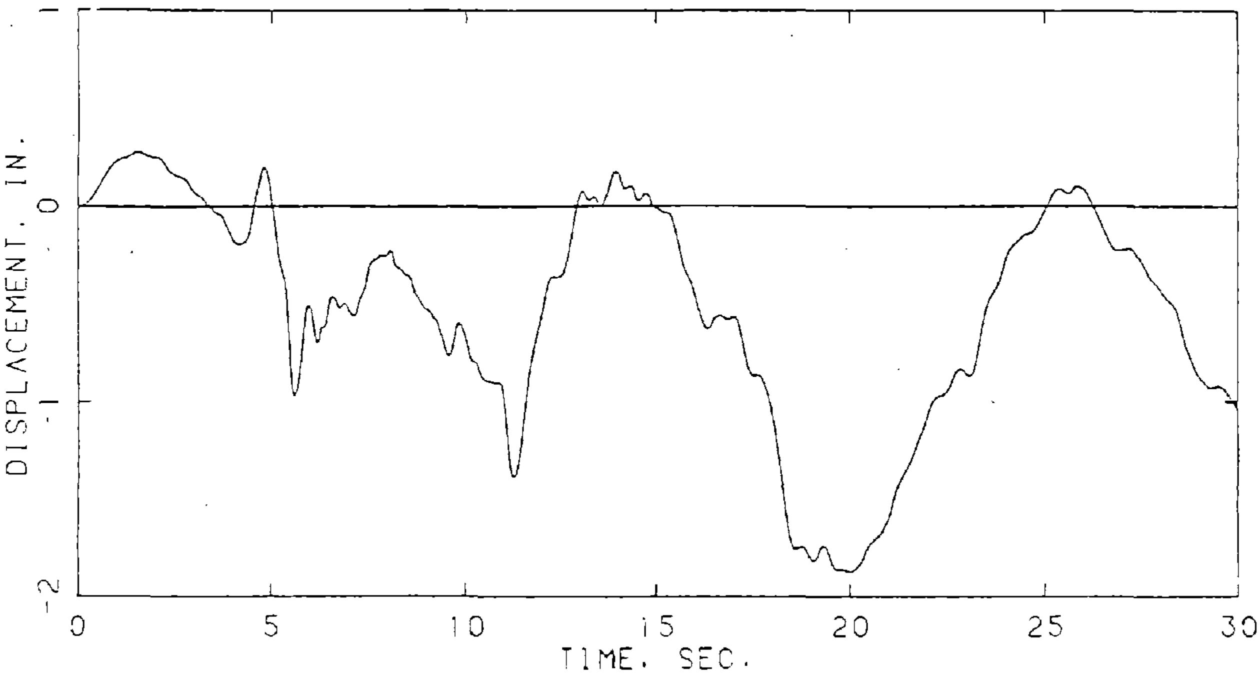
TABLE 2-3. NORMALIZED DISPLACEMENTS FOR THE DIAPHRAGM QUASI-STATIC TESTS

Load Cycle No.	DIAPHRAGM END DEFLECTIONS IN FACTORS OF THE BASIC STATIC DEFLECTION Δ (See Table 2-2)									
	QS 1		QS 2		QS 3		QS 4		QS 6	
	+	-	+	-	+	-	+	-	+	-
1	1/4	1/4	1	1	2	2	3	3	4	4
2	1/2	1/2	1	1	2	2	3	3	4	4
3	3/4	3/4	1	F(0)	2	F(0)	3	F(0)	4	F(0)
4	1	1	1	F(0)	2	F(0)	3	0	4	F(0)
5	1	1	1	0	2	0	3	1	4	0
6	1	1	1	0	2	0	3	2	4	0
7	1	F(0)	1	1/2	2	1	3-1/4	3-1/4	4	2
8	1	F(0)	1	1/2	2-1/4	2-1/4	3-1/2	3-1/2	4-1/2	4-1/2
9	1	0	1-1/4	1-1/4	2-1/2	2-1/2	3-3/4	3-3/4	5	5
10	1	0	1-1/2	1-1/2	2-3/4	2-3/4	4	4	5-1/2	5-1/2
11	1	1/2	1-3/4	1-3/4	3	3	4	4	6	6
12	1	1/2	2	2	3	3	4	4	6	6
13	1	3/4	2	2	3	3	4	F(0)	6	6
14	3/4	3/4	2	2	3	F(0)	4	0	6	F(0)
15	3/4	1/2	2	F(0)	3	0	4	1	6	0
16	1/2	1/2	2	F(0)	3	1	4	2	6	2
17	1/2	1/4	2	0	3	2	4	3	6	4
18	1/4	1/4	2	0	2	1	3	2	4	2
19	1/4	F(0)	2	1	1	1/2	2	1	2	1
20	--		2	1	1/2	F(0)	1	1/2	1	F(0)
21	--		1	1/2	--		1/2	F(0)	--	
22	--		1/2	1/4	--		--		--	
23	--		1/4	F(0)	--		--		--	

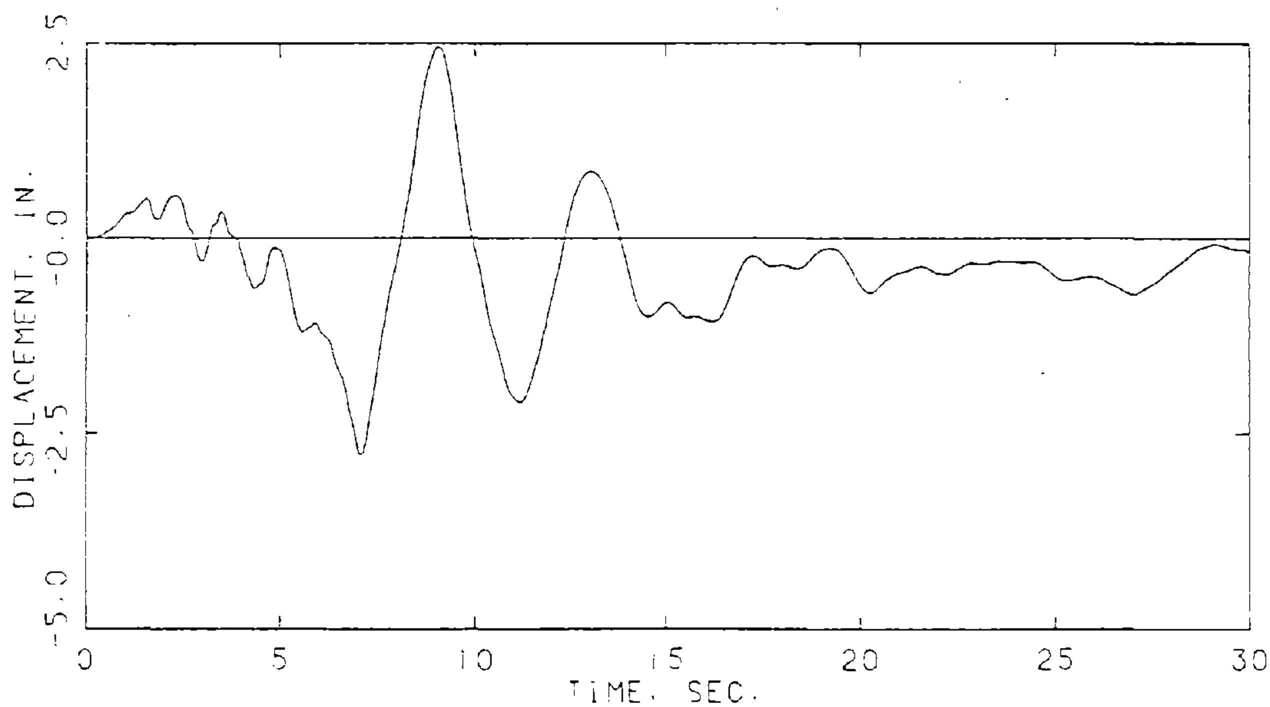
Note: Entries designated by F(0) correspond to actuator force equal to zero.

TABLE 2-4. EARTHQUAKE GROUND MOTION FOR THE DYNAMIC TESTS

Earthquake Ground Motion No.	Geographical Region	Effective Peak Acceleration, g	Earthquake Record	Scale Factor
1	New England, Carolina, New Madrid-St. Louis	0.1	Taft, 1954, N21E	1.6
2	New Madrid-St. Louis	0.1	Hollywood Storage P.E. Lot, 1971, N90E	0.5
3	Puget Sound, New Madrid-Memphis	0.2	Olympia, 1949, S04E	1.1
4	Wasatch	0.2	Castaic, 1971, N69W	1.0
5	California Coast and Central Nevada	0.4	Castaic, 1971, N69W	1.8
6	California Coast and Central Nevada	0.4	El Centro, 1940, S00E	1.25



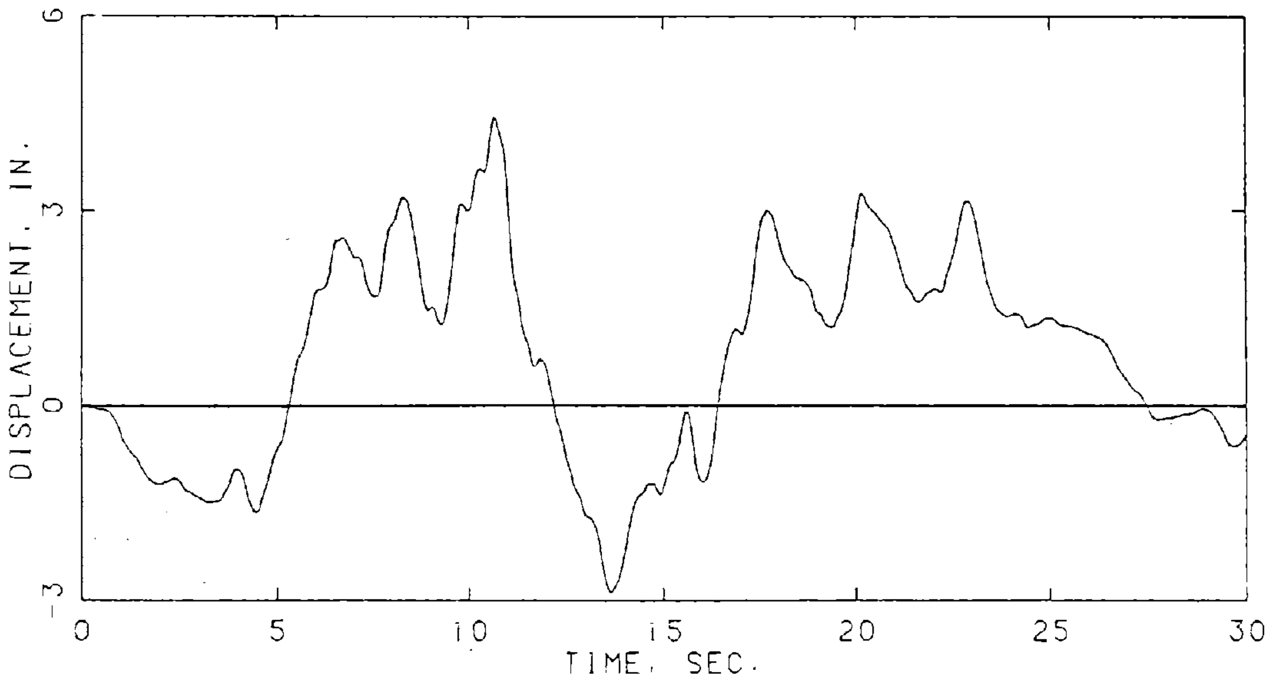
(a) GM 1, Taft, 1954, N21E x 1.6



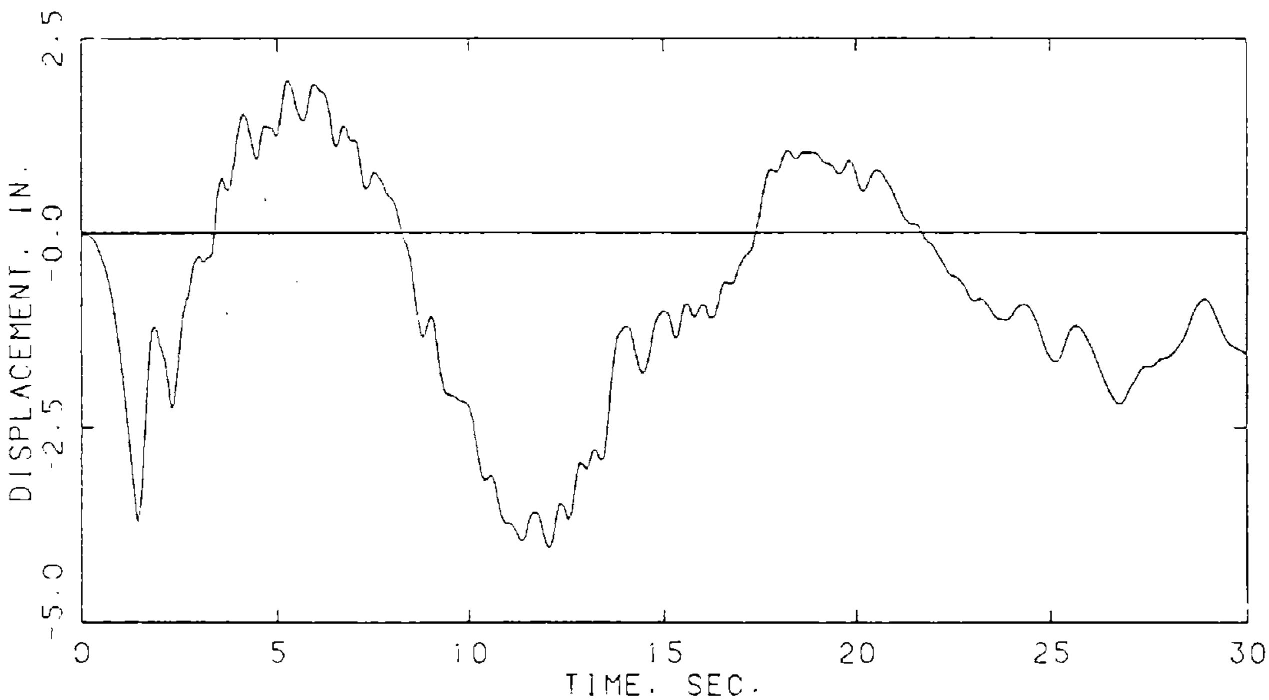
(b) GM 2, Hollywood Storage P.E. Lot, 1971, N90E x 0.5

NOTE: 1 in. = 25.4 mm

FIGURE 2-8. DYNAMIC INPUT MOTIONS, EPA = 0.1 G



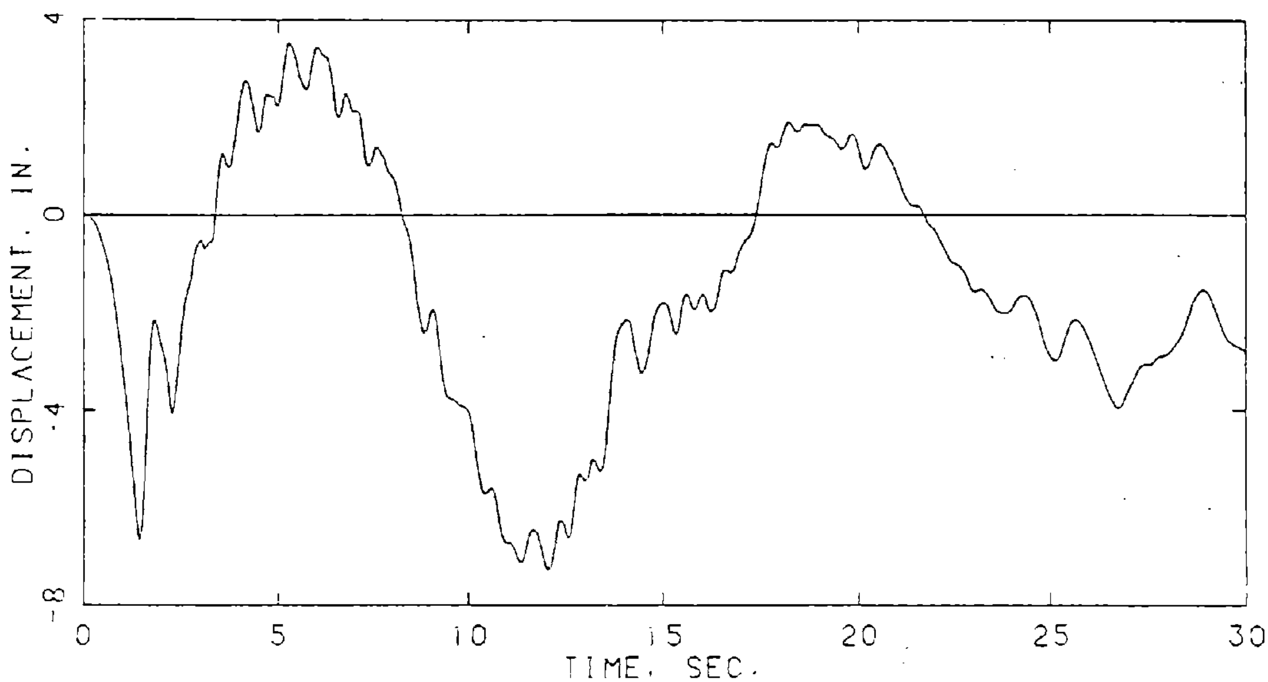
(a) GM 3, Olympia, 1949, S04E x 1.1



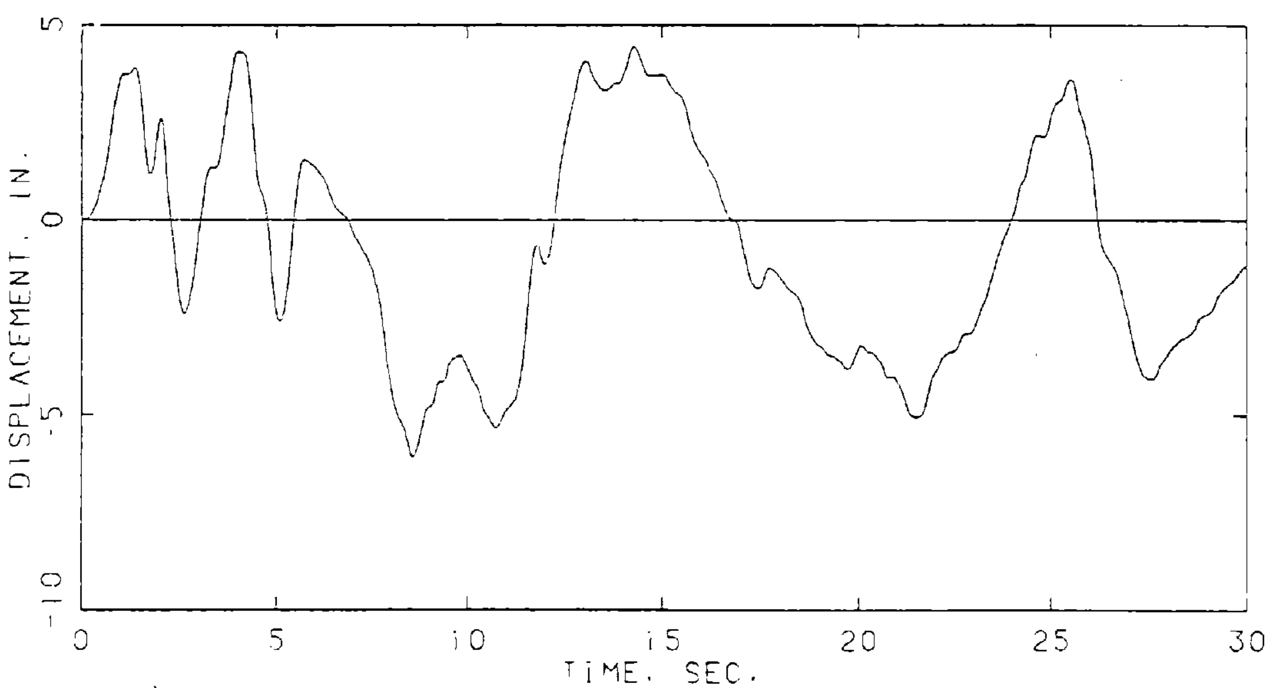
(b) GM 4, Castaic, 1971, N69W x 1.0

NOTE: 1 in. = 25.4 mm

FIGURE 2-9. DYNAMIC INPUT MOTIONS, EPA = 0.2 G



(a) GM 5, Castiac, 1971, N69W x 1.8



(b) GM 6, El Centro, 1940, SOOE x 1.25

NOTE: 1 in. = 25.4 mm

FIGURE 2-10. DYNAMIC INPUT MOTIONS, EPA = 0.4 G

the discrete step, sine sweep, and the sine-beat-and-dwell tests were deleted from the remainder of the test program; and diaphragm Q was repaired before the testing was resumed.

The complete diaphragm test program involved 14 diaphragms and 139 test sequences. The testing was conducted at the El Segundo Structures Laboratory of the North American Aircraft Division of Rockwell International Corporation.

2.5 DISPLACEMENT CONTROLLED HYDRAULIC ACTUATION SYSTEM

The kinematic input to the ends of the diaphragm specimens was delivered by a hydraulic actuation system that was primarily controlled by displacement. This method of control provides the most reliable system for command and measurement. The only exception was during the quasi-static tests, where control was momentarily switched to force control for unloading to near zero values of end force (Table 2-3). A schematic of the displacement controlled hydraulic actuation system is shown in Figure 2-11. The earthquake ground motion records were obtained in digitized form and written on tape. This tape was introduced into a command and control computer, which was programmed to selectively convert the digital input data into analog form. Analog position commands were transmitted to a multichannel, servocontrol amplifier system that sent control signals to the servohydraulic valves mounted on the hydraulic actuation cylinders. Hydraulic pressure was then delivered to the actuators, which drove the ends of the test specimen. String potentiometer position sensors monitored the attained displacements, which were returned to the servocontrol amplifier system and compared with the command displacement. Differences between the feedback and command signals were monitored, and corrections in the command signals were made, if required, to maintain a maximum permissible error of $\pm 10\%$. Hard copy records of the error signals were monitored by the command and control computer operator, so that the quality of each test could be evaluated at the time of the test. In this way corrective measures and rerun decisions could be made by the test monitors.

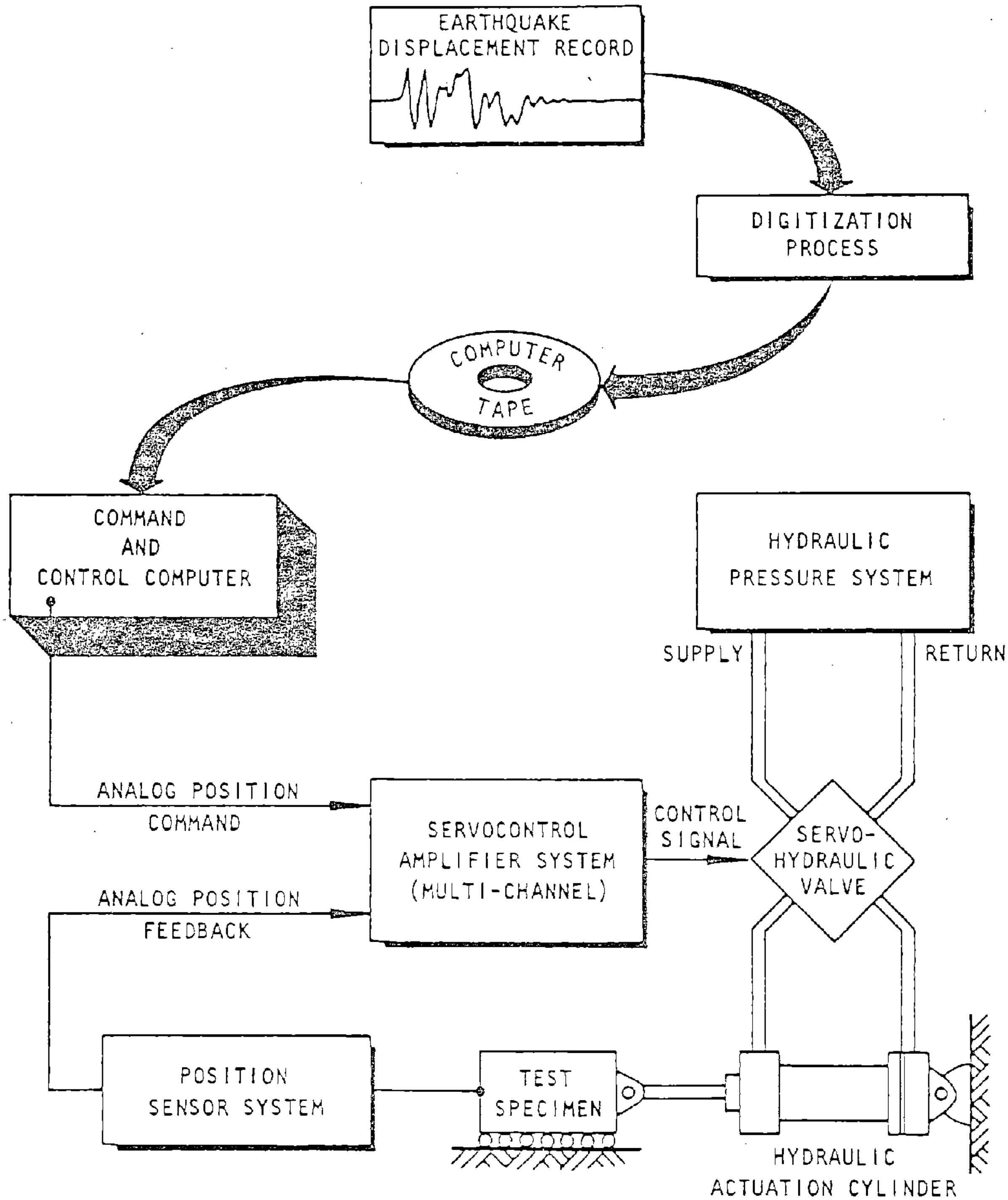


FIGURE 2-11. SCHEMATIC OF THE DISPLACEMENT-CONTROLLED HYDRAULIC ACTUATION SYSTEM

2.6 TEST DATA COLLECTION AND FORMAT

As noted in Section 2.3, the test data from each instrument were recorded on magnetic tape in digital form. The tapes (source tapes) were written in 9 track, 800 bits per inch, odd parity, NRZI (nonreturn to zero for ones) format and are nonlabeled. Each test sequence was written on the tape using a series of fixed length data records terminated by an end-of-file (EOF) and all records are 1894, 16-bit words in length. The first record for each test sequence is a header record and the remaining records are raw data records.

The header record contains general information including the number of data channels or slots and instrument identification. The data acquisition system used for the diaphragm test program was also used for the companion URM wall test program (ABK, 1981c); and the total number of system data channels included slots for both test programs, where the slots for the wall tests were allocated ahead of those for the diaphragm tests. Although 20 channels were used for the entire diaphragm test program, the total number of system slots (for the diaphragms and walls), changed during the diaphragm test program, due to the addition of two slots for the wall tests. Accordingly, there were 38 total system slots for the tests on diaphragms C, D, Q, and R (the first four diaphragms tested) and 40 total system slots for the remaining diaphragm tests. The data records contain the date and time and the raw test data. In the data recording each instrument or channel was sampled and recorded with a common time base; however, simultaneous sample and hold circuitry was not employed. Due to the change in the total number of system slots, two sampling intervals were used for the diaphragm test program. A sampling interval of 0.0025086 sec was used for diaphragms C, D, Q, and R, while a sampling interval of 0.0026406 sec was used for the remaining diaphragms. The first data value in each raw data record is stored in word 17. For each sampled time the data for all 38 or 40 channels are consecutively recorded in the data record and the channel data for sequentially sampled times are concatenated in the data record. Accordingly, each raw data record contains 49 or 46 time samples for the 38 and 40 system channels, respectively. Each data value (one 16-bit word) is in the form of analog to digital counts and gain using two's complement arithmetic, where bit 0 is the sign, bits 1 through 11 are the magnitude, and bits 12 through 15 are the gain. The data is converted to millivolts (MV) by

$$MV = (sign)(Magnitude)(10.24/2Gain)$$

Along with other instrument data, the calibration factors to convert from millivolts to engineering units are given in Table 2-5 for each instrument. Engineering units were obtained from the raw data using a calibration file, one for each diaphragm, and the calibration factors. The source data tapes for the complete test series have been archived for future reference and use by the research team.

As an aid in data presentation and data interpretation, the raw source data tapes were converted to engineering units and stored with some data compression on an additional set of engineering unit tapes using a standardized format. This new format contains identification information, basic statistical information, and the converted data including the addition of a time channel. Other than conversion to enginering units and data compression (decimation by a factor of 8 for the dynamic tests and a factor of 40 for the quasi-static tests), the data on these new tapes was not altered. The new tapes were also written in 9 track, 800 bits per inch, odd parity, NRZI format and are nonlabeled. Again, the new data tapes for the complete test series have been archived for future reference and use by the research team.

TABLE 2-5. DIAPHRAGM INSTRUMENTATION DATA

Source Tape Instrument Title	Instrument Title	Instrument Range	Calibration Factor Engineering Units	Filter Cutoff, Hz	Source Tape Slot No.†	Multiplexer Channel No.	Display Slot	Gage Serial No.
D 2	DD2	± 7.5 in.	5.131 in.	--	18	40	858	186
D 3	DD3	±10.0 in.	6.735 in.	--	19	41	859	151
D 4	DD4	±10.0 in.	6.684 in.	--	20	42	860	183
D 5	DD5	±10.0 in.	6.708 in.	--	21	43	861	716
D 6	DD6	± 7.5 in.	5.092 in.	--	22	44	862	726
D 8	DD8	± 7.5 in.	5.064 in.	--	23	45	863	722
D 9	DD9	±10.0 in.	6.747 in.	--	24	46	864	719
D 10	DD10	±10.0 in.	6.664 in.	--	25	47	865	720
D 11	DD11	± 7.5 in.	5.107 in.	--	26	48	866	725
F 1	DF1	±30.0 kip*	30.090 kip	30	27	49	867	--
F 2	DF7	±30.0 kip*	30.002 kip	30	28	50	868	--
Acc 3	DA1	±25.0 g	2.20 g	30	29	56	869	AB05
Acc 4	DA2	±25.0 g	2.04 g	30	30	57	870	AB35
Acc 5	DA3	±25.0 g	1.85 g	30	31	58	871	AA36
Acc 6	DA4	±25.0 g	2.10 g	30	32	59	872	AB75
Acc 7	DA5	±25.0 g	2.19 g	30	33	60	873	AA52
Acc 8	DA6	±25.0 g	2.31 g	30	34	61	874	AA70
Acc 9	DA7	±25.0 g	2.19 g	30	35	62	875	AA91
D 1B	DD1B	± 7.5 in.	5.088 in.	--	36	64	876	723
D 7B	DD7B	± 7.5 in.	5.096 in.	--	37	65	877	724

*Changed to 75 kip load cells for Diaphragm S.

†Slot numbers shown are for Diaphragms C, D, Q, and R. The slot numbers for the remaining diaphragms are one more than those shown.

Note: 1 in. = 25.4 mm

1 kip = 4.5 kN

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SECTION 3

DIAPHRAGM SPECIMEN DESCRIPTION

3.1 BASIC FRAMEWORK

The basic framing plans and details for the wood-sheathed and steel deck diaphragms are given in Appendix A, and are also described in the following subsections.

3.1.1 WOOD-SHEATHED CONFIGURATIONS

Four 20 ft x 60 ft (6.1 m x 18.3 m) frames were constructed to accommodate the seven prime wood sheathed diaphragm configurations. These had 4" x 12" edge and end members with 2" x 12" joists at 24 inches (610 mm) on center. The members were connected and supported as shown in Appendix A (Figures A-1 and A-2), and also in Figures 3-1 and 3-2. Due to the limited working space in the testing laboratory the specimens with built-up roofing were constructed outside and wheeled into the laboratory area. Here they were set in place for testing using the laboratory cranes. This required the use of lifting bars attached to the frames and special sets of cable slings to maintain the integrity of the diaphragms while they were being lifted.

3.1.2 STEEL DECK CONFIGURATIONS

A separate 20 ft x 60 ft (6.1 m x 18.3 m) structural steel frame was provided for each of the two prime steel deck diaphragm configurations. These had W 12x27 edge, end, and interior beam members and W 12x19 joist members, as shown in Appendix A (Figures A-3 and A-4) and also in Figure 3-3. This provided a three-span condition for the steel decks. Again, lifting bars were provided on the frames, which allowed the removal of the diaphragm using the laboratory cranes (Figures 3-4 and 3-5).

3.2 MATERIAL AND CONSTRUCTION SPECIFICATIONS

3.2.1 FRAMING LUMBER

All framing lumber was 2" x 12" and 4" x 12" Douglas Fir No. 1, and the blocking was 2" x 4" Douglas Fir No. 2.

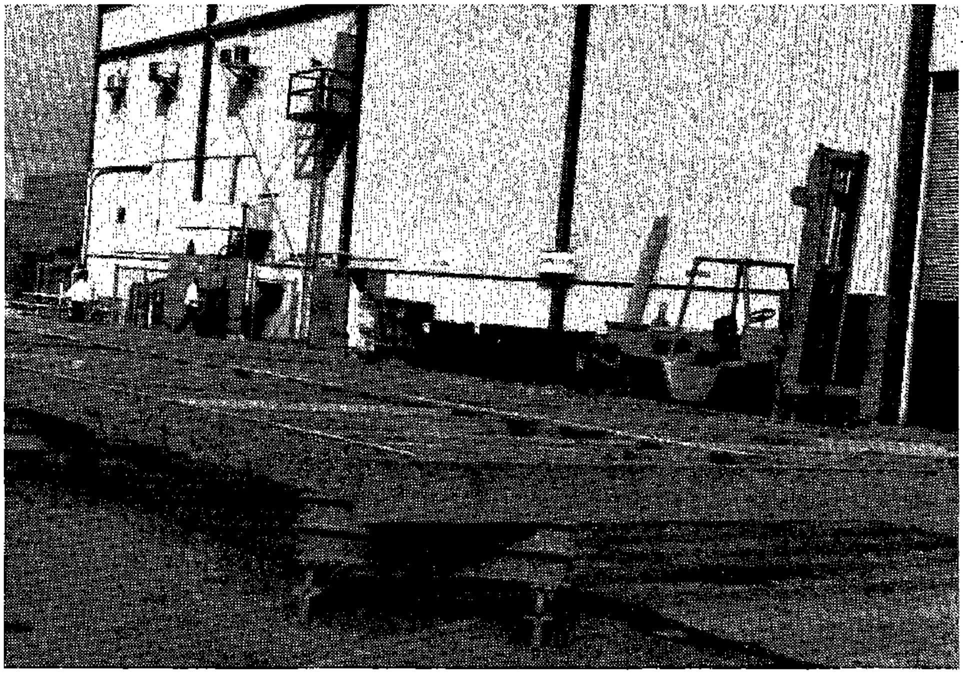


FIGURE 3-1. TYPICAL FRAMING FOR WOOD SHEATHED DIAPHRAGMS.

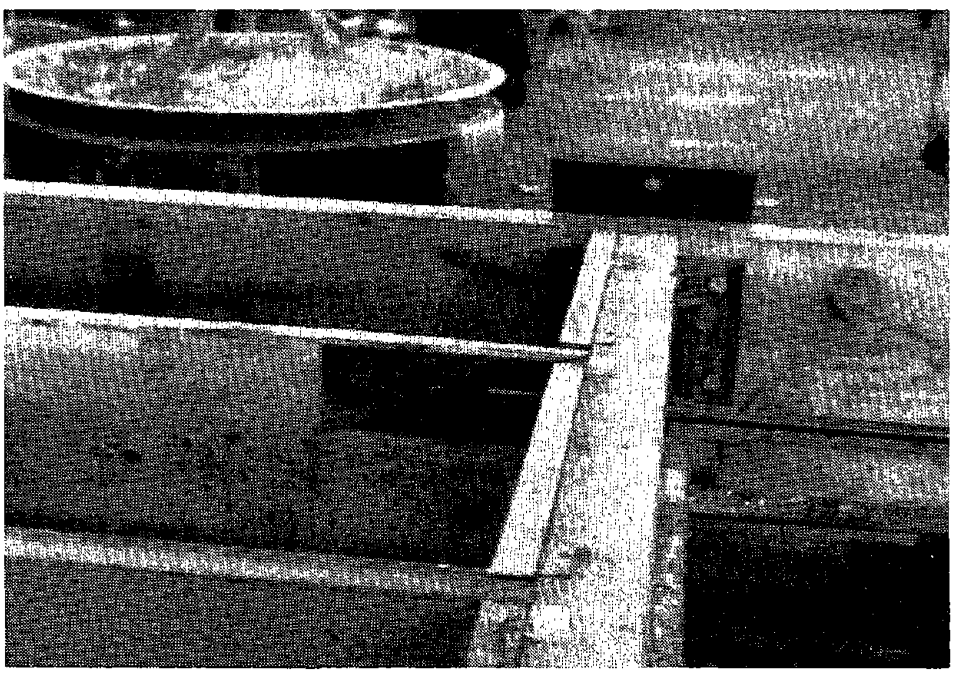


FIGURE 3-2, FRAMING DETAILS OF WOOD SHEATHED DIAPHRAGMS.

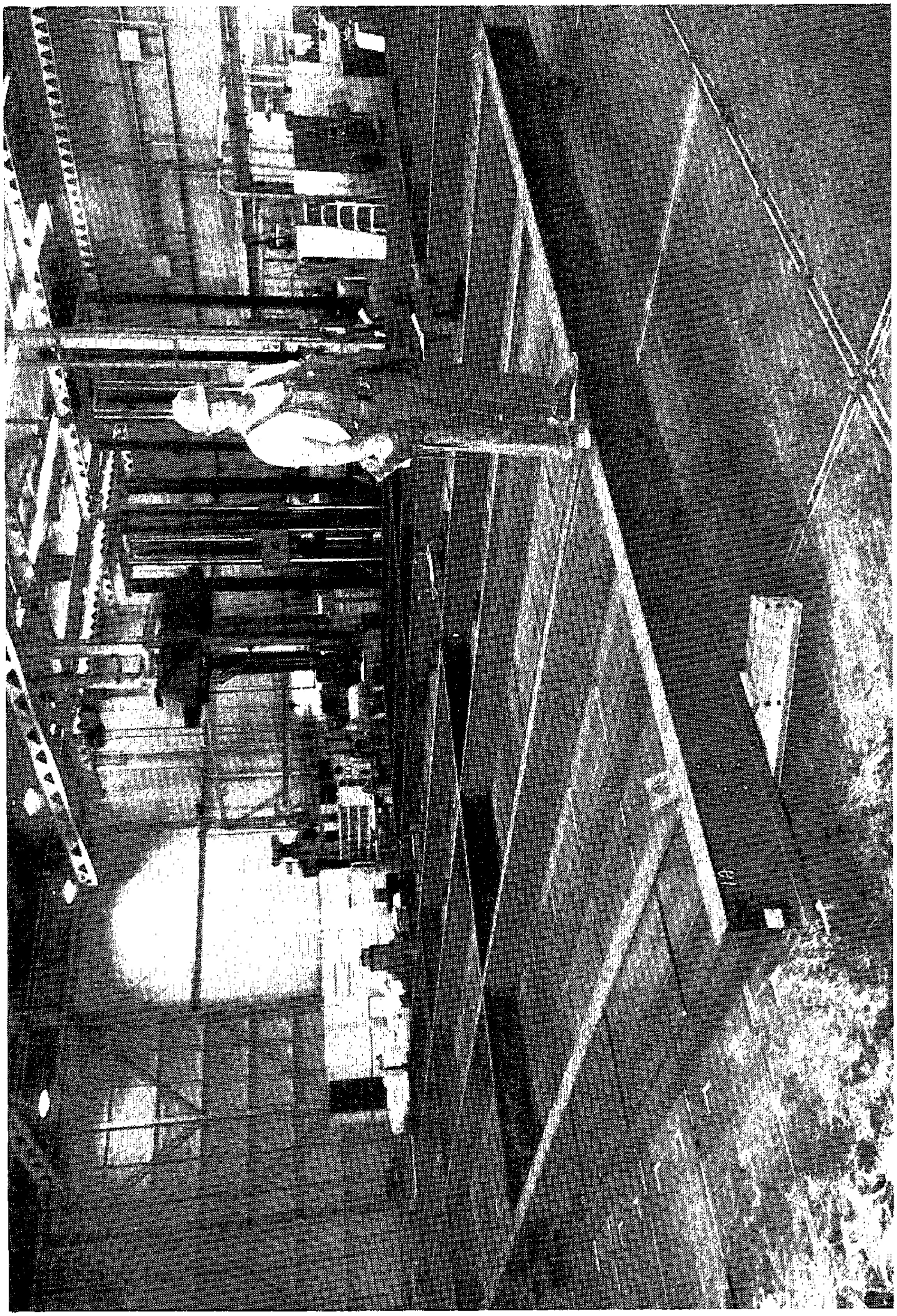


FIGURE 3-3. STEEL FRAMES FOR STEEL DECK DIAPHRAGMS.

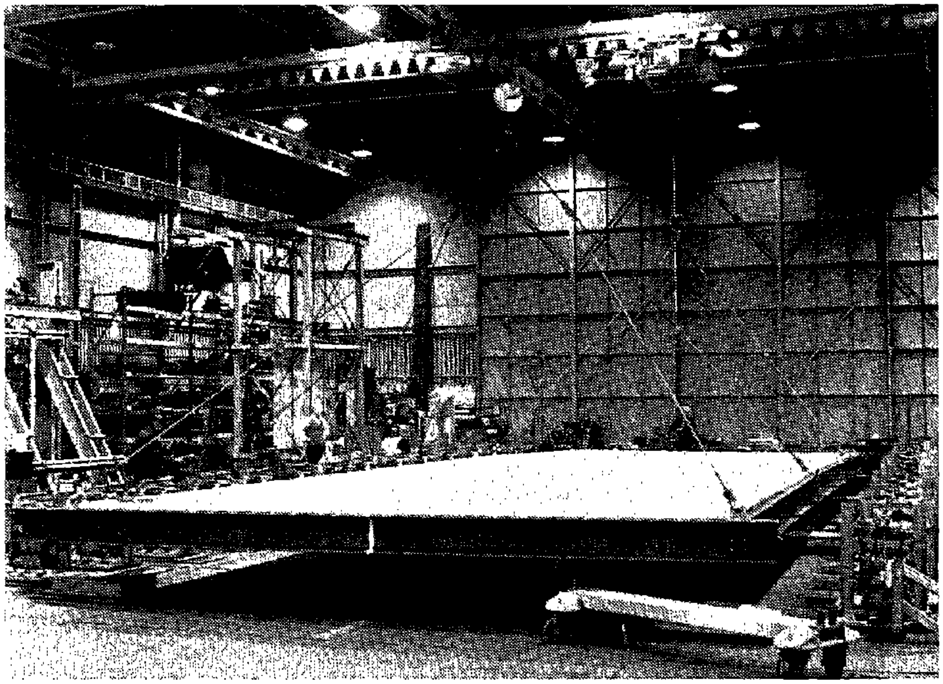


FIGURE 3-4. CABLE SLINGS AND LABORATORY CRANES USED TO SET DIAPHRAGMS IN PLACE FOR TESTING.

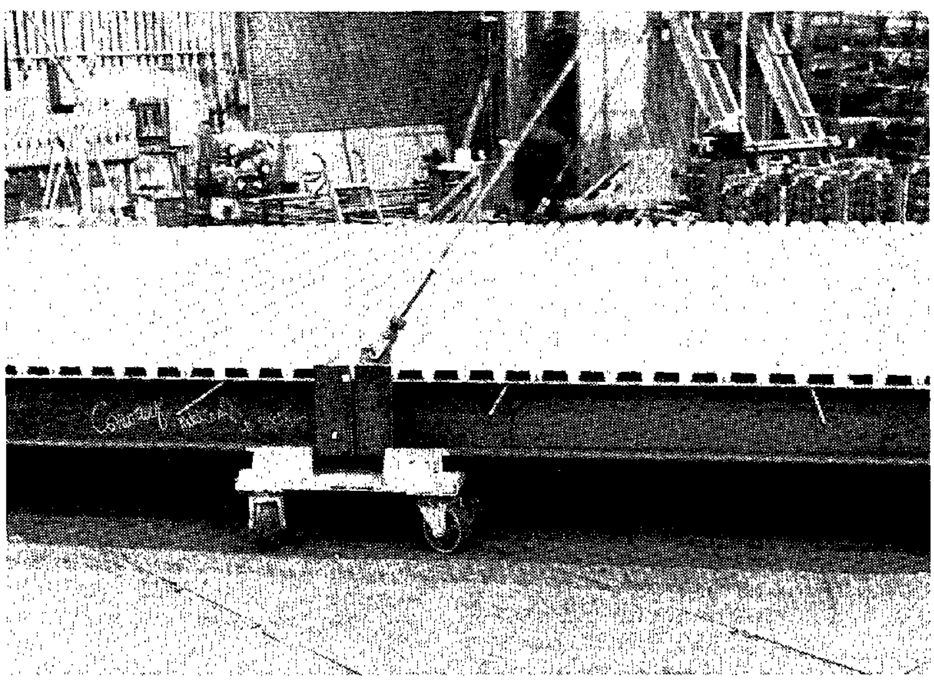


FIGURE 3-5. CABLE SLING ATTACHMENT TO LIFTING BAR.

3.2.2 LUMBER SHEATHING

The lumber sheathing was 1" x 6" Douglas Fir, Construction Grade. The straight or diagonal sheathing boards were laid so that there were not less than two boards between joints on the same bearing and not less than two bearings between joints in adjoining boards. These were joined with three 8d nails at ends of each board and two 8d nails at all other bearings.

3.2.3 PLYWOOD SHEATHING

The plywood sheathing conformed to U.S. Product Standard PS-1-74, Structural I, Exterior Glue, Grade C-D, Douglas Fir.

3.2.4 NAILS

Common wire nails were used for the most part, and duplex head nails were used where they did not interfere with overlaying material. Power driven "short" plywood nails had the same gage as for specified nail.

3.2.5 BUILT-UP ROOFING

The built-up roofing consisted of three 15# felts and one 90# cap sheet. The first felt was nailed to the wood sheathing using not less than one fastener for each 1-1/3 square feet (.124 m2). The nails were No. 12 gage x 3/4 inch (19 mm) long with 3/8 inch (9.5 mm) diameter heads. The other felts and cap sheet were laid with standard laps and mopped with not less than 0.20 lb/ft^2 (1 kg/m^2) of hot asphalt for each sheet.

3.2.6 STRUCTURAL STEEL

The structural steel conformed to ASTM A36,and the bolts conformed to ASTM A307.

3.2.7 STEEL DECKING

ASC Pacific, Inc. - Type B (Interlock), 20 gage, galvanized, was used for the unfilled deck diaphragm and ASC Pacific, Inc. - Type B (Hi-Form), 20 gage, galvanized, was used for the diaphragm with concrete fill.

The connections at the support members were 1/2 inch (13 mm) diameter effective plug welds at each flute. For the marginal and parallel members, 1/2 inch (13 mm) diameter effective plug welds at 12 inches (305 mm) on center were used.

The side laps were button-punched at 18 inches (457 mm) on center.

3.2.8 CONCRETE FILL

The concrete fill was standard weight concrete with an ultimate compressive strength f'_c of 3,000 psi (20.68 MPa) at 28 days. The concrete was reinforced with 6"x6"/W1.4xW1.4 electric welded mesh as indicated in Appendix A (Figure A-4). The concrete was covered with an impervious membrane immediately after placing.

3.3 DIAPHRAGM CONSTRUCTION

3.3.1 DIAPHRAGM C

Diaphragm C was constructed of 1/2 inch (13 mm) thick plywood, unblocked, with built-up roofing applied. The plywood sheets were laid across the joists and staggered, as shown in Appendix A (Figure A-1). The plywood was nailed with 8d nails at 6 inches (152 mm) on center at the edges of the sheets and at 12 inches (305 mm) on center for the intermediate bearings. 8d nails at 6 inches (152 mm) on center were used to connect the edges of the plywood sheets to the 2" x 4" blocking along the 4" x 12" chord members to provide an unchorded condition.

While being moved into the laboratory, the diaphragm accidentally slipped off one of its dollies, splitting one of the 4" x 12" chord members (Figure 3-6). The split was repaired with glue and through bolts as shown in Figure 3-7. It will be later noted in Section 4 that this chord remained intact during the testing.

3.3.2 DIAPHRAGM D

Diaphragm D was a rework of Diaphragm C. After Diaphragm C was

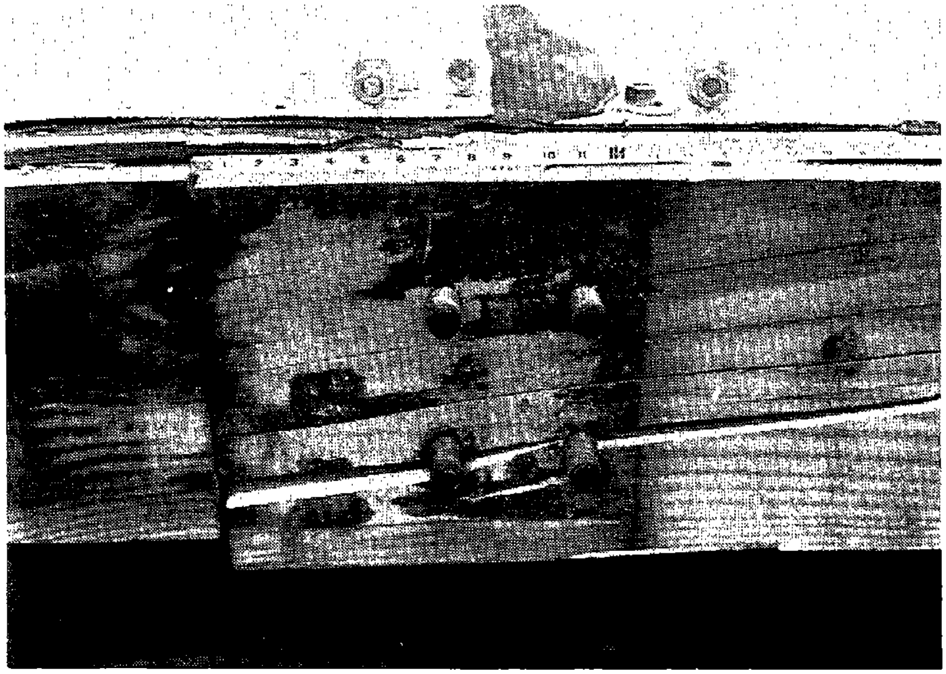


FIGURE 3-6. DIAPHRAGM C SHOWING FRACTURED CHORD.

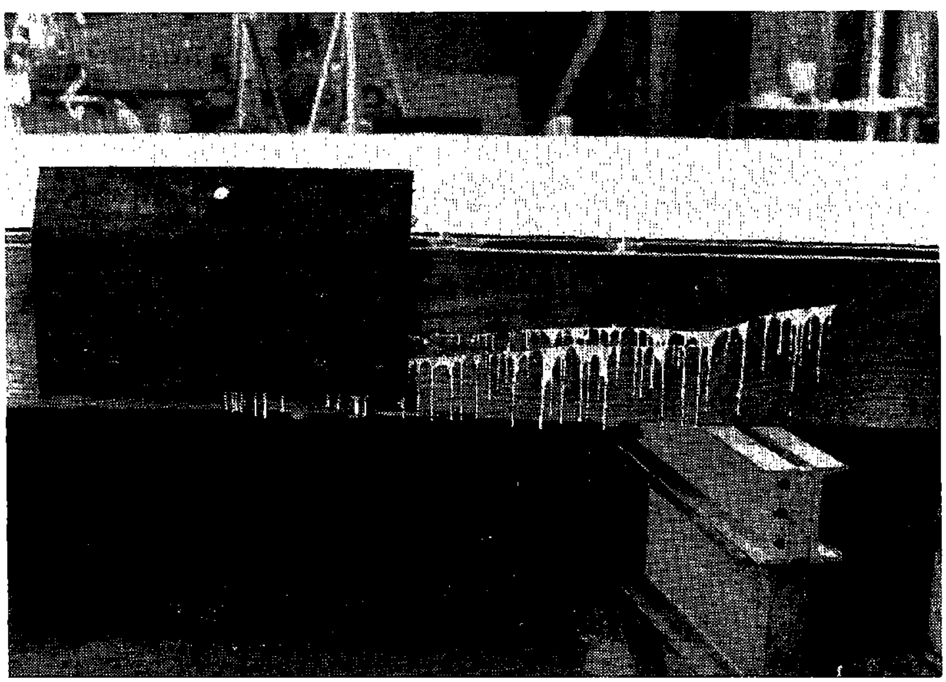


FIGURE 3-7. DIAPHRAGM C SHOWING REPAIRED CHORD.

tested, about 12 ft (3.7 m) of the roofing at each end was rolled back to observe the plywood sheathing. Any nail torn out of the edge of the plywood was replaced by another nail into adjacent solid plywood.

The roofing was laid back in place and renailed with roofing nails through the roofing 6 inches (152 mm) on center along the end 20 feet (6.1 m) of the two edges and across the 20 ft (6.1 m) ends, and field nailed at 18 inches (457 mm) on center each way for 20 ft (6.1 m) at each end.

In addition, the edges of the plywood were nailed to the 4" x 12" chords with 6d nails at 6 inches (152 mm) on center through the roofing as shown in Appendix A (Detail E of Figure A-2).

3.3.3 DIAPHRAGM B

Diaphragm B was a rework of Diaphragm D after it was tested. The roofing was removed and the plywood inspected. Five full sheets and five half sheets at the two ends of the diaphragm were too badly damaged to be renailed, so they were replaced and nailed as specified. In addition, the other plywood sheets within 20 feet (6.1 m) of the ends of the diaphragm were renailed. The chord nailing was also replaced with 8d nails at 6 inches (152.mm) on center.

3.3.4 DIAPHRAGM E

Diaphragm E was constructed of 1" x 6" straight lumber sheathing with built-up roofing. The sheathing was laid across the joists in the long dimension of the diaphragm as shown in Appendix A (Figure A-1). The edge board was nailed to the 2" x 4" blocking rather than the 4" x 12" chord to simulate an unchorded diaphragm (Appendix A, Detail E of Figure A-2). Prior to testing, the roofing was nailed with roofing nails at 6 inches (152 mm) on center to the edge and end 4" x 12".

3.3.5 DIAPHRAGM E_1

Diaphragm E_1 was a retest of Diaphragm E by renailing the roofing for 20 ft (6.1 m) at each end with roofing nails through 2-3/4 inch (70 mm) diameter by 30 gage metal washers (shiners). Renailing was at 6 inches

(152 mm) on center along the edges and ends and at 18 inches (457 mm) on center each way in the interior field. A similar situation is shown in Figure 3-8 for Diaphragm I_1.

3.3.6 DIAPHRAGM H

Diaphragm H was a rework of Diaphragm E_1 after it was tested. The roofing was removed and the sheathing inspected. No great distress was noted and the entire diaphragm was overlain with 5/16 inch (7.5 mm) thick plywood. The plywood was nailed through the sheathing with 8d nails at 6 inches (152 mm) on center at the ends of the sheets and at 12 inches (305 mm) on center at the intermediate bearings. No nailing was provided at the interior edges of the sheets. The exterior edges of the plywood were nailed to the 4" x 12" chord with 8d nails at 6 inches (152 mm) on center to provide a chorded condition as shown in Appendix A (Detail E of Figure A-2).

3.3.7 DIAPHRAGM I

Diaphragm I was constructed of 1" x 6" lumber sheathing laid at 45 degrees diagonally to the diaphragm and covered with built-up roofing. The boards were nailed to the 2" x 4" blocking rather than the 4" x 12" chords to simulate an unchorded diaphragm. Prior to testing, the roofing was nailed with roofing nails at 6 inches (152 mm) on center to the edge blocking and the end 4" x 12".

3.3.8 DIAPHRAGM I_1

Diaphragm I_1 was a retest of Diaphragm I by renailing the roofing for 20 ft (6.1 m) at each end with roofing nails through 2-3/4 inch (70 mm) diameter by 30 gage metal washers (shiners). Renailing was at 6 inches (152 mm) on center along the edges and ends, and at 18 inches (457 mm) on center each way in the interior field. The pattern is shown in Figure 3-8.

3.3.9 DIAPHRAGM K

Diaphragm K was a rework of Diaphragm I_1 after it was tested. The roofing was removed and the sheathing was inspected. The broken boards (Figures 3-10 and 3-11) were replaced and all broken and bent nails were re-

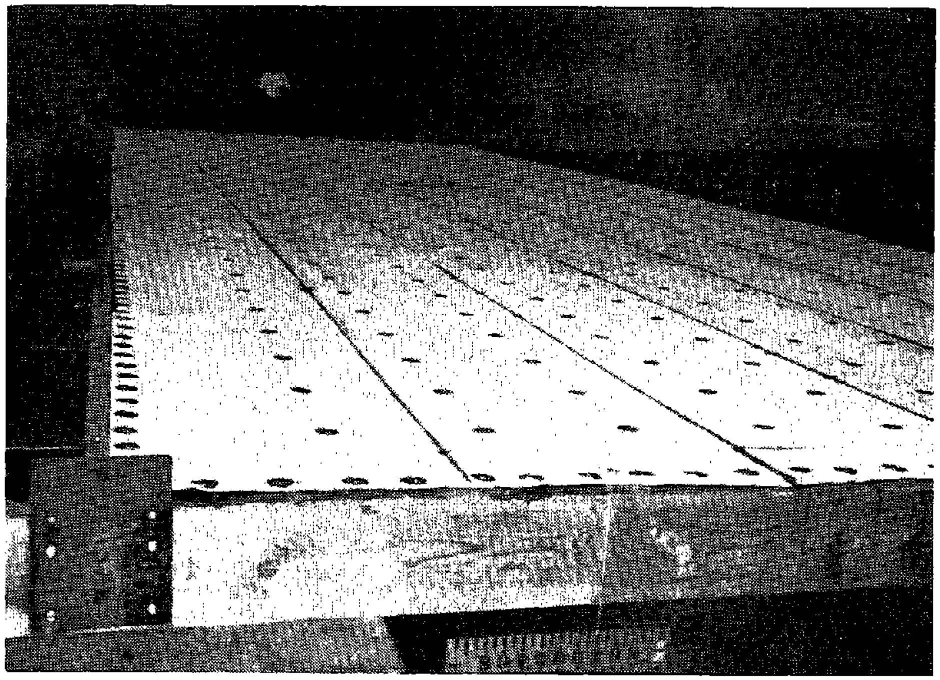


FIGURE 3-8. DIAPHRAGM I_1 SHOWING RENAILING OF ROOFING.

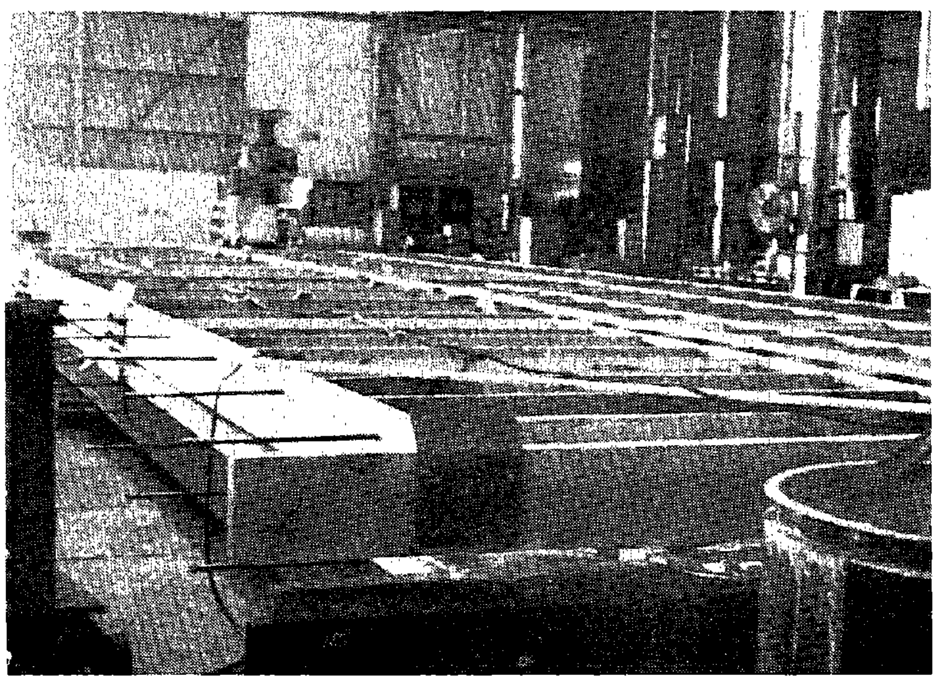


FIGURE 3-9. DIAPHRAGM N IN FRAMING STAGE.

FIGURE 3-10. SOUTHEAST CORNER OF DIAPHRAGM I AFTER TEST.

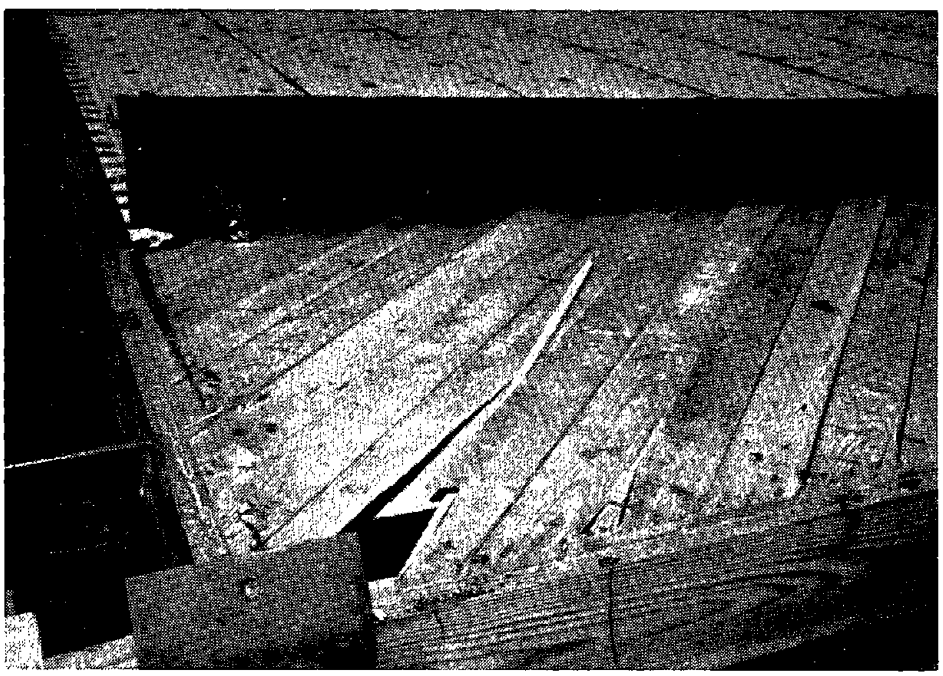


FIGURE 3-11. NORTHWEST CORNER OF DIAPHRAGM I AFTER TEST.

nailed. 1" x 6" straight lumber sheathing was laid across the joists in the long dimension of the diaphragm. The straight sheathing was nailed through the diagonal sheathing with the specified nailing.

3.3.10 DIAPHRAGM N

Diaphragm N was constructed of 1/2 inch (13 mm) thick plywood. Flat 2" x 4" blocking was provided between the joists along the edges of the plywood sheets (Figure 3-9). The plywood was nailed at all edges with 8d nails at 4 inches (102 mm) on center and at 12 inches (305 mm) on center to the intermediate bearings. The nailing to the 4" x 12" edge members provided a chorded diaphragm.

3.3.11 DIAPHRAGM P

Diaphragm P was constructed on the framework of Diaphragm N after it was tested. The 1/2 inch (13 mm) plywood was removed and two layers of 3/4 inch (19 mm) plywood were nailed to the frame. The lower sheets were laid across the joists as in the previous case of the 1/2 inch (13 mm) plywood diaphragm. These sheets were nailed at all edges with 8d nails at 4 inches (102 mm) on center and at 12 inches (305 mm) on center to the intermediate bearings. The upper sheets were laid at right angles to the lower sheets and nailed at all edges with 8d nails at 4 inches (102 mm) on center and at 12 inches (305 mm) on center in rows 2 feet (610 mm) apart. Some of these nails penetrated into the 2" x 3" blocking while others only extended through the lower plywood sheets. The layout of the sheets was slightly offset from that in Diaphragm N to allow end nailing into areas of the 2" x 12" joists that had no previous nailing.

3.3.12 DIAPHRAGM Q

Diaphragm Q was constructed of twenty-four 30 inch (762 mm) wide by 1-1/2 inch (38 mm) deep, 20 gage steel deck panels laid over the structural steel frame work. The deck was attached to the steel frame members with the specified plug welds and the seams were button punched as specified. The splice bars (Piece No. 6 in Detail C on Figure A-4 of Appendix A) were not attached to simulate an unchorded condition. The clip angles (Piece No. 5) provided the only continuity in the chord.

3.3.13 DIAPHRAGM R

Diaphragm R was a rework of Diaphragm Q after it was tested. Broken plug welds were replaced where contact space on the beam flanges permitted, or equivalent fillet welds were placed on the end of the deck panels at the edge (chord) members of the framework. The seams were button punched at 6 inches (152 mm) on center for the entire diaphragm. The splice bars were bolted in place to provide a chorded condition.

3.3.14 DIAPHRAGM S

Diaphragm S was constructed of twenty-four 30 inch (762 mm) wide by 1-1/2 inch (38 mm) deep, 20 gage steel deck panels laid over the structural framework. These panels had embossments along the webs of the flutes to provide composite action with the concrete fill. The deck was attached to the steel frame members with the specified plug welding and the seams were button punched as specified. The splice bars were bolted in place to provide a chorded condition. The specified electric welded wire mesh was laid on the deck and 2-1/2 inches (64 mm) of concrete was placed over the top of the flutes. The concrete was screeded and bull floated to grade and covered with a black polyethylene film to retain the moisture for curing as shown in Figure 3-12.

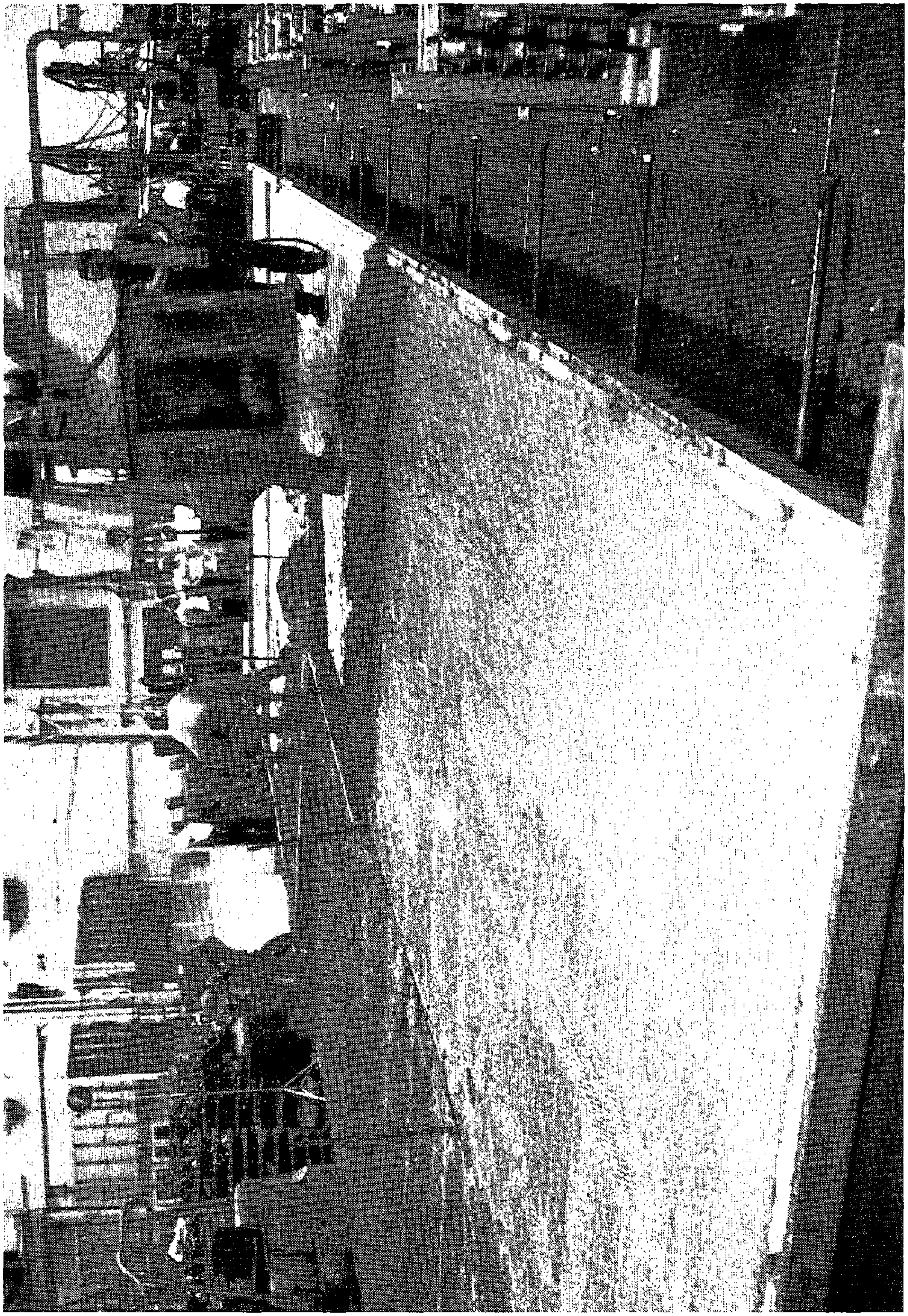


FIGURE 3-12. PLACING OF CONCRETE FILL ON STEEL DECK FOR DIAPHRAGM S.

SECTION 4

TEST OBSERVATIONS

4.1 GENERAL DESCRIPTION

This section will report the visual observations made during the testing of each diaphragm. Due to the rapid motions involved, comments on movement and deflections are based on instinctive reactions and are made to provide relative comparisons with the recorded data where it is considered appropriate.

Upwards of four observers were noting the movements and effects. No substantial differences were noted by the various observers, but each observer did not report all conditions. An observer reported what he considered important based on what he saw in the short period of time during each test.

The actual data values of loadings and deflections are compiled in Appendix B. Direction references and instrument locations are made to the orientation of the diaphragms as they were tested. This is shown on Figure 2-7 and in Appendix A (Figure A-1 and A-3).

4.2 DIAPHRAGM B

For QS 1, QS 2, GM 1, and GM 2 the diaphragm showed fairly elastic response with no visible distress. Sheet movement along joints and some nail movement was observed. During QS 3 the sheet sliding at the end post showed offsets of up to 1/2 inch (13 mm) which tends to agree with the sheet rotation produced by the end displacement of 1.2 inches (30 mm).

During GM 3 it was particularly noted that input motion on each end was synchronized, giving a very uniform and elastic response pattern to the diaphragm under dynamic loading.

Under the higher deflections of QS 4, some of the field nailing broke and popped out due to the buckling of the plywood sheets. Edge nailing, while extensively bent, remained in place.

The dynamic action of GM 5 and GM 6 produced considerable panel buckling and jumping, with broken nails in the field and on the edges popping out quite extensively. The input motion appeared well synchronized and the diaphragm response uniform, with the relative mid-span deflection ranging up to about 4 inches (102 mm). After the test, examination showed that the outer 12 feet (3.7 m) at each end had considerable damage while the remainder was relatively intact. The damage consisted of the usual broken and bent nails, plywood corner crushing, and some split joists (Figure 4-1). The repaired chord member, that was damaged in transit was found to be intact.

4.3 DIAPHRAGM C

Some unexplained malfunction of the control equipment caused a sudden surge of jack force, which produced a 2 inch (51 mm) single displacement of the ends of the diaphragm. The roofing was instantly torn loose for approximately 12 ft (3.7 m) from each end, and it remained reasonably rigid and straight and rode over the displaced plywood sheathing, during subsequent tests. The roofing field nailing was torn through the dry sheet of the roofing plies and remained tight in the plywood.

The equipment was re-set and the remainder of the test sequence was run in a normal manner. With the roofing still in place it was not possible to observe all of the action of the plywood and nails. The general response of the diaphragm appeared to be elastic during the quasi-static and dynamic test modes.

During QS 3, the sliding of the plywood sheets across the end became apparent and increased during subsequent tests. The nail bending was noted and during QS 4 nails broke off and popped out due to the buckling of the plywood.

When the test sequence was completed, the roofing was rolled back to observe the end 12 ft (3.7 m) of the plywood sheathing. Broken and bent nails were replaced by new nails into solid plywood. Some bearing stress was noted at plywood corners and one sheet corner had lifted up over the adjacent sheet.

The repaired chord member, damaged in transit, was examined and found to be intact.

FIGURE 4-1. DIAPHRAGM B AFTER TESTING.

4.4 DIAPHRAGM D

For QS 1, QS 2, GM 1, and GM 2 the roofing appeared to move integrally with the plywood diaphragm. For QS 3, movement at the loaded end between the roofing nails and roofing was observed. The movement was not in all nails and probably was related to a plywood joint displacement.

At GM 5 the roofing developed compression field buckling, and appreciable movement occurred between the roofing and sheathing at the end of the diaphragm.

During GM 6, the roofing field nails were withdrawn in a pattern at a 45 degree angle toward the center of the diaphragm, indicating development of a tension field. The roofing remained attached to the diaphragm edges and exhibited its displacement by reversing waves of buckling with the cycling of the loads. The visibility of the plywood sheathing was limited to the exposed edges under the roofing. However, the rotation of the sheets was observed to have the characteristic sliding and corner bearing that have been described by others in static tests of plywood diaphragms.

When the test sequence was completed, the roofing was removed. Inspection of the sheathing showed considerable nail distress and corner crushing in the end sheets of the diaphragm, which required their replacement. Other plywood sheets had buckled up, pulling some nails out of the joists. Other nails had been bent or broken off, including some field nails in a sheet opposite to an adjacent plywood joint. This would indicate that there was considerable bearing on the adjacent sheet from displacement along the joint. The repaired chord member, damaged in transit, was examined and found to be intact.

4.5 DIAPHRAGM E

The observations on this diaphragm pertain primarily to the action of the roofing. The only visible action of the straight sheathing was at the ends of the boards under the roofing.

During QS 1, GM 1, and GM 2 the roofing deformed elastically with little or no apparent roofing nail distress. However, noises indicated that the roofing nailing was tearing out. It was during QS 2 that a slight compression buckling was observed and some tearing of roofing at the through nails on the end member.

Major buckling up to 6 inches (152 mm) or more occurred during QS 3. By the completion of this load sequence, the through nailing of the ends was essentially detached by tearing or popping out due to buckling of the roofing. The through nailing at the edges was still intact, which caused the roofing to buckle as the diaphragm deflected.

The response still appeared elastic during GM 3 with the buckling of the roofing noted in the center half of the span and the roofing riding over the sheathing boards at the end 1/3 spans.

The buckling increased in height to approximately 8 inches (203 mm) during QS 4 and were generally located over the reaction points. The end nails of the sheathing board were still in place although the visible movement indicated they had undergone some bending or distortion in the wood.

Some buckles still showed in the roofing during GM 4, mostly in the center third of the span, indicating that some roofing attachment still occurred in this area.

4.6 DIAPHRAGM E_1

Since the major shearing in the diaphragm occurs in the outer thirds of the span, even in the dynamic loading modes, it was decided to renail the roofing in these outer thirds and retest with GM 3, 4, 6, and 5. This was done as described in Section 3.3.5 and the configuration was designated as E_1.

Under GM 3 the roofing acted mainly as a rigid body. All of the nails at the ends loosened and there was some slight buckling. The nails along the edges did not appear to have distorted.

Under GM 4 there was some deformation in the center third of the diaphragm where no renailing had been provided. The roofing nails at the load beam and the adjacent field area continued to be lifted up or the roofing around them torn (Figure 4-2). Some slipping occurred along the diaphragm edges.

GM 6 and GM 5 showed similar effects on the diaphragm. Roofing nails were being lifted up in the proximity of the hard point (locations where the reaction pillars would be located) under the waves of roofing buckling. The ends of the sheathing boards showed the effects of their rotation by moving relative to an adjacent board approximately 3/4 inch (19.mm). After the test, the end of the boards showed only a minimum distress (Figure 4-3).

4.7 DIAPHRAGM H

It was not until QS 3 that any large movement in adjacent plywood sheets was observed. The movement appeared to be on the order of approximately 1/2 inch (13 mm), which conforms to the sheet rotation produced by the end displacement of 1.2 inches (30 mm). The response appeared elastic and no buckling was observed.

GM 3, QS 4 and GM 4 still produced no buckling although the movement in adjacent sheets increased and some nail head movement was detected. Some minor crushing of plywood at corners was also noted. Motion still appeared elastic.

Under GM 6, GM 5, and a repeat of GM 5 sheet buckling popped up nails in the end 16 ft (4.9 m) of the diaphragm. Nails pulled through the sheets at the ends of the diaphragm (Figure 4-4).

After the tests were completed, a few sheets of plywood were removed to examine the straight sheathing. There appeared to be no further nail movement in this sheathing, probably because it had undergone no greater deformations than under the load sequences of Diaphragm E and E_1 (Figure 4-5).

4.8 DIAPHRAGM I

The roofing under the action of QS 1 showed large buckling waves and the roofing nail heads were displacing laterally up to 3 inches (76 mm).

FIGURE 4-2. DIAPHRAGM E_1 SHOWING SHINERS AND ROOFING NAILS.

FIGURE 4-3. DIAPHRAGM E_1 AFTER ROOFING REMOVAL.

FIGURE 4-4. DIAPHRAGM H SHOWING BUCKLING OF PLYWOOD OVERLAY.

FIGURE 4-5. DIAPHRAGM H AFTER REMOVAL OF PLYWOOD OVERLAY.

The ends of the sheathing boards, visible at the ends under the roofing, were moving relative to each other.

GM 2 produced only a few roofing waves.

During GM 1 larger waves were observed and roofing nail heads began to pull through the roofing (Figure 4-6). The sounds indicated that some sheathing nails were detaching.

The roofing continued to buckle in large waves during QS 2 (Figure 4-7). Considerable in and out movement of the end members was observed due to the pulling in and pushing out of the diagonal boards. The roofing nails along the outer 20 ft (6.1 m) were all loose. The roofing is probably no longer effective.

The in and out movement of the end members is estimated to have reached 2 inches (51 mm) during QS 3. There was considerable noise in the diagonal boards where they were in compression. One or more boards had probably broken. The roofing is completely loose in the outer 1/3 of the span and is essentially stationary over the moving sheathing.

During GM 3 the end members continued to move in and out. The motion of the ends of the board was very noticeable with considerable nail failure.

QS 4 was dropped from the testing schedule since it would have placed too large a deflection on the diaphragm, which would soften it too much before the following ground motion loadings.

During GM 4, 6, and 5 the response was quite violent. The boards buckled on the end beams and broken nails were popped out. The end beam appeared to move in and out about 4 inches (102 mm). Lifting the corners of the roofing confirmed that boards had broken at the northwest and southeast corners (Figures 3-10 and 3-11).

4.9 DIAPHRAGM I_1

GM 3 caused nails and shiners to lift on a 45 degree buckle line parallel to the diagonal boards. The nails on the end beams slipped in the

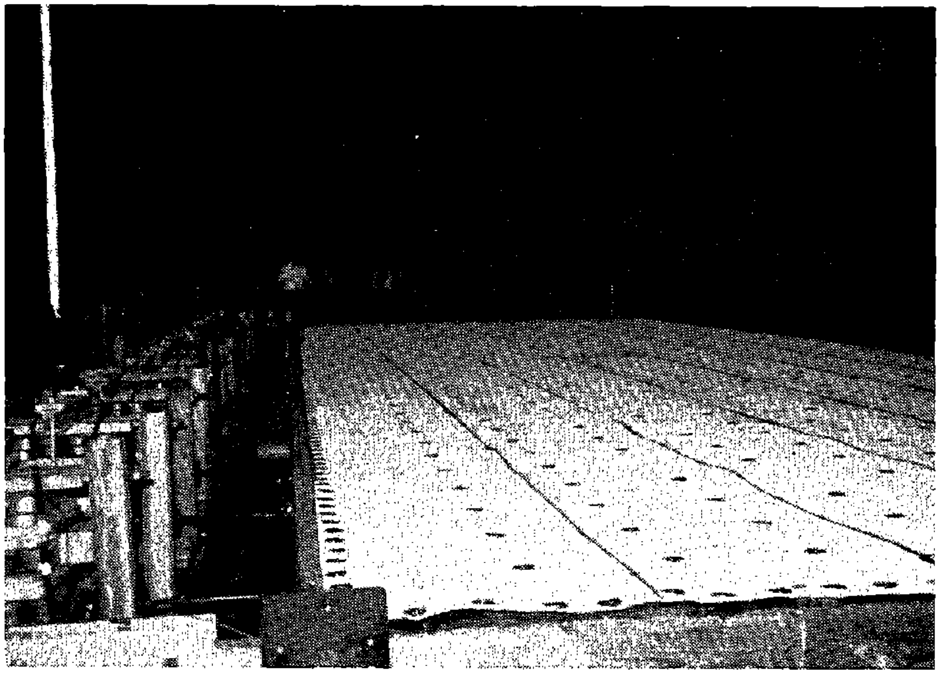


FIGURE 4-6. DIAPHRAGM I SHOWING SMALL BUCKLING WAVES IN ROOFING.

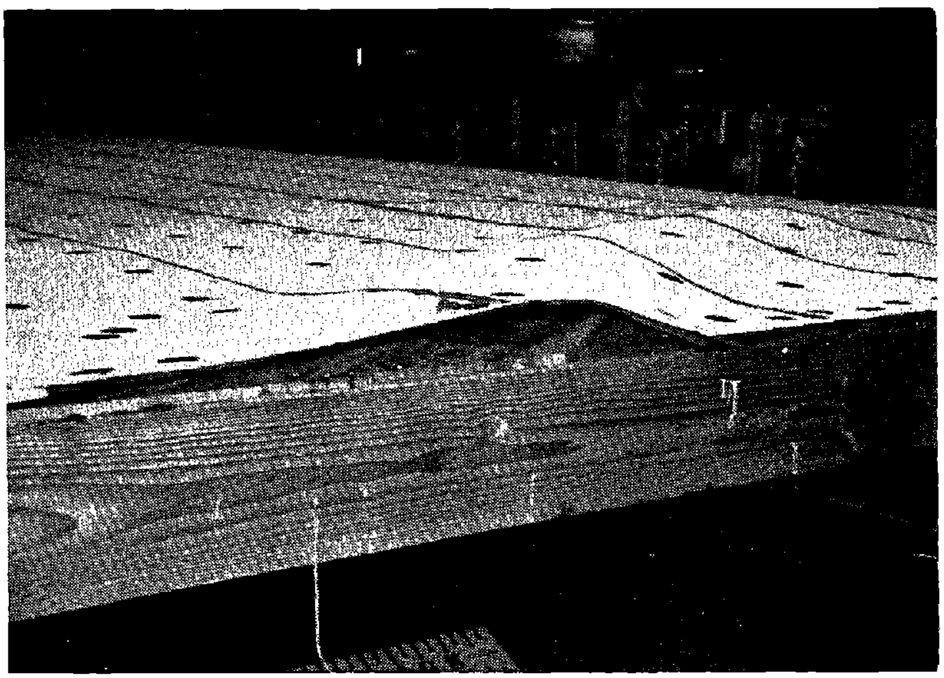


FIGURE 4-7. DIAPHRAGM I SHOWING LARGE BUCKLING WAVES IN ROOFING.

roofing but did not pop out.

During GM 4 the end beams moved in and out about 2-1/2 inches (64.mm). The nails and shiners within 19 ft. (3.0 m) of the ends were popped out by the buckling of the roofing. The ends of the diagonal boards were observed to have large relative motion.

The response under GM 6 and GM 5 appeared to be even more violent than that observed for Diaphragm I. The buckling and nail popping extended further inward, although the nails along the end and edge beams essentially remained in place and tore through the roofing instead.

After the tests, the roofing was removed and the damage to boards did not appear any greater than after the tests of Diaphragm I. The sheathing nails were completely sheared and removed for about 4 ft (1.0 m) each way along the edge and end members at the corners where the diagonal boards were broken.

4.10 DIAPHRAGM K

For QS 1, GM 2, and GM 1 the diaphragm responded elastically. There were some vertical oscillations at the joists and edge beam. This could have been caused by the vertical lifting of the end members off their supports due to the higher shear center of the more rigid diaphragm. While some creaking was noted, very little movement between boards was observed.

During QS 2, QS 3, and GM 3, relative movement was observed between the diagonal and straight boards and between the boards and the end beams. This also occurred for approximately 8 ft (2.4 m) from the jack load point along the edge beams. The diaphragm continued to lift off the support pads about 1/4 inch (6.4 mm). The diaphragm responded almost as a totally rigid body.

The slip between boards approached 1/2 inch (13 mm) during QS 4. Viewed from the end, the boards appeared to curl and rotate in relation to each other and the end beam. Edge beams lifted about 3/8 inch (9.5 mm) at the support pads.

For the final dynamic runs, GM 4, GM 6, GM 5, and GM 5 re-run, the diaphragm still appeared generally rigid with very slight shear deflection. The end load beam appeared to flutter as it lifted off and returned to the support pads. The relative movements of the boards and beams continued for about 6 ft (1.8 m) along the beams from the jack load points. During the last run the diagonal boards were observed to move in about 5/8 inch (16 mm) relative to the straight boards. No outward movement was noted.

This diaphragm came through in excellent shape with very minor damage. Two straight boards and about 6 nails lifted up near one load point.

4.11 DIAPHRAGM N

Very apparent elastic action was observed during QS 1, GM 2, GM 1, QS 2, GS 3, and GM 3. Creaking noises indicated the nails were working in the plywood. The movement between sheets reached approximately 1/8 inch (3.2 mm) at the end beams during QS 3. Movement of the nail heads was discernible.

Nails continued to rotate during QS 4, and 1/4 inch (6.4 mm) movement between sheets was observed. Movement of sheets along the end beam approached 1/4 inch (6.4 mm). There were no signs of sheet buckling up to this point, but there was slight lifting of the end beams on their support pads.

The first broken nail was noted during GM 4. There was near elastic behavior and almost uniform displacement between plywood sheets on the blocked edges.

During GM 6 and GM 5 additional nails on and near the end beams broke and popped out (Figure 4-8). The slip between sheets approached 3/8 inch (9.5 mm). All plywood joints appeared to be moving. End beams lifted off their support pads. Corners of some sheets were crushed (Figure 4-9).

A re-run of GM 5, 6, 4, and 3 was made to measure their reponse after having already undergone these motions. There was some buckling at sheets near the end beams where all nails were loose or popped out. There was greater movement during this series of loadings than in the earlier runs.

FIGURE 4-8. DIAPHRAGM N SHOWING BENT AND BROKEN NAILS.

FIGURE 4-9. DIAPHRAGM N SHOWING CRUSHED EDGES OF PLYWOOD SHEETS.

Upon removing the plywood sheets, one split 2" x 12" was found and replaced. Some blocking and bridging was broken and required replacement.

4.12 DIAPHRAGM P

During QS 1, 2, 4, GM 3, and 4, the response was elastic with sheet slippage of 1/8 inch (3.2 mm) noted at the larger deflections. No nail distress was observed. The end beams lifted slightly off their support pads during the dynamic motions, giving an appearance of their oscillating and bowing upward at mid-span.

The lifting of the end beams during QS 6 reached a high of 1 inch (25 mm) on one end, which caused a break in the beam at the jack connection. Since this was the largest loading that probably would be imposed on the jack point, it was decided not to make any major repairs that would upset the schedule of testing. The bolts were retightened and the testing continued.

During GM 6, 5, and 6 rerun, the vertical lifting and oscillating continued at lesser magnitudes. The response was elastic throughout with no plywood buckling and no broken nails. There was no extensive lifting of the end beam at the broken connection, which maintained its integrity during the final runs.

4.13 DIAPHRAGM Q

The diaphragm responded elastically during the QS 1 test. In the SS 1 test sequence the diaphragm was subjected to a constant acceleration input at its ends of 0.1 g starting at 10 Hz and continuing to 2.2 Hz and then to a constant displacement input at its ends of 0.2 inch (5 mm) starting at 2.2 Hz and continuing to 0.5 Hz. The objective of the SS 1 test was to determine the first mode frequency of vibration of the diaphragm. The diaphragm responded elastically during the constant acceleration branch of SS 1. However, during the early part of the constant displacement branch the diaphragm resonated; and during this relatively violent undamped response the first 20 ft (6.1 mm) from the west end (Figure 2-7) experienced plug weld and button punched seam failure. The plug weld failures occurred between instrument locations 5 and 7 and 10 and 11 (Figure 2-7). The button punched seam failure occurred along the first and second seams from the west end, where the first seam had complete separation and the second seam had only partial separation. However, the east end responded elastically during the entire SS 1 test.

The diaphragm responded elastically during the GM 2 and GM 1 tests, as the separated seam had been snapped back into place and did not separate during these tests. The data acquisition computer failed during these two tests and would not write data to tape. The computer was repaired and the GM 2 and GM 1 tests were repeated and the diaphragm responded elastically.

The diaphragm responded elastically during the QS 2 test. During the GM 4, QS 3, GM 3, QS 4, GM 5, and GM 6 tests, the east end responded elastically, while the first button punched seam from the west end separated and most of the load was taken by the edge beams. Also, the reaction pillar at location 9 became loose for most of the QS 4 test.

4.14 DIAPHRAGM R

During the QS 1, GM 2, and GM 1 tests the diaphragm responded elastically. Two plug welds that attached the metal deck to the metal beam failed in the fourth panel from the west end during the QS 2 test. Elastic response was observed during the GM 4 test. Additional plug weld failures occurred in the QS 3 and GM 3 tests. In the QS 3 test the failures occurred at the interface between the third and fourth panels from location 11 (Figure 2-7) . In the GM 3 test the failures were in the second to fourth panels from location 11 and in the third and fourth panels from location 7.

During the QS 4 test most of the plug welds failed in the first to the third panels from location 11 and in the first to the fourth panels from location 7. In addition, the button punched seams separated between the first and second panels and the second and third panels from the west end.

The button punched seams separated at the first four interfaces from the west end during the GM 5 and GM 6 tests. In addition, the plug welds failed in the first four panels from locations 7 and 11.

4.15 DIAPHRAGM S

The concrete fill in this diaphragm was cracked in several places before the start of testing. Two of these cracks were along the one-third point lines connecting locations 3 and 9 (Figure 2-7) and locations 5 and 10, and extended over the full 20 ft (6.1 m) width of diaphragm. These cracks were original shrinkage cracks that had been aggravated some during the moving of the diaphragm into test position. There were thirteen smaller cracks that started at the edges and one end and extended into the interior of the diaphragm, varying in length from approximately 4 to 8 ft (1.2 to 2.4 m). Some were shrinkage cracks and some appeared during moving.

During the QS 1 test, audible popping sounds occurred and the crack along the one-third point line connecting locations 3 and 9 widened and separated extending about 2 ft (0.61 m) from location 9. In addition, some slight movement occurred in the support system for the reaction pillars. Very near elastic response was observed in the GM 2 and GM 1 tests. However, the centerline guide system fractured in the GM 1 test.

In the QS 2 test, two additional cracks opened up partially offset with and parallel along the one-third point to the crack connecting locations 3 and 9. The other crack started at the center and extended about 2 ft (0.61 m) toward location 3. Again some movement or sliding occurred in the support system for the reaction pillars, so the fasteners attaching the support system to the floor were tightened. Early in the QS 3 test the widened cracks in the QS 1 and QS 2 tests were extended along the full 20 ft (6.1 m) width of the diaphragm. The cracks opened and closed approximately 1/32 inch (0.8 mm) during the remainder of the test. Very minor debonding of the concrete and the metal deck occurred at the corners (locations 1 and 8). Again some movement occurred in the reaction pillar support system.

The cracks along the one-third point lines opened and closed during the GM 3 test, and no additional cracking was observed. During the QS 4 test the cracks along the one-third point lines opened and closed less than $\pm$1/16 inch (1.6 mm) and the fasteners for the reaction pillar support system at location 10 failed and the test was terminated early.

During the GM 4, GM 6, and the two GM 5 tests the cracks along the one-third point lines opened and closed, and no additional cracking was observed. The diaphragm exhibited generally rigid body motion with the midspan deflection estimated at 1/4 inch to 3/8 inch (6 mm to 10 mm). There appeared to be no vertical flexing of the load beams.

SECTION 5

TEST DATA

5.1 INTRODUCTION

The test results from the experimental program conducted on diaphragms includes measured data from the intrumentation, still photographs, motion pictures, and visual observations. The still photographs and motion pictures provide a permanent visual record of the tests and specimens and have been archived for further viewing. Some photographs have been included in this report to clarify important features of the specimens and test results (Sections 3 and 4). The visual observations have already been presented in Section 4.

This section will report on the measured data compiled from the vast array of instruments recording the displacements, accelerations and forces at various points on the diaphragms. In addition, the measurements provided a data base for the generation of other forms of response data, such as relative deformations within the diaphragm spans, and the relationship between the forces acting on the diaphragm and the acceleration of the masses.

5.2 MEASURED DATA

As noted in Section 2, the amount of data collected was considerable and the plotting of every data channel too bulky to include in this report. Accordingly, a selected sampling of the available data has been made and are included in Appendixes B, C, D, and E. The remainder has been archived and is available for use in the interpretation of the diaphragm tests (ABK, 1982).

Appendix B gives a tabulation of the maximum and minimum values, including their times of occurrence, of all intruments for 136 of the 139 diaphragm test sequences conducted in the exprimental program as defined in Table 2-2 (the data for three test sequences were lost).

Appendix C gives force-deformation plots for all of the quasi-static diaphragm tests conducted in the experimented program (Tables 2-2 and

2-3). For each quasi-static test, two plots are given, one for each end (Figure 2-7) of the diaphragm (i.e., end 1 and end 7), where the end force is plotted as a function of the relative deflection between the end and the corresponding one-third point. This appendix contains 96 plots.

Appendix D gives dynamic force-deformation plots for selected time windows of two dynamic tests for all diaphragms. These plots are the dynamic counterparts of the plots given in Appendix C. The two dynamic tests presented are GM 3 and GM 5 (Tables 2-2 and 2-4). For each dynamic test, two plots are given, one for each end (Figure 2-7) of the diaphragm (i.e., end 1 and end 7), where the end force is plotted as a function of the dynamic, relative deflection between the end and the corresponding one-third point. This appendix contains 68 plots.

Appendix E gives dynamic force-deformation plots for selected time windows of all dynamic tests conducted for Diaphragm N. In addition, it gives response time history plots of the absolute displacements, relative deformations, end forces, and accelerations of two dynamic tests, GM 3 and GM 5, for Diaphragm N. This appendix is intended to provide more complete response information for one of the diaphragms. Diaphragm N was selected because it is thought to be a fairly common type of diaphragm and would be of more general interest. This appendix contains 44 pages of plots, where some of the pages contain two response plots.

A more detailed description of the content of each appendix precedes the tabular or plotted data presented in the Appendix. This data will be used for the interpretation of the test results (ABK, 1982).

In using the data in the appendixes three issues should be kept in mind. First, the tabulations given in Appendix B contain data dropouts, as noted in the appendix, and consideration of the possibility of dropouts must be given when using the tabulations. Second, the initiation of each test was manually controlled, hence the start time of each test is different. Moreover, the time scales for the input (Figures 2-8, 2-9, and 2-10) show the test starting at time zero, while the responses (Appendix E, Figures E-21 through E-28) show a finite and variable start time. Third, when the primary instruments malfunctioned, the backup instruments were used and this occurred in Appendixes C and D. In reviewing these situations, deficiencies were found even in the backup gages, in that at times the backup instruments consistently registered low values.

SECTION 6

CONCLUSIONS OF THE TEST PROGRAM

6.1 PERFORMANCE OF TEST EQUIPMENT

The performance of the test equipment was primarily dependent on the ability of the hydraulic actuator control system to duplicate the specified displacements for the quasi-static tests and displacement time histories for the dynamic tests, and on the ability of the data acquisition system to record reliable data. Some experimentation and adjustments were required during the testing, but the hydraulic actuation system provided the programmed input displacements well within the accepted tolerance of $\pm 10\%$. For Diaphragm S, it appears that the actual input displacements were not reached for some of the intermediate points, but were reached for the maximum and minimum values of each ground motion.

On a few occassions the data acquisition system malfunctioned during a test, requiring the test to be rerun.

The displacement, acceleration, and force gages generally performed well, although there are a number of data dropouts. However, these data dropouts can be detected on plots or with printed data, and the correct values can then be assigned.

6.2 RANGE OF TEST PARAMETERS

In terms of the number of specimens, the diaphragm test program was somewhat less than originally conceived during the planning stages of the project. The cost of providing virgin specimens for each set of parameters was excessive, so a scaled-down program was adopted. The need for large-scale specimens was considered paramount so that more direct comparisons could be made with existing data on static tests of similar diaphragm systems using the same dimensions.

Dynamic testing of diaphragms over a wide range of systems and stiffnesses was important to gain a better insight on their behavior and response. While all diaphragm systems tested are not prevalent in older URM buildings in high seismic areas, the range of systems does cover the diaphragms used in current construction practices of URM buildings in lesser seismic areas.

The range of seismicity, as projected by the assigned Effective Peak Accelerations (EPAs), corresponded with that generally assigned to the various regions of the United States. The ground motions, input as displacement time-histories, provided the general range of accelerations and velocities represented by these EPAs. Without the availability of a larger number of specimens it was necessary to subject each diaphragm to the full series of quasi-static and dynamic tests. The effects of degradation became apparent after a few tests and the sequence of quasi-static and dynamic testing was changed to provide a systematic and monotonic increase in diaphragm deformation for each subsequent loading.

It was necessary to evaluate the effects of roofing on otherwise flexible diaphragm systems. This is a common roof diaphragm condition in URM buildings and the roofing would add stiffness while it remained attached.

A comparison of some chorded and unchorded conditions was attempted. While it was not possible to simulate the effects of a large section of URM wall as a chord, an attempt was made to compare the differences when the sheathing was nailed or not nailed to a continuous edge member.

Diaphragms H and K are considered to be the two major retrofitted systems, as overlays have been used in previous building strengthening projects. The testing of H and K also afforded a comparison with double board systems that are prevalent in URM building construction.

6.3 ACHIEVEMENT OF TEST OBJECTIVES

The test objectives defined in Section 1 were largely attained. The data amassed can be used to predict the response of a large number of diaphragm systems. Projecting the data to the mathematical models will broaden the prediction of these systems with other aspect ratios.

The results will confirm the validity of the input time histories that were applied to the out-of-plane wall tests reported by ABK (1981c). This is important since wall survival can only be predicted from the motions of the driving elements (i.e. the connected diaphragms and or the ground motion).

Perhaps one of the largest achievements of the tests will be in verifying anchorage forces that are developed between the diaphragms and the connected walls. This is important since many of the reports of earthquake damage refer to the lack of sufficient anchorage strength as contributing to the failures.

6.4 GENERAL APPLICATION

The information obtained in these dynamic tests is believed to be applicable to all seismic zones within the United States. Since the geographic United States spans the total range of seismic intensity, the information gained can be utilized outside its boundaries.

While these tests were performed under a program of seismic hazard mitigation for existing URM buildings, they were carried out over a broader range of systems than is normally found in URM buildings. Some of the data, then, is applicable to new construction that uses these systems.

6.5 PRELIMINARY CONCLUSIONS AND OBSERVATIONS

In designing the reporting for this experimental work, the researchers decided that the results should be presented in two separate volumes. The first report (this report) presents what we wanted to accomplish, why the work needed to be conducted, what was done, and finally what was obtained from the tests. The second report (ABK, 1982) will provide an interpretation of the experimental work and develop final conclusions from the experiments and interpretations. In this way the actual raw experimental data is preserved in its original form and can be used by others without having to contend with any postprocessing or data processing that may be required in the interpretation phase. However, some preliminary conclusions have been made from the observations and raw test data and are given in the following paragraph.

The tests demonstrated that typical diaphragms have highly nonlinear, hysteretic stiffness characteristics and produced valuable data for establishing properties for typical diaphragms. In addition, the tests showed that the proposed analytical model is a good representation of the quasi-static test results. The tests also produced valuable data for assessing the dynamic response of diaphragms subjected to earthquake loadings and for evaluating the effects of various retrofit procedures. It is clear from the dynamic test results that the dynamic response of diaphragms is domin- ated by their nonlinear, hysteretic characteristics for EPAs greater than 0.1 g, and elastic analyses are not valid for these earthquake intensity levels. For the most part, the diaphragm specimens were relatively undamaged for all levels of earthquake ground motion tested, and when damage occurred, the dia- phragms were still serviceable and the damage was repairable. The built-up roofing adds stiffness as long as it remains attached and detachment occurred at EPAs of approximately 0.2 g.

6.6 RESEARCH RECOMMENDATIONS

The dynamic tests of diaphragm systems were one of several tasks in the development of a methodology to mitigate seismic hazards in existing URM buildings. The objective of the diaphragm tests was to define the performance of this element in the URM building so that the performance of the building walls, and hence the total building, can be predicted.

Further dynamic diaphragm testing may be limited due to the high costs involved. However, additional static testing is warranted and should be carried out. It is recommended that future static testing be performed with reverse cyclic loading so that the complete hysteretic behavior may be recorded.

Tests should be conducted to confirm the effects of varying aspect ratios. Diaphragms deeper than 20 ft (6.1 m), in some standard system, such as blocked plywood, could help clarify the relative effects of shear and flexural deformations.

The combined effect of ceilings on floor or roof diaphragm response needs investigation. This would be of greater significance with the more flexible diaphragm systems.

SECTION 7

REFERENCES

ABK, A Joint Venture (ABK). (1981a) Methodology for Mitigation of Seismic Hazards in Existing Unreinforced Masonry Buildings: Categorization of Buildings, ABK-TR-01. El Segundo, CA: Agbabian Associates, Dec.

----. (1981b) Methodology for Mitigation of Seismic Hazards in Existing Unreinforced Masonry Buildings: Seismic Input, ABK-TR-02. El Segundo, CA: Agbabian Associates, Dec.

----. (1981c) Methodology for Mitigation of Seismic Hazards in Existing Unreinforced Masonry Buildings: Wall Testing, Out-of-Plane, ABK-TR-04. El Segundo, CA: Agbabian Associates, Dec.

----. (1982) Methodology for Mitigation of Seismic Hazards in Existing Unreinforced Masonry Buildings: Interpretation of Diaphragm Tests, ABK-TR-05. El Segundo, CA: Agbabian Associates, Mar.

Adham, S. A. and Ewing, R. D. (1978) Methodology for Mitigation of Seismic Hazards in Existing Unreinforced Masonry Buildings, Phase I, R-7815-4610. El Segundo, CA: Agbabian Associates, Mar.

Agbabian Associates (AA). (1981) A User's Guide for STARS/III: A Computer Program for the Nonlinear, Dynamic Analysis of Lumped Parameter Systems, U-4700-5261. El Segundo, CA: Agbabian Associates, Oct.

APPENDIX A

DIAPHRAGM CONSTRUCTION DETAILS

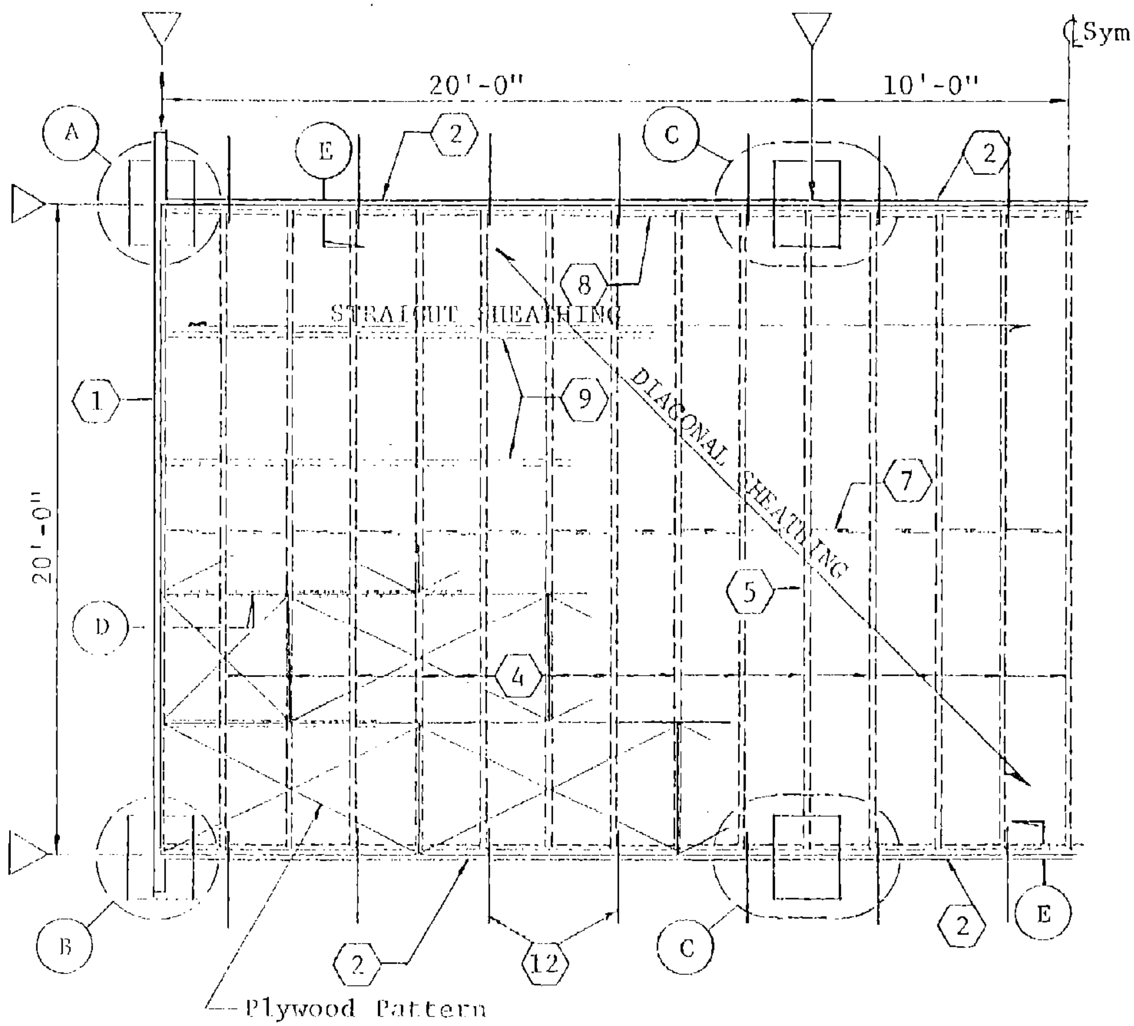
This appendix contains drawings that show the construction details for the wood sheathed (Figures A-1 and A-2) and steel deck diaphragms (Figures A-3 and A-4). They are taken from contract drawings that were used to construct the test specimens.

The orientation of all sheathing was as shown in Figures A-1 and A-3, except for the top layer of 3/4" plywood in Diaphragm P which was laid at right angles over the plywood pattern shown.

BILL OF MATERIALS

Piece No.	Description
1	4"x12" End members
2	4"x12" Edge (Chord) members
3	L - 6"x4"x3/8" with 3/4"Ø bolts
4	2"x12" Joists
5	3"x12" Joists
6	Joist hangers
7	Steel angle bridging
8	2"x4" Blocking at chords
9	2"x4" Blocking at plywood edges
10	8"x3/8"x2'-1" chord splice plates with 1"Ø bolts
11	Lifting bars - 12"x1.2" x 1'-3" plate
12	Weight connector assembly 3/4"Ø rod and 4"x1/4" x 11" plate. 2 5/8"Ø bolts
13*	Actuator connectors
14*	Quasi-static reactions
15*	Roller pads

*Furnished by Testing Contractor



WOOD DIAPHRAGM FRAMING

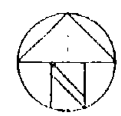


FIGURE A-1. FRAMING FOR WOOD SHEATHED DIAPHRAGMS.

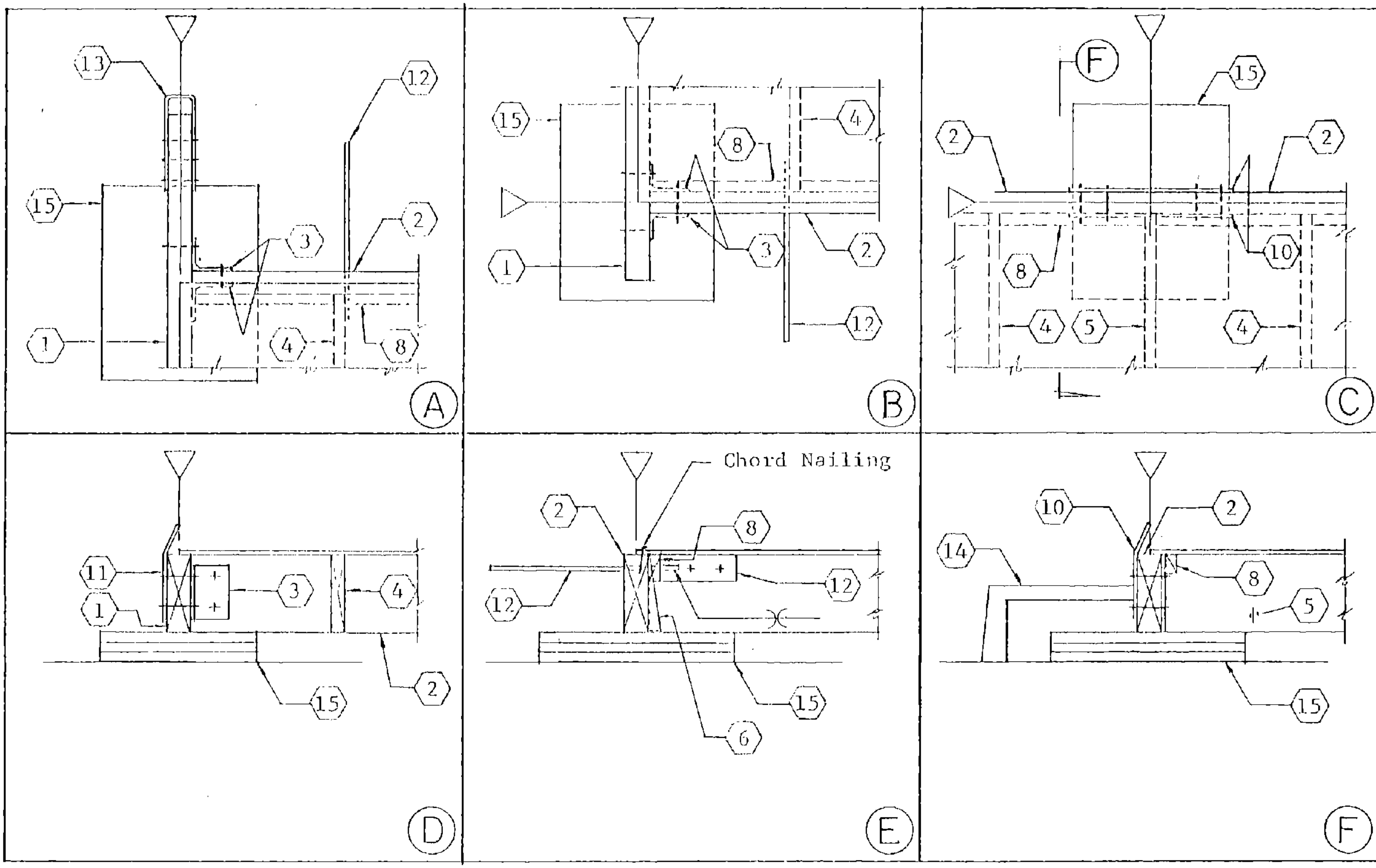
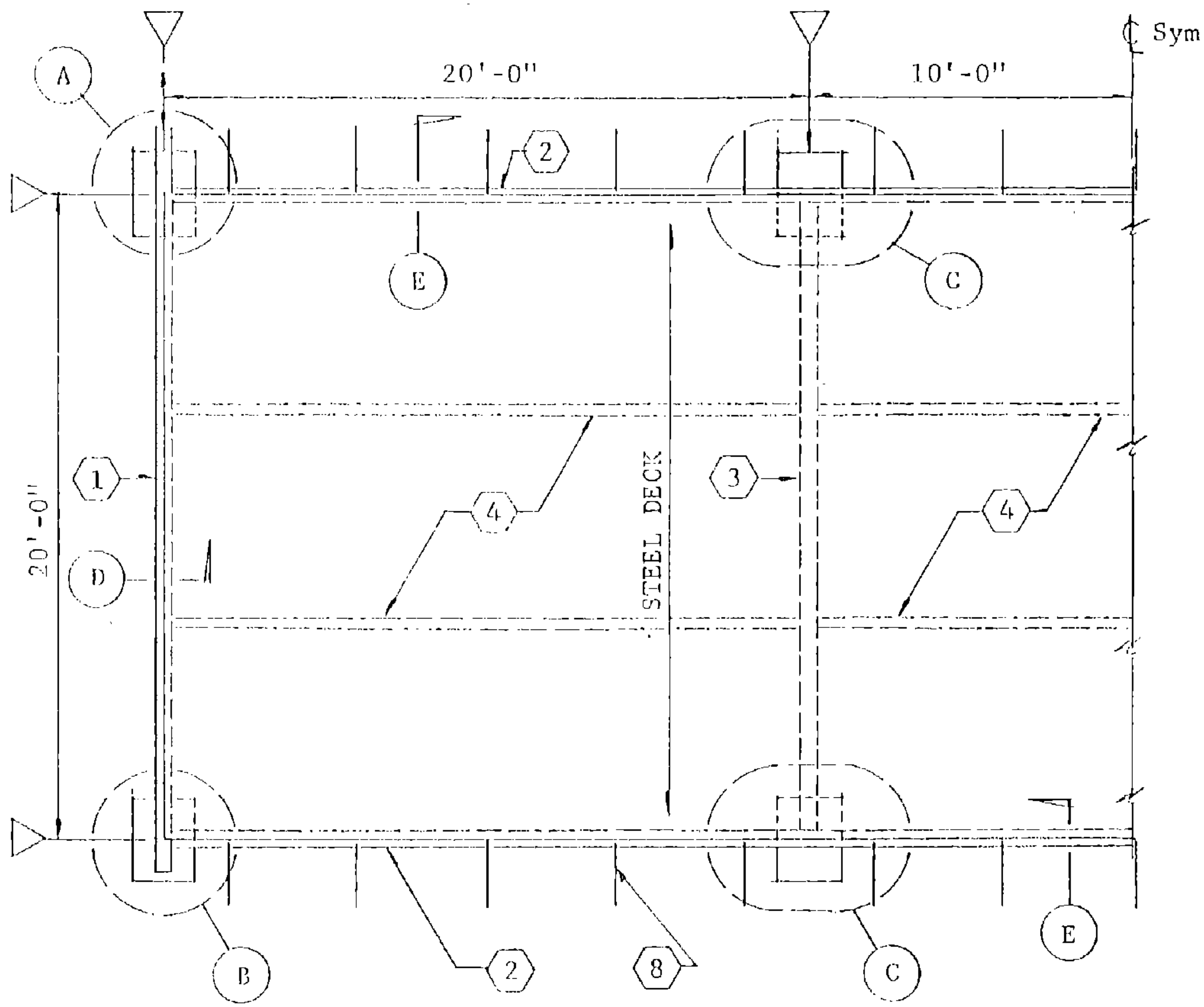


FIGURE A-2. WOOD SHEATHED DIAPHRAGM DETAILS.

BILL OF MATERIALS

Piece No.	Description
1	W 12x27 End posts
2	W 12x27 Edge (Chord) members
3	W 12x27 Beams
4	W 12x19 Joists
5	L - 3"x3-1/2"x3/8" with 5/8"Ø bolts
6	9"x3/8"x8" splice bar
7	5"x1/2"x5" Lifting bar
8	Weight connector assembly - 3/4"Ø x 24" rods
9*	Actuator connectors
10*	Quasi-static reactions
11*	Roller pads

*Furnished by Testing Contractor



STEEL DIAPHRAGM FRAMING

FIGURE A-3. FRAMING FOR STEEL DECK DIAPHRAGMS.

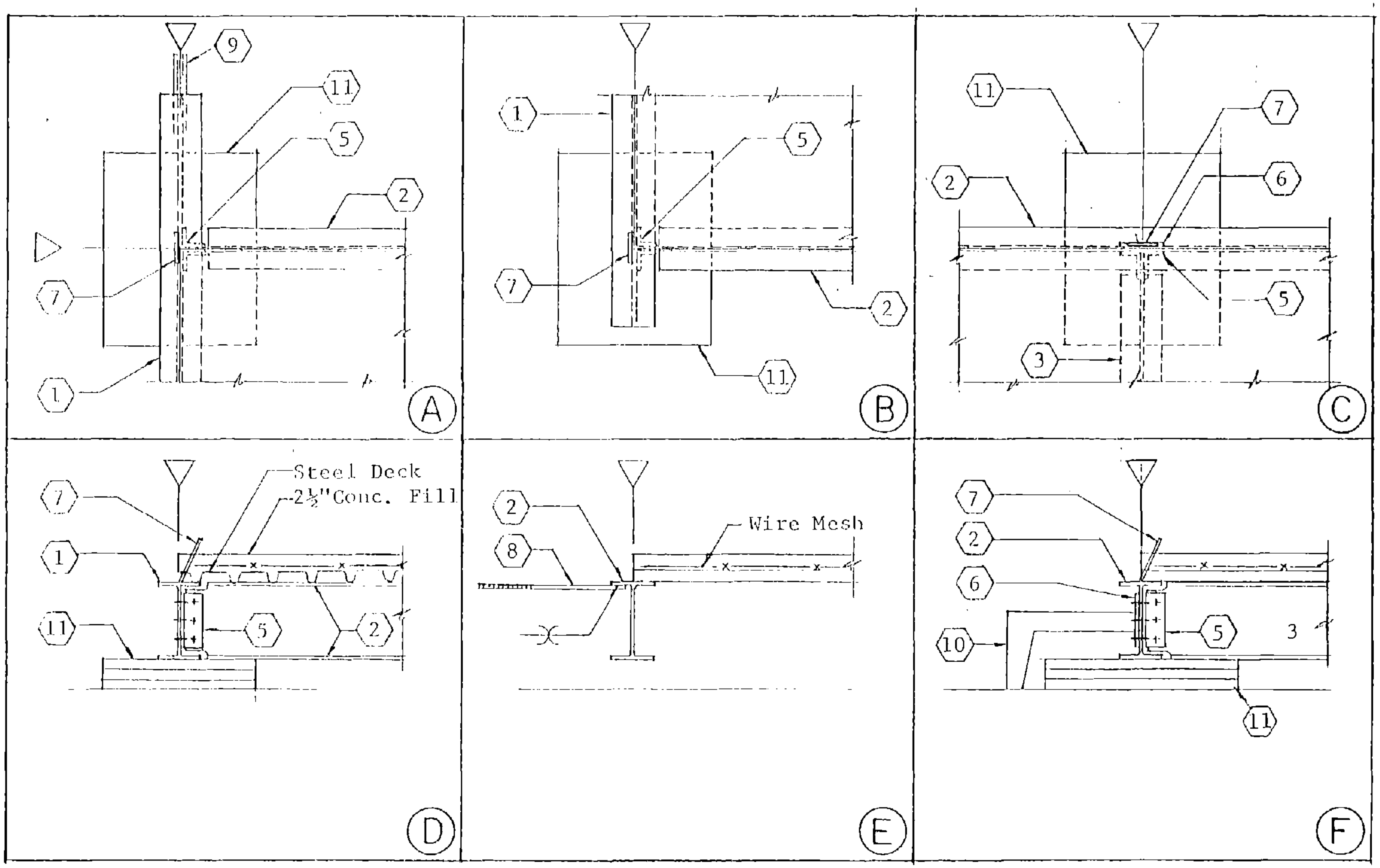


FIGURE A-4. STEEL DECK DIAPHRAGM DETAILS

APPENDIX B

MAXIMUM AND MINIMUM DATA FOR ALL DIAPHRAGM TESTS

This appendix gives a tabulation of the maximum and minimum values, including their times of occurance, of all instruments for 136 of the 139 diaphragm test sequences conducted in the experimental program (Table 2-2). As noted in Table 2-2, the instrument data was lost for three of the test sequences. A separate tabulation is given for each diaphragm test sequence and contains statistics for 29 channels, consisting of the 20 instruments given in Figure 2-7 as well as a time channel and eight channels of relative displacements which were obtained directly from the basic data by subtraction.

The tabulations for each diaphragm are grouped together in the order that the test sequences were conducted (Table 2-2), and the tabulations for each diaphragm are given in a alphabetic order using the diaphragm identification letter. These tabulations were computer generated from the engineering units tapes (Sec. 2.6) and the maximum and minimum values obtained by a scan of all values on these tapes. During the processing of the data tapes, occasional spikes or dropouts were noted when the data was plotted. These dropouts were traced to an intermittent malfunction of the multiplexer unit. Attempts were made by the Rockwell International personnel to correct the malfunction in their equipment and some improvement was attained; however, dropouts continued to occur, but on a less frequent basis than before. Except for acceleration records, the data dropouts are not difficult to detect when the data are plotted or printed. However, the task of identifying all dropouts was considered to be monumental, requiring as a minimum the plotting of 2720 of the 3944 data channels.

Example data dropouts can be observed in Appendix C in Figures C-7, C-10, C-14, C-75, C-76, C-80, C-82, C-83, C-87, C-91, and C-95; Appendix D in Figures D-2, D-3, D-5, D-12, D-50, D-55, D-56, D-57, and D-67; and Appendix E in Figure E-5. Of these examples, some of the data dropouts affect the maximum and minimum tabulations given in this appendix and others do not affect the tabulations. For example, the dropouts in Figures C-7, C-10, and C-14 invalidate the tabulations on Page B-8 for the minimum of DD7B-DD5 (and consequently the minimum of DD7B), B-16 for the maximum of DF1 and the minimum of DD1B-DD3 (and consequently the maximum of DD3), and B-16 for the minimum of DD7B-DD5 (and consequently the maximum of DD5), respectively. However, the dropouts in Figures C-75, C-82, C-83, and C-87 do not affect the tabulations. Accordingly, consideration of the possibility of data dropouts must be given when using the tabulations; however, they are usually fairly obvious.

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1142

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		120.518	
2	DD2	IN	-.255	41.510	.246	33.905
3	DD3	IN	-.083	15.104	.109	19.012
4	DD4	IN	-.258	22.287	.241	19.646
5	DD5	IN	-.063	15.421	.060	18.062
6	DD6	IN	-.241	81.648	.231	33.905
7	DD8	IN	-.382	26.300	.384	39.504
8	DD9	IN	-.108	25.350	.133	55.981
9	DD10	IN	-.025	25.984	.094	39.187
10	DD11	IN	-.423	26.300	.395	72.775
11	DF1	KIP	-3.174	18.484	2.685	14.787
12	DF7	KIP	-3.503	18.484	2.739	14.787
13	DA1	G	-.013	35.490	.018	1.901
14	DA2	G	-.014	49.538	.012	97.597
15	DA3	G	-.011	58.410	.012	107.420
16	DA4	G	-.009	58.938	.009	49.643
17	DA5	G	-.007	58.727	.007	19.541
18	DA6	G	-.012	2.852	.030	116.504
19	DA7	G	-.014	27.568	.017	27.145
20	DD1B	IN	-.413	41.722	.407	26.300
21	DD7B	IN	-.408	72.141	.397	33.800
22	DD1B-DD2	IN	-.169	56.298	.180	26.300
23	DD1B-DD3	IN	-.346	56.298	.319	26.300
24	DD1B-DD4	IN	-.462	57.671	.505	33.589
25	DD7B-DD6	IN	-.180	73.726	.179	26.300
26	DD7B-DD5	IN	-.367	73.726	.358	26.300
27	DD7B-DD4	IN	-.475	81.331	.492	33.905
28	DD9-DD8	IN	-.367	56.826	.374	18.484
29	DD10-11	IN	-.308	77.634	.408	26.195

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2415

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		50.995	
2	DD2	IN	-2.894	8.640	2.446	10.668
3	DD3	IN	-2.998	8.661	2.425	10.668
4	DD4	IN	-3.134	8.682	2.558	10.774
5	DD5	IN	-2.967	8.661	2.433	10.731
6	DD6	IN	-2.782	8.661	2.380	10.668
7	DD8	IN	-2.428	10.605	2.769	8.619
8	DD9	IN	-2.412	10.774	2.971	8.682
9	DD10	IN	-2.487	10.710	3.043	8.682
10	DD11	IN	-2.447	10.689	2.754	8.598
11	DF1	KIP	-3.653	8.767	2.711	6.485
12	DF7	KIP	-3.812	8.746	2.786	4.922
13	DA1	G	-.126	5.725	.134	5.091
14	DA2	G	-.108	5.915	.109	10.393
15	DA3	G	-.121	8.725	.140	4.922
16	DA4	G	-.148	8.767	.165	4.922
17	DA5	G	-.122	8.809	.151	4.964
18	DA6	G	-.160	5.894	.154	10.246
19	DA7	G	-.120	10.140	.155	10.203
20	DD1B	IN	-2.819	8.619	2.488	10.564
21	DD7B	IN	-2.744	8.619	2.424	10.689
22	DD1B-DD2	IN	-.137	4.901	.167	8.725
23	DD1B-DD3	IN	-2.814	39.419	.281	8.725
24	DD1B-DD4	IN	-.339	4.922	.392	8.682
25	DD7B-DD6	IN	-.665	35.426	.134	8.746
26	DD7B-DD5	IN	-2.611	12.337	.328	8.746
27	DD7B-DD4	IN	-.365	4.985	.427	8.682
28	DD9-DD8	IN	-.250	4.922	.337	8.788
29	DD10-11	IN	-.283	4.922	.364	8.746

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2211

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		46.686	
2	DD2	IN	-1.909	21.040	.500	34.370
3	DD3	IN	-1.928	21.019	1.991	10.436
4	DD4	IN	-2.096	20.956	.419	3.486
5	DD5	IN	-1.925	20.977	.841	20.132
6	DD6	IN	-1.848	21.040	.313	22.245
7	DD8	IN	-.289	2.810	1.863	21.378
8	DD9	IN	-.300	3.148	1.945	21.526
9	DD10	IN	-.296	2.957	1.967	20.977
10	DD11	IN	-.286	2.979	1.889	21.378
11	DF1	KIP	-4.912	7.098	4.908	7.373
12	DF7	KIP	-4.839	7.056	5.225	7.351
13	DA1	G	-.135	6.844	.126	6.697
14	DA2	G	-.167	7.711	.118	7.330
15	DA3	G	-.185	7.689	.201	7.373
16	DA4	G	-.265	7.035	.204	7.288
17	DA5	G	-.220	7.605	.207	7.394
18	DA6	G	-.154	7.668	.188	7.351
19	DA7	G	-.135	6.950	.141	6.697
20	DD1B	IN	-1.909	21.273	.289	2.852
21	DD7B	IN	-1.864	21.400	.278	2.979
22	DD1B-DD2	IN	-2.147	34.370	.298	7.077
23	DD1B-DD3	IN	-2.694	11.302	.525	7.056
24	DD1B-DD4	IN	-.764	7.351	.645	7.626
25	DD7B-DD6	IN	-1.937	45.588	.266	7.056
26	DD7B-DD5	IN	-2.585	20.195	.517	7.056
27	DD7B-DD4	IN	-.726	7.351	.639	7.626
28	DD9-DD8	IN	-.515	7.373	.490	7.056
29	DD10-11	IN	-.556	7.373	.529	7.056

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 2266

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		239.239	
2	DD2	IN	-.474	106.892	.451	128.228
3	DD3	IN	-.094	106.892	.122	114.814
4	DD4	IN	-.236	75.205	.176	89.358
5	DD5	IN	-.033	106.892	.066	115.131
6	DD6	IN	-.421	189.807	.390	114.497
7	DD8	IN	-.769	128.334	.772	135.305
8	DD9	IN	-.054	141.642	.178	106.786
9	DD10	IN	-.015	112.173	.112	150.198
10	DD11	IN	-.772	128.334	.771	187.483
11	DF1	KIP	-4.438	113.758	4.577	106.681
12	DF7	KIP	-4.575	113.758	4.522	106.786
13	DA1	G	-.025	180.301	.035	146.079
14	DA2	G	-.016	185.582	.017	131.925
15	DA3	G	-.012	119.567	.015	101.294
16	DA4	G	-.010	38.870	.010	73.620
17	DA5	G	-.005	196.673	.007	127.594
18	DA6	G	-.015	151.677	.015	38.659
19	DA7	G	-.016	38.447	.012	111.223
20	DD1B	IN	-.816	217.798	.818	128.228
21	DD7B	IN	-.806	187.800	.806	114.391
22	DD1B-DD2	IN	-.358	121.046	.380	128.334
23	DD1B-DD3	IN	-.740	121.046	.717	128.334
24	DD1B-DD4	IN	-.897	189.173	.945	113.758
25	DD7B-DD6	IN	-.397	187.800	.430	142.593
26	DD7B-DD5	IN	-.794	187.800	.758	128.334
27	DD7B-DD4	IN	-.862	189.173	.929	113.758
28	DD9-DD8	IN	-.692	190.441	.806	114.391
29	DD10-11	IN	-.865	187.906	.766	142.804

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2636

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.664	
2	DD2	IN	-4.075	13.583	2.049	7.668
3	DD3	IN	-4.318	13.689	2.256	7.732
4	DD4	IN	-4.529	13.668	2.395	7.647
5	DD5	IN	-4.376	13.668	2.239	7.732
6	DD6	IN	-4.041	13.604	2.022	7.668
7	DD8	IN	-1.944	6.654	4.009	13.478
8	DD9	IN	-2.293	7.689	4.295	13.710
9	DD10	IN	-2.299	7.711	4.468	13.689
10	DD11	IN	-1.936	6.718	4.028	13.478
11	DF1	KIP	-8.707	3.908	9.875	3.422
12	DF7	KIP	-8.947	3.929	9.797	3.401
13	DA1	G	-.328	2.852	.269	3.274
14	DA2	G	-.255	3.760	.214	3.317
15	DA3	G	-.278	3.887	.381	3.380
16	DA4	G	-.404	3.845	.453	3.359
17	DA5	G	-.357	3.887	.410	3.401
18	DA6	G	-.308	3.021	.294	3.443
19	DA7	G	-.354	2.979	.330	3.148
20	DD1B	IN	-4.100	13.478	1.995	6.675
21	DD7B	IN	-3.997	13.478	1.930	6.697
22	DD1B-DD2	IN	-1.977	28.899	1.076	3.908
23	DD1B-DD3	IN	-2.932	17.449	1.899	3.887
24	DD1B-DD4	IN	-2.675	10.964	2.107	3.866
25	DD7B-DD6	IN	-1.911	31.582	1.174	3.866
26	DD7B-DD5	IN	-2.875	10.858	1.987	3.866
27	DD7B-DD4	IN	-2.628	10.964	2.125	3.866
28	DD9-DD8	IN	-1.993	3.401	1.818	3.866
29	DD10-11	IN	-2.006	3.401	2.010	6.950

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 2930

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		309.374	
2	DD2	IN	-.643	224.980	.574	166.359
3	DD3	IN	-.105	224.980	.110	166.359
4	DD4	IN	-.224	276.208	.249	103.723
5	DD5	IN	-.045	224.980	.048	166.359
6	DD6	IN	-.533	224.663	.492	166.359
7	DD8	IN	-1.144	211.143	1.194	177.449
8	DD9	IN	-.061	144.072	.163	229.733
9	DD10	IN	-.020	145.867	.101	177.449
10	DD11	IN	-1.148	211.143	1.170	155.565
11	DF1	KIP	-4.047	165.630	4.186	154.740
12	DF7	KIP	-4.070	106.147	3.963	155.057
13	DA1	G	-.017	171.957	.024	2.429
14	DA2	G	-.009	42.250	.010	106.047
15	DA3	G	-.013	177.872	.011	213.678
16	DA4	G	-.010	51.333	.009	51.122
17	DA5	G	-.005	51.228	.005	165.936
18	DA6	G	-.013	51.017	.009	239.662
19	DA7	G	-.015	138.051	.015	14.682
20	DD1B	IN	-1.237	199.630	1.210	168.751
21	DD7B	IN	-4.775	309.163	1.169	211.143
22	DD1B-DD2	IN	-.605	199.630	.646	210.626
23	DD1B-DD3	IN	-1.149	223.290	1.116	210.826
24	DD1B-DD4	IN	-1.359	250.647	1.338	166.042
25	DD7B-DD6	IN	-4.765	309.163	.713	211.143
26	DD7B-DD5	IN	-4.783	309.163	1.159	211.143
27	DD7B-DD4	IN	-4.734	309.163	1.318	166.042
28	DD9-DD8	IN	-1.116	221.611	1.188	210.932
29	DD10-11	IN	-1.080	252.020	1.139	211.038

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM 8
INPUT MOTION . . . . . . GM 3
NO. OF DATA POINTS . . . 3129

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		66.079	
2	DD2	IN	-3.088	15.231	4.591	12.274
3	DD3	IN	-3.363	15.294	4.922	12.337
4	DD4	IN	-3.496	15.337	5.144	12.358
5	DD5	IN	-3.400	15.273	4.933	12.295
6	DD6	IN	-3.082	15.252	4.547	12.295
7	DD8	IN	-4.382	12.105	2.846	15.104
8	DD9	IN	-4.929	12.316	3.321	15.337
9	DD10	IN	-5.059	12.316	3.471	15.273
10	DD11	IN	-4.399	12.105	2.884	15.104
11	DF1	KIP	-6.915	12.865	6.777	12.421
12	DF7	KIP	-7.110	12.844	6.106	12.379
13	DA1	G	-.226	12.612	.192	12.147
14	DA2	G	-.210	12.865	.201	12.400
15	DA3	G	-.239	12.844	.207	19.161
16	DA4	G	-.274	12.907	.257	11.450
17	DA5	G	-.275	12.865	.228	19.203
18	DA6	G	-.296	12.623	.222	12.400
19	DA7	G	-1.142	21.505	1.481	21.526
20	DD1B	IN	-2.903	15.104	4.482	12.105
21	DD7B	IN	-2.844	15.062	4.404	12.083
22	DD1B-DD2	IN	-.737	12.443	.868	12.365
23	DD1B-DD3	IN	-2.579	45.186	1.544	12.865
24	DD1B-DD4	IN	-2.871	14.935	1.751	12.866
25	DD7B-DD6	IN	-3.579	21.801	.977	12.865
26	DD7B-DD5	IN	-4.037	11.365	1.573	12.865
27	DD7B-DD4	IN	-4.253	11.365	1.708	12.886
28	DD9-DD8	IN	-2.016	41.046	1.377	12.886
29	DD10-11	IN	-2.507	23.575	2.944	23.998

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4176

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		440.982	
2	DD2	IN	-.842	324.901	.763	249.168
3	DD3	IN	-.115	343.913	.126	248.851
4	DD4	IN	-.273	357.433	.172	183.258
5	DD5	IN	-.053	296.910	.060	246.851
6	DD6	IN	-.710	327.964	.654	218.537
7	DD8	IN	-1.545	218.643	1.573	322.894
8	DD9	IN	-.068	162.239	.203	235.648
9	DD10	IN	-.023	162.239	.140	266.068
10	DD11	IN	-1.541	250.224	1.567	361.235
11	DF1	KIP	-5.430	217.903	5.534	202.271
12	DF7	KIP	-5.311	218.220	5.217	202.588
13	DA1	G	-.021	139.424	.024	200.792
14	DA2	G	-.012	311.698	.011	165.408
15	DA3	G	-.013	78.373	.014	222.445
16	DA4	G	-.006	330.258	.006	284.552
17	DA5	G	-.006	409.295	.006	247.584
18	DA6	G	-.009	311.603	.015	307.790
19	DA7	G	-.016	379.720	.016	241.774
20	DD16	IN	-1.640	323.528	1.622	218.431
21	DD78	IN	-1.597	326.591	1.595	280.644
22	DD16-DD2	IN	-.815	323.528	.872	218.643
23	DD16-DD3	IN	-1.546	323.528	1.516	218.643
24	DD16-DD4	IN	-1.716	324.161	1.824	281.278
25	DD78-DD6	IN	-.905	326.591	.953	280.644
26	DD78-DD5	IN	-1.568	361.552	1.555	280.644
27	DD78-DD4	IN	-1.678	363.417	1.803	281.278
28	DD9-DD8	IN	-1.481	322.894	1.583	218.960
29	DD10-11	IN	-1.436	383.733	1.532	280.855

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2562

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.101	
2	DD2	IN	-7.158	3.211	3.711	7.394
3	DD3	IN	-7.990	3.295	4.346	7.394
4	DD4	IN	-8.245	3.295	4.589	6.147
5	DD5	IN	-7.983	3.295	4.333	7.351
6	DD6	IN	-7.028	3.211	3.759	7.351
7	DD8	IN	-3.462	7.013	7.182	13.795
8	DD9	IN	-4.390	7.351	7.900	3.295
9	DD10	IN	-4.478	7.373	8.165	3.295
10	DD11	IN	-3.483	6.992	7.270	13.773
11	DF1	KIP	-13.233	3.380	14.152	3.824
12	DF7	KIP	-12.736	3.380	15.085	3.845
13	DA1	G	-.555	3.126	.569	3.464
14	DA2	G	-.364	3.401	.340	3.866
15	DA3	G	-.446	3.359	.441	3.624
16	DA4	G	-.565	4.309	.629	3.718
17	DA5	G	-.480	4.288	.574	3.802
18	DA6	G	-.432	4.352	.546	3.824
19	DA7	G	-2.052	15.442	2.097	15.463
20	DD1B	IN	-7.372	13.773	3.559	6.992
21	DD7B	IN	-7.229	13.773	3.489	6.992
22	DD1B-DD2	IN	-2.606	3.845	2.776	4.331
23	DD1B-DD3	IN	-4.367	3.824	4.676	4.309
24	DD1B-DD4	IN	-4.747	3.802	5.143	4.331
25	DD7B-DD6	IN	-3.024	3.802	3.219	4.352
26	DD7B-DD5	IN	-4.482	3.802	4.947	4.309
27	DD7B-DD4	IN	-4.735	3.802	5.222	4.331
28	DD9-DD8	IN	-4.331	3.824	4.522	4.331
29	DD10-11	IN	-4.455	3.824	4.823	4.309

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . B
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2620

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.326	
2	DD2	IN	-6.779	9.802	5.008	2.598
3	DD3	IN	-6.974	9.865	5.813	14.513
4	DD4	IN	-7.103	9.717	6.027	14.471
5	DD5	IN	-7.006	9.865	5.871	14.513
6	DD6	IN	-6.739	9.865	5.076	14.513
7	DD8	IN	-4.431	15.463	6.081	9.823
8	DD9	IN	-5.827	14.513	6.941	9.886
9	DD10	IN	-6.020	14.513	7.178	9.823
10	DD11	IN	-4.363	15.527	6.244	9.823
11	DF1	KIP	-9.304	4.288	10.669	7.204
12	DF7	KIP	-6.956	4.331	11.020	2.810
13	DA1	G	-.446	2.957	.705	3.317
14	DA2	G	-.350	3.549	.479	3.676
15	DA3	G	-.305	4.288	.336	7.225
16	DA4	G	-.415	4.288	.477	3.761
17	DA5	G	-.465	3.295	.399	7.182
18	DA6	G	-.352	6.485	.438	3.676
19	DA7	G	-3.798	2.472	4.398	2.788
20	DD18	IN	-6.225	9.802	4.531	15.463
21	DD7B	IN	-6.007	9.823	4.364	15.506
22	DD18-DD2	IN	-2.492	7.225	2.456	4.288
23	DD18-DD3	IN	-4.036	7.225	4.117	4.288
24	DD18-DD4	IN	-4.312	7.182	4.486	4.246
25	DD7B-DD6	IN	-2.674	7.225	2.830	4.267
26	DD7B-DD5	IN	-4.083	7.204	4.227	4.267
27	DD7B-DD4	IN	-4.292	7.182	4.485	4.246
28	DD9-DD8	IN	-4.049	7.225	3.932	4.309
29	DD10-11	IN	-4.166	7.204	4.025	4.267

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1317

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		132.052	
2	DD2	IN	-.188	86.396	.203	27.494
3	DD3	IN	-.053	86.295	.055	27.494
4	DD4	IN	-.296	95.025	.267	19.266
5	DD5	IN	-.036	90.510	.022	27.494
6	DD6	IN	-.161	42.746	.161	27.494
7	DD8	IN	-.395	34.819	.401	40.539
8	DD9	IN	-.047	20.570	.062	71.545
9	DD10	IN	-.011	3.311	.020	75.358
10	DD11	IN	-.379	34.919	.373	40.438
11	DF1	KIP	-1.878	19.366	2.009	36.231
12	DF7	KIP	-2.666	19.467	2.424	36.331
13	DA1	G	-.012	54.085	.013	2.609
14	DA2	G	-.207	66.026	.129	4.616
15	DA3	G	-.007	59.504	.004	4.415
16	DA4	G	-.004	4.716	.004	20.570
17	DA5	G	-.003	50.203	.004	4.014
18	DA6	G	-.012	118.305	.005	4.315
19	DA7	G	-.010	93.921	.007	4.315
20	DD1B	IN	-.408	23.480	.403	27.293
21	DD7B	IN	-.404	40.639	.397	34.919
22	DD1B-DD2	IN	-.234	23.480	.208	34.217
23	DD1B-DD3	IN	-.373	23.480	.360	34.618
24	DD1B-DD4	IN	-.540	23.480	.616	34.418
25	DD7B-DD6	IN	-.257	40.639	.247	34.919
26	DD7B-DD5	IN	-.389	40.639	.396	34.919
27	DD7B-DD4	IN	-.528	23.480	.605	34.418
28	DD9-DD8	IN	-.400	39.756	.408	19.766
29	DD10-11	IN	-.363	42.746	.382	19.667

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2585

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		51.857	
2	DD2	IN	-2.774	8.529	2.581	10.436
3	DD3	IN	-2.848	8.589	2.646	10.436
4	DD4	IN	-2.900	8.549	2.929	10.416
5	DD5	IN	-2.868	8.589	2.638	10.436
6	DD6	IN	-2.771	8.589	2.555	10.416
7	DD8	IN	-2.465	10.456	2.795	8.449
8	DD9	IN	-2.643	10.396	2.792	8.650
9	DD10	IN	-2.667	10.456	2.857	8.609
10	DD11	IN	-2.384	10.556	2.714	8.469
11	DF1	KIP	-3.487	8.670	2.351	6.462
12	DF7	KIP	-3.697	8.690	2.375	6.462
13	DA1	G	-.207	6.703	.183	6.643
14	DA2	G	-1.951	7.064	1.506	4.937
15	DA3	G	-.105	8.609	.076	7.425
16	DA4	G	-.120	8.630	.084	7.425
17	DA5	G	-.133	8.670	.067	6.402
18	DA6	G	-.089	8.670	.067	7.325
19	DA7	G	-.069	5.760	.056	4.154
20	DD1B	IN	-2.770	8.449	2.448	10.456
21	DD7B	IN	-2.716	8.469	2.414	10.556
22	DD1B-DD2	IN	-.744	12.563	.302	8.690
23	DD1B-DD3	IN	-2.716	11.841	.454	8.690
24	DD1B-DD4	IN	-2.622	12.362	.467	8.630
25	DD7B-DD6	IN	-1.857	8.810	.250	8.690
26	DD7B-DD5	IN	-.452	6.482	.378	8.690
27	DD7B-DD4	IN	-2.583	12.382	.400	8.630
28	DD9-DD8	IN	-.532	6.482	.381	8.650
29	DD10-11	IN	-.446	6.482	.331	8.650

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 3113

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.454	
2	DD2	IN	-1.868	21.413	.278	3.251
3	DD3	IN	-1.867	21.413	1.362	23.400
4	DD4	IN	-1.991	21.754	.448	3.010
5	DD5	IN	-1.875	21.413	.284	3.251
6	DD6	IN	-1.854	21.413	.276	3.351
7	DD8	IN	-.286	3.111	1.885	21.654
8	DD9	IN	-.266	3.412	1.857	21.373
9	DD10	IN	-.281	3.211	1.867	21.373
10	DD11	IN	-.276	3.211	1.846	21.754
11	DF1	KIP	-2.704	7.405	2.442	7.706
12	DF7	KIP	-2.824	7.405	2.983	7.706
13	DA1	G	-.121	7.124	.147	6.964
14	DA2	G	-1.300	8.007	1.085	8.469
15	DA3	G	-.105	7.425	.101	7.746
16	DA4	G	-.103	7.425	.112	7.746
17	DA5	G	-.094	7.385	.116	7.706
18	DA6	G	-.076	7.325	.079	7.666
19	DA7	G	-.074	7.185	.074	7.004
20	DD18	IN	-1.874	21.634	.282	3.251
21	DD78	IN	-1.853	21.674	.274	3.331
22	DD18-DD2	IN	-.352	7.746	.327	7.405
23	DD18-DD3	IN	-2.595	31.949	.499	7.405
24	DD18-DD4	IN	-.715	7.706	.641	7.365
25	DD78-DD6	IN	-.351	7.726	.293	7.405
26	DD78-DD5	IN	-.503	7.726	.407	7.405
27	DD78-DD4	IN	-.661	7.706	.569	7.365
28	DD9-DD8	IN	-.539	7.767	.526	7.405
29	DD10-11	IN	-.475	7.746	.396	7.405

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 1948

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		195.368	
2	DD2	IN	-.422	147.003	4.149	145.799
3	DD3	IN	-.091	143.089	9.219	145.799
4	DD4	IN	-.336	172.691	9.518	145.799
5	DD5	IN	-.135	145.698	8.267	145.799
6	DD6	IN	-.353	146.903	5.744	145.799
7	DD8	IN	-.764	136.868	2.639	145.799
8	DD9	IN	-210.619	145.799	.129	162.054
9	DD10	IN	-43.140	145.799	.360	145.698
10	DD11	IN	-.764	137.069	.760	174.296
11	DF1	KIP	-3.147	121.917	6.765	145.698
12	DF7	KIP	-4.337	122.017	3.314	143.591
13	DA1	G	-.213	145.698	.745	134.259
14	DA2	G	-1.720	138.674	1.890	138.574
15	DA3	G	-.230	138.674	.250	138.574
16	DA4	G	-.701	145.698	.231	138.574
17	DA5	G	-.395	145.698	.047	145.799
18	DA6	G	-.060	138.675	.779	145.799
19	DA7	G	-.046	145.698	.059	145.799
20	DD18	IN	-.830	162.355	.787	136.768
21	DD78	IN	-.792	145.899	.816	136.969
22	DD18-DD2	IN	-4.135	145.799	.468	138.273
23	DD18-DD3	IN	-9.205	145.799	.707	136.768
24	DD18-DD4	IN	-9.505	145.799	.869	122.519
25	DD78-DD6	IN	-5.520	145.799	.498	136.868
26	DD78-DD5	IN	-8.042	145.799	.801	136.969
27	DD78-DD4	IN	-9.294	145.799	.926	122.519
28	DD9-DD8	IN	-213.458	145.799	.738	136.166
29	DD10-11	IN	-43.461	145.799	.764	136.567

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2635

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		52.861	
2	DD2	IN	-4.030	13.787	1.893	6.984
3	DD3	IN	-4.205	13.888	2.003	7.084
4	DD4	IN	-4.215	3.151	2.138	7.124
5	DD5	IN	-4.231	13.888	2.012	7.084
6	DD6	IN	-4.014	13.807	1.939	7.064
7	DD8	IN	-1.973	6.843	4.085	13.647
8	DD9	IN	-2.032	7.124	4.190	3.171
9	DD10	IN	-2.074	7.064	4.180	13.867
10	DD11	IN	-1.940	6.863	3.980	13.647
11	DF1	KIP	-9.117	4.114	10.825	3.572
12	DF7	KIP	-12.031	3.271	10.296	3.572
13	DA1	G	-.352	3.071	.225	3.331
14	DA2	G	-2.622	4.134	2.233	3.532
15	DA3	G	-.328	4.054	.440	3.592
16	DA4	G	-.397	4.054	.482	3.612
17	DA5	G	-.309	4.074	.362	3.592
18	DA6	G	-15.431	9.713	1.393	15.232
19	DA7	G	-3.224	15.232	2.878	15.252
20	DD1B	IN	-4.038	13.667	1.964	6.863
21	DD7B	IN	-4.023	13.667	1.954	6.863
22	DD1B-DD2	IN	-2.109	2.689	1.432	4.094
23	DD1B-DD3	IN	-2.654	17.821	2.271	4.094
24	DD1B-DD4	IN	-2.456	3.592	2.235	4.114
25	DD7B-DD6	IN	-1.356	3.612	1.434	4.074
26	DD7B-DD5	IN	-2.431	28.056	2.182	4.074
27	DD7B-DD4	IN	-2.436	3.592	2.212	4.074
28	DD9-DD8	IN	-2.433	3.612	2.167	4.094
29	DD10-11	IN	-2.090	3.612	2.001	4.094

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 3020

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		302.936	
2	DD2	IN	-.554	245.038	.546	209.316
3	DD3	IN	-.086	198.880	.087	209.316
4	DD4	IN	-.357	253.768	.265	143.290
5	DD5	IN	-.044	244.938	.038	209.316
6	DD6	IN	-.501	244.938	.454	209.316
7	DD8	IN	-1.205	164.764	1.193	268.920
8	DD9	IN	-.113	212.326	.135	154.729
9	DD10	IN	-.013	143.391	.091	154.127
10	DD11	IN	-1.200	164.764	1.115	242.630
11	DF1	KIP	-2.883	164.162	2.895	197.977
12	DF7	KIP	-4.064	164.463	3.350	153.324
13	DA1	G	-.026	169.179	.020	214.835
14	DA2	G	-.554	2.007	.131	132.955
15	DA3	G	-.010	222.762	.011	209.918
16	DA4	G	-.004	236.609	.004	209.918
17	DA5	G	-.005	3.311	.004	206.205
18	DA6	G	-.017	168.777	.006	47.362
19	DA7	G	-.019	180.216	.018	214.835
20	DD1B	IN	-1.192	244.637	1.216	209.216
21	DD7B	IN	-1.149	268.920	1.255	187.040
22	DD1B-DD2	IN	-.650	221.658	.680	164.764
23	DD1B-DD3	IN	-1.120	221.658	1.145	164.764
24	DD1B-DD4	IN	-1.340	175.701	1.427	165.165
25	DD7B-DD6	IN	-.666	221.558	.813	164.964
26	DD7B-DD5	IN	-1.127	242.730	1.235	164.964
27	DD7B-DD4	IN	-1.293	175.701	1.466	165.165
28	DD9-DD8	IN	-1.186	244.838	1.222	164.764
29	DD10-11	IN	-1.037	244.938	1.199	209.216

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3141

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		63.016	
2	DD2	IN	-3.088	15.533	4.390	12.543
3	DD3	IN	-3.349	15.533	4.615	12.583
4	DD4	IN	-3.440	15.493	4.844	12.603
5	DD5	IN	-3.371	15.533	4.621	12.583
6	DD6	IN	-3.087	15.553	4.422	12.543
7	DD8	IN	-4.495	12.322	2.908	15.292
8	DD9	IN	-4.660	12.603	3.303	15.593
9	DD10	IN	-4.678	12.603	3.316	15.513
10	DD11	IN	-4.357	12.322	2.862	15.312
11	DF1	KIP	-5.738	13.125	5.724	19.547
12	DF7	KIP	-6.494	17.982	6.009	12.703
13	DA1	G	-.282	12.101	.277	17.279
14	DA2	G	-2.584	20.069	1.247	18.523
15	DA3	G	-.257	13.185	.203	19.487
16	DA4	G	-.274	13.185	.243	12.724
17	DA5	G	-.210	13.165	.218	12.724
18	DA6	G	-1.424	12.643	.259	18.323
19	DA7	G	-2.701	18.323	2.596	18.343
20	DD18	IN	-2.878	15.272	4.460	12.322
21	DD78	IN	-2.868	15.312	4.443	12.322
22	DD18-DD2	IN	-3.725	22.296	1.043	17.982
23	DD18-DD3	IN	-3.793	22.296	1.676	17.982
24	DD18-DD4	IN	-4.044	22.296	1.686	17.941
25	DD78-DD6	IN	-1.689	15.654	1.074	19.045
26	DD78-DD5	IN	-1.419	12.724	1.597	19.045
27	DD78-DD4	IN	-1.577	12.703	1.679	17.941
28	DD9-DD8	IN	-2.049	40.499	2.618	39.736
29	DD10-11	IN	-1.947	51.396	1.464	13.165

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4363

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		437.697	
2	DD2	IN	-.739	323.807	.726	279.054
3	DD3	IN	-.105	202.994	.107	216.541
4	DD4	IN	-.500	292.200	.278	155.532
5	DD5	IN	-.046	232.897	.039	249.353
6	DD6	IN	-.692	323.707	.598	279.657
7	DD8	IN	-1.582	248.350	1.586	358.426
8	DD9	IN	-.107	277.048	.152	301.431
9	DD10	IN	-.015	187.642	.132	264.103
10	DD11	IN	-1.553	248.149	1.544	321.801
11	DF1	KIP	-3.738	216.440	3.974	200.686
12	DF7	KIP	-5.377	216.440	4.629	200.988
13	DA1	G	-.023	260.290	.022	149.913
14	DA2	G	-.549	69.237	.160	58.500
15	DA3	G	-.012	230.187	.009	159.646
16	DA4	G	-.006	318.088	.004	186.939
17	DA5	G	-.007	227.960	.005	4.515
18	DA6	G	-.012	417.729	.010	303.638
19	DA7	G	-.025	149.712	.029	67.832
20	DD16	IN	-1.601	298.722	1.605	248.450
21	DD78	IN	-1.592	322.202	1.606	248.048
22	DD15-DD2	IN	-.081	201.088	.891	247.747
23	DD16-DD3	IN	-1.513	358.325	1.516	248.350
24	DD16-DD4	IN	-1.672	380.200	1.738	247.948
25	DD78-DD6	IN	-.920	358.426	1.017	248.149
26	DD78-DD5	IN	-1.566	358.426	1.583	248.350
27	DD78-DD4	IN	-1.665	380.200	1.742	247.948
28	DD9-DD8	IN	-1.552	296.916	1.599	217.042
29	DD10-11	IN	-1.426	323.406	1.550	279.556

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2624

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		52.640	
2	DD2	IN	-7.225	12.964	3.179	7.506
3	DD3	IN	-8.095	3.111	3.425	7.185
4	DD4	IN	-8.190	3.111	3.640	7.205
5	DD5	IN	-8.040	3.111	3.406	7.165
6	DD6	IN	-7.192	12.964	3.232	7.064
7	DD8	IN	-3.557	6.783	7.329	13.566
8	DD9	IN	-3.455	7.165	7.957	3.111
9	DD10	IN	-3.511	7.205	7.982	3.111
10	DD11	IN	-3.427	6.823	7.272	13.566
11	DF1	KIP	-13.287	3.211	14.476	3.652
12	DF7	KIP	-13.418	3.211	13.751	3.673
13	DA1	G	-.600	3.833	.580	3.271
14	DA2	G	-2.017	4.194	1.816	4.776
15	DA3	G	-.432	3.151	.443	3.612
16	DA4	G	-.552	3.111	.530	3.592
17	DA5	G	-.494	3.191	.449	3.612
18	DA6	G	-12.500	5.017	.328	15.272
19	DA7	G	-.721	3.913	.576	3.291
20	DD1B	IN	-7.270	13.566	3.532	6.783
21	DD7B	IN	-7.272	13.566	3.509	6.843
22	DD1B-DD2	IN	-2.740	3.673	3.153	4.154
23	DD1B-DD3	IN	-4.250	3.673	4.795	4.154
24	DD1B-DD4	IN	-4.647	3.652	4.884	4.134
25	DD7B-DD6	IN	-2.804	3.673	3.177	4.174
26	DD7B-DD5	IN	-4.085	3.673	4.660	4.174
27	DD7B-DD4	IN	-4.573	3.652	4.824	4.134
28	DD9-DD8	IN	-4.256	3.693	4.523	4.154
29	DD10-11	IN	-4.048	3.693	4.405	4.154

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM C
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2461

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		49.770	
2	DD2	IN	-6.969	10.135	5.096	5.679
3	DD3	IN	-7.329	10.135	5.502	2.950
4	DD4	IN	-7.410	10.175	5.679	5.639
5	DD5	IN	-7.347	10.135	5.495	2.950
6	DD6	IN	-6.967	10.135	5.086	5.679
7	DD8	IN	-4.492	15.754	6.179	10.095
8	DD9	IN	-5.472	2.950	7.259	10.195
9	DD10	IN	-5.524	5.639	7.378	10.155
10	DD11	IN	-4.417	15.794	6.033	10.115
11	DF1	KIP	-7.450	6.863	9.734	7.506
12	DF7	KIP	-8.005	6.863	9.705	7.486
13	DA1	G	-.427	6.021	.578	3.612
14	DA2	G	-1.744	6.803	1.621	7.445
15	DA3	G	-.330	3.552	.295	7.526
16	DA4	G	-.414	3.612	.317	7.466
17	DA5	G	-.374	3.592	.308	7.445
18	DA6	G	-17.074	26.491	1.167	3.131
19	DA7	G	-4.417	13.827	4.300	13.807
20	DD1B	IN	-6.136	10.095	4.463	15.754
21	DD7B	IN	-6.112	10.095	4.449	15.794
22	DD1B-DD2	IN	-2.626	7.506	2.463	3.572
23	DD1B-DD3	IN	-3.940	7.506	3.865	3.572
24	DD1B-DD4	IN	-4.094	7.526	3.992	3.572
25	DD7B-DD6	IN	-2.643	7.506	2.599	3.572
26	DD7B-DD5	IN	-3.666	7.506	3.797	3.572
27	DD7B-DD4	IN	-4.062	7.526	3.981	3.572
28	DD9-DD8	IN	-3.675	7.506	3.750	3.572
29	DD10-11	IN	-3.834	7.506	3.580	3.572

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1269

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		127.235	
2	DD2	IN	-.266	41.743	.270	26.491
3	DD3	IN	-.132	41.642	.141	26.491
4	DD4	IN	-.399	46.359	.247	18.463
5	DD5	IN	-.094	37.328	.098	26.691
6	DD6	IN	-.271	76.863	.268	18.764
7	DD8	IN	-.392	33.414	.376	39.435
8	DD9	IN	-.150	33.314	.174	47.964
9	DD10	IN	-.038	33.113	.155	39.435
10	DD11	IN	-.432	33.615	.385	74.756
11	DF1	KIP	-3.540	18.463	3.091	14.851
12	DF7	KIP	-4.182	18.363	3.263	14.750
13	DA1	G	-.009	62.815	.009	6.924
14	DA2	G	-.040	2.408	.018	37.328
15	DA3	G	-.015	14.449	.012	111.481
16	DA4	G	-.012	105.561	.014	105.461
17	DA5	G	-.023	81.679	.013	94.122
18	DA6	G	-.017	1.706	.064	94.122
19	DA7	G	-.023	12.944	.023	20.269
20	DD1B	IN	-.392	41.341	.420	33.615
21	DD7B	IN	-.402	74.856	.415	33.715
22	DD1B-DD2	IN	-.140	22.276	.158	33.615
23	DD1B-DD3	IN	-.279	39.636	.287	33.715
24	DD1B-DD4	IN	-.442	39.937	.546	33.615
25	DD7B-DD6	IN	-.145	74.856	.158	33.314
26	DD7B-DD5	IN	-.332	74.856	.329	33.715
27	DD7B-DD4	IN	-.437	39.937	.541	33.615
28	DD9-DD8	IN	-.323	41.843	.355	18.664
29	DD10-11	IN	-.253	76.863	.409	18.664

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2943

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		59.042	
2	DD2	IN	-2.847	8.529	2.504	10.596
3	DD3	IN	-2.872	8.529	2.531	10.576
4	DD4	IN	-3.006	8.549	2.757	10.616
5	DD5	IN	-2.842	8.509	2.537	10.596
6	DD6	IN	-2.752	8.529	2.462	10.596
7	DD8	IN	-2.459	10.556	2.769	8.549
8	DD9	IN	-2.536	10.596	2.841	8.549
9	DD10	IN	-2.546	10.556	2.852	8.549
10	DD11	IN	-2.424	10.556	2.707	8.549
11	DF1	KIP	-3.800	4.576	4.671	4.796
12	DF7	KIP	-4.260	3.392	4.407	6.402
13	DA1	G	-.134	3.231	.173	3.171
14	DA2	G	-.052	3.372	.053	6.402
15	DA3	G	-.117	4.636	.183	4.816
16	DA4	G	-.160	4.596	.190	4.837
17	DA5	G	-.176	4.596	.162	4.816
18	DA6	G	-24.633	20.109	.093	5.097
19	DA7	G	-.127	6.924	.141	6.683
20	DD1B	IN	-2.764	8.549	2.457	10.516
21	DD7B	IN	-2.747	8.549	2.450	10.556
22	DD1B-DD2	IN	-1.992	12.182	.142	4.596
23	DD1B-DD3	IN	-2.834	39.174	.244	4.596
24	DD1B-DD4	IN	-2.576	7.887	.316	3.351
25	DD7B-DD6	IN	-.171	4.816	.115	4.576
26	DD7B-DD5	IN	-.950	8.931	.231	4.576
27	DD7B-DD4	IN	-2.550	7.887	.311	3.412
28	DD9-DD8	IN	-.302	4.816	.241	4.616
29	DD10-11	IN	-.258	4.816	.251	4.576

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 3009

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		60.366	
2	DD2	IN	-1.909	21.514	.277	2.990
3	DD3	IN	-1.920	21.514	1.988	8.068
4	DD4	IN	-2.024	20.550	.977	19.848
5	DD5	IN	-1.921	21.514	.873	20.851
6	DD6	IN	-1.882	21.514	.296	22.336
7	DD8	IN	-.286	3.010	1.891	21.473
8	DD9	IN	-.309	15.453	1.948	21.473
9	DD10	IN	-.288	15.433	1.920	21.473
10	DD11	IN	-.289	3.111	1.868	21.473
11	DF1	KIP	-6.536	7.144	5.555	7.385
12	DF7	KIP	-7.203	7.104	5.721	7.405
13	DA1	G	-.129	7.024	.150	6.442
14	DA2	G	-.058	7.646	.086	7.405
15	DA3	G	-.210	7.144	.184	7.405
16	DA4	G	-.253	7.144	.244	7.385
17	DA5	G	-.255	7.124	.203	7.385
18	DA6	G	-7.091	37.087	7.645	47.783
19	DA7	G	-.142	7.064	.125	6.823
20	DD1B	IN	-1.886	21.433	.281	3.131
21	DD7B	IN	-1.881	21.494	.281	3.131
22	DD1B-DD2	IN	-1.930	45.757	.288	7.124
23	DD1B-DD3	IN	-2.570	24.865	.472	7.124
24	DD1B-DD4	IN	-2.631	45.716	.488	7.165
25	DD7B-DD6	IN	-1.948	45.797	.238	7.124
26	DD7B-DD5	IN	-2.616	20.851	.450	7.124
27	DD7B-DD4	IN	-2.611	45.716	.501	7.165
28	DD9-DD8	IN	-.366	7.365	.428	7.144
29	DD10-11	IN	-.311	7.385	.449	7.124

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . US 2
NO. OF DATA POINTS 2478

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		248.550	
2	DD2	IN	-.456	110.077	.495	117.101
3	DD3	IN	-.146	75.458	.206	116.298
4	DD4	IN	-.390	3.612	.294	104.156
5	DD5	IN	-.137	157.740	.108	116.298
6	DD6	IN	-.503	153.826	.413	117.101
7	DD8	IN	-.772	131.249	.782	200.385
8	DD9	IN	-.162	130.647	.174	76.462
9	DD10	IN	-.049	130.547	.204	124.626
10	DD11	IN	-.743	145.799	.750	179.313
11	DF1	KIP	-5.569	116.800	6.215	109.475
12	DF7	KIP	-6.532	116.699	5.150	109.675
13	DA1	G	-.010	137.370	.008	242.128
14	DA2	G	-.030	17.961	.030	200.486
15	DA3	G	-.017	153.826	.009	5.419
16	DA4	G	-.010	169.480	.029	46.961
17	DA5	G	-.018	236.609	.015	123.623
18	DA6	G	-12.171	244.737	12.662	105.661
19	DA7	G	-.014	193.662	.036	244.637
20	DD1B	IN	-.806	216.741	.817	117.000
21	DD7B	IN	-.795	179.313	.809	131.349
22	DD1B-DD2	IN	-.365	200.385	.326	131.249
23	DD1B-DD3	IN	-.748	200.385	.621	131.249
24	DD1B-DD4	IN	-.786	200.887	.846	131.048
25	DD7B-DD6	IN	-.308	228.582	.406	131.349
26	DD7B-DD5	IN	-.674	200.586	.712	131.450
27	DD7B-DD4	IN	-.789	198.379	.838	131.048
28	DD9-DD8	IN	-.741	200.988	.712	131.751
29	DD10-11	IN	-.567	178.812	.702	145.498

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . . . GM 4-1
NO. OF DATA POINTS . . . 2849

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		57.156	
2	DD2	IN	-4.230	13.265	2.332	6.542
3	DD3	IN	-4.337	13.285	2.599	6.562
4	DD4	IN	-4.419	13.346	2.709	6.522
5	DD5	IN	-4.363	13.285	2.612	6.562
6	DD6	IN	-4.210	13.265	2.310	6.542
7	DD8	IN	-1.966	6.442	4.077	13.225
8	DD9	IN	-2.630	6.583	4.274	13.326
9	DD10	IN	-2.611	6.542	4.364	13.306
10	DD11	IN	-1.928	6.442	4.022	13.225
11	DF1	KIP	-11.246	2.729	14.850	3.030
12	DF7	KIP	-11.424	2.729	14.609	3.030
13	DA1	G	-.312	2.609	.302	2.870
14	DA2	G	-.110	6.863	.128	5.980
15	DA3	G	-.315	2.709	.455	3.050
16	DA4	G	-.377	2.709	.571	3.010
17	DA5	G	-.354	2.749	.515	3.030
18	DA6	G	-14.988	2.990	2.375	11.580
19	DA7	G	-.361	2.709	.284	2.870
20	DD1B	IN	-4.049	13.205	1.960	6.422
21	DD7B	IN	-4.017	13.225	1.947	6.442
22	DD1B-DD2	IN	-2.126	26.190	.682	2.729
23	DD1B-DD3	IN	-2.829	3.773	1.036	2.729
24	DD1B-DD4	IN	-2.526	26.330	1.108	2.729
25	DD7B-DD6	IN	-1.773	15.754	.718	2.729
26	DD7B-DD5	IN	-1.409	3.030	1.085	2.729
27	DD7B-DD4	IN	-2.519	26.330	1.137	2.729
28	DD9-DD8	IN	-1.375	3.050	1.994	7.205
29	DD10-11	IN	-1.285	3.030	1.847	6.001

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 3045

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		305.445	
2	DD2	IN	-.575	155.331	.596	169.147
3	DD3	IN	-.076	271.930	.161	188.545
4	DD4	IN	-.384	135.564	.356	121.917
5	DD5	IN	-.107	241.225	.093	188.445
6	DD6	IN	-.617	256.477	.516	168.445
7	DD8	IN	-1.149	166.469	1.176	247.346
8	DD9	IN	-.082	26.190	.186	156.335
9	DD10	IN	-.023	123.422	.206	223.665
10	DD11	IN	-1.111	210.721	1.142	246.844
11	DF1	KIP	-6.532	165.867	7.112	154.729
12	DF7	KIP	-7.072	165.867	6.054	154.830
13	DA1	G	-.019	171.888	.013	3.311
14	DA2	G	-.024	144.595	.027	244.536
15	DA3	G	-.010	136.065	.017	167.774
16	DA4	G	-.011	47.161	.005	145.498
17	DA5	G	-.012	196.271	.018	198.078
18	DA6	G	-.049	73.552	.014	217.444
19	DA7	G	-.020	171.888	.017	235.606
20	DD18	IN	-1.203	222.260	1.207	166.369
21	DD78	IN	-1.204	271.027	1.203	166.670
22	DD18-DD2	IN	-.646	223.765	.623	210.821
23	DD18-DD3	IN	-1.145	200.084	1.064	166.469
24	DD18-DD4	IN	-1.255	247.346	1.330	210.319
25	DD78-DD6	IN	-.600	247.045	.702	210.821
26	DD78-DD5	IN	-1.119	247.045	1.132	166.670
27	DD78-DD4	IN	-1.263	247.346	1.326	210.319
28	DD9-DD8	IN	-1.102	247.346	1.192	188.445
29	DD10-11	IN	-.953	246.042	1.100	188.846

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3212

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.440	
2	DD2	IN	-3.137	14.971	4.457	11.961
3	DD3	IN	-3.261	14.991	4.460	12.061
4	DD4	IN	-3.310	14.991	4.585	12.041
5	DD5	IN	-3.261	15.011	4.512	12.061
6	DD6	IN	-3.060	14.971	4.418	12.041
7	DD8	IN	-4.484	11.921	2.903	14.911
8	DD9	IN	-4.442	12.001	3.242	15.031
9	DD10	IN	-4.516	12.041	3.247	14.991
10	DD11	IN	-4.354	11.921	2.857	14.931
11	DF1	KIP	-7.461	11.419	8.350	11.158
12	DF7	KIP	-7.566	11.439	8.584	11.158
13	DA1	G	-.254	12.402	.303	11.961
14	DA2	G	-.102	17.279	.094	11.118
15	DA3	G	-.259	11.439	.289	11.178
16	DA4	G	-.365	12.563	.344	11.158
17	DA5	G	-.303	11.439	.303	11.178
18	DA6	G	-27.418	13.105	1.270	28.758
19	DA7	G	-2.265	21.333	2.002	21.313
20	DD1B	IN	-2.682	14.891	4.474	11.921
21	DD7B	IN	-2.859	14.911	4.440	11.921
22	DD1B-DD2	IN	-3.077	21.935	.571	11.419
23	DD1B-DD3	IN	-3.005	21.935	.961	11.439
24	DD1B-DD4	IN	-2.995	21.935	1.006	11.439
25	DD7B-DD6	IN	-3.436	21.795	.631	11.439
26	DD7B-DD5	IN	-3.362	21.795	.928	11.439
27	DD7B-DD4	IN	-3.561	21.795	.952	11.439
28	DD9-DD6	IN	-1.593	36.685	.982	11.439
29	DD10-11	IN	-1.930	40.117	2.804	19.547

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4319

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		433.282	
2	DD2	IN	-.717	198.880	.758	215.738
3	DD3	IN	-.090	259.989	.167	215.638
4	DD4	IN	-.471	229.485	.307	278.151
5	DD5	IN	-.115	291.096	.099	215.638
6	DD6	IN	-.784	199.884	.649	215.236
7	DD8	IN	-1.544	277.048	1.544	261.896
8	DD9	IN	-.094	187.240	.193	293.002
9	DD10	IN	-.032	108.170	.245	292.902
10	DD11	IN	-1.483	276.747	1.523	316.262
11	DF1	KIP	-7.628	214.233	7.850	198.579
12	DF7	KIP	-8.135	214.032	7.056	198.579
13	DA1	G	-.021	393.446	.022	63.417
14	DA2	G	-.026	343.375	.029	62.783
15	DA3	G	-.012	310.462	.016	185.033
16	DA4	G	-.011	311.465	.005	131.650
17	DA5	G	-.014	287.684	.019	56.794
18	DA6	G	-24.246	9.232	5.340	375.384
19	DA7	G	-.019	369.363	.018	359.028
20	DD1B	IN	-1.592	293.103	1.620	215.136
21	DD7B	IN	-1.592	316.382	1.593	214.835
22	DD1B-DD2	IN	-.906	293.103	.878	277.248
23	DD1B-DD3	IN	-1.526	293.103	1.466	276.847
24	DD1B-DD4	IN	-1.564	293.404	1.687	214.333
25	DD7B-DD6	IN	-.829	293.103	.964	276.747
26	DD7B-DD5	IN	-1.498	316.382	1.508	214.835
27	DD7B-DD4	IN	-1.564	293.404	1.665	214.333
28	DD9-DD8	IN	-1.482	318.289	1.560	276.947
29	DD10-11	IN	-1.292	375.083	1.463	277.850

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 3091

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.012	
2	DD2	IN	-7.223	2.810	3.934	6.884
3	DD3	IN	-7.624	2.870	4.261	6.884
4	DD4	IN	-7.697	2.850	4.370	6.904
5	DD5	IN	-7.660	2.870	4.231	6.863
6	DD6	IN	-7.185	2.830	3.876	6.863
7	DD8	IN	-3.548	6.603	7.309	13.386
8	DD9	IN	-4.220	6.904	7.551	2.870
9	DD10	IN	-4.255	6.904	7.672	2.870
10	DD11	IN	-3.404	6.562	7.202	13.406
11	DF1	KIP	-18.728	2.950	17.619	3.211
12	DF7	KIP	-18.810	2.950	20.312	3.251
13	DA1	G	-.600	2.810	.640	3.050
14	DA2	G	-.129	2.970	.115	3.372
15	DA3	G	-.518	2.930	.524	3.251
16	DA4	G	-.698	2.910	.745	3.271
17	DA5	G	-.609	2.950	.667	3.271
18	DA6	G	-14.559	2.228	.210	17.801
19	DA7	G	-2.186	17.761	1.975	17.781
20	DD18	IN	-7.310	13.386	3.543	6.583
21	DD78	IN	-7.259	13.386	3.672	6.562
22	DD18-DD2	IN	-2.602	27.313	2.510	3.853
23	DD18-DD3	IN	-4.195	16.677	3.343	3.853
24	DD18-DD4	IN	-3.659	3.291	3.558	3.833
25	DD78-DD6	IN	-3.544	7.666	2.688	3.853
26	DD78-DD5	IN	-3.582	3.291	3.429	3.853
27	DD78-DD4	IN	-3.791	3.291	3.521	3.833
28	DD9-DD8	IN	-3.522	3.311	3.206	3.853
29	DD10-11	IN	-3.446	3.291	3.213	3.853

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2723

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.627	
2	DD2	IN	-7.176	9.834	5.164	14.530
3	DD3	IN	-7.320	9.834	5.483	14.490
4	DD4	IN	-7.423	9.874	5.620	14.510
5	DD5	IN	-7.331	9.834	5.410	14.490
6	DD6	IN	-7.071	9.834	4.933	14.469
7	DD8	IN	-4.471	15.433	6.152	9.773
8	DD9	IN	-5.431	14.510	7.243	9.814
9	DD10	IN	-5.431	14.510	7.336	9.814
10	DD11	IN	-4.406	15.473	6.032	9.773
11	DF1	KIP	-11.540	4.074	12.281	3.632
12	DF7	KIP	-13.541	4.114	12.399	3.592
13	DA1	G	-.479	2.910	.623	3.291
14	DA2	G	-.105	3.954	.106	7.084
15	DA3	G	-.377	3.211	.370	3.693
16	DA4	G	-.463	3.211	.417	7.185
17	DA5	G	-.465	4.114	.411	3.512
18	DA6	G	-24.740	35.120	9.101	35.281
19	DA7	G	-3.216	25.728	3.190	25.708
20	DD18	IN	-6.136	9.773	4.475	15.433
21	DD7B	IN	-6.100	9.773	4.460	15.473
22	DD1B-DD2	IN	-4.358	26.912	3.815	4.174
23	DD1B-DD3	IN	-4.468	26.912	4.510	4.174
24	DD1B-DD4	IN	-4.589	26.912	4.565	4.174
25	DD7B-DD6	IN	-2.517	7.205	3.517	4.174
26	DD7B-DD5	IN	-3.400	7.205	4.340	4.174
27	DD7B-DD4	IN	-3.636	7.185	4.485	4.174
28	DD9-DD8	IN	-3.646	7.205	4.244	4.174
29	DD10-11	IN	-3.357	7.205	4.128	4.174

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . OS 1
NO. OF DATA POINTS . . . 1502

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		158.542	
2	DD2	IN	-.349	53.446	.342	35.807
3	DD3	IN	-.079	62.002	.099	35.807
4	DD4	IN	-.466	51.756	.183	141.854
5	DD5	IN	-.218	49.327	.102	26.195
6	DD6	IN	-.400	40.771	.364	35.807
7	DD8	IN	-.597	45.207	.576	74.148
8	DD9	IN	-.102	37.074	.094	32.004
9	DD10	IN	-.053	145.762	.167	31.687
10	DD11	IN	-.561	26.723	.572	88.830
11	DF1	KIP	-3.717	26.406	3.507	31.159
12	DF7	KIP	-3.102	26.512	2.969	21.664
13	DA1	G	-.012	38.130	.012	142.065
14	DA2	G	.412	.000	.908	22.181
15	DA3	G	-.018	126.221	.011	98.548
16	DA4	G	-.024	29.258	.006	104.463
17	DA5	G	-.026	66.227	.001	1.690
18	DA6	G	-.021	29.258	.018	1.690
19	DA7	G	-.020	47.320	.017	1.584
20	DD1B	IN	-.616	52.178	.615	45.102
21	DD7B	IN	-.599	89.147	.606	36.018
22	DD1B-DD2	IN	-.279	74.465	.285	44.890
23	DD1B-DD3	IN	-.554	51.545	.529	44.890
24	DD1B-DD4	IN	-.512	110.378	.755	36.124
25	DD7B-DD6	IN	-.213	88.830	.255	44.890
26	DD7B-DD5	IN	-.410	88.830	.519	26.723
27	DD7B-DD4	IN	-.503	88.196	.754	36.124
28	DD9-DD8	IN	-.524	89.886	.518	35.912
29	DD10-11	IN	-.426	89.358	.518	26.829

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2625

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.432	
2	DD2	IN	-2.916	11.344	2.442	13.372
3	DD3	IN	-3.017	11.386	2.443	13.393
4	DD4	IN	-3.153	11.407	2.595	13.414
5	DD5	IN	-3.013	11.386	2.441	13.393
6	DD6	IN	-2.859	11.365	2.409	13.372
7	DD8	IN	-2.456	13.266	2.809	11.281
8	DD9	IN	-2.393	13.414	2.993	11.386
9	DD10	IN	-2.442	13.414	3.001	11.386
10	DD11	IN	-2.404	13.351	2.763	11.281
11	DF1	KIP	-4.227	11.450	2.893	7.584
12	DF7	KIP	-4.218	11.471	2.830	7.584
13	DA1	G	-.134	7.605	.153	7.774
14	DA2	G	-.334	.021	.841	10.161
15	DA3	G	-.121	11.450	.130	7.605
16	DA4	G	-.143	7.373	.192	7.647
17	DA5	G	-.131	11.450	.150	7.626
18	DA6	G	-.130	8.598	.128	7.711
19	DA7	G	-.096	7.246	.073	7.520
20	DD1B	IN	-2.791	11.281	2.467	13.309
21	DD7B	IN	-2.771	11.302	2.456	13.330
22	DD1B-DD2	IN	-.191	7.584	.248	11.471
23	DD1B-DD3	IN	-.339	7.584	.387	11.450
24	DD1B-DD4	IN	-.566	7.605	.516	11.407
25	DD7B-DD6	IN	-.197	7.584	.224	11.471
26	DD7B-DD5	IN	-.353	7.584	.399	11.471
27	DD7B-DD4	IN	-.551	7.605	.530	11.407
28	DD9-DD8	IN	-.302	7.605	.339	11.450
29	DD10-11	IN	-2.115	13.752	.373	11.450

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2878

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		60.776	
2	DD2	IN	-1.957	22.519	.907	46.348
3	DD3	IN	-2.022	22.519	1.279	21.315
4	DD4	IN	-2.123	22.604	.433	4.288
5	DD5	IN	-2.019	22.519	.302	7.563
6	DD6	IN	-1.926	22.519	.930	34.476
7	DD8	IN	-.290	4.288	1.884	22.477
8	DD9	IN	-24.894	58.685	1.974	22.583
9	DD10	IN	-.266	7.584	97.884	58.664
10	DD11	IN	-1.342	58.664	1.863	22.794
11	DF1	KIP	-5.155	8.450	31.198	58.643
12	DF7	KIP	-8.246	58.685	126.837	58.643
13	DA1	G	-.760	58.685	.138	8.091
14	DA2	G	-.651	58.664	8.333	58.643
15	DA3	G	-.193	58.664	.174	8.746
16	DA4	G	-.239	9.020	.728	58.643
17	DA5	G	-.196	9.020	.222	58.685
18	DA6	G	-.171	9.084	27.535	58.643
19	DA7	G	-.106	8.218	.097	8.091
20	DD18	IN	-1.884	22.836	.285	4.331
21	DD78	IN	-1.872	22.730	.283	4.267
22	DD18-DD2	IN	-2.321	46.348	.507	58.685
23	DD18-DD3	IN	-3.042	21.315	.616	58.685
24	DD18-DD4	IN	-.849	8.725	2.083	58.685
25	DD78-DD6	IN	-2.392	34.476	.330	9.041
26	DD78-DD5	IN	-.649	8.746	.572	9.020
27	DD78-DD4	IN	-.835	8.725	2.077	58.685
28	DD9-DD8	IN	-25.228	58.685	.499	9.020
29	DD10-11	IN	-.596	8.746	99.226	58.664

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 2903

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		306.522	
2	DD2	IN	-.666	138.157	.606	147.874
3	DD3	IN	-.175	.211	.088	148.191
4	DD4	IN	-.366	139.530	.253	20.174
5	DD5	IN	-.173	.211	.056	146.818
6	DD6	IN	-.634	138.157	.614	147.874
7	DD8	IN	-1.161	186.955	1.180	223.607
8	DD9	IN	-.060	111.856	.160	.211
9	DD10	IN	-.017	174.280	.070	.211
10	DD11	IN	-1.149	186.638	1.145	200.370
11	DF1	KIP	-5.091	147.029	4.574	136.889
12	DF7	KIP	-4.726	146.290	4.202	137.206
13	DA1	G	-.110	162.873	.174	140.269
14	DA2	G	.457	.000	.852	6.654
15	DA3	G	-.026	108.899	.028	111.434
16	DA4	G	-.048	101.188	.035	101.083
17	DA5	G	-.025	100.766	.028	108.582
18	DA6	G	-.093	111.328	.067	108.793
19	DA7	G	-.100	195.722	.181	140.269
20	DD18	IN	-1.214	157.380	1.208	167.098
21	DD78	IN	-1.184	177.132	1.219	186.638
22	DD18-DD2	IN	-.573	223.607	.623	186.533
23	DD18-DD3	IN	-1.173	223.607	1.138	167.098
24	DD18-DD4	IN	-1.301	223.290	1.340	167.837
25	DD78-DD6	IN	-.568	199.419	.616	186.638
26	DD78-DD5	IN	-1.063	198.680	1.188	186.638
27	DD78-DD4	IN	-1.227	223.290	1.351	167.837
28	DD9-DD8	IN	-1.098	223.184	1.135	187.061
29	DD10-11	IN	-1.133	199.841	1.146	186.744

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . OS 3
NO. OF DATA POINTS . . . 3939

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		415.949	
2	DD2	IN	-.950	210.615	.786	289.094
3	DD3	IN	-.067	215.368	.075	16.161
4	DD4	IN	-.272	75.944	.236	38.342
5	DD5	IN	-.112	100.829	.071	16.161
6	DD6	IN	-.937	305.466	.924	226.142
7	DD8	IN	-1.765	257.301	1.799	304.621
8	DD9	IN	-.054	19.012	.105	27.674
9	DD10	IN	-.015	205.545	.021	83.866
10	DD11	IN	-1.769	257.301	1.754	335.146
11	DF1	KIP	-4.293	134.566	3.309	6.971
12	DF7	KIP	-4.343	193.504	3.989	209.242
13	DA1	G	-.113	9.295	.178	10.562
14	DA2	G	.466	.000	.801	6.760
15	DA3	G	-.013	35.279	.014	33.800
16	DA4	G	-.032	9.506	.030	192.448
17	DA5	G	-.030	194.772	.029	136.572
18	DA6	G	-.071	222.234	.106	288.566
19	DA7	G	-.132	281.383	.217	129.390
20	DD18	IN	-1.531	210.932	1.808	257.301
21	DD78	IN	-1.800	333.773	1.837	257.301
22	DD18-DD2	IN	-.917	333.456	1.036	257.829
23	DD18-DD3	IN	-1.760	307.684	1.818	257.301
24	DD18-DD4	IN	-1.973	333.139	1.979	288.988
25	DD78-DD6	IN	-.367	352.046	.927	226.564
26	DD78-DD5	IN	-1.742	335.146	1.807	257.301
27	DD78-DD4	IN	-1.926	333.139	2.015	288.968
28	DD9-DD6	IN	-1.743	306.416	1.801	289.094
29	DD10-11	IN	-1.755	333.984	1.769	257.301

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 2982

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.973	
2	DD2	IN	-2.920	16.689	4.228	13.731
3	DD3	IN	-3.104	16.752	4.365	13.752
4	DD4	IN	-3.216	16.837	4.577	12.886
5	DD5	IN	-3.122	16.752	4.322	13.731
6	DD6	IN	-2.886	16.689	4.163	13.689
7	DD8	IN	-4.467	13.457	2.888	16.456
8	DD9	IN	-4.300	13.795	3.040	16.773
9	DD10	IN	-4.331	13.773	3.092	16.773
10	DD11	IN	-4.381	13.457	2.834	16.456
11	DF1	KIP	-4.091	14.534	4.156	13.773
12	DF7	KIP	-4.170	14.513	4.373	13.773
13	DA1	G	-.399	14.175	.671	15.421
14	DA2	G	-.236	.021	.587	12.464
15	DA3	G	-.126	14.616	.195	19.815
16	DA4	G	-.182	14.407	.213	19.879
17	DA5	G	-.171	19.203	.157	13.921
18	DA6	G	-.191	14.534	.280	13.773
19	DA7	G	-.329	42.799	.506	12.443
20	DD18	IN	-2.895	16.435	4.474	13.435
21	DD78	IN	-2.860	16.435	4.446	13.435
22	DD18-DD2	IN	-.964	13.837	.929	19.245
23	DD18-DD3	IN	-1.797	13.900	1.654	19.245
24	DD18-DD4	IN	-2.160	13.900	1.798	19.245
25	DD78-DD6	IN	-.845	13.858	.881	19.245
26	DD78-DD5	IN	-1.721	13.900	1.632	19.224
27	DD78-DD4	IN	-2.130	13.900	1.792	19.245
28	DD9-DD8	IN	-2.585	14.111	1.601	19.245
29	DD10-11	IN	-1.726	13.900	2.959	10.246

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . OS 4
NO. OF DATA POINTS . . . 3819

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		403.274	
2	DD2	IN	-1.143	281.700	1.113	339.054
3	DD3	IN	-.034	321.943	.037	26.617
4	DD4	IN	-.286	344.230	.325	396.725
5	DD5	IN	-.064	16.372	.026	26.617
6	DD6	IN	-1.214	281.700	1.123	300.818
7	DD8	IN	-2.267	299.973	2.363	398.732
8	DD9	IN	-.036	346.244	.052	402.746
9	DD10	IN	-.013	398.204	.020	385.212
10	DD11	IN	-2.242	378.664	2.296	400.739
11	DF1	KIP	-3.105	221.600	2.539	240.296
12	DF7	KIP	-2.821	299.340	2.514	240.296
13	DA1	G	-.223	252.865	.291	118.299
14	DA2	G	.061	.000	1.208	243.042
15	DA3	G	-.019	259.625	.021	106.786
16	DA4	G	-.020	58.727	.017	27.568
17	DA5	G	-.014	395.775	.012	258.780
18	DA6	G	-.042	243.781	.044	27.357
19	DA7	G	-.096	252.971	.124	293.213
20	DD1B	IN	-2.403	400.211	2.286	299.973
21	DD7B	IN	-2.339	402.746	2.317	300.924
22	DD1B-DD2	IN	-1.272	399.049	1.199	299.973
23	DD1B-DD3	IN	-2.364	398.732	2.264	299.973
24	DD1B-DD4	IN	-2.557	396.725	2.499	378.769
25	DD7B-DD6	IN	-1.154	402.746	1.208	378.664
26	DD7B-DD5	IN	-2.511	402.746	2.321	378.664
27	DD7B-DD4	IN	-2.566	396.725	2.534	301.346
28	DD9-DD8	IN	-2.357	400.105	2.274	339.794
29	DD10-11	IN	-2.294	399.894	2.250	340.005

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2636

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.664	
2	DD2	IN	-3.883	4.457	1.812	8.577
3	DD3	IN	-4.424	4.605	1.998	8.598
4	DD4	IN	-4.769	4.690	2.175	8.703
5	DD5	IN	-4.523	4.626	2.003	8.598
6	DD6	IN	-3.821	4.478	1.844	8.513
7	DD8	IN	-1.930	8.239	3.923	15.020
8	DD9	IN	-1.979	8.640	4.361	4.584
9	DD10	IN	-2.022	8.619	4.494	4.626
10	DD11	IN	-1.844	8.239	3.830	15.041
11	DF1	KIP	-4.838	4.542	2.114	5.176
12	DF7	KIP	-4.414	4.521	2.873	5.176
13	DA1	G	-.566	7.373	.686	27.800
14	DA2	G	-.216	.021	.540	13.119
15	DA3	G	-.161	4.669	.146	5.302
16	DA4	G	-.214	4.711	.149	5.366
17	DA5	G	-.159	4.647	.093	5.302
18	DA6	G	-.225	4.521	.186	5.176
19	DA7	G	-.256	14.428	.324	16.815
20	DD18	IN	-3.933	15.041	1.937	8.218
21	DD78	IN	-3.871	15.062	1.879	8.260
22	DD18-DD2	IN	-.957	5.218	1.553	4.605
23	DD18-DD3	IN	-1.686	5.260	2.926	4.690
24	DD18-DD4	IN	-1.760	5.323	3.479	4.690
25	DD78-DD6	IN	-1.689	17.935	1.454	4.669
26	DD78-DD5	IN	-1.585	5.281	2.968	4.711
27	DD78-DD4	IN	-1.830	5.323	3.328	4.690
28	DD9-DD8	IN	-1.710	5.260	2.852	4.669
29	DD10-11	IN	-1.573	5.281	2.938	4.711

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2410

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		50.890	
2	DD2	IN	-6.787	11.598	4.924	7.140
3	DD3	IN	-7.933	11.851	6.498	7.330
4	DD4	IN	-8.613	11.851	7.525	7.415
5	DD5	IN	-6.163	11.851	6.745	7.394
6	DD6	IN	-6.800	11.598	4.931	7.161
7	DD8	IN	-4.361	17.153	5.950	11.450
8	DD9	IN	-6.429	7.330	7.811	11.893
9	DD10	IN	-6.718	7.415	8.127	11.872
10	DD11	IN	-4.215	17.153	5.822	11.492
11	DF1	KIP	-2.567	6.703	4.659	7.711
12	DF7	KIP	-3.342	5.767	4.051	4.457
13	DA1	G	-1.008	4.457	1.308	4.436
14	DA2	G	-.145	.021	.489	4.985
15	DA3	G	-.185	4.922	.242	7.837
16	DA4	G	-.206	8.661	.312	5.260
17	DA5	G	-.153	8.577	.181	7.436
18	DA6	G	-.211	7.478	.239	7.732
19	DA7	G	-.359	20.153	.618	4.964
20	DD1B	IN	-5.969	11.450	4.359	17.153
21	DD7B	IN	-5.872	11.471	4.284	17.175
22	DD1B-DD2	IN	-3.580	7.732	3.209	8.725
23	DD1B-DD3	IN	-6.286	7.795	6.516	8.619
24	DD1B-DD4	IN	-7.109	7.816	7.680	8.661
25	DD7B-DD6	IN	-3.054	7.753	3.187	8.703
26	DD7B-DD5	IN	-5.968	7.795	6.743	8.640
27	DD7B-DD4	IN	-6.808	7.816	7.692	8.661
28	DD9-DD8	IN	-6.243	7.795	6.444	8.640
29	DD10-11	IN	-5.901	7.816	6.613	8.640

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . E
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2652

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.002	
2	DD2	IN	-6.975	14.978	3.438	7.056
3	DD3	IN	-8.300	4.922	4.082	7.225
4	DD4	IN	-10.241	4.690	4.430	7.330
5	DD5	IN	-8.547	4.711	4.074	7.309
6	DD6	IN	-6.881	14.978	3.297	7.056
7	DD8	IN	-3.505	8.070	7.062	14.872
8	DD9	IN	-4.027	7.204	8.174	4.901
9	DD10	IN	-4.076	7.267	8.516	4.732
10	DD11	IN	-3.351	8.070	6.923	14.935
11	DF1	KIP	-3.294	4.352	2.559	7.098
12	DF7	KIP	-3.333	4.352	2.005	7.098
13	DA1	G	-1.201	14.745	1.207	7.415
14	DA2	G	-.131	.021	.489	27.652
15	DA3	G	-.160	6.316	.155	5.978
16	DA4	G	-.447	4.690	.200	7.309
17	DA5	G	-.158	4.584	.125	7.373
18	DA6	G	-.308	4.394	.337	4.690
19	DA7	G	-.478	10.140	.536	16.668
20	DD1B	IN	-7.090	14.893	3.513	8.070
21	DD7B	IN	-7.012	14.914	3.398	8.070
22	DD1B-DD2	IN	-3.220	14.703	2.854	4.880
23	DD1B-DD3	IN	-3.586	18.231	5.678	4.626
24	DD1B-DD4	IN	-2.705	4.119	7.934	4.690
25	DD7B-DD6	IN	-1.309	4.098	2.750	4.659
26	DD7B-DD5	IN	-2.639	46.644	6.302	4.669
27	DD7B-DD4	IN	-2.596	7.330	8.001	4.690
28	DD9-DD8	IN	-2.494	4.140	5.639	4.626
29	DD10-11	IN	-2.361	7.288	6.278	4.669

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM E1
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 2961

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.530	
2	DD2	IN	-3.038	16.668	4.480	13.626
3	DD3	IN	-3.183	16.689	4.473	13.647
4	DD4	IN	-3.343	16.752	4.630	13.752
5	DD5	IN	-3.215	16.689	4.476	13.710
6	DD6	IN	-3.010	16.668	4.362	13.647
7	DD8	IN	-4.348	13.583	2.828	16.625
8	DD9	IN	-4.406	13.626	3.149	16.710
9	DD10	IN	-4.464	13.689	3.205	16.710
10	DD11	IN	-4.211	13.604	2.764	16.625
11	DF1	KIP	-5.984	12.548	7.503	12.823
12	DF7	KIP	-6.593	13.119	7.677	12.844
13	DA1	G	-.210	13.372	.212	18.590
14	DA2	G	-.431	.021	1.163	18.590
15	DA3	G	-.185	12.506	.240	12.823
16	DA4	G	-.325	13.161	.332	12.844
17	DA5	G	-.315	13.161	.323	12.844
18	DA6	G	-.243	13.055	.220	12.907
19	DA7	G	-.127	14.111	.124	13.858
20	DD1B	IN	-2.822	16.604	4.353	13.583
21	DD7B	IN	-2.750	16.625	4.271	13.626
22	DD1B-DD2	IN	-.669	12.844	.517	13.140
23	DD1B-DD3	IN	-1.078	12.844	.914	13.140
24	DD1B-DD4	IN	-1.483	12.865	1.302	13.119
25	DD7B-DD6	IN	-2.495	17.386	.629	13.140
26	DD7B-DD5	IN	-1.157	12.844	1.022	13.140
27	DD7B-DD4	IN	-1.444	12.865	1.200	13.119
28	DD9-DD8	IN	-2.296	26.786	3.110	21.400
29	DD10-11	IN	-2.393	42.609	3.214	21.019

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM E1
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS 2641

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.770	
2	DD2	IN	-3.966	14.851	1.917	8.070
3	DD3	IN	-4.065	14.914	2.061	8.957
4	DD4	IN	-4.442	14.999	2.494	6.464
5	DD5	IN	-4.167	14.956	2.138	8.957
6	DD6	IN	-3.976	14.893	1.989	8.070
7	DD8	IN	-1.899	7.943	3.918	14.745
8	DD9	IN	-2.031	8.978	3.979	4.162
9	DD10	IN	-2.139	8.976	4.132	14.935
10	DD11	IN	-1.841	7.943	3.849	14.766
11	DF1	KIP	-9.674	5.049	7.952	4.584
12	DF7	KIP	-10.191	5.049	8.467	4.563
13	DA1	G	-.356	4.098	.228	4.500
14	DA2	G	-.213	.021	.719	.000
15	DA3	G	-.344	5.049	.258	5.577
16	DA4	G	-.529	5.154	.578	4.626
17	DA5	G	-.347	5.070	.332	4.584
18	DA6	G	-.367	5.028	.297	4.500
19	DA7	G	-.240	4.140	.171	4.457
20	DD18	IN	-3.952	14.745	1.918	7.943
21	DD78	IN	-3.886	14.766	1.878	7.964
22	DD18-DD2	IN	-.848	4.605	1.021	5.049
23	DD18-DD3	IN	-1.670	4.647	1.704	5.091
24	DD18-DD4	IN	-3.231	4.626	3.061	5.133
25	DD78-DD6	IN	-2.382	34.539	1.069	5.070
26	DD78-DD5	IN	-3.095	30.927	1.982	5.112
27	DD78-DD4	IN	-3.161	4.626	2.945	5.133
28	DD9-DD8	IN	-1.056	4.626	1.575	5.091
29	DD10-11	IN	-1.855	4.626	1.835	5.112

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM E1
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2478

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		52.326	
2	DD2	IN	-6.305	11.196	4.534	16.963
3	DD3	IN	-6.494	11.238	4.816	15.759
4	DD4	IN	-7.176	5.387	6.619	8.471
5	DD5	IN	-6.525	11.238	5.391	15.844
6	DD6	IN	-6.224	11.217	4.528	15.738
7	DD8	IN	-4.349	16.837	5.951	11.133
8	DD9	IN	-4.768	15.759	6.386	11.238
9	DD10	IN	-5.393	15.823	6.499	11.238
10	DD11	IN	-4.217	16.837	5.832	11.154
11	DF1	KIP	-10.494	5.281	9.027	5.894
12	DF7	KIP	-10.430	5.345	8.961	5.936
13	DA1	G	-.394	4.331	.632	4.605
14	DA2	G	-.139	.021	.474	.000
15	DA3	G	-.388	5.281	.446	4.774
16	DA4	G	-.751	5.387	.843	4.838
17	DA5	G	-.480	5.302	.449	4.816
18	DA6	G	-.476	7.647	.511	4.711
19	DA7	G	-.296	4.394	.404	4.626
20	DD18	IN	-5.986	11.133	4.366	16.815
21	DD78	IN	-5.891	11.175	4.292	16.858
22	DD18-DD2	IN	-1.349	6.929	1.457	5.450
23	DD18-DD3	IN	-2.683	6.971	3.199	5.429
24	DD18-DD4	IN	-5.264	8.471	5.843	5.387
25	DD78-DD6	IN	-1.470	5.957	1.557	5.450
26	DD78-DD5	IN	-3.859	8.471	4.182	5.429
27	DD78-DD4	IN	-5.234	8.471	5.702	5.367
28	DD9-DD8	IN	-2.042	6.971	3.009	5.429
29	DD10-11	IN	-3.867	8.492	3.981	5.429

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM E1
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2699

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.995	
2	DD2	IN	-7.061	4.225	3.667	8.788
3	DD3	IN	-7.556	4.267	3.624	8.788
4	DD4	IN	-9.303	4.415	4.254	8.387
5	DD5	IN	-8.076	4.352	4.066	8.471
6	DD6	IN	-7.041	4.246	3.424	8.788
7	DD8	IN	-3.441	8.006	7.034	14.830
8	DD9	IN	-3.571	8.767	7.458	4.267
9	DD10	IN	-4.055	8.450	8.063	4.352
10	DD11	IN	-3.336	8.027	6.931	14.851
11	DF1	KIP	-11.476	4.309	8.806	4.922
12	DF7	KIP	-11.165	4.309	8.931	4.901
13	DA1	G	-.520	4.183	.468	4.415
14	DA2	G	-.161	.021	.567	.000
15	DA3	G	-.449	4.309	.346	4.964
16	DA4	G	-.695	4.457	.684	4.859
17	DA5	G	-.362	4.457	.447	4.901
18	DA6	G	-.546	4.309	.455	4.521
19	DA7	G	-.367	4.204	.302	4.521
20	DD1B	IN	-7.119	14.809	3.453	8.006
21	DD7B	IN	-7.030	14.851	3.386	8.027
22	DD1B-DD2	IN	-2.159	25.646	2.090	4.352
23	DD1B-DD3	IN	-3.652	4.964	3.578	4.394
24	DD1B-DD4	IN	-6.356	4.943	6.575	4.436
25	DD7B-DD6	IN	-2.572	4.985	1.988	4.352
26	DD7B-DD5	IN	-5.726	4.985	4.837	4.457
27	DD7B-DD4	IN	-6.115	4.943	6.249	4.436
28	DD9-DD8	IN	-3.619	4.964	3.366	4.394
29	DD10-11	IN	-5.606	4.964	4.728	4.436

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1178

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		124.320	
2	DD2	IN	-.207	85.767	.184	20.914
3	DD3	IN	-.016	92.316	.035	20.597
4	DD4	IN	-.220	11.830	.282	55.664
5	DD5	IN	-.064	85.767	.118	20.914
6	DD6	IN	-.212	44.151	.229	20.914
7	DD8	IN	-.335	28.307	.371	77.317
8	DD9	IN	-.036	118.088	.053	43.623
9	DD10	IN	-.009	3.169	.041	42.250
10	DD11	IN	-.329	20.808	.337	43.623
11	DF1	KIP	-5.201	20.808	5.372	17.111
12	DF7	KIP	-4.405	28.202	5.335	17.111
13	DA1	G	-.009	120.729	.009	115.553
14	DA2	G	.198	114.391	.620	.000
15	DA3	G	-.001	86.612	.004	28.413
16	DA4	G	-.008	54.925	.006	5.176
17	DA5	G	-.008	82.493	.014	35.384
18	DA6	G	-.026	113.018	.011	99.815
19	DA7	G	-.020	104.357	.012	12.569
20	DD1B	IN	-.410	77.106	.400	21.019
21	DD7B	IN	-.387	39.715	.391	28.413
22	DD1B-DD2	IN	-.211	42.250	.225	28.307
23	DD1B-DD3	IN	-.407	76.683	.376	35.912
24	DD1B-DD4	IN	-.608	59.783	.480	20.914
25	DD7B-DD6	IN	-.188	40.677	.172	28.413
26	DD7B-DD5	IN	-.341	24.716	.286	28.307
27	DD7B-DD4	IN	-.584	59.783	.471	20.914
28	DD9-DD8	IN	-.369	76.789	.340	20.914
29	DD10-11	IN	-.305	17.322	.327	35.807

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2284

CHANNEL NO.	CHANNEL LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		48.228	
2	DD2	IN	-2.743	10.605	2.412	12.590
3	DD3	IN	-2.763	10.605	2.430	12.590
4	DD4	IN	-2.856	10.605	2.518	12.696
5	DD5	IN	-2.744	10.605	2.430	12.590
6	DD6	IN	-2.698	10.626	2.382	12.590
7	DD8	IN	-2.401	12.633	2.704	10.584
8	DD9	IN	-2.592	12.569	2.750	10.647
9	DD10	IN	-2.429	12.612	2.746	10.605
10	DD11	IN	-2.364	12.569	2.676	10.584
11	DF1	KIP	-4.641	6.633	4.350	6.866
12	DF7	KIP	-4.973	6.570	4.511	6.844
13	DA1	G	-.106	6.908	.168	7.077
14	DA2	G	-.219	.021	.668	.000
15	DA3	G	-.143	6.612	.152	6.823
16	DA4	G	-.190	7.774	.164	8.408
17	DA5	G	-.186	6.612	.155	6.844
18	DA6	G	-.174	6.549	.137	6.823
19	DA7	G	-.092	7.225	.101	7.056
20	DD1B	IN	-2.683	10.584	2.381	12.633
21	DD7B	IN	-2.679	10.605	2.386	12.590
22	DD1B-DD2	IN	-2.060	15.231	.179	6.591
23	DD1B-DD3	IN	-.232	6.844	.261	6.591
24	DD1B-DD4	IN	-.380	7.204	.355	33.229
25	DD7B-DD6	IN	-.133	6.844	.164	6.570
26	DD7B-DD5	IN	-3.229	10.224	.262	6.591
27	DD7B-DD4	IN	-.384	7.204	.363	33.229
28	DD9-DD8	IN	-.171	10.268	.230	6.591
29	DD10-11	IN	-.186	6.844	.240	6.591

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2961

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.530	
2	DD2	IN	-1.857	23.195	.271	4.669
3	DD3	IN	-1.864	23.195	.281	4.669
4	DD4	IN	-1.996	22.878	.469	4.584
5	DD5	IN	-1.842	22.794	.284	4.669
6	DD6	IN	-1.815	23.195	.603	36.821
7	DD8	IN	-.282	4.690	1.836	23.153
8	DD9	IN	-.290	4.711	1.853	23.153
9	DD10	IN	-.279	4.711	1.838	23.153
10	DD11	IN	-.265	4.711	1.806	23.153
11	DF1	KIP	-6.626	8.746	4.553	8.978
12	DF7	KIP	-6.286	8.746	4.796	8.999
13	DA1	G	-.106	8.619	.108	8.471
14	DA2	G	-.268	.021	.624	.000
15	DA3	G	-.183	8.725	.157	8.978
16	DA4	G	-.226	8.725	.181	8.978
17	DA5	G	-.244	8.746	.184	9.020
18	DA6	G	-.168	8.746	.149	9.041
19	DA7	G	-.095	8.619	.084	8.936
20	DD1B	IN	-1.826	23.174	.279	4.669
21	DD7B	IN	-1.819	23.174	.273	4.626
22	DD1B-DD2	IN	-.158	8.999	.255	8.725
23	DD1B-DD3	IN	-.246	8.999	.366	8.746
24	DD1B-DD4	IN	-.321	31.159	.431	8.767
25	DD7B-DD6	IN	-2.126	37.792	.211	8.746
26	DD7B-DD5	IN	-.258	8.999	.357	8.725
27	DD7B-DD4	IN	-.323	31.159	.446	8.767
28	DD9-DD8	IN	-.200	8.978	.285	8.746
29	DD10-11	IN	-.196	8.978	.321	8.746

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 2301

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		242.936	
2	DD2	IN	-.398	152.839	.371	115.764
3	DD3	IN	-.024	109.004	.065	130.446
4	DD4	IN	-.294	61.790	.255	131.502
5	DD5	IN	-.134	109.004	.142	115.764
6	DD6	IN	-.438	190.863	.435	115.764
7	DD8	IN	-.718	129.918	.716	194.455
8	DD9	IN	-.055	147.029	.099	155.057
9	DD10	IN	-.024	115.870	.073	191.708
10	DD11	IN	-.682	143.966	.722	190.335
11	DF1	KIP	-8.054	115.131	7.243	108.265
12	DF7	KIP	-7.504	115.236	7.698	108.159
13	DA1	G	-.071	112.068	.334	111.962
14	DA2	G	.378	.106	.612	.000
15	DA3	G	-.004	112.173	.010	112.279
16	DA4	G	-.016	112.068	.020	112.384
17	DA5	G	-.015	195.722	.016	116.504
18	DA6	G	-.019	96.646	.019	112.173
19	DA7	G	-.017	238.711	.013	112.173
20	DD18	IN	-.777	150.937	.807	115.764
21	DD7B	IN	-.796	190.441	.762	115.553
22	DD18-DD2	IN	-.390	194.455	.442	129.918
23	DD18-DD3	IN	-.767	150.937	.755	115.870
24	DD18-DD4	IN	-.992	151.677	.860	115.342
25	DD7B-DD6	IN	-.369	190.335	.339	129.918
26	DD7B-DD5	IN	-.684	190.335	.638	143.966
27	DD7B-DD4	IN	-1.021	151.677	.820	115.342
28	DD9-DD8	IN	-.670	193.927	.695	129.812
29	DD10-11	IN	-.654	190.652	.665	144.177

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 2929

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		309.268	
2	DD2	IN	-.576	160.021	.516	215.685
3	DD3	IN	-.031	163.718	.059	13.520
4	DD4	IN	-.323	211.460	.250	15.949
5	DD5	IN	-.167	159.262	.124	13.203
6	DD6	IN	-.634	250.647	.609	171.112
7	DD8	IN	-1.065	215.157	1.108	252.865
8	DD9	IN	-.042	30.737	.121	204.489
9	DD10	IN	-.031	27.674	.066	160.127
10	DD11	IN	-1.068	215.474	1.074	249.802
11	DF1	KIP	-6.905	170.478	9.198	159.176
12	DF7	KIP	-6.782	170.267	9.609	158.965
13	DA1	G	-.019	110.589	.029	222.973
14	DA2	G	.520	.106	.703	158.859
15	DA3	G	-.002	65.593	.006	28.519
16	DA4	G	-.009	58.516	.008	65.804
17	DA5	G	-.017	278.003	.014	26.723
18	DA6	G	-.015	263.005	.017	41.616
19	DA7	G	-.018	168.328	.050	40.877
20	DD1B	IN	-1.180	252.337	1.174	215.474
21	DD7B	IN	-1.166	250.119	1.166	170.900
22	DD1B-DD2	IN	-.616	251.175	.669	193.398
23	DD1B-DD3	IN	-1.166	251.175	1.147	193.398
24	DD1B-DD4	IN	-1.262	262.794	1.303	215.685
25	DD7B-DD6	IN	-.547	276.419	.568	215.580
26	DD7B-DD5	IN	-1.016	262.160	1.091	170.900
27	DD7B-DD4	IN	-1.249	262.794	1.307	215.685
28	DD9-DD8	IN	-1.035	251.809	1.098	215.368
29	DD10-11	IN	-1.020	215.685	1.065	215.474

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 2982

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.973	
2	DD2	IN	-3.022	17.006	4.276	14.069
3	DD3	IN	-3.130	17.006	4.386	14.090
4	DD4	IN	-3.232	16.963	4.472	14.090
5	DD5	IN	-3.094	17.006	4.393	14.090
6	DD6	IN	-2.947	17.006	4.217	14.069
7	DD8	IN	-4.321	13.964	2.641	16.963
8	DD9	IN	-4.335	14.111	3.096	16.984
9	DD10	IN	-4.394	14.111	3.099	16.964
10	DD11	IN	-4.243	13.964	2.797	16.963
11	DF1	KIP	-7.714	19.372	7.390	13.161
12	DF7	KIP	-7.614	19.372	7.483	13.161
13	DA1	G	-.216	14.471	.255	18.928
14	DA2	G	-.228	.021	.610	.000
15	DA3	G	-.266	19.414	.226	13.710
16	DA4	G	-.349	13.478	.248	13.140
17	DA5	G	-.332	13.435	.244	13.119
18	DA6	G	-.220	19.372	.223	13.162
19	DA7	G	-.156	13.773	.178	13.921
20	DD1B	IN	-2.797	16.942	4.337	13.942
21	DD7B	IN	-2.780	16.963	4.315	13.964
22	DD1B-DD2	IN	-.464	13.161	.555	13.435
23	DD1B-DD3	IN	-.701	13.161	.660	13.435
24	DD1B-DD4	IN	-.689	13.140	1.004	19.350
25	DD7B-DD6	IN	-.379	19.076	.498	13.414
26	DD7B-DD5	IN	-.687	13.161	.846	13.435
27	DD7B-DD4	IN	-.895	13.140	1.007	19.350
28	DD9-DD8	IN	-2.530	12.527	3.218	42.208
29	DD10-11	IN	-2.338	44.447	.752	13.435

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4226

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		446.263	
2	DD2	IN	-.731	271.138	.695	256.033
3	DD3	IN	-.024	242.302	.060	256.033
4	DD4	IN	-.277	301.663	.305	43.412
5	DD5	IN	-.146	308.740	.116	164.774
6	DD6	IN	-.804	327.330	.797	224.135
7	DD8	IN	-1.448	287.087	1.471	302.825
8	DD9	IN	-.063	258.569	.093	208.186
9	DD10	IN	-.049	258.569	.043	327.858
10	DD11	IN	-1.457	255.506	1.447	327.224
11	DF1	KIP	-9.803	223.713	9.953	207.869
12	DF7	KIP	-10.161	223.396	9.948	207.869
13	DA1	G	-.017	260.681	.014	264.272
14	DA2	G	.480	.000	.712	207.658
15	DA3	G	-.037	149.564	.015	149.142
16	DA4	G	-.008	10.034	.008	32.427
17	DA5	G	-.016	308.318	.014	191.708
18	DA6	G	-.019	57.354	.015	134.777
19	DA7	G	-.018	15.316	.017	38.870
20	DD18	IN	-1.556	271.138	1.560	286.876
21	DD78	IN	-1.563	327.013	1.561	255.400
22	DD18-DD2	IN	-.834	307.895	.872	255.822
23	DD18-DD3	IN	-1.546	307.895	1.514	224.663
24	DD18-DD4	IN	-1.673	271.138	1.699	286.242
25	DD78-DD6	IN	-.791	370.108	.777	286.770
26	DD78-DD5	IN	-1.430	327.224	1.462	255.506
27	DD78-DD4	IN	-1.690	327.013	1.707	286.242
28	DD9-DD8	IN	-1.421	304.198	1.426	223.818
29	DD10-11	IN	-1.416	327.013	1.419	286.665

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2762

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		58.326	
2	DD2	IN	-4.039	16.161	2.057	10.140
3	DD3	IN	-4.154	16.203	2.192	10.140
4	DD4	IN	-4.224	16.203	2.399	10.161
5	DD5	IN	-4.130	16.203	2.205	10.140
6	DD6	IN	-3.972	16.161	1.983	10.140
7	DD8	IN	-1.904	9.274	3.941	16.076
8	DD9	IN	-2.186	10.161	4.072	16.224
9	DD10	IN	-2.213	10.161	4.123	16.203
10	DD11	IN	-1.071	9.274	3.891	16.076
11	DF1	KIP	-10.531	5.598	13.660	5.894
12	DF7	KIP	-10.044	5.598	14.009	5.894
13	DA1	G	-.383	5.450	.232	5.746
14	DA2	G	-.279	.021	.744	5.873
15	DA3	G	-.337	5.619	.484	5.936
16	DA4	G	-.449	5.619	.659	5.915
17	DA5	G	-.372	5.577	.484	5.936
18	DA6	G	-.337	6.337	.356	5.915
19	DA7	G	-.273	5.450	.193	5.704
20	DD1B	IN	-3.918	16.097	1.908	9.274
21	DD7B	IN	-3.906	16.076	1.903	9.295
22	DD1B-DD2	IN	-2.117	34.476	.883	5.598
23	DD1B-DD3	IN	-2.980	13.414	1.393	5.598
24	DD1B-DD4	IN	-2.095	5.894	1.490	5.598
25	DD7B-DD6	IN	-1.054	5.915	.718	5.598
26	DD7B-DD5	IN	-1.843	5.915	1.318	5.598
27	DD7B-DD4	IN	-2.083	5.894	1.446	5.598
28	DD9-DD8	IN	-1.747	5.915	1.239	5.598
29	DD10-11	IN	-1.700	5.915	1.244	5.598

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2415

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		50.995	
2	DD2	IN	-5.813	11.914	5.199	7.457
3	DD3	IN	-5.817	11.999	5.722	7.478
4	DD4	IN	-5.926	12.041	5.941	7.499
5	DD5	IN	-5.812	11.999	5.664	7.478
6	DD6	IN	-5.745	11.936	4.972	7.457
7	DD8	IN	-4.365	17.555	5.952	11.872
8	DD9	IN	-5.657	7.478	5.746	12.041
9	DD10	IN	-5.671	7.499	5.804	12.041
10	DD11	IN	-4.289	17.555	5.868	11.872
11	DF1	KIP	-14.975	5.176	14.585	5.471
12	DF7	KIP	-15.372	5.999	15.834	5.492
13	DA1	G	-.372	5.746	.687	5.545
14	DA2	G	-.121	.021	.457	5.387
15	DA3	G	-.534	5.218	.637	5.535
16	DA4	G	-.725	5.176	1.028	5.492
17	DA5	G	-.600	5.176	.803	5.471
18	DA6	G	-.436	5.978	.617	5.387
19	DA7	G	-.296	5.007	.452	5.345
20	DD1B	IN	-5.962	11.851	4.348	17.555
21	DD7B	IN	-5.932	11.872	4.328	17.555
22	DD1B-DD2	IN	-2.069	5.535	1.853	6.021
23	DD1B-DD3	IN	-3.282	5.514	2.718	6.021
24	DD1B-DD4	IN	-3.574	5.535	2.881	5.999
25	DD7B-DD6	IN	-1.735	5.514	1.566	5.999
26	DD7B-DD5	IN	-3.129	5.514	2.667	6.021
27	DD7B-DD4	IN	-3.494	5.535	2.868	5.999
28	DD9-DD8	IN	-3.119	5.514	2.503	6.021
29	DD10-11	IN	-3.006	5.514	2.523	6.021

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 5-1
NO. OF DATA POINTS . . . 2767

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		58.431	
2	DD2	IN	-7.082	4.457	3.830	8.513
3	DD3	IN	-7.692	4.521	4.347	8.556
4	DD4	IN	-7.834	4.542	4.465	8.534
5	DD5	IN	-7.642	4.521	4.267	8.534
6	DD6	IN	-6.864	4.436	3.626	8.513
7	DD8	IN	-3.444	8.218	7.042	15.041
8	DD9	IN	-4.284	8.556	7.588	4.500
9	DD10	IN	-4.274	8.534	7.634	4.500
10	DD11	IN	-3.379	8.239	6.954	15.083
11	DF1	KIP	-14.990	4.563	14.650	5.049
12	DF7	KIP	-15.887	4.563	16.765	5.028
13	DA1	G	-.617	4.373	.541	4.669
14	DA2	G	-.114	.021	.370	4.816
15	DA3	G	-.516	4.584	.549	4.922
16	DA4	G	-.870	5.471	.884	4.943
17	DA5	G	-.597	5.450	.698	4.985
18	DA6	G	-.530	4.457	.599	5.028
19	DA7	G	-.457	4.415	.403	4.669
20	DD1B	IN	-7.089	15.041	3.440	8.218
21	DD7B	IN	-7.067	15.062	3.429	8.260
22	DD1B-DD2	IN	-3.079	14.111	2.856	5.514
23	DD1B-DD3	IN	-4.331	5.007	3.905	5.514
24	DD1B-DD4	IN	-4.432	4.985	4.151	5.492
25	DD7B-DD6	IN	-2.636	18.231	2.226	5.514
26	DD7B-DD5	IN	-4.129	4.985	3.659	5.514
27	DD7B-DD4	IN	-4.406	4.985	4.113	5.492
28	DD9-DD8	IN	-4.157	5.007	3.730	7.964
29	DD10-11	IN	-3.946	5.007	3.517	5.514

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . H
INPUT MOTION . . . . GM 5-2
NO. OF DATA POINTS . . . 2683

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.657	
2	DD2	IN	-7.203	5.112	3.414	9.147
3	DD3	IN	-8.110	5.197	3.703	9.210
4	DD4	IN	-8.332	5.197	3.880	9.232
5	DD5	IN	-7.953	5.176	3.654	9.210
6	DD6	IN	-6.914	5.091	3.278	9.084
7	DD8	IN	-3.436	8.872	7.049	15.675
8	DD9	IN	-3.671	9.189	8.008	5.197
9	DD10	IN	-3.650	9.189	7.944	5.176
10	DD11	IN	-3.379	8.872	6.958	15.675
11	DF1	KIP	-11.706	5.239	11.905	5.767
12	DF7	KIP	-14.036	5.239	15.129	5.725
13	DA1	G	-.568	5.049	.446	6.612
14	DA2	G	-.153	.021	.441	5.387
15	DA3	G	-.526	5.260	.396	5.788
16	DA4	G	-.566	5.239	.550	5.661
17	DA5	G	-.583	5.218	.509	5.704
18	DA6	G	-.532	5.112	.498	5.725
19	DA7	G	-.482	5.049	.306	5.323
20	DD1B	IN	-7.089	15.696	3.442	8.872
21	DD7B	IN	-7.069	15.675	3.428	8.872
22	DD1B-DD2	IN	-3.707	5.788	3.478	5.260
23	DD1B-DD3	IN	-4.984	5.788	4.710	5.260
24	DD1B-DD4	IN	-4.996	5.725	4.761	5.281
25	DD7B-DD6	IN	-2.827	5.767	2.567	5.260
26	DD7B-DD5	IN	-4.596	5.767	4.352	5.260
27	DD7B-DD4	IN	-4.948	5.725	4.698	5.281
28	DD9-DD8	IN	-4.850	5.788	4.428	5.260
29	DD10-11	IN	-4.393	5.767	4.186	5.260

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1304

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		137.629	
2	DD2	IN	-.371	72.353	.360	20.174
3	DD3	IN	-.101	24.399	.171	27.990
4	DD4	IN	-.287	72.036	.381	19.118
5	DD5	IN	-.135	24.399	.133	27.990
6	DD6	IN	-.330	16.583	.299	27.990
7	DD8	IN	-.612	35.701	.654	93.055
8	DD9	IN	-.063	28.835	.138	16.689
9	DD10	IN	-.066	35.701	.164	16.689
10	DD11	IN	-.620	20.280	.667	73.198
11	DF1	KIP	-9.711	20.069	10.565	16.161
12	DF7	KIP	-10.230	20.069	10.041	16.266
13	DA1	G	-2.579	104.568	.018	37.614
14	DA2	G	-.017	11.724	.016	14.048
15	DA3	G	-.011	16.477	.020	14.048
16	DA4	G	-.012	16.794	.016	14.048
17	DA5	G	-.014	16.477	.017	121.046
18	DA6	G	-.018	11.936	.013	121.046
19	DA7	G	-.028	114.074	.020	124.109
20	DD18	IN	-.727	107.631	.694	28.096
21	DD76	IN	-.695	42.039	.701	35.807
22	DD18-DD2	IN	-.373	93.055	.339	20.280
23	DD18-DD3	IN	-.650	93.055	.534	20.280
24	DD18-DD4	IN	-.742	91.365	.674	27.990
25	DD76-DD6	IN	-.422	93.055	.409	20.280
26	DD76-DD5	IN	-.590	93.055	.584	20.280
27	DD76-DD4	IN	-.726	40.032	.680	27.990
28	DD9-DD8	IN	-.570	73.092	.570	35.701
29	DD10-11	IN	-.526	92.527	.564	35.912

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2631

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.558	
2	DD2	IN	-2.809	10.119	2.415	12.168
3	DD3	IN	-2.834	10.119	2.417	12.168
4	DD4	IN	-2.982	10.140	2.480	12.274
5	DD5	IN	-2.819	10.161	2.421	12.168
6	DD6	IN	-2.761	10.161	2.397	12.168
7	DD8	IN	-2.384	12.126	2.735	10.140
8	DD9	IN	-2.386	12.210	2.818	10.140
9	DD10	IN	-2.429	12.210	2.811	10.140
10	DD11	IN	-2.344	12.147	2.688	10.140
11	DF1	KIP	-4.072	6.126	5.019	6.380
12	DF7	KIP	-4.178	6.168	4.516	6.380
13	DA1	G	-.152	6.422	.148	6.591
14	DA2	G	-.136	6.105	.138	6.360
15	DA3	G	-.128	6.147	.173	6.401
16	DA4	G	-.147	6.147	.175	6.401
17	DA5	G	-.140	6.168	.141	6.380
18	DA6	G	-.129	6.190	.136	7.943
19	DA7	G	-.087	6.760	.093	6.549
20	DD1B	IN	-2.689	10.140	2.382	12.147
21	DD7B	IN	-2.586	10.140	2.389	12.105
22	DD1B-DD2	IN	-.192	6.380	.167	6.147
23	DD1B-DD3	IN	-.245	6.380	.227	6.147
24	DD1B-DD4	IN	-.341	6.760	.302	6.105
25	DD7B-DD6	IN	-.180	6.380	.179	6.147
26	DD7B-DD5	IN	-.244	6.380	.226	6.147
27	DD7B-DD4	IN	-.335	7.922	.296	10.140
28	DD9-DD8	IN	-.186	6.401	.231	6.126
29	DD10-11	IN	-.223	6.380	.188	6.126

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2856

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		60.312	
2	DD2	IN	-1.847	22.266	.804	36.335
3	DD3	IN	-1.655	22.266	.278	4.098
4	DD4	IN	-2.023	22.266	.388	4.204
5	DD5	IN	-1.846	22.266	.283	4.098
6	DD6	IN	-1.816	22.266	.273	4.098
7	DD8	IN	-.276	4.119	1.834	22.625
8	DD9	IN	-.265	4.119	1.822	22.308
9	DD10	IN	-.271	4.119	1.830	22.266
10	DD11	IN	-.265	4.056	1.793	22.625
11	DF1	KIP	-7.839	8.196	6.589	8.450
12	DF7	KIP	-8.200	8.218	5.573	8.450
13	DA1	G	-.158	8.154	.130	7.922
14	DA2	G	-.194	8.175	.171	8.450
15	DA3	G	-.251	8.218	.209	8.471
16	DA4	G	-.288	8.218	.217	8.471
17	DA5	G	-.279	8.218	.190	8.471
18	DA6	G	-.237	8.218	.177	8.513
19	DA7	G	-.117	8.070	.113	7.922
20	DD18	IN	-1.820	22.667	.273	4.035
21	DD78	IN	-1.807	22.625	.274	4.077
22	DD18-DD2	IN	-2.320	36.335	.259	8.196
23	DD18-DD3	IN	-.325	8.450	.375	8.218
24	DD18-DD4	IN	-.390	8.471	.500	8.196
25	DD78-DD6	IN	-.243	8.450	.304	8.218
26	DD78-DD5	IN	-.331	8.450	.383	8.218
27	DD78-DD4	IN	-.391	8.471	.492	8.196
28	DD9-DD8	IN	-.278	8.471	.332	8.218
29	DD10-11	IN	-.283	8.471	.343	8.218

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 2378

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		251.069	
2	DD2	IN	-.635	107.843	.433	89.886
3	DD3	IN	-.129	107.843	.180	89.886
4	DD4	IN	-.514	108.899	.292	115.342
5	DD5	IN	-.168	107.843	.126	9.823
6	DD6	IN	-.363	107.843	.471	114.497
7	DD8	IN	-1.283	140.692	1.298	179.562
8	DD9	IN	-.082	10.034	.190	121.363
9	DD10	IN	-.054	10.668	.208	95.696
10	DD11	IN	-1.284	140.692	1.426	203.855
11	DF1	KIP	-11.018	89.781	14.014	107.526
12	DF7	KIP	-14.293	114.180	11.353	107.526
13	DA1	G	-.024	82.493	.028	229.205
14	DA2	G	-.020	33.166	.017	100.766
15	DA3	G	-.011	95.696	.016	10.246
16	DA4	G	-.012	26.195	.013	80.697
17	DA5	G	-.016	204.489	.011	18.379
18	DA6	G	-.013	26.406	1.046	120.201
19	DA7	G	-.023	111.223	.026	137.206
20	DD18	IN	-1.387	120.940	1.410	114.603
21	DD78	IN	-1.447	203.961	1.389	114.497
22	DD18-DD2	IN	-.874	232.268	1.096	140.692
23	DD18-DD3	IN	-1.266	232.268	1.303	140.692
24	DD18-DD4	IN	-1.311	149.247	1.420	140.375
25	DD78-DD6	IN	-1.117	203.855	.962	140.692
26	DD78-DD5	IN	-1.315	203.855	1.352	140.692
27	DD78-DD4	IN	-1.330	149.247	1.407	140.375
28	DD9-DD8	IN	-1.175	213.995	1.314	140.692
29	DD10-11	IN	-1.236	203.961	1.345	140.586

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GS 3
NO. OF DATA POINTS . . . 3273

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		345.603	
2	DD2	IN	-.467	10.668	.472	216.319
3	DD3	IN	-.095	160.444	.154	216.319
4	DD4	IN	-.388	116.398	.386	16.689
5	DD5	IN	-.086	182.625	.134	17.006
6	DD6	IN	-.361	288.883	.493	17.006
7	DD8	IN	-1.946	216.213	2.042	288.355
8	DD9	IN	-.090	217.164	.106	11.196
9	DD10	IN	-.054	194.243	.106	183.470
10	DD11	IN	-1.990	238.711	2.146	288.777
11	DF1	KIP	-9.432	193.398	11.299	10.457
12	DF7	KIP	-11.978	132.981	10.472	182.519
13	DA1	G	-.036	243.359	.046	60.417
14	DA2	G	-.026	60.523	.025	71.085
15	DA3	G	-.009	160.760	.016	17.322
16	DA4	G	-.010	71.191	.019	133.087
17	DA5	G	-.008	289.094	.025	133.087
18	DA6	G	-.019	133.298	.023	288.883
19	DA7	G	-.034	325.851	.081	133.087
20	DD1B	IN	-2.105	249.802	2.096	193.927
21	DD7B	IN	-2.144	288.777	2.102	216.213
22	DD1B-DD2	IN	-1.733	249.802	1.643	193.927
23	DD1B-DD3	IN	-2.036	289.728	1.959	193.927
24	DD1B-DD4	IN	-2.150	182.836	2.099	193.610
25	DD7B-DD6	IN	-1.816	249.591	1.863	238.606
26	DD7B-DD5	IN	-2.077	288.777	2.031	238.711
27	DD7B-DD4	IN	-2.137	182.836	2.113	193.610
28	DD9-DD8	IN	-2.000	291.207	1.906	238.500
29	DD10-11	IN	-2.052	288.671	1.945	238.711

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3072

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.875	
2	DD2	IN	-3.170	16.520	4.539	13.583
3	DD3	IN	-3.226	16.520	4.587	13.583
4	DD4	IN	-3.273	16.456	4.767	13.626
5	DD5	IN	-3.217	16.499	4.688	13.583
6	DD6	IN	-3.182	16.520	4.674	13.583
7	DD8	IN	-4.328	13.309	2.814	16.330
8	DD9	IN	-4.538	13.562	3.189	16.499
9	DD10	IN	-4.665	13.562	3.208	16.499
10	DD11	IN	-4.270	13.309	2.782	16.330
11	DF1	KIP	-6.881	14.154	8.353	20.533
12	DF7	KIP	-7.105	14.175	8.117	20.533
13	DA1	G	-.233	13.097	.276	13.351
14	DA2	G	-.229	14.090	.260	20.576
15	DA3	G	-.218	14.154	.229	20.533
16	DA4	G	-.258	14.154	.253	20.512
17	DA5	G	-.257	14.154	.264	20.512
18	DA6	G	-.269	14.090	.303	20.470
19	DA7	G	-.147	13.773	.176	13.351
20	DD18	IN	-2.789	16.308	4.321	13.309
21	DD78	IN	-2.797	16.330	4.337	13.309
22	DD18-DD2	IN	-1.569	20.533	1.462	14.133
23	DD18-DD3	IN	-1.644	20.512	1.607	14.133
24	DD18-DD4	IN	-1.824	20.555	1.734	14.154
25	DD78-DD6	IN	-1.615	20.512	1.615	14.154
26	DD78-DD5	IN	-1.693	20.512	1.666	14.133
27	DD78-DD4	IN	-1.600	20.555	1.753	14.154
28	DD9-DD8	IN	-2.285	37.539	2.783	38.046
29	DD10-11	IN	-2.162	53.129	2.590	40.349

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS 2667

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.319	
2	DD2	IN	-4.129	4.457	2.090	8.344
3	DD3	IN	-4.206	4.500	2.094	8.387
4	DD4	IN	-4.369	4.478	2.225	8.344
5	DD5	IN	-4.277	4.500	2.108	8.387
6	DD6	IN	-4.252	4.521	2.076	8.408
7	DD8	IN	-1.914	8.218	3.914	15.020
8	DD9	IN	-2.071	8.387	4.187	4.500
9	DD10	IN	-2.109	8.387	4.273	4.478
10	DD11	IN	-1.685	8.218	3.887	15.020
11	DF1	KIP	-12.638	5.450	12.935	4.985
12	DF7	KIP	-13.251	5.429	13.857	4.943
13	DA1	G	-.384	4.331	.249	5.957
14	DA2	G	-.326	5.408	.504	5.007
15	DA3	G	-.349	5.450	.347	4.922
16	DA4	G	-.401	5.429	.397	4.943
17	DA5	G	-.408	5.450	.455	4.943
18	DA6	G	-.372	5.450	.550	4.964
19	DA7	G	-.282	4.394	.241	4.647
20	DD16	IN	-3.920	15.041	1.907	8.218
21	DD78	IN	-3.928	15.020	1.910	8.196
22	DD18-DD2	IN	-2.389	4.985	2.230	5.429
23	DD18-DD3	IN	-2.337	4.964	2.462	5.429
24	DD18-DD4	IN	-2.469	4.964	2.690	5.429
25	DD75-DD6	IN	-2.262	4.943	2.761	5.429
26	DD78-DD5	IN	-2.425	4.964	2.650	5.450
27	DD76-DD4	IN	-2.466	4.985	2.665	5.429
28	DD9-DD8	IN	-2.360	4.985	2.234	5.429
29	DD10-11	IN	-2.405	4.964	2.403	5.429

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2452

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		51.777	
2	DD2	IN	-6.125	11.196	5.636	6.950
3	DD3	IN	-6.150	11.217	5.704	15.865
4	DD4	IN	-6.264	11.133	5.865	6.950
5	DD5	IN	-6.248	11.217	5.801	6.950
6	DD6	IN	-6.344	11.217	5.473	17.217
7	DD8	IN	-4.322	16.858	5.968	11.175
8	DD9	IN	-5.706	6.950	6.051	11.175
9	DD10	IN	-5.779	6.950	6.235	11.260
10	DD11	IN	-4.318	16.858	5.877	11.175
11	DF1	KIP	-17.989	5.387	16.295	6.992
12	DF7	KIP	-15.068	5.450	18.098	4.901
13	DA1	G	-.423	5.028	.656	4.690
14	DA2	G	-.412	5.345	.660	4.985
15	DA3	G	-.457	5.345	.495	7.056
16	DA4	G	-.554	5.345	.546	6.992
17	DA5	G	-.614	5.366	.653	4.880
18	DA6	G	-1.805	5.345	.806	4.901
19	DA7	G	-.495	7.077	.500	4.647
20	DD1B	IN	-5.951	11.175	4.326	16.858
21	DD7B	IN	-5.977	11.175	4.357	16.858
22	DD1B-DD2	IN	-3.950	7.013	3.200	5.408
23	DD1B-DD3	IN	-3.941	7.013	3.801	5.408
24	DD1B-DD4	IN	-4.118	7.013	4.219	5.450
25	DD7B-DD6	IN	-3.263	7.013	4.628	5.429
26	DD7B-DD5	IN	-3.820	7.013	4.327	5.429
27	DD7B-DD4	IN	-3.960	7.013	4.194	5.450
28	DD9-DD8	IN	-4.059	7.035	3.403	5.429
29	DD10-11	IN	-3.885	7.013	4.251	16.646

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2620

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.326	
2	DD2	IN	-7.588	4.626	3.324	8.746
3	DD3	IN	-7.911	4.647	3.377	8.703
4	DD4	IN	-8.124	4.647	3.462	8.682
5	DD5	IN	-8.156	4.669	3.313	8.682
6	DD6	IN	-8.178	4.690	3.152	8.703
7	DD8	IN	-3.413	8.323	7.068	15.125
8	DD9	IN	-3.324	8.682	7.876	4.647
9	DD10	IN	-3.312	8.725	8.085	4.669
10	DD11	IN	-3.402	8.323	7.022	15.147
11	DF1	KIP	-17.994	4.711	16.383	5.218
12	DF7	KIP	-12.266	4.732	16.370	5.176
13	DA1	G	-1.524	35.722	.550	35.764
14	DA2	G	-.541	4.669	.790	5.239
15	DA3	G	-.505	4.690	.751	6.866
16	DA4	G	-.492	4.690	.502	5.197
17	DA5	G	-.613	4.774	.496	5.154
18	DA6	G	-.773	4.795	.671	5.154
19	DA7	G	-.487	4.457	.325	4.753
20	DD18	IN	-7.069	15.125	3.430	8.323
21	DD78	IN	-7.121	15.125	3.455	8.323
22	DD18-DD2	IN	-4.939	5.239	3.660	4.711
23	DD18-DD3	IN	-4.870	5.239	4.588	4.711
24	DD18-DD4	IN	-4.795	5.218	4.759	4.711
25	DD78-DD6	IN	-3.585	5.218	5.186	5.746
26	DD78-DD5	IN	-4.434	5.239	4.920	5.746
27	DD78-DD4	IN	-4.786	5.218	4.694	4.711
28	DD9-DD8	IN	-5.154	5.239	3.970	4.732
29	DD10-11	IN	-4.427	5.239	4.485	5.746

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I1
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3072

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.875	
2	DD2	IN	-3.123	17.344	4.265	14.428
3	DD3	IN	-3.245	17.344	4.331	14.428
4	DD4	IN	-3.380	17.301	4.429	14.006
5	DD5	IN	-3.265	17.322	4.324	14.428
6	DD6	IN	-3.199	17.322	4.257	14.407
7	DD8	IN	-4.275	14.217	2.833	17.238
8	DD9	IN	-4.225	14.407	3.197	17.301
9	DD10	IN	-4.294	14.449	3.266	17.301
10	DD11	IN	-4.224	14.217	2.797	17.238
11	DF1	KIP	-8.031	13.710	8.905	13.435
12	DF7	KIP	-9.394	13.689	7.666	13.435
13	DA1	G	-.239	13.583	.315	9.570
14	DA2	G	-.299	14.935	.244	13.942
15	DA3	G	-.278	14.893	.245	13.985
16	DA4	G	-.356	14.872	.314	13.393
17	DA5	G	-.342	14.872	.296	13.393
18	DA6	G	-.337	14.830	.339	13.457
19	DA7	G	-.196	14.006	.198	14.238
20	DD1B	IN	-2.802	17.238	4.346	14.217
21	DD7B	IN	-2.818	17.238	4.369	14.217
22	DD1B-DD2	IN	-.549	13.435	.735	14.893
23	DD1B-DD3	IN	-.741	13.435	.949	14.872
24	DD1B-DD4	IN	-.911	13.393	1.103	14.851
25	DD7B-DD6	IN	-.672	13.435	.846	14.851
26	DD7B-DD5	IN	-.784	13.435	1.018	14.851
27	DD7B-DD4	IN	-.892	13.393	1.143	14.851
28	DD9-DD8	IN	-2.284	41.130	2.906	39.335
29	DD10-11	IN	-.793	13.435	3.076	41.933

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I1
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2541

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.657	
2	DD2	IN	-4.049	14.724	2.170	8.767
3	DD3	IN	-4.128	14.766	2.235	8.767
4	DD4	IN	-4.275	14.766	2.308	8.682
5	DD5	IN	-4.180	14.787	2.284	8.767
6	DD6	IN	-4.170	14.787	2.199	8.767
7	DD8	IN	-1.879	7.753	3.907	14.555
8	DD9	IN	-2.190	8.788	4.064	14.766
9	DD10	IN	-2.256	8.788	4.166	14.766
10	DD11	IN	-1.863	7.753	3.881	14.555
11	DF1	KIP	-9.794	4.056	13.840	4.331
12	DF7	KIP	-11.189	4.035	9.912	4.436
13	DA1	G	-.429	3.929	.298	4.288
14	DA2	G	-.320	4.098	.374	4.309
15	DA3	G	-.295	4.901	.374	4.331
16	DA4	G	-.342	4.014	.446	4.352
17	DA5	G	-.372	4.035	.373	4.394
18	DA6	G	-.487	4.457	.773	4.478
19	DA7	G	-.275	3.929	.244	4.162
20	DD18	IN	-3.942	14.555	1.912	7.753
21	DD78	IN	-3.953	14.576	1.920	7.774
22	DD18-DD2	IN	-1.263	4.394	1.437	4.901
23	DD18-DD3	IN	-1.657	4.394	1.656	4.901
24	DD18-DD4	IN	-1.994	4.415	1.725	4.901
25	DD78-DD6	IN	-2.051	4.436	1.464	4.922
26	DD78-DD5	IN	-2.041	4.415	1.608	4.901
27	DD78-DD4	IN	-1.961	4.415	1.701	4.901
28	DD9-DD8	IN	-1.676	4.394	1.839	6.211
29	DD10-11	IN	-2.019	4.415	1.520	4.901

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I1
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2352

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		49.665	
2	DD2	IN	-6.203	11.069	5.540	8.365
3	DD3	IN	-6.170	11.069	5.659	17.132
4	DD4	IN	-6.235	11.175	5.785	17.175
5	DD5	IN	-6.211	10.985	5.749	17.132
6	DD6	IN	-6.246	11.069	5.537	17.132
7	DD8	IN	-4.269	16.731	5.934	11.027
8	DD9	IN	-5.541	8.365	6.067	11.091
9	DD10	IN	-5.693	17.111	6.196	11.027
10	DD11	IN	-4.251	16.710	5.877	11.027
11	DF1	KIP	-14.714	5.345	13.879	8.367
12	DF7	KIP	-11.537	5.323	14.089	4.774
13	DA1	G	-.360	6.929	.529	4.542
14	DA2	G	-.313	5.387	.580	8.408
15	DA3	G	-.389	7.732	.433	5.894
16	DA4	G	-.404	5.366	.503	8.344
17	DA5	G	-.449	5.281	.568	5.852
18	DA6	G	-.686	5.281	.942	4.753
19	DA7	G	-.367	6.950	.500	4.500
20	DD1B	IN	-5.973	11.027	4.345	16.710
21	DD7B	IN	-6.004	11.048	4.368	16.731
22	DD1B-DD2	IN	-4.192	8.387	3.409	5.345
23	DD1B-DD3	IN	-4.266	8.365	4.033	5.345
24	DD1B-DD4	IN	-4.353	8.365	4.314	5.323
25	DD7B-DD6	IN	-3.467	8.344	4.770	5.323
26	DD7B-DD5	IN	-4.113	8.344	4.525	5.323
27	DD7B-DD4	IN	-4.345	8.365	4.301	5.323
28	DD9-DD8	IN	-4.333	8.365	3.680	5.323
29	DD10-11	IN	-4.172	8.344	4.170	5.323

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM I1
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2620

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.326	
2	DD2	IN	-7.663	3.929	3.197	7.964
3	DD3	IN	-7.990	3.971	3.237	7.964
4	DD4	IN	-8.193	3.993	3.360	5.894
5	DD5	IN	-8.279	3.993	3.196	5.936
6	DD6	IN	-8.187	4.056	3.069	7.964
7	DD8	IN	-3.401	7.626	7.035	14.449
8	DD9	IN	-3.201	8.006	7.913	3.971
9	DD10	IN	-3.189	8.006	8.239	4.014
10	DD11	IN	-3.378	7.668	6.998	14.449
11	DF1	KIP	-15.714	4.035	15.029	4.584
12	DF7	KIP	-10.005	4.035	13.572	4.563
13	DA1	G	-.565	4.647	.494	4.077
14	DA2	G	-.544	3.993	.802	4.584
15	DA3	G	-.493	4.014	.538	4.563
16	DA4	G	-.453	4.056	.506	4.542
17	DA5	G	-.539	4.077	.436	4.542
18	DA6	G	-.867	4.056	.569	4.478
19	DA7	G	-.514	3.824	.396	4.162
20	DD18	IN	-7.108	14.471	3.449	7.647
21	DD76	IN	-7.158	14.471	3.463	7.647
22	DD15-DD2	IN	-5.164	4.584	3.892	4.035
23	DD16-DD3	IN	-5.131	4.584	4.631	4.035
24	DD18-DD4	IN	-5.024	4.605	5.068	4.056
25	DD79-DD6	IN	-3.816	4.564	5.515	4.077
26	DD78-DD5	IN	-4.691	4.584	5.246	4.056
27	DD76-DD4	IN	-5.023	4.605	4.993	4.056
28	DD9-DD8	IN	-5.368	4.584	4.247	4.056
29	DD10-11	IN	-4.675	4.584	4.813	4.056

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 674

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		71.085	
2	DD2	IN	-.164	20.386	.144	11.302
3	DD3	IN	-.089	19.118	.115	11.302
4	DD4	IN	-.249	60.945	.181	70.663
5	DD5	IN	-.070	20.386	.074	11.302
6	DD6	IN	-.125	21.019	.110	11.302
7	DD8	IN	-.185	17.534	.209	12.886
8	DD9	IN	-.030	65.065	.080	26.300
9	DD10	IN	-.022	8.661	.123	20.597
10	DD11	IN	-.244	17.534	.258	12.886
11	DF1	KIP	-9.364	11.302	9.731	12.886
12	DF7	KIP	-12.180	11.302	9.860	9.717
13	DA1	G	-.102	12.041	.112	69.184
14	DA2	G	-.033	58.727	.045	52.601
15	DA3	G	-.034	67.388	.011	11.619
16	DA4	G	-.022	69.078	.021	63.692
17	DA5	G	-.015	54.819	.011	8.133
18	DA6	G	-.042	67.811	.044	53.023
19	DA7	G	-.024	55.136	.032	69.501
20	DD1B	IN	-.296	9.823	.302	14.471
21	DD7B	IN	-.300	19.224	.299	14.365
22	DD1B-DD2	IN	-.144	24.082	.163	17.534
23	DD1B-DD3	IN	-.222	9.717	.198	17.534
24	DD1B-DD4	IN	-.414	23.132	.448	14.365
25	DD7B-DD6	IN	-.190	9.717	.202	17.534
26	DD7B-DD5	IN	-.250	9.717	.244	17.534
27	DD7B-DD4	IN	-.426	23.132	.456	14.365
28	DD9-DD8	IN	-.168	21.442	.191	11.407
29	DD10-11	IN	-.148	51.333	.228	11.407

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2589

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.671	
2	DD2	IN	-2.865	10.224	2.486	12.189
3	DD3	IN	-2.886	10.224	2.503	12.189
4	DD4	IN	-2.889	10.161	2.574	12.105
5	DD5	IN	-2.906	10.224	2.507	12.189
6	DD6	IN	-2.861	10.224	2.477	12.189
7	DD8	IN	-2.477	12.168	2.862	10.203
8	DD9	IN	-2.435	12.168	2.836	10.203
9	DD10	IN	-2.472	12.210	2.862	10.224
10	DD11	IN	-2.446	12.147	2.821	10.203
11	DF1	KIP	-11.494	6.866	12.836	6.718
12	DF7	KIP	-12.917	6.866	11.513	6.718
13	DA1	G	-.319	6.844	.373	6.675
14	DA2	G	-.255	6.844	.287	6.697
15	DA3	G	-.309	6.866	.326	6.718
16	DA4	G	-.377	6.866	.379	6.739
17	DA5	G	-.369	6.887	.366	6.739
18	DA6	G	-.380	6.866	.350	6.697
19	DA7	G	-.138	6.866	.211	6.675
20	DD1B	IN	-2.782	10.161	2.456	12.168
21	DD7B	IN	-2.820	10.203	2.485	12.189
22	DD1B-DD2	IN	-.170	6.718	.193	6.844
23	DD1B-DD3	IN	-.223	6.697	.235	6.844
24	DD1B-DD4	IN	-.274	6.971	.378	6.866
25	DD7B-DD6	IN	-.194	6.697	.191	6.844
26	DD7B-DD5	IN	-.234	6.697	.242	6.844
27	DD7B-DD4	IN	-.262	9.358	.364	6.866
28	DD9-DD8	IN	-.143	6.697	3.103	4.119
29	DD10-11	IN	-.140	6.718	.144	6.866

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 3024

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		63.861	
2	DD2	IN	-2.801	23.005	.441	4.500
3	DD3	IN	-2.813	23.005	.705	34.962
4	DD4	IN	-2.943	22.963	.572	4.415
5	DD5	IN	-2.611	23.005	.454	4.478
6	DD6	IN	-2.790	23.005	.444	4.478
7	DD8	IN	-.425	4.457	2.814	22.963
8	DD9	IN	-.436	4.457	2.719	22.963
9	DD10	IN	-.433	4.457	2.788	22.963
10	DD11	IN	-.423	4.457	2.795	22.963
11	DF1	KIP	-16.003	8.556	12.694	8.978
12	DF7	KIP	-17.312	8.556	11.611	9.570
13	DA1	G	-.295	9.105	.290	9.527
14	DA2	G	-.361	8.577	.300	8.978
15	DA3	G	-.422	8.577	.356	9.570
16	DA4	G	-.481	8.556	.396	8.408
17	DA5	G	-.523	8.556	.363	9.591
18	DA6	G	-.566	8.556	.347	9.570
19	DA7	G	-.241	8.513	.190	8.344
20	DD1B	IN	-2.799	22.963	.414	4.521
21	DD7B	IN	-2.624	23.026	.430	4.457
22	DD1B-DD2	IN	-.166	8.387	.268	8.556
23	DD1B-DD3	IN	-3.099	34.962	.333	8.556
24	DD1B-DD4	IN	-.412	8.408	.443	8.577
25	DD7B-DD6	IN	-2.128	46.158	.259	8.556
26	DD7B-DD5	IN	-.218	9.570	.333	8.556
27	DD7B-DD4	IN	-.377	9.570	.458	8.577
28	DD9-DD8	IN	-.186	8.408	.143	8.556
29	DD10-11	IN	-.136	9.570	.227	8.556

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 1395

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		147.241	
2	DD2	IN	-.320	81.753	.352	66.015
3	DD3	IN	-.111	63.058	.259	66.015
4	DD4	IN	-.307	102.244	.268	77.423
5	DD5	IN	-.082	122.419	.245	66.015
6	DD6	IN	-.229	126.221	.293	66.015
7	DD8	IN	-.430	65.910	.457	103.089
8	DD9	IN	-.099	65.910	.108	85.028
9	DD10	IN	-.198	65.910	.197	63.163
10	DD11	IN	-.517	65.910	.561	126.961
11	DF1	KIP	-14.837	65.698	17.572	63.058
12	DF7	KIP	-17.305	65.698	17.512	63.058
13	DA1	G	-.131	61.579	.100	45.207
14	DA2	G	-.112	66.227	.170	65.804
15	DA3	G	-.085	66.227	.106	65.910
16	DA4	G	-.080	66.227	.163	65.910
17	DA5	G	-.088	66.332	.244	65.804
18	DA6	G	-.097	66.332	.223	65.910
19	DA7	G	-.049	66.332	.162	65.910
20	DD1B	IN	-.598	80.063	.601	66.015
21	DD7B	IN	-.636	125.376	.604	66.015
22	DD1B-DD2	IN	-.286	68.867	.266	77.211
23	DD1B-DD3	IN	-.498	63.163	.369	65.698
24	DD1B-DD4	IN	-.693	82.810	.601	60.312
25	DD7B-DD6	IN	-.416	133.615	.380	65.593
26	DD7B-DD5	IN	-.569	125.799	.434	65.593
27	DD7B-DD4	IN	-.705	82.810	.590	60.312
28	DD9-DD8	IN	-.391	81.120	.354	77.106
29	DD10-11	IN	-.376	125.059	.409	65.593

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 1465

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		154.634	
2	DD2	IN	-.500	84.183	.445	88.725
3	DD3	IN	-.171	84.183	.215	79.641
4	DD4	IN	-.344	101.505	.254	80.063
5	DD5	IN	-.148	133.192	.173	12.147
6	DD6	IN	-.334	84.500	.235	12.464
7	DD8	IN	-.661	107.103	.723	111.645
8	DD9	IN	-.086	79.746	.137	115.131
9	DD10	IN	-.176	12.675	.260	113.863
10	DD11	IN	-.766	98.019	.776	113.863
11	DF1	KIP	-20.230	68.725	23.076	84.183
12	DF7	KIP	-24.144	68.619	20.973	84.077
13	DA1	G	-.144	147.874	.123	150.304
14	DA2	G	-.023	128.651	.026	12.041
15	DA3	G	-.094	132.031	.023	142.593
16	DA4	G	-.013	143.438	.013	11.302
17	DA5	G	-.015	143.438	.020	6.443
18	DA6	G	-.018	98.125	.025	65.239
19	DA7	G	-.015	109.849	.015	122.524
20	DD1B	IN	-.899	111.645	.906	88.830
21	DD7B	IN	-.868	114.074	.937	107.209
22	DD1B-DD2	IN	-.424	128.334	.470	97.703
23	DD1B-DD3	IN	-.744	93.478	.707	107.103
24	DD1B-DD4	IN	-.872	76.155	.973	86.936
25	DD7B-DD6	IN	-.558	138.368	.788	107.209
26	DD7B-DD5	IN	-.740	112.913	.889	98.019
27	DD7B-DD4	IN	-.846	75.838	1.003	88.936
28	DD9-DD8	IN	-.626	114.286	.636	107.103
29	DD10-11	IN	-.529	127.594	.762	88.830

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 2982

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.973	
2	DD2	IN	-2.884	16.604	4.636	13.583
3	DD3	IN	-2.893	16.604	4.707	13.583
4	DD4	IN	-2.925	16.646	4.855	13.604
5	DD5	IN	-2.876	16.604	4.757	13.563
6	DD6	IN	-2.848	16.604	4.717	13.583
7	DD8	IN	-4.528	13.604	2.902	16.583
8	DD9	IN	-4.674	13.604	2.819	16.604
9	DD10	IN	-4.704	13.604	2.857	16.583
10	DD11	IN	-4.490	13.583	2.870	16.562
11	DF1	KIP	-16.210	14.133	12.954	13.942
12	DF7	KIP	-17.644	14.133	13.204	13.942
13	DA1	G	-.402	14.069	.409	14.407
14	DA2	G	-.325	14.111	.286	14.259
15	DA3	G	-.481	14.133	.352	14.302
16	DA4	G	-.573	14.133	.423	14.302
17	DA5	G	-.567	14.133	.421	14.302
18	DA6	G	-.618	14.111	.440	13.942
19	DA7	G	-.229	14.090	.215	13.837
20	DD18	IN	-2.850	16.562	4.430	13.562
21	DD78	IN	-2.896	16.583	4.512	13.583
22	DD18-DD2	IN	-.250	13.900	.355	14.111
23	DD18-DD3	IN	-.351	14.280	.461	14.111
24	DD18-DD4	IN	-.504	14.280	.627	14.111
25	DD78-DD6	IN	-2.105	16.034	.456	14.111
26	DD78-DD5	IN	-.400	14.280	.534	14.111
27	DD78-DD4	IN	-.494	14.280	.613	14.111
28	DD9-DD8	IN	-2.016	25.413	.362	14.111
29	DD10-11	IN	-2.355	28.392	3.063	26.596

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . QS 4-1
NO. OF DATA POINTS . . . 727

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		76.683	
2	DD2	IN	-.475	15.104	.446	10.246
3	DD3	IN	-.119	26.406	1.006	65.382
4	DD4	IN	-1.111	43.834	.265	18.484
5	DD5	IN	-.106	71.402	.489	66.543
6	DD6	IN	-.208	27.251	1.527	71.402
7	DD8	IN	-2.123	67.283	.750	24.294
8	DD9	IN	-.086	19.752	1.309	71.508
9	DD10	IN	-.676	66.332	1.353	71.402
10	DD11	IN	-251.397	71.402	158.832	66.332
11	DF1	KIP	-26.204	71.402	21.418	14.893
12	DF7	KIP	-53.278	72.141	56.468	71.930
13	DA1	G	-.593	72.141	.504	71.930
14	DA2	G	-.339	46.686	.274	71.930
15	DA3	G	-.795	71.825	.041	6.654
16	DA4	G	-.003	4.014	.991	71.613
17	DA5	G	-.361	71.825	.254	71.613
18	DA6	G	-8.122	71.719	6.784	71.930
19	DA7	G	-.150	66.543	.857	71.402
20	DD18	IN	-.907	24.294	1.127	66.438
21	DD78	IN	-.872	24.927	.924	10.351
22	DD18-DD2	IN	-.686	71.402	.809	66.332
23	DD18-DD3	IN	-1.572	42.778	.684	10.351
24	DD18-DD4	IN	-.919	27.462	2.098	66.332
25	DD78-DD6	IN	-1.352	71.402	.727	10.351
26	DD78-DD5	IN	-.852	24.927	.825	10.351
27	DD78-DD4	IN	-.896	27.145	1.286	43.834
28	DD9-DD8	IN	-.675	24.399	3.301	71.508
29	DD10-11	IN	-159.708	66.332	252.750	71.402

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . OS 4-2
NO. OF DATA POINTS . . . 1813

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		191.392	
2	DD2	IN	-.626	91.576	.574	121.046
3	DD3	IN	-.121	103.512	.260	97.366
4	DD4	IN	-.271	15.210	.293	122.630
5	DD5	IN	-.051	102.244	.120	108.793
6	DD6	IN	-.277	91.576	.236	97.386
7	DD8	IN	-.919	121.151	1.068	127.700
8	DD9	IN	-.109	121.679	.112	142.804
9	DD10	IN	-.040	99.076	.206	91.365
10	DD11	IN	-1.000	109.216	1.065	144.072
11	DF1	KIP	-21.485	97.174	27.311	91.260
12	DF7	KIP	-25.159	97.174	26.290	91.154
13	DA1	G	-.125	87.563	.098	188.751
14	DA2	G	-.020	40.771	.030	96.118
15	DA3	G	-.048	22.181	.314	122.419
16	DA4	G	-.006	189.173	.008	122.313
17	DA5	G	-.004	138.368	.012	97.174
18	DA6	G	-.013	106.899	.027	130.869
19	DA7	G	-.019	124.109	.010	94.217
20	DD1B	IN	-1.226	127.489	1.199	121.151
21	DD7B	IN	-1.200	129.496	1.194	121.363
22	DD1B-DD2	IN	-.626	144.389	.631	121.151
23	DD1B-DD3	IN	-1.126	144.389	.946	121.151
24	DD1B-DD4	IN	-1.257	127.172	1.155	109.216
25	DD7B-DD6	IN	-.944	144.072	.969	121.363
26	DD7B-DD5	IN	-1.166	129.284	1.080	109.216
27	DD7B-DD4	IN	-1.266	127.172	1.168	109.533
28	DD9-DD8	IN	-1.004	144.177	.646	97.174
29	DD10-11	IN	-.875	167.098	.970	109.427

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2594

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.777	
2	DD2	IN	-4.120	15.358	1.969	8.534
3	DD3	IN	-4.135	15.358	1.983	8.534
4	DD4	IN	-4.207	15.316	2.124	8.556
5	DD5	IN	-4.152	15.337	2.020	8.534
6	DD6	IN	-4.122	15.337	2.019	8.534
7	DD8	IN	-1.940	8.556	4.058	15.316
8	DD9	IN	-1.955	8.556	4.078	15.337
9	DD10	IN	-2.006	8.556	4.128	15.337
10	DD11	IN	-1.951	8.556	4.039	15.316
11	DF1	KIP	-11.320	5.661	14.179	5.091
12	DF7	KIP	-12.778	5.640	15.614	5.070
13	DA1	G	-.275	4.669	.245	11.006
14	DA2	G	-.259	4.859	.351	5.091
15	DA3	G	-.297	5.661	.357	5.091
16	DA4	G	-.380	5.661	.458	5.070
17	DA5	G	-.416	5.661	.490	5.070
18	DA6	G	-.463	5.661	.553	5.049
19	DA7	G	-.263	4.753	.203	5.049
20	DD18	IN	-3.995	15.337	1.906	8.556
21	DD78	IN	-4.065	15.316	1.959	8.556
22	DD18-DD2	IN	-2.034	31.539	.390	5.640
23	DD18-DD3	IN	-.526	5.049	.516	5.640
24	DD18-DD4	IN	-.744	5.070	.621	4.795
25	DD78-DD6	IN	-2.095	30.906	.524	5.640
26	DD78-DD5	IN	-.590	5.049	.583	5.640
27	DD78-DD4	IN	-.712	5.070	.670	4.795
28	DD9-DD8	IN	-.505	5.049	.339	5.640
29	DD10-11	IN	-.435	5.070	2.727	7.415

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2426

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		51.228	
2	DD2	IN	-6.242	11.471	4.460	17.132
3	DD3	IN	-6.281	11.492	4.456	17.132
4	DD4	IN	-6.346	11.471	4.622	17.153
5	DD5	IN	-6.349	11.492	4.471	17.132
6	DD6	IN	-6.315	11.492	4.464	17.153
7	DD8	IN	-4.433	17.153	6.134	11.492
8	DD9	IN	-4.397	17.153	6.192	11.513
9	DD10	IN	-4.456	17.153	6.305	11.492
10	DD11	IN	-4.419	17.153	6.095	11.450
11	DF1	KIP	-19.699	7.457	19.654	5.007
12	DF7	KIP	-22.475	7.436	19.031	7.668
13	DA1	G	-.501	7.330	.507	4.964
14	DA2	G	-.436	7.922	.466	5.028
15	DA3	G	-.568	7.436	.460	5.007
16	DA4	G	-.731	7.457	.560	7.668
17	DA5	G	-.757	7.457	.564	7.647
18	DA6	G	-.857	7.436	.651	7.647
19	DA7	G	-.300	4.669	.380	4.943
20	DD1B	IN	-6.051	11.471	4.386	17.132
21	DD7B	IN	-6.155	11.450	4.467	17.111
22	DD1B-DD2	IN	-.493	5.007	.579	7.436
23	DD1B-DD3	IN	-.575	7.647	.805	7.436
24	DD1B-DD4	IN	-.928	4.985	.906	7.415
25	DD7B-DD6	IN	-.700	7.647	.836	7.436
26	DD7B-DD5	IN	-.763	7.647	.922	7.436
27	DD7B-DD4	IN	-.967	4.985	.871	7.457
28	DD9-DD8	IN	-.626	7.647	.666	7.436
29	DD10-11	IN	-.594	5.007	.638	7.436

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 5-1
NO. OF DATA POINTS . . . 2599

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.882	
2	DD2	IN	-7.478	15.020	3.781	8.175
3	DD3	IN	-7.515	15.020	3.890	8.175
4	DD4	IN	-7.575	14.978	3.977	8.196
5	DD5	IN	-7.459	15.020	3.966	8.175
6	DD6	IN	-7.396	14.999	3.936	8.154
7	DD8	IN	-3.555	8.175	7.202	15.062
8	DD9	IN	-3.841	8.175	7.373	14.999
9	DD10	IN	-3.890	8.175	7.441	14.978
10	DD11	IN	-3.536	8.154	7.317	14.935
11	DF1	KIP	-23.420	5.281	27.817	4.711
12	DF7	KIP	-25.060	5.281	27.955	4.690
13	DA1	G	-.676	4.816	.636	4.838
14	DA2	G	-.510	4.457	.727	4.711
15	DA3	G	-.608	5.281	.725	4.690
16	DA4	G	-.782	5.281	.873	4.690
17	DA5	G	-.825	5.302	.893	4.669
18	DA6	G	-.832	5.281	.921	4.647
19	DA7	G	-.368	4.352	.434	4.669
20	DD18	IN	-7.109	15.041	3.443	8.196
21	DD78	IN	-7.418	14.935	3.537	8.154
22	DD18-DD2	IN	-.683	4.647	.613	5.281
23	DD18-DD3	IN	-1.017	4.647	.797	5.260
24	DD18-DD4	IN	-1.313	4.669	1.074	5.260
25	DD78-DD6	IN	-2.384	48.291	.854	5.281
26	DD78-DD5	IN	-2.851	45.883	.946	5.281
27	DD78-DD4	IN	-1.234	4.669	1.084	5.260
28	DD9-DD8	IN	-.984	4.669	2.881	6.316
29	DD10-11	IN	-2.843	10.499	2.994	22.245

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . K
INPUT MOTION . . . . GM 5-2
NO. OF DATA POINTS . . . 2646

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.875	
2	DD2	IN	-7.480	15.189	3.803	8.365
3	DD3	IN	-7.511	15.210	3.924	8.365
4	DD4	IN	-7.496	15.210	4.121	8.365
5	DD5	IN	-7.464	15.189	4.012	8.365
6	DD6	IN	-7.401	15.168	3.977	8.365
7	DD8	IN	-3.555	8.387	7.265	15.063
8	DD9	IN	-3.890	8.387	7.349	15.189
9	DD10	IN	-3.937	8.365	7.432	15.189
10	DD11	IN	-3.542	8.344	7.317	15.147
11	DF1	KIP	-23.009	5.492	28.789	4.901
12	DF7	KIP	-24.453	5.471	28.429	4.880
13	DA1	G	-1.415	5.049	1.617	5.028
14	DA2	G	-.505	4.647	.682	4.922
15	DA3	G	-.696	5.471	.724	4.880
16	DA4	G	-.800	5.492	.937	4.880
17	DA5	G	-.635	5.492	.863	4.880
18	DA6	G	-.894	5.471	.981	4.838
19	DA7	G	-.438	4.542	.494	4.859
20	DD1B	IN	-7.106	15.189	3.448	8.387
21	DD7B	IN	-7.414	15.104	3.538	8.365
22	DD1B-DD2	IN	-2.779	15.736	.653	5.471
23	DD1B-DD3	IN	-1.033	4.859	.639	5.471
24	DD1B-DD4	IN	-1.243	4.880	.955	5.471
25	DD7B-DD6	IN	-1.032	4.880	.889	5.471
26	DD7B-DD5	IN	-2.626	42.799	.991	5.471
27	DD7B-DD4	IN	-1.227	4.880	.993	5.492
28	DD9-DD8	IN	-.987	4.859	.554	5.471
29	DD10-11	IN	-.654	4.880	.717	5.471

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1139

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		120.201	
2	DD2	IN	-.193	40.877	.172	22.076
3	DD3	IN	-.034	18.379	.051	22.076
4	DD4	IN	-.287	3.591	2.303	113.652
5	DD5	IN	-.082	77.634	.095	22.076
6	DD6	IN	-.230	60.628	.212	21.442
7	DD8	IN	-.301	36.652	.336	41.405
8	DD9	IN	-.020	2.852	.066	78.162
9	DD10	IN	-.038	21.547	.101	40.349
10	DD11	IN	-.357	36.652	.377	60.100
11	DF1	KIP	-6.690	21.442	7.714	17.851
12	DF7	KIP	-6.600	21.442	7.275	17.851
13	DA1	G	-.055	116.398	.034	90.837
14	DA2	G	-.015	87.457	.014	6.654
15	DA3	G	.000	.000	.005	95.484
16	DA4	G	-.012	61.473	.006	5.704
17	DA5	G	-.012	61.473	.012	36.863
18	DA6	G	-.023	49.643	.024	78.162
19	DA7	G	-.016	5.598	.014	49.432
20	DD1B	IN	-.403	44.468	.400	21.759
21	DD7B	IN	-.416	59.572	.406	29.258
22	DD1B-DD2	IN	-.221	17.851	.243	28.941
23	DD1B-DD3	IN	-.366	17.851	.367	21.547
24	DD1B-DD4	IN	-2.536	92.844	.509	28.730
25	DD7B-DD6	IN	-.203	81.436	.204	29.258
26	DD7B-DD5	IN	-.354	60.100	.330	29.258
27	DD7B-DD4	IN	-2.563	92.844	.514	28.730
28	DD9-DD8	IN	-.320	45.524	.312	21.864
29	DD10-11	IN	-.285	59.572	.324	29.152

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2557

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.995	
2	DD2	IN	-2.824	11.640	2.490	13.604
3	DD3	IN	-2.842	11.640	2.520	13.604
4	DD4	IN	-2.986	11.703	2.598	13.689
5	DD5	IN	-2.838	11.640	2.526	13.583
6	DD6	IN	-2.786	11.619	2.469	13.604
7	DD8	IN	-2.462	13.562	2.787	11.598
8	DD9	IN	-2.463	13.562	2.797	11.661
9	DD10	IN	-2.503	13.562	2.865	11.661
10	DD11	IN	-2.467	13.562	2.796	11.576
11	DF1	KIP	-6.778	8.302	8.078	8.513
12	DF7	KIP	-7.273	8.682	7.013	8.492
13	DA1	G	-.304	8.239	.313	8.260
14	DA2	G	-.168	8.281	.201	8.492
15	DA3	G	-.213	8.302	.265	8.513
16	DA4	G	-.279	8.323	.291	8.513
17	DA5	G	-.259	8.703	.252	8.492
18	DA6	G	-.268	8.682	.213	8.471
19	DA7	G	-.122	7.901	.113	8.429
20	DD1B	IN	-2.778	11.598	2.447	13.604
21	DD7B	IN	-2.807	11.576	2.472	13.520
22	DD1B-DD2	IN	-.215	8.492	.216	8.302
23	DD1B-DD3	IN	-.325	8.492	.311	8.302
24	DD1B-DD4	IN	-.383	8.450	.427	8.323
25	DD7B-DD6	IN	-.184	8.492	.178	8.302
26	DD7B-DD5	IN	-.313	8.492	.291	8.302
27	DD7B-DD4	IN	-.380	8.513	.406	8.323
28	DD9-DD8	IN	-.237	8.492	.186	8.323
29	DD10-11	IN	-.246	8.492	.238	8.302

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2951

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.318	
2	DD2	IN	-1.889	23.850	.297	5.302
3	DD3	IN	-1.888	23.850	.304	5.302
4	DD4	IN	-2.013	23.406	.424	5.471
5	DD5	IN	-1.892	23.449	.294	5.302
6	DD6	IN	-1.876	23.850	.292	5.302
7	DD8	IN	-.291	5.260	1.893	23.723
8	DD9	IN	-.282	5.260	1.845	23.808
9	DD10	IN	-.296	5.260	1.876	23.406
10	DD11	IN	-.292	5.260	1.890	23.808
11	DF1	KIP	-7.171	9.422	5.630	9.633
12	DF7	KIP	-7.950	9.422	4.530	9.633
13	DA1	G	-.285	10.140	.236	10.731
14	DA2	G	-.166	9.358	.174	9.612
15	DA3	G	-.226	9.401	.163	9.633
16	DA4	G	-.296	9.422	.159	9.654
17	DA5	G	-.267	9.422	.140	9.612
18	DA6	G	-.242	9.443	.141	9.189
19	DA7	G	-.144	9.337	.110	9.147
20	DD18	IN	-1.885	23.913	.287	5.323
21	DD78	IN	-1.899	23.850	.290	5.281
22	DD18-DD2	IN	-.147	9.612	.207	9.401
23	DD18-DD3	IN	-.215	9.612	.299	9.401
24	DD18-DD4	IN	-.402	14.766	.481	9.422
25	DD78-DD6	IN	-.118	9.612	.176	9.401
26	DD78-DD5	IN	-.187	9.612	.299	9.401
27	DD78-DD4	IN	-.411	14.766	.480	9.422
28	DD9-DD8	IN	-.140	9.612	.194	9.422
29	DD10-11	IN	-.137	9.612	.236	9.422

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . OS 2
NO. OF DATA POINTS . . . 2139

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		225.825	
2	DD2	IN	-.394	118.088	.351	111.223
3	DD3	IN	-.050	102.984	.097	111.223
4	DD4	IN	-.336	153.261	.266	4.964
5	DD5	IN	-.098	102.984	.145	96.118
6	DD6	IN	-.435	175.653	.419	110.589
7	DD8	IN	-.645	110.694	.686	204.806
8	DD9	IN	-.032	83.866	.081	147.029
9	DD10	IN	-.079	74.465	.137	175.442
10	DD11	IN	-.745	110.694	.751	175.442
11	DF1	KIP	-11.920	110.589	12.486	103.406
12	DF7	KIP	-12.304	110.483	11.829	103.195
13	DA1	G	-.085	67.072	.040	142.171
14	DA2	G	-.016	205.651	.012	61.473
15	DA3	G	-.002	1.690	.010	8.978
16	DA4	G	-.006	63.586	.006	111.434
17	DA5	G	-.008	79.641	.013	111.962
18	DA6	G	-.015	155.902	.010	155.796
19	DA7	G	-.013	36.652	.020	155.796
20	DD18	IN	-.809	205.017	.808	124.846
21	DD78	IN	-.825	175.653	.833	124.742
22	DD18-DD2	IN	-.427	146.712	.467	138.896
23	DD18-DD3	IN	-.760	146.712	.728	110.694
24	DD18-DD4	IN	-.946	176.815	1.016	139.847
25	DD78-DD6	IN	-.396	175.442	.425	124.742
26	DD78-DD5	IN	-.742	175.442	.710	110.694
27	DD78-DD4	IN	-.928	176.815	1.026	139.847
28	DD9-DD8	IN	-.636	205.017	.649	110.906
29	DD10-11	IN	-.619	175.970	.697	139.107

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 2911

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		307.367	
2	DD2	IN	-.570	161.289	.529	172.062
3	DD3	IN	-.059	160.232	.124	194.349
4	DD4	IN	-.247	164.843	.259	111.117
5	DD5	IN	-.104	160.549	.144	172.379
6	DD6	IN	-.641	248.534	.584	172.379
7	DD8	IN	-.987	216.847	1.062	250.013
8	DD9	IN	-.045	175.125	.099	206.390
9	DD10	IN	-.080	14.048	.147	248.640
10	DD11	IN	-1.105	194.877	1.155	248.640
11	DF1	KIP	-14.404	172.062	16.279	160.972
12	DF7	KIP	-15.214	171.851	15.582	160.866
13	DA1	G	-.037	303.353	.031	88.619
14	DA2	G	-.012	103.195	.014	77.634
15	DA3	G	-.001	.000	.065	283.390
16	DA4	G	-.006	56.932	.006	57.248
17	DA5	G	-.009	56.932	.052	96.435
18	DA6	G	-.023	56.932	.016	57.248
19	DA7	G	-.014	2.007	.010	25.033
20	DD18	IN	-1.213	206.179	1.204	194.666
21	DD7B	IN	-1.255	248.640	1.220	172.379
22	DD18-DD2	IN	-.655	250.013	.685	216.530
23	DD18-DD3	IN	-1.169	250.013	1.095	216.530
24	DD18-DD4	IN	-1.329	229.733	1.343	217.481
25	DD7B-DD6	IN	-.624	248.640	.649	217.164
26	DD7B-DD5	IN	-1.171	248.640	1.096	217.164
27	DD7B-DD4	IN	-1.330	251.069	1.358	217.481
28	DD9-DD8	IN	-.997	250.647	.977	217.058
29	DD10-11	IN	-1.008	248.640	1.065	217.058

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 3-1
NO. OF DATA POINTS . . . 3066

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.748	
2	DD2	IN	-3.058	17.175	4.899	14.259
3	DD3	IN	-3.103	17.175	5.245	14.280
4	DD4	IN	-3.144	17.217	5.355	14.238
5	DD5	IN	-3.075	17.132	5.199	14.280
6	DD6	IN	-2.990	17.153	4.781	14.259
7	DD8	IN	-4.484	14.238	2.943	17.153
8	DD9	IN	-5.101	14.259	3.047	17.175
9	DD10	IN	-5.170	14.259	3.094	17.153
10	DD11	IN	-4.477	14.175	2.930	17.132
11	DF1	KIP	-11.407	14.069	15.294	14.302
12	DF7	KIP	-11.019	19.498	14.225	14.302
13	DA1	G	-.263	14.872	.435	14.449
14	DA2	G	-.311	19.498	.353	14.302
15	DA3	G	-.414	14.069	.477	14.302
16	DA4	G	-.475	14.069	.541	14.280
17	DA5	G	-.391	14.090	.482	14.302
18	DA6	G	-.306	19.498	.345	14.302
19	DA7	G	-.216	13.964	.284	14.133
20	DD1B	IN	-2.859	17.153	4.413	14.175
21	DD7B	IN	-2.907	17.175	4.518	14.175
22	DD1B-DD2	IN	-.626	14.280	.523	14.069
23	DD1B-DD3	IN	-.972	14.280	.792	14.069
24	DD1B-DD4	IN	-1.074	14.302	.811	14.069
25	DD7B-DD6	IN	-.465	14.280	.546	14.069
26	DD7B-DD5	IN	-.887	14.280	.840	14.069
27	DD7B-DD4	IN	-1.043	14.302	.893	14.069
28	DD9-DD8	IN	-2.313	25.624	.700	14.069
29	DD10-11	IN	-.814	14.302	3.139	12.210

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4177

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		441.068	
2	DD2	IN	-.729	208.925	.703	255.400
3	DD3	IN	-.077	209.559	.131	255.717
4	DD4	IN	-.296	10.668	.228	168.154
5	DD5	IN	-.091	106.681	.143	164.563
6	DD6	IN	-.799	239.768	.718	224.241
7	DD8	IN	-1.362	255.189	1.407	302.720
8	DD9	IN	-.045	192.765	.123	209.770
9	DD10	IN	-.041	19.329	.160	302.403
10	DD11	IN	-1.416	286.242	1.506	302.086
11	DF1	KIP	-16.979	223.607	18.059	207.869
12	DF7	KIP	-18.040	223.290	17.627	208.080
13	DA1	G	-.033	143.649	.031	329.231
14	DA2	G	-.016	126.221	.011	195.194
15	DA3	G	-.002	.528	.024	285.080
16	DA4	G	-.006	10.246	.006	243.253
17	DA5	G	-.008	407.921	.015	19.963
18	DA6	G	-.015	153.367	.008	21.125
19	DA7	G	-.013	419.223	.009	247.372
20	DD18	IN	-1.597	382.149	1.622	224.452
21	DD78	IN	-1.611	306.522	1.594	255.294
22	DD18-DD2	IN	-.895	382.149	.934	254.977
23	DD18-DD3	IN	-1.538	382.149	1.505	286.242
24	DD18-DD4	IN	-1.745	359.651	1.778	286.348
25	DD78-DD6	IN	-.833	302.720	.892	255.294
26	DD78-DD5	IN	-1.539	302.720	1.479	224.346
27	DD78-DD4	IN	-1.764	359.651	1.739	286.348
28	DD9-DD8	IN	-1.317	326.274	1.357	255.294
29	DD10-11	IN	-1.350	302.086	1.417	286.665

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 4-1
NO. OF DATA POINTS . . . 2636

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.664	
2	DD2	IN	-4.301	15.844	2.396	9.105
3	DD3	IN	-4.394	15.865	2.654	9.126
4	DD4	IN	-4.423	15.865	2.789	9.084
5	DD5	IN	-4.404	15.844	2.643	9.126
6	DD6	IN	-4.243	15.844	2.322	9.105
7	DD8	IN	-1.982	9.063	4.097	15.823
8	DD9	IN	-2.603	9.126	4.310	15.865
9	DD10	IN	-2.630	9.126	4.399	15.865
10	DD11	IN	-1.982	9.063	4.086	15.801
11	DF1	KIP	-12.816	5.323	18.540	5.598
12	DF7	KIP	-12.081	5.323	17.902	5.598
13	DA1	G	-.355	5.176	.351	14.386
14	DA2	G	-.335	5.323	.436	5.598
15	DA3	G	-.367	5.323	.576	5.619
16	DA4	G	-.411	5.345	.709	5.619
17	DA5	G	-.369	5.323	.578	5.598
18	DA6	G	-.314	5.260	.469	5.577
19	DA7	G	-.271	5.197	.309	5.725
20	DD18	IN	-4.028	15.738	1.934	9.020
21	DD78	IN	-4.094	15.759	1.990	8.999
22	DD18-DD2	IN	-.901	5.598	.721	5.302
23	DD18-DD3	IN	-1.384	5.598	1.005	5.323
24	DD18-DD4	IN	-1.673	5.598	1.096	5.323
25	DD78-DD6	IN	-.825	5.598	.602	5.323
26	DD78-DD5	IN	-1.382	5.598	1.021	5.323
27	DD78-DD4	IN	-1.689	5.598	1.159	5.323
28	DD9-DD8	IN	-1.176	5.598	.711	5.302
29	DD10-11	IN	-1.241	5.598	.896	5.323

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 6-1
NO. OF DATA POINTS . . . 2421

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		51.122	
2	DD2	IN	-6.354	12.421	5.019	7.732
3	DD3	IN	-6.514	12.443	5.305	7.732
4	DD4	IN	-6.545	12.443	5.507	7.753
5	DD5	IN	-6.492	12.443	5.284	7.732
6	DD6	IN	-6.208	12.421	4.910	7.711
7	DD8	IN	-4.425	18.020	6.119	12.316
8	DD9	IN	-5.182	7.753	6.410	12.464
9	DD10	IN	-5.258	7.753	6.500	12.443
10	DD11	IN	-4.481	17.956	6.129	12.316
11	DF1	KIP	-24.073	5.598	28.351	5.894
12	DF7	KIP	-23.560	5.598	26.810	5.915
13	DA1	G	-1.018	5.999	.530	5.957
14	DA2	G	-.699	6.211	.747	5.894
15	DA3	G	-.713	5.873	1.091	5.936
16	DA4	G	-.888	5.598	1.068	5.873
17	DA5	G	-.727	5.598	.829	5.894
18	DA6	G	-1.623	5.852	1.273	5.915
19	DA7	G	-2.959	5.852	1.547	5.915
20	DD1B	IN	-6.120	12.295	4.421	17.998
21	DD7B	IN	-6.198	12.295	4.498	17.977
22	DD1B-DD2	IN	-1.460	5.873	1.315	5.598
23	DD1B-DD3	IN	-3.397	13.520	1.855	5.577
24	DD1B-DD4	IN	-2.267	5.873	2.063	5.577
25	DD7B-DD6	IN	-1.334	5.894	1.169	5.598
26	DD7B-DD5	IN	-2.088	5.894	1.851	5.598
27	DD7B-DD4	IN	-2.191	5.894	2.110	5.577
28	DD9-DD8	IN	-1.756	5.873	1.452	5.577
29	DD10-11	IN	-1.817	5.894	1.585	5.598

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 5-1
NO. OF DATA POINTS . . . 2678

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.551	
2	DD2	IN	-7.768	16.182	4.181	10.161
3	DD3	IN	-7.917	16.203	4.445	10.182
4	DD4	IN	-7.903	16.224	4.474	10.182
5	DD5	IN	-7.630	16.203	4.320	10.161
6	DD6	IN	-7.514	16.139	3.924	10.161
7	DD8	IN	-3.452	9.316	7.316	16.034
8	DD9	IN	-4.342	10.161	7.776	16.203
9	DD10	IN	-4.297	10.182	7.853	16.182
10	DD11	IN	-3.526	9.274	7.396	16.076
11	DF1	KIP	-23.416	5.598	31.589	5.873
12	DF7	KIP	-23.322	5.598	29.404	5.894
13	DA1	G	-.760	5.978	.831	6.021
14	DA2	G	-.597	5.619	.860	5.894
15	DA3	G	-.724	5.577	.978	5.852
16	DA4	G	-.928	5.577	1.146	5.852
17	DA5	G	-.715	5.556	1.020	5.894
18	DA6	G	-.642	5.619	.877	5.894
19	DA7	G	-.453	5.978	.618	5.725
20	DD16	IN	-7.346	16.055	3.514	9.253
21	DD76	IN	-7.452	16.034	3.581	9.274
22	DD18-DD2	IN	-1.859	5.873	1.454	5.577
23	DD16-DD3	IN	-2.036	5.873	1.950	5.556
24	DD16-DD4	IN	-2.909	5.652	2.178	5.577
25	DD76-DD6	IN	-2.171	43.412	1.165	5.598
26	DD78-DD5	IN	-2.012	5.873	1.690	5.556
27	DD78-DD4	IN	-2.948	5.852	2.205	5.577
28	DD9-DD8	IN	-2.407	5.673	1.541	5.556
29	DD10-11	IN	-2.321	5.673	1.672	5.556

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 5-2
NO. OF DATA POINTS . . . 2604

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.988	
2	DD2	IN	-7.775	16.161	4.152	9.337
3	DD3	IN	-7.842	5.387	4.073	9.358
4	DD4	IN	-7.878	5.408	4.020	9.316
5	DD5	IN	-7.670	5.387	3.746	9.274
6	DD6	IN	-7.273	15.252	3.552	9.210
7	DD8	IN	-3.463	9.147	7.329	15.928
8	DD9	IN	-3.998	9.358	7.742	5.387
9	DD10	IN	-3.712	9.316	7.676	5.387
10	DD11	IN	-3.520	9.126	7.400	15.907
11	DF1	KIP	-16.690	5.492	21.093	5.809
12	DF7	KIP	-21.944	6.274	27.871	5.809
13	DA1	G	-.661	5.323	.445	5.999
14	DA2	G	-2.055	6.316	.834	5.725
15	DA3	G	-2.560	6.316	16.474	12.907
16	DA4	G	-.915	6.253	1.085	5.788
17	DA5	G	-.747	6.253	.945	5.788
18	DA6	G	-.681	6.211	.845	5.830
19	DA7	G	-.495	5.978	.586	5.957
20	DD18	IN	-7.314	15.907	3.515	9.105
21	DD78	IN	-7.439	15.886	3.554	9.105
22	DD18-DD2	IN	-3.269	5.830	3.065	6.316
23	DD18-DD3	IN	-3.565	5.809	3.168	6.295
24	DD18-DD4	IN	-3.399	5.830	2.975	6.274
25	DD78-DD6	IN	-2.513	35.469	1.610	6.274
26	DD78-DD5	IN	-2.970	5.809	2.613	6.274
27	DD78-DD4	IN	-3.370	5.767	2.984	6.274
28	DD9-DD8	IN	-3.281	5.809	2.650	6.274
29	DD10-11	IN	-2.703	5.809	2.345	6.274

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 6-2
NO. OF DATA POINTS . . . 2539

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.615	
2	DD2	IN	-6.657	12.443	6.430	8.260
3	DD3	IN	-6.516	12.443	6.471	8.281
4	DD4	IN	-6.456	12.485	6.475	8.260
5	DD5	IN	-6.273	12.612	6.034	8.260
6	DD6	IN	-6.180	12.612	5.254	8.239
7	DD8	IN	-4.430	18.231	6.156	12.590
8	DD9	IN	-6.344	6.281	6.452	12.485
9	DD10	IN	-6.040	8.260	6.272	12.612
10	DD11	IN	-4.441	18.252	6.139	12.569
11	DF1	KIP	-15.122	6.760	17.146	6.337
12	DF7	KIP	-18.731	6.781	18.392	6.359
13	DA1	G	-.515	6.999	.632	6.126
14	DA2	G	-1.331	6.781	.798	6.337
15	DA3	G	-10.894	6.802	8.847	5.873
16	DA4	G	-.759	6.718	.970	6.274
17	DA5	G	-.485	6.760	.461	8.281
18	DA6	G	-.466	6.802	.536	6.359
19	DA7	G	-.361	6.506	.514	6.105
20	DD18	IN	-6.141	12.612	4.444	18.252
21	DD78	IN	-6.172	12.569	4.490	18.252
22	DD18-DD2	IN	-3.266	6.316	3.938	6.781
23	DD18-DD3	IN	-3.367	6.337	3.813	6.781
24	DD18-DD4	IN	-3.196	6.337	3.404	6.802
25	DD78-DD6	IN	-1.656	6.337	1.756	6.781
26	DD78-DD5	IN	-2.660	6.316	2.860	6.781
27	DD78-DD4	IN	-3.192	6.337	3.459	6.802
28	DD9-DD8	IN	-3.065	6.337	3.176	6.781
29	DD10-11	IN	-2.492	6.316	2.607	6.781

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . . . GM 4-2
NO. OF DATA POINTS . . . 2604

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		54.988	
2	DD2	IN	-4.740	4.563	2.479	8.471
3	DD3	IN	-4.655	4.563	2.425	8.450
4	DD4	IN	-4.463	4.521	2.416	8.429
5	DD5	IN	-4.255	4.500	2.245	8.408
6	DD6	IN	-3.945	4.457	2.087	8.344
7	DD8	IN	-1.923	8.239	4.041	14.978
8	DD9	IN	-2.383	8.450	4.574	4.563
9	DD10	IN	-2.231	8.387	4.235	4.500
10	DD11	IN	-1.949	8.239	4.016	14.978
11	DF1	KIP	-9.345	5.514	8.716	5.070
12	DF7	KIP	-9.191	5.535	13.936	5.091
13	DA1	G	-.457	4.415	.405	6.359
14	DA2	G	-.471	5.535	.414	4.964
15	DA3	G	-.414	5.471	.401	5.007
16	DA4	G	-.385	5.471	.399	5.028
17	DA5	G	-.259	5.492	.367	5.049
18	DA6	G	-.302	4.478	.434	5.070
19	DA7	G	-.260	4.352	.203	4.669
20	DD1B	IN	-4.038	15.020	1.935	8.260
21	DD7B	IN	-4.070	14.999	1.966	8.218
22	DD1B-DD2	IN	-2.563	5.070	3.143	5.514
23	DD1B-DD3	IN	-2.633	5.070	2.928	5.514
24	DD1B-DD4	IN	-2.529	5.112	2.571	5.514
25	DD7B-DD6	IN	-1.476	5.070	1.314	5.535
26	DD7B-DD5	IN	-2.189	5.070	2.168	5.514
27	DD7B-DD4	IN	-2.583	5.112	2.581	5.514
28	DD9-DD8	IN	-2.474	5.070	2.544	5.535
29	DD10-11	IN	-2.025	5.070	2.074	5.514

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . N
INPUT MOTION . . . . GM 3-2
NO. OF DATA POINTS . . . 3061

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.642	
2	DD2	IN	-3.595	17.322	4.746	14.365
3	DD3	IN	-3.522	17.322	4.643	14.365
4	DD4	IN	-3.441	17.238	4.632	14.386
5	DD5	IN	-3.295	17.322	4.358	14.280
6	DD6	IN	-3.019	17.301	4.249	14.154
7	DD8	IN	-4.406	14.069	2.872	17.048
8	DD9	IN	-4.550	14.386	3.460	17.322
9	DD10	IN	-4.344	14.323	3.297	17.344
10	DD11	IN	-4.406	14.069	2.882	17.048
11	DF1	KIP	-5.128	19.794	5.298	21.336
12	DF7	KIP	-5.814	19.773	6.729	14.513
13	DA1	G	-.240	13.858	.310	23.533
14	DA2	G	-.258	19.773	.257	21.273
15	DA3	G	-.210	14.956	.236	21.294
16	DA4	G	-.252	14.935	.273	14.492
17	DA5	G	-.180	14.978	.242	14.513
18	DA6	G	-.173	15.041	.188	21.378
19	DA7	G	-.202	14.576	.177	19.034
20	DD1B	IN	-2.881	17.090	4.441	14.090
21	DD7B	IN	-2.689	17.048	4.471	14.069
22	DD1B-DD2	IN	-1.772	14.492	2.129	19.773
23	DD1B-DD3	IN	-1.794	14.492	2.024	19.773
24	DD1B-DD4	IN	-1.785	14.513	1.865	19.794
25	DD7B-DD6	IN	-.924	14.513	1.022	19.773
26	DD7B-DD5	IN	-1.446	14.492	1.575	19.773
27	DD7B-DD4	IN	-1.788	14.513	1.911	19.794
28	DD9-DD8	IN	-2.022	9.464	3.141	55.073
29	DD10-11	IN	-1.392	14.492	2.592	22.561

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS . . . 1249

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		131.819	
2	DD2	IN	-.111	94.534	.089	23.765
3	DD3	IN	-.034	93.266	.046	23.449
4	DD4	IN	-.223	51.333	.173	42.989
5	DD5	IN	-.945	40.137	.681	95.484
6	DD6	IN	-.111	47.214	.098	18.801
7	DD8	IN	-.134	108.688	.179	77.951
8	DD9	IN	-.044	109.004	.056	21.864
9	DD10	IN	-.007	1.267	.018	21.864
10	DD11	IN	-.182	23.660	.182	36.969
11	DF1	KIP	-8.998	108.793	9.352	11.724
12	DF7	KIP	-11.553	14.154	10.265	11.830
13	DA1	G	-.081	15.210	.140	4.964
14	DA2	G	-.012	20.069	.017	125.059
15	DA3	G	-.005	100.977	.006	14.259
16	DA4	G	-.002	3.908	.006	123.792
17	DA5	G	-.002	23.660	.002	10.879
18	DA6	G	-.056	35.173	.046	124.954
19	DA7	G	-.010	119.778	.013	4.331
20	DD1B	IN	-.259	36.124	.243	19.118
21	DD7B	IN	-.251	42.672	.251	14.365
22	DD1B-DD2	IN	-.164	40.137	.160	108.688
23	DD1B-DD3	IN	-.248	40.137	.206	108.688
24	DD1B-DD4	IN	-.423	42.989	.358	19.541
25	DD7B-DD6	IN	-.152	35.701	.160	18.907
26	DD7B-DD5	IN	-.920	95.484	1.021	23.449
27	DD7B-DD4	IN	-.420	42.989	.365	19.541
28	DD9-DD8	IN	-.160	95.801	.116	108.582
29	DD10-11	IN	-.173	44.996	.185	18.907

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . DS 2
NO. OF DATA POINTS . . . 1982

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		209.242	
2	DD2	IN	-.226	138.368	.193	103.618
3	DD3	IN	-.057	108.793	.092	103.618
4	DD4	IN	-.195	180.618	.173	9.295
5	DD5	IN	-.714	.211	.565	122.313
6	DD6	IN	-.216	138.368	.213	103.618
7	DD8	IN	-.309	122.947	.369	138.157
8	DD9	IN	-.059	114.497	.094	135.939
9	DD10	IN	-.013	79.324	.017	127.806
10	DD11	IN	-.368	103.512	.367	137.840
11	DF1	KIP	-15.204	103.512	16.487	98.759
12	DF7	KIP	-17.810	103.406	18.379	98.653
13	DA1	G	-.065	15.104	.055	204.383
14	DA2	G	-.010	202.799	.014	10.457
15	DA3	G	-.005	107.631	.008	112.807
16	DA4	G	-.005	2.324	.001	.211
17	DA5	G	-.003	198.257	.001	6.337
18	DA6	G	-.065	175.020	.041	13.414
19	DA7	G	-.015	202.482	.010	6.232
20	DD16	IN	-.523	137.840	.491	123.264
21	DD78	IN	-.487	137.946	.504	113.229
22	DD16-DD2	IN	-.506	137.840	.311	123.264
23	DD15-DD3	IN	-.485	137.840	.411	123.264
24	DD18-DD4	IN	-.631	118.405	.592	103.301
25	DD78-DD6	IN	-.285	138.157	.299	122.947
26	DD78-DD5	IN	-1.022	133.298	.786	104.251
27	DD78-DD4	IN	-.606	118.405	.604	103.301
28	DD9-DD8	IN	-.297	137.523	.284	103.301
29	DD10-11	IN	-.359	137.734	.370	103.618

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 2965

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		313.071	
2	DD2	IN	-.473	167.415	.360	157.275
3	DD3	IN	-.095	261.737	.128	13.309
4	DD4	IN	-.224	186.533	.168	14.259
5	DD5	IN	-.591	5.809	.656	2.535
6	DD6	IN	-.465	167.098	.401	196.356
7	DD8	IN	-.637	196.250	.801	147.557
8	DD9	IN	-.067	14.787	.172	148.191
9	DD10	IN	-.018	159.282	.082	147.557
10	DD11	IN	-.722	196.250	.792	147.557
11	DF1	KIP	-23.801	156.747	27.003	147.029
12	DF7	KIP	-25.783	156.535	28.169	147.029
13	DA1	G	-.156	303.881	.059	180.723
14	DA2	G	-.016	234.275	.013	307.578
15	DA3	G	-.005	234.275	.013	12.252
16	DA4	G	-.004	77.634	.002	.211
17	DA5	G	-.001	10.985	.007	195.933
18	DA6	G	-.072	272.300	.033	298.812
19	DA7	G	-.022	1.584	.017	1.796
20	DD18	IN	-.999	261.526	.997	156.958
21	DD78	IN	-.982	208.925	.990	157.064
22	DD18-DD2	IN	-.541	207.024	.648	176.498
23	DD18-DD3	IN	-.923	207.024	.904	176.498
24	DD18-DD4	IN	-1.093	208.608	1.096	195.933
25	DD78-DD6	IN	-.537	205.756	.601	176.498
26	DD78-DD5	IN	-1.047	6.654	.838	176.498
27	DD78-DD4	IN	-1.081	208.608	1.086	195.933
28	DD9-DD8	IN	-.665	261.420	.646	196.250
29	DD10-11	IN	-.718	186.533	.716	196.039

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3035

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.093	
2	DD2	IN	-2.899	16.921	4.645	14.006
3	DD3	IN	-2.891	16.942	4.718	13.985
4	DD4	IN	-2.896	17.069	4.714	14.027
5	DD5	IN	-2.852	16.921	4.719	14.006
6	DD6	IN	-2.856	16.942	4.600	14.006
7	DD8	IN	-4.516	13.985	2.884	17.006
8	DD9	IN	-4.571	13.985	2.855	16.942
9	DD10	IN	-4.653	13.985	2.875	16.921
10	DD11	IN	-4.513	13.985	2.870	16.984
11	DF1	KIP	-17.675	14.513	15.637	14.344
12	DF7	KIP	-16.401	14.513	14.111	14.344
13	DA1	G	-.656	14.471	.480	15.400
14	DA2	G	-.413	14.492	.405	14.661
15	DA3	G	-.474	14.513	.436	14.682
16	DA4	G	-.564	14.513	.484	14.682
17	DA5	G	-.576	14.513	.457	14.682
18	DA6	G	-.534	14.492	.461	14.661
19	DA7	G	-.229	14.471	.251	13.942
20	DD18	IN	-2.872	16.984	4.413	13.985
21	DD7B	IN	-2.898	16.963	4.505	13.985
22	DD18-DD2	IN	-.333	14.323	.408	14.513
23	DD18-DD3	IN	-.427	14.323	.507	14.513
24	DD18-DD4	IN	-.479	14.661	.570	14.513
25	DD7B-DD6	IN	-.252	14.323	.390	14.513
26	DD7B-DD5	IN	-.412	14.323	.501	14.513
27	DD7B-DD4	IN	-.469	14.661	.591	14.513
28	DD9-DD8	IN	-5.049	23.449	.313	14.513
29	DD10-11	IN	-1.997	20.702	.327	14.492

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 4-1
NO. OF DATA POINTS . . . 3261

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		68.867	
2	DD2	IN	-4.095	15.062	2.112	8.260
3	DD3	IN	-4.081	15.062	2.187	8.260
4	DD4	IN	-4.153	15.020	2.281	8.281
5	DD5	IN	-4.076	15.020	2.205	8.260
6	DD6	IN	-4.056	15.062	2.109	8.260
7	DD8	IN	-3.769	8.281	1.996	4.457
8	DD9	IN	-2.126	8.260	4.011	15.020
9	DD10	IN	-2.154	8.260	4.070	15.020
10	DD11	IN	-2.026	8.239	4.043	15.020
11	DF1	KIP	-14.295	4.542	15.326	4.753
12	DF7	KIP	-13.719	4.521	15.155	4.732
13	DA1	G	-.425	4.394	.465	4.880
14	DA2	G	-.367	4.521	.339	4.753
15	DA3	G	-.375	4.542	.403	4.774
16	DA4	G	-.417	4.542	.466	4.732
17	DA5	G	-.372	4.542	.480	4.732
18	DA6	G	-.391	4.500	.487	4.732
19	DA7	G	-.287	4.478	.241	4.690
20	DD1B	IN	-4.018	15.041	1.936	8.239
21	DD7B	IN	-4.080	15.041	2.000	8.239
22	DD1B-DD2	IN	-.289	4.732	.332	4.521
23	DD1B-DD3	IN	-.401	4.732	.377	4.521
24	DD1B-DD4	IN	-.519	4.732	.396	4.542
25	DD7B-DD6	IN	-.274	4.711	.226	4.521
26	DD7B-DD5	IN	-.396	4.732	.355	4.521
27	DD7B-DD4	IN	-.465	4.732	.452	4.542
28	DD9-DD8	IN	-.032	2.260	6.534	15.062
29	DD10-11	IN	-.271	4.732	.252	4.542

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . QS 6
NO. OF DATA POINTS . . . 1575

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		166.253	
2	DD2	IN	-.684	139.952	.509	132.876
3	DD3	IN	-.083	140.797	.131	10.879
4	DD4	IN	-.236	155.796	.209	104.779
5	DD5	IN	-.081	154.212	.132	147.241
6	DD6	IN	-.706	153.895	.615	160.972
7	DD8	IN	-.006	105.519	.011	12.675
8	DD9	IN	-.041	12.252	.203	140.692
9	DD10	IN	-.019	146.712	.182	153.789
10	DD11	IN	-1.126	161.077	1.234	154.106
11	DF1	KIP	-29.604	132.453	33.337	125.587
12	DF7	KIP	-32.099	132.559	32.685	139.636
13	DA1	G	-2.553	160.549	.127	75.838
14	DA2	G	-.062	160.866	.129	160.549
15	DA3	G	-.822	153.684	.017	95.273
16	DA4	G	-.023	153.684	.048	160.655
17	DA5	G	-.002	93.583	.027	160.655
18	DA6	G	-.035	162.662	.045	127.383
19	DA7	G	-.024	161.500	.029	129.179
20	DD18	IN	-1.473	153.684	1.501	160.655
21	DD78	IN	-1.456	153.789	1.509	161.183
22	DD18-DD2	IN	-.830	154.106	1.101	161.077
23	DD18-DD3	IN	-1.403	154.106	1.419	160.760
24	DD18-DD4	IN	-1.475	153.895	1.521	132.559
25	DD78-DD6	IN	-.761	153.789	.912	132.770
26	DD78-DD5	IN	-1.390	153.789	1.391	161.077
27	DD78-DD4	IN	-1.457	153.895	1.531	160.866
28	DD9-DD8	IN	-.040	12.252	.212	154.212
29	DD10-11	IN	-1.052	154.106	1.114	160.972

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 6-1
NO. OF DATA POINTS . . . 2625

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		55.432	
2	DD2	IN	-6.124	11.661	4.685	17.344
3	DD3	IN	-6.069	11.640	4.756	17.365
4	DD4	IN	-6.114	11.640	4.811	17.386
5	DD5	IN	-6.069	11.640	4.761	17.365
6	DD6	IN	-6.106	11.640	4.604	17.344
7	DD8	IN	-.010	38.659	.013	17.301
8	DD9	IN	-4.623	7.077	6.012	11.661
9	DD10	IN	-4.680	17.344	6.092	11.661
10	DD11	IN	-4.481	17.322	6.132	11.640
11	DF1	KIP	-22.151	7.605	17.992	7.816
12	DF7	KIP	-20.688	7.605	17.280	5.197
13	DA1	G	-.964	8.006	.660	5.429
14	DA2	G	-.552	7.605	.453	5.176
15	DA3	G	-.437	4.859	.682	7.795
16	DA4	G	-.681	7.584	.548	7.795
17	DA5	G	-.643	7.584	.511	7.774
18	DA6	G	-.579	7.563	.536	5.176
19	DA7	G	-.432	7.499	.350	5.154
20	DD1B	IN	-6.076	11.640	4.398	17.301
21	DD7B	IN	-6.223	11.619	4.506	17.322
22	DD1B-DD2	IN	-.682	7.795	.587	7.605
23	DD1B-DD3	IN	-.826	7.774	.679	7.584
24	DD1B-DD4	IN	-2.852	36.525	.740	7.584
25	DD7B-DD6	IN	-.509	7.837	.422	7.584
26	DD7B-DD5	IN	-.806	7.795	.586	7.584
27	DD7B-DD4	IN	-2.906	36.525	.693	7.584
28	DD9-DD8	IN	-4.629	17.386	6.013	11.682
29	DD10-11	IN	-.639	7.795	.399	7.584

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2757

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		58.220	
2	DD2	IN	-7.384	15.083	3.871	8.302
3	DD3	IN	-7.381	15.104	3.933	8.302
4	DD4	IN	-7.417	15.125	3.964	8.260
5	DD5	IN	-7.387	15.083	3.890	8.302
6	DD6	IN	-7.385	15.083	3.759	8.302
7	DD8	IN	-.010	51.650	.010	8.302
8	DD9	IN	-3.808	8.323	7.277	15.083
9	DD10	IN	-3.838	8.302	7.408	15.104
10	DD11	IN	-3.571	8.281	7.401	15.062
11	DF1	KIP	-22.740	5.408	29.980	4.838
12	DF7	KIP	-22.065	5.408	24.545	4.838
13	DA1	G	-1.473	5.049	3.568	5.028
14	DA2	G	-.547	5.408	.804	4.859
15	DA3	G	-.557	4.563	6.314	5.661
16	DA4	G	-.695	5.429	.809	4.816
17	DA5	G	-.639	5.387	.698	4.816
18	DA6	G	-.665	5.366	.729	4.753
19	DA7	G	-.526	5.408	.499	4.732
20	DD1B	IN	-7.280	15.083	3.468	8.323
21	DD7B	IN	-7.467	15.062	3.565	8.281
22	DD1B-DD2	IN	-.661	4.816	.925	5.408
23	DD1B-DD3	IN	-2.842	5.492	1.003	5.408
24	DD1B-DD4	IN	-1.236	4.816	1.013	5.366
25	DD7B-DD6	IN	-.619	4.838	.539	5.408
26	DD7B-DD5	IN	-.988	4.816	.805	5.408
27	DD7B-DD4	IN	-1.222	4.816	.882	5.429
28	DD9-DD8	IN	-3.815	8.323	7.283	15.104
29	DD10-11	IN	-.800	4.816	.558	5.408

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 6-2
NO. OF DATA POINTS . . . 2772

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		58.537	
2	DD2	IN	-6.312	19.203	4.482	24.927
3	DD3	IN	-6.305	19.203	4.520	24.927
4	DD4	IN	-6.363	19.203	4.674	14.640
5	DD5	IN	-6.297	19.203	4.493	14.618
6	DD6	IN	-6.232	19.203	4.451	24.885
7	DD8	IN	-.011	31.666	.009	6.464
8	DD9	IN	-4.400	24.906	6.204	19.224
9	DD10	IN	-4.475	24.906	6.296	19.224
10	DD11	IN	-4.419	24.843	6.182	19.160
11	DF1	KIP	-21.079	15.168	19.224	12.738
12	DF7	KIP	-19.221	15.147	19.106	12.759
13	DA1	G	-.684	15.273	.713	14.851
14	DA2	G	-.534	15.168	.529	12.738
15	DA3	G	-.543	15.189	.476	15.358
16	DA4	G	-.613	15.189	.526	12.717
17	DA5	G	-.595	12.928	.544	12.738
18	DA6	G	-.599	12.907	.575	12.738
19	DA7	G	-.405	12.865	.464	12.971
20	DD1B	IN	-6.069	19.160	4.392	24.864
21	DD7B	IN	-6.201	19.181	4.498	24.864
22	DD1B-DD2	IN	-.590	12.738	.841	15.168
23	DD1B-DD3	IN	-.697	12.738	.932	15.147
24	DD1B-DD4	IN	-.773	12.738	.881	15.168
25	DD7B-DD6	IN	-.432	12.738	.522	15.147
26	DD7B-DD5	IN	-.660	12.738	.767	15.147
27	DD7B-DD4	IN	-.785	12.738	.851	15.168
28	DD9-DD8	IN	-4.401	24.927	6.203	19.224
29	DD10-11	IN	-.518	12.738	.543	15.168

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . P
INPUT MOTION . . . . GM 4-2
NO. OF DATA POINTS . . . 2526

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.340	
2	DD2	IN	-4.070	14.893	2.110	8.112
3	DD3	IN	-4.063	14.893	2.149	8.112
4	DD4	IN	-4.167	14.935	2.234	8.133
5	DD5	IN	-4.073	14.893	2.134	8.091
6	DD6	IN	-4.061	14.893	2.055	8.112
7	DD8	IN	-.009	.084	.010	9.548
8	DD9	IN	-2.097	8.112	3.977	14.872
9	DD10	IN	-2.114	8.112	4.052	14.872
10	DD11	IN	-1.980	8.091	4.063	14.872
11	DF1	KIP	-12.272	4.394	14.616	4.626
12	DF7	KIP	-12.491	4.373	12.453	4.605
13	DA1	G	-.442	4.922	.463	7.499
14	DA2	G	-.340	4.415	.383	4.647
15	DA3	G	-.331	4.394	.425	4.647
16	DA4	G	-.357	4.394	.470	4.647
17	DA5	G	-.340	4.394	.370	4.605
18	DA6	G	-.377	4.352	.430	4.584
19	DA7	G	-.295	5.112	.243	4.563
20	DD1B	IN	-4.012	14.935	1.914	8.112
21	DD7B	IN	-4.069	14.872	1.990	8.112
22	DD1B-DD2	IN	-.450	4.626	.434	4.394
23	DD1B-DD3	IN	-.565	4.605	.450	4.373
24	DD1B-DD4	IN	-.689	4.647	.485	5.197
25	DD7B-DD6	IN	-.294	4.626	.274	4.394
26	DD7B-DD5	IN	-.471	4.626	.418	4.394
27	DD7B-DD4	IN	-.659	4.647	.496	4.373
28	DD9-DD8	IN	-2.098	8.112	3.978	14.893
29	DD10-11	IN	-.370	4.605	.296	4.373

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . QS 1
NO. OF DATA POINTS 2281

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		228.783	
2	DD2	IN	-.233	175.199	.234	32.712
3	DD3	IN	-.047	161.452	.075	32.712
4	DD4	IN	-.076	151.418	.044	32.612
5	DD5	IN	-.116	151.418	.029	31.909
6	DD6	IN	-.335	160.549	.222	25.487
7	DD8	IN	-.422	17.761	2.054	6.723
8	DD9	IN	-.083	32.913	.062	167.172
9	DD10	IN	-.025	26.089	.141	161.854
10	DD11	IN	-.390	18.062	.504	153.224
11	DF1	KIP	-6.724	17.660	6.709	149.010
12	DF7	KIP	-5.711	32.812	5.575	149.110
13	DA1	G	-.020	124.927	.027	124.827
14	DA2	G	-.656	124.927	.334	144.695
15	DA3	G	-.010	2.810	.015	26.591
16	DA4	G	-.554	13.546	.618	1.204
17	DA5	G	-.097	219.952	.217	219.852
18	DA6	G	-.021	3.111	.031	103.755
19	DA7	G	-.015	211.323	.010	211.223
20	DD1B	IN	-.406	152.923	.440	18.162
21	DD7B	IN	-.515	160.650	.391	25.387
22	DD1B-DD2	IN	-.195	109.776	.209	17.660
23	DD1B-DD3	IN	-.372	152.923	.376	17.660
24	DD1B-DD4	IN	-.357	14.048	.408	17.761
25	DD7B-DD6	IN	-.186	150.816	.173	25.688
26	DD7B-DD5	IN	-.405	154.228	.370	25.688
27	DD7B-DD4	IN	-.444	154.228	.356	17.761
28	DD9-DD8	IN	-2.059	23.380	.381	17.761
29	DD10-11	IN	-.370	152.722	.371	25.286

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . SS 1
NO. OF DATA POINTS . . .11807

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		236.930	
2	DD2	IN	-.605	97.754	3.731	124.666
3	DD3	IN	-.976	97.754	8.194	124.666
4	DD4	IN	-1.070	128.801	9.172	124.646
5	DD5	IN	-1.104	128.801	8.558	124.666
6	DD6	IN	-1.039	129.403	6.917	124.646
7	DD8	IN	-.234	155.311	6.919	124.646
8	DD9	IN	-.939	97.955	393.008	124.626
9	DD10	IN	-1.072	129.102	66.956	124.666
10	DD11	IN	-.230	97.855	.889	124.666
11	DF1	KIP	-21.996	97.754	19.514	97.975
12	DF7	KIP	-18.286	97.774	18.612	97.975
13	DA1	G	-.410	97.774	1.153	113.328
14	DA2	G	-2.602	81.519	3.949	79.592
15	DA3	G	-.403	98.015	.390	97.975
16	DA4	G	-2.206	121.235	3.532	97.092
17	DA5	G	-4.466	74.655	14.392	73.652
18	DA6	G	-.621	98.216	11.781	128.520
19	DA7	G	-.898	124.626	.736	126.172
20	DD1B	IN	-.220	131.791	.257	127.075
21	DD7B	IN	-.209	97.634	.293	123.402
22	DD1B-DD2	IN	-3.665	124.666	.544	97.774
23	DD1B-DD3	IN	-8.127	124.666	.933	128.821
24	DD1B-DD4	IN	-9.105	124.666	1.137	128.821
25	DD7B-DD6	IN	-6.766	124.646	1.133	129.423
26	DD7B-DD5	IN	-8.408	124.666	1.222	129.443
27	DD7B-DD4	IN	-9.022	124.666	1.178	129.443
28	DD9-DD8	IN	-2.814	129.102	387.707	124.666
29	DD10-11	IN	-1.130	129.764	66.068	124.666

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . GM 2-2
NO. OF DATA POINTS . . . 2288

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		45.897	
2	DD2	IN	-2.814	7.746	2.510	9.793
3	DD3	IN	-2.839	7.807	2.528	9.773
4	DD4	IN	-2.815	7.787	2.544	9.773
5	DD5	IN	-2.810	7.767	2.523	9.773
6	DD6	IN	-2.766	7.767	2.477	9.773
7	DD8	IN	-2.490	9.733	2.794	7.767
8	DD9	IN	-2.520	9.793	2.830	7.746
9	DD10	IN	-2.513	9.753	2.792	7.767
10	DD11	IN	-2.459	9.733	2.742	7.746
11	DF1	KIP	-3.636	3.753	3.461	5.579
12	DF7	KIP	-3.521	3.793	2.962	3.974
13	DA1	G	-.108	2.408	.110	2.348
14	DA2	G	-3.232	3.693	2.806	3.974
15	DA3	G	-.249	8.108	.134	8.148
16	DA4	G	-.509	9.031	.498	13.185
17	DA5	G	-.136	3.753	.173	4.014
18	DA6	G	-.992	4.917	7.548	7.165
19	DA7	G	-.126	3.773	.146	4.034
20	DD1B	IN	-2.707	7.767	2.468	9.793
21	DD7B	IN	-2.712	7.746	2.435	9.834
22	DD1B-DD2	IN	-.104	5.619	.151	3.773
23	DD1B-DD3	IN	-2.382	11.961	.276	3.773
24	DD1B-DD4	IN	-.196	4.014	.266	3.773
25	DD7B-DD6	IN	-1.911	6.542	.101	4.515
26	DD7B-DD5	IN	-2.553	7.365	.214	3.753
27	DD7B-DD4	IN	-.215	3.994	.221	4.515
28	DD9-DD8	IN	-2.132	4.636	2.562	14.028
29	DD10-11	IN	-.166	4.014	.199	3.753

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . GM 1-2
NO. OF DATA POINTS . . . 3003

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		60.246	
2	DD2	IN	-1.931	20.169	.290	1.967
3	DD3	IN	-1.982	20.169	.291	1.967
4	DD4	IN	-1.983	20.169	.298	2.067
5	DD5	IN	-1.982	20.149	.690	19.065
6	DD6	IN	-1.917	20.570	.818	43.469
7	DD8	IN	-.290	2.007	2.022	4.375
8	DD9	IN	-.302	2.147	1.989	20.209
9	DD10	IN	-.286	2.147	1.965	20.209
10	DD11	IN	-.286	1.927	1.878	20.610
11	DF1	KIP	-7.346	6.121	5.975	6.402
12	DF7	KIP	-6.768	6.161	4.962	6.462
13	DA1	G	-.146	6.021	.153	5.860
14	DA2	G	-3.681	6.161	2.942	6.422
15	DA3	G	-.113	6.021	.123	6.462
16	DA4	G	-.239	6.683	.362	6.703
17	DA5	G	-.268	6.161	.212	6.382
18	DA6	G	-.473	7.445	3.542	7.506
19	DA7	G	-.252	6.181	.159	6.422
20	DD18	IN	-1.835	20.610	.310	2.107
21	DD7B	IN	-1.873	20.671	.291	1.907
22	DD18-DD2	IN	-.147	6.442	.250	6.141
23	DD18-DD3	IN	-.313	6.442	.447	6.141
24	DD18-DD4	IN	-.297	6.422	.447	6.141
25	DD7B-DD6	IN	-1.886	49.529	.198	6.161
26	DD7B-DD5	IN	-2.501	20.851	.431	6.161
27	DD7B-DD4	IN	-.334	6.422	.439	6.161
28	DD9-DD8	IN	-1.874	4.375	.421	6.161
29	DD10-11	IN	-.256	6.422	.390	6.161

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . G
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 2675

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		268.318	
2	DD2	IN	-.485	232.696	.498	137.370
3	DD3	IN	-.131	233.097	.222	165.366
4	DD4	IN	-.143	232.997	.204	165.466
5	DD5	IN	-.162	178.511	.215	165.466
6	DD6	IN	-.507	178.611	.537	165.466
7	DD8	IN	-.767	151.318	2.273	235.506
8	DD9	IN	-.241	151.318	.153	217.745
9	DD10	IN	-.101	151.819	.315	200.887
10	DD11	IN	-.798	151.518	.798	199.482
11	DF1	KIP	-10.460	136.868	10.507	143.993
12	DF7	KIP	-10.715	136.969	8.662	198.880
13	DA1	G	-.044	147.404	.122	.903
14	DA2	G	-1.326	84.088	2.234	.903
15	DA3	G	-.090	120.011	.107	134.159
16	DA4	G	-1.211	156.837	1.040	164.362
17	DA5	G	-.062	1.003	.036	161.553
18	DA6	G	-.067	120.914	.155	86.396
19	DA7	G	-.037	98.236	.044	132.754
20	DD18	IN	-.784	244.637	.840	151.518
21	DD78	IN	-.833	232.596	.821	151.418
22	DD18-DD2	IN	-.311	244.637	.351	151.518
23	DD18-DD3	IN	-.668	244.637	.639	151.518
24	DD18-DD4	IN	-.657	244.637	.665	151.518
25	DD78-DD6	IN	-.330	232.596	.314	151.920
26	DD78-DD5	IN	-.675	232.596	.626	151.920
27	DD78-DD4	IN	-.692	232.596	.641	151.920
28	DD9-DD8	IN	-2.386	235.506	.573	151.117
29	DD10-11	IN	-.490	129.945	.712	137.069

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . D
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 3009

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		60.366	
2	DD2	IN	-4.196	12.944	2.211	6.181
3	DD3	IN	-4.336	12.964	2.551	6.161
4	DD4	IN	-4.353	12.964	2.597	6.181
5	DD5	IN	-4.383	12.964	2.637	6.161
6	DD6	IN	-4.239	12.964	2.385	6.181
7	DD8	IN	-2.002	6.061	4.060	12.904
8	DD9	IN	-2.550	6.141	4.342	12.964
9	DD10	IN	-2.593	6.161	4.344	12.944
10	DD11	IN	-2.012	6.061	4.046	12.924
11	DF1	KIP	-14.333	2.328	22.679	2.549
12	DF7	KIP	-14.700	2.348	17.717	2.609
13	DA1	G	-.348	2.208	.444	1.806
14	DA2	G	-5.380	2.228	4.142	6.763
15	DA3	G	-.668	53.976	.705	4.295
16	DA4	G	-1.343	6.121	1.678	2.489
17	DA5	G	-.512	2.850	.640	2.589
18	DA6	G	-1.282	30.565	13.259	16.978
19	DA7	G	-.526	4.636	1.359	17.640
20	DD1B	IN	-4.016	12.904	1.973	6.061
21	DD7B	IN	-4.028	12.884	1.955	6.061
22	DD1B-DD2	IN	-2.042	10.596	.452	2.348
23	DD1B-DD3	IN	-.897	2.589	.765	2.348
24	DD1B-DD4	IN	-3.144	13.787	.806	10.275
25	DD7B-DD6	IN	-2.043	32.311	.682	13.566
26	DD7B-DD5	IN	-2.614	10.135	.865	13.566
27	DD7B-DD4	IN	-3.092	13.787	.827	13.566
28	DD9-DD8	IN	-2.059	22.718	2.422	21.694
29	DD10-11	IN	-2.033	20.008	2.856	6.402

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . G
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 3515

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		352.606	
2	DD2	IN	-.754	253.066	.669	197.174
3	DD3	IN	-.234	252.865	.160	219.150
4	DD4	IN	-.156	303.638	.071	219.049
5	DD5	IN	-.062	184.531	.027	236.810
6	DD6	IN	-.170	68.033	.191	135.564
7	DD8	IN	-1.148	196.572	2.246	2.308
8	DD9	IN	-.157	198.680	.263	208.112
9	DD10	IN	-.042	198.981	.076	186.337
10	DD11	IN	-1.182	241.426	1.268	135.263
11	DF1	KIP	-13.914	196.472	14.526	185.334
12	DF7	KIP	-5.243	196.572	5.612	185.434
13	DA1	G	-.027	44.753	.015	9.633
14	DA2	G	-.882	249.554	.253	302.836
15	DA3	G	-.021	202.192	.018	213.330
16	DA4	G	-3.336	227.077	1.335	249.353
17	DA5	G	-.033	17.660	.028	237.512
18	DA6	G	-.019	217.946	.038	144.294
19	DA7	G	-.016	134.560	.013	171.687
20	DD1B	IN	-1.165	186.237	1.218	197.174
21	DD7B	IN	-1.229	256.577	1.175	241.225
22	DD1B-DD2	IN	-.428	186.237	.555	241.526
23	DD1B-DD3	IN	-.952	186.237	1.068	241.526
24	DD1B-DD4	IN	-1.029	186.237	1.156	241.526
25	DD7B-DD6	IN	-1.121	256.577	1.015	242.028
26	DD7B-DD5	IN	-1.171	256.577	1.178	242.028
27	DD7B-DD4	IN	-1.078	292.300	1.119	242.028
28	DD9-DD8	IN	-2.215	2.308	1.033	219.150
29	DD10-11	IN	-1.290	135.263	1.158	241.024

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3273

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		65.665	
2	DD2	IN	-3.077	17.721	4.514	14.690
3	DD3	IN	-3.333	17.801	4.512	14.730
4	DD4	IN	-3.415	17.781	4.576	14.730
5	DD5	IN	-3.513	17.781	4.596	14.750
6	DD6	IN	-3.449	17.801	4.644	14.750
7	DD8	IN	-4.475	14.670	2.921	17.660
8	DD9	IN	-4.487	14.670	3.322	17.801
9	DD10	IN	-4.591	14.771	3.503	17.781
10	DD11	IN	-4.419	14.670	2.897	17.660
11	DF1	KIP	-10.903	14.229	12.246	13.928
12	DF7	KIP	-5.563	14.209	6.349	13.948
13	DA1	G	-.202	14.048	.233	14.189
14	DA2	G	-2.422	20.129	2.409	10.797
15	DA3	G	-.529	13.727	.541	13.767
16	DA4	G	-1.003	14.269	.890	13.888
17	DA5	G	-.368	14.289	.373	13.948
18	DA6	G	-.321	13.767	.625	13.807
19	DA7	G	-.313	14.249	.359	13.968
20	DD1B	IN	-2.650	17.660	4.457	14.690
21	DD7B	IN	-2.880	17.660	4.381	14.650
22	DD1B-DD2	IN	-.638	17.319	.478	20.149
23	DD1B-DD3	IN	-.965	13.948	.905	20.149
24	DD1B-DD4	IN	-1.211	13.928	1.052	14.249
25	DD7B-DD6	IN	-2.961	13.687	1.027	20.169
26	DD7B-DD5	IN	-2.923	13.687	1.111	20.149
27	DD7B-DD4	IN	-3.016	13.687	1.005	20.149
28	DD9-DD8	IN	-1.901	46.098	2.583	15.613
29	DD10-11	IN	-1.994	45.215	2.686	28.618

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . US 4
NO. OF DATA POINTS . . . 4586

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		460.074	
2	DD2	IN	-1.328	160.850	.886	296.414
3	DD3	IN	-1.316	160.850	.198	233.599
4	DD4	IN	-1.527	160.850	.066	295.511
5	DD5	IN	-1.029	160.850	.024	286.186
6	DD6	IN	-.511	160.850	.143	233.599
7	DD8	IN	-1.538	264.806	2.259	121.315
8	DD9	IN	-.169	202.392	.227	160.850
9	DD10	IN	-.135	160.850	.044	188.846
10	DD11	IN	-1.573	265.307	1.617	313.773
11	DF1	KIP	-18.449	233.499	19.965	218.247
12	DF7	KIP	-6.020	233.800	5.873	218.247
13	DA1	G	-.017	435.289	.025	16.657
14	DA2	G	-.300	160.850	.284	16.657
15	DA3	G	-.102	160.850	.023	242.329
16	DA4	G	-2.455	132.152	1.985	243.834
17	DA5	G	-.029	160.850	.022	16.757
18	DA6	G	-.076	160.850	3.056	243.031
19	DA7	G	-.652	160.850	.010	26.591
20	DD1B	IN	-1.592	346.786	1.622	296.615
21	DD7B	IN	-1.650	315.780	1.562	296.314
22	DD1B-DD2	IN	-.656	346.786	1.341	160.850
23	DD1B-DD3	IN	-1.489	346.786	1.437	264.806
24	DD1B-DD4	IN	-1.519	346.786	1.568	265.709
25	DD7B-DD6	IN	-1.530	315.780	1.427	265.207
26	DD7B-DD5	IN	-1.631	315.780	1.560	265.207
27	DD7B-DD4	IN	-1.559	315.780	1.550	160.850
28	DD9-DD8	IN	-2.267	121.315	1.412	234.201
29	DD10-11	IN	-1.566	315.579	1.541	234.301

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2805

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.272	
2	DD2	IN	-7.240	12.483	3.516	6.482
3	DD3	IN	-7.465	2.629	3.859	6.563
4	DD4	IN	-7.769	2.649	3.971	6.583
5	DD5	IN	-8.033	13.426	4.042	6.603
6	DD6	IN	-7.463	2.629	3.944	6.603
7	DD8	IN	-3.568	6.402	7.244	13.185
8	DD9	IN	-3.837	6.603	7.451	2.649
9	DD10	IN	-4.042	6.623	8.057	13.426
10	DD11	IN	-3.498	6.402	7.256	13.165
11	DF1	KIP	-21.841	2.649	22.076	3.211
12	DF7	KIP	-12.028	2.729	11.519	3.171
13	DA1	G	-.632	2.549	.447	3.231
14	DA2	G	-2.574	6.101	2.369	11.158
15	DA3	G	-1.607	14.911	1.681	4.656
16	DA4	G	-5.138	2.990	16.136	2.790
17	DA5	G	-.655	2.669	.752	3.030
18	DA6	G	-2.879	2.850	2.002	2.709
19	DA7	G	-.844	56.112	.573	3.071
20	DD1B	IN	-7.236	13.165	3.552	6.382
21	DD7B	IN	-7.209	13.165	3.491	6.402
22	DD1B-DD2	IN	-1.940	9.793	1.342	3.753
23	DD1B-DD3	IN	-2.956	3.251	2.775	3.753
24	DD1B-DD4	IN	-3.935	3.191	3.705	3.693
25	DD7B-DD6	IN	-5.255	3.171	4.979	3.693
26	DD7B-DD5	IN	-4.605	3.191	4.812	3.693
27	DD7B-DD4	IN	-4.025	3.191	3.772	3.693
28	DD9-DD8	IN	-2.950	3.231	2.637	3.773
29	DD10-11	IN	-4.742	3.191	4.605	3.733

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . Q
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2558

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		51.316	
2	DD2	IN	-6.267	9.914	4.612	14.389
3	DD3	IN	-6.321	9.874	5.145	14.389
4	DD4	IN	-6.382	9.773	5.465	14.389
5	DD5	IN	-6.484	9.753	5.743	14.409
6	DD6	IN	-6.494	9.753	5.680	14.409
7	DD8	IN	-4.496	15.533	6.129	9.894
8	DD9	IN	-5.123	14.409	6.338	9.934
9	DD10	IN	-5.744	14.429	6.466	9.733
10	DD11	IN	-4.421	15.533	6.099	9.894
11	DF1	KIP	-14.835	4.255	18.301	3.733
12	DF7	KIP	-8.692	4.234	7.059	5.780
13	DA1	G	-.629	3.873	6.311	3.813
14	DA2	G	-2.659	14.951	2.777	2.749
15	DA3	G	-1.823	13.968	1.700	13.988
16	DA4	G	-3.554	4.154	1.956	3.532
17	DA5	G	-.411	3.211	.448	3.753
18	DA6	G	-1.422	14.148	7.912	13.045
19	DA7	G	-.840	2.890	.566	4.756
20	DD18	IN	-6.062	9.894	4.466	15.553
21	DD78	IN	-6.041	9.874	4.376	15.593
22	DD18-DD2	IN	-2.884	13.948	1.449	4.275
23	DD18-DD3	IN	-2.586	34.598	2.994	4.295
24	DD18-DD4	IN	-3.070	7.185	3.880	4.275
25	DD78-DD6	IN	-3.736	7.165	4.801	4.255
26	DD78-DD5	IN	-3.855	28.377	4.850	4.295
27	DD78-DD4	IN	-3.139	7.185	3.907	4.255
28	DD9-DD8	IN	-2.153	7.205	2.831	4.275
29	DD10-11	IN	-3.610	7.185	4.705	4.295

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GS 1
NO. OF DATA POINTS . . . 1285

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		128.841	
2	DD2	IN	-.258	80.375	.239	19.166
3	DD3	IN	-.053	80.275	.072	26.892
4	DD4	IN	-.073	80.375	.057	19.065
5	DD5	IN	-.084	61.009	.068	33.515
6	DD6	IN	-.277	61.009	.262	19.166
7	DD8	IN	-.364	26.390	2.065	8.328
8	DD9	IN	-.080	18.664	.091	86.697
9	DD10	IN	-.059	18.764	.107	62.915
10	DD11	IN	-.395	26.390	.404	60.005
11	DF1	KIP	-8.631	33.916	11.277	81.278
12	DF7	KIP	-10.323	26.390	9.022	15.252
13	DA1	G	-.013	46.760	.013	94.022
14	DA2	G	-1.316	2.007	.991	51.978
15	DA3	G	-.014	51.777	.018	51.677
16	DA4	G	-.017	51.777	.013	51.978
17	DA5	G	-.018	2.007	.012	51.978
18	DA6	G	-13.609	115.094	1.546	116.499
19	DA7	G	-.022	51.777	.010	51.978
20	DD1B	IN	-.414	60.977	.414	26.691
21	DD7B	IN	-.443	61.109	.437	33.816
22	DD1B-DD2	IN	-.165	43.348	.184	26.390
23	DD1B-DD3	IN	-.372	43.348	.350	26.491
24	DD1B-DD4	IN	-.358	43.348	.361	26.691
25	DD7B-DD6	IN	-.169	61.109	.180	33.816
26	DD7B-DD5	IN	-.362	61.109	.376	34.016
27	DD7B-DD4	IN	-.371	61.109	.384	33.816
28	DD9-DD8	IN	-2.065	102.952	.327	33.615
29	DD10-11	IN	-.312	61.009	.341	19.266

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2404

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		48.225	
2	DD2	IN	-2.893	8.609	2.450	10.516
3	DD3	IN	-2.972	8.609	2.452	10.536
4	DD4	IN	-2.957	8.609	2.456	10.536
5	DD5	IN	-2.969	8.609	2.437	10.536
6	DD6	IN	-2.870	8.569	2.426	10.536
7	DD8	IN	-2.446	10.576	2.825	8.549
8	DD9	IN	-2.456	10.576	2.944	8.589
9	DD10	IN	-2.438	10.576	2.941	8.589
10	DD11	IN	-2.423	10.576	2.837	8.569
11	DF1	KIP	-7.762	5.619	8.400	5.459
12	DF7	KIP	-6.194	5.258	6.888	5.459
13	DA1	G	-.170	4.515	.165	6.522
14	DA2	G	-18.995	5.619	15.483	5.459
15	DA3	G	-.105	4.536	.129	5.057
16	DA4	G	-.310	5.258	.329	5.439
17	DA5	G	-.295	5.920	.283	5.439
18	DA6	G	-14.757	9.252	2.053	9.352
19	DA7	G	-.242	5.258	.294	5.439
20	DD1B	IN	-2.792	8.569	2.435	10.536
21	DD7B	IN	-2.803	8.549	2.405	10.556
22	DD1B-DD2	IN	-.128	5.439	.138	8.630
23	DD1B-DD3	IN	-.227	5.439	.243	5.920
24	DD1B-DD4	IN	-2.437	8.308	.228	5.278
25	DD7B-DD6	IN	-.113	5.439	.113	5.298
26	DD7B-DD5	IN	-2.508	13.045	.252	5.258
27	DD7B-DD4	IN	-2.405	8.308	.248	5.599
28	DD9-DD8	IN	-2.132	33.755	2.582	14.831
29	DD10-11	IN	-.175	5.419	.214	5.258

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 3196

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.119	
2	DD2	IN	-1.924	21.353	.281	3.071
3	DD3	IN	-1.932	21.353	.287	3.071
4	DD4	IN	-1.927	21.353	.288	3.071
5	DD5	IN	-1.924	21.353	.854	21.995
6	DD6	IN	-1.891	21.353	1.037	23.239
7	DD8	IN	-.282	2.930	2.297	5.378
8	DD9	IN	-.307	2.930	1.934	21.333
9	DD10	IN	-.289	2.930	1.898	21.333
10	DD11	IN	-.280	2.830	1.893	21.393
11	DF1	KIP	-10.648	6.984	8.009	7.165
12	DF7	KIP	-8.821	6.984	5.342	7.165
13	DA1	G	-.174	6.984	.188	7.144
14	DA2	G	-16.915	6.984	19.400	7.165
15	DA3	G	-.140	6.904	.116	7.365
16	DA4	G	-.407	6.964	.330	7.124
17	DA5	G	-.384	6.984	.280	7.104
18	DA6	G	-.251	7.004	.146	6.763
19	DA7	G	-.342	6.964	.219	7.144
20	DD18	IN	-1.875	21.313	.291	3.091
21	DD78	IN	-1.881	21.353	.314	3.412
22	DD18-DD2	IN	-.090	6.783	.181	6.964
23	DD18-DD3	IN	-.171	7.124	.319	6.964
24	DD18-DD4	IN	-.156	7.144	.277	6.984
25	DD78-DD6	IN	-2.156	23.239	.126	6.984
26	DD78-DD5	IN	-2.556	21.995	.293	6.944
27	DD78-DD4	IN	-.161	7.124	.274	6.984
28	DD9-DD8	IN	-2.146	5.378	.260	6.944
29	DD10-11	IN	-.162	7.124	.254	6.964

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GS 2
NO. OF DATA POINTS . . . 2422

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		242.931	
2	DD2	IN	-.489	195.368	.509	121.716
3	DD3	IN	-.067	195.368	.131	121.716
4	DD4	IN	-.121	195.368	.110	121.716
5	DD5	IN	-.143	203.797	.142	121.716
6	DD6	IN	-.532	195.368	.521	121.716
7	DD8	IN	-.761	135.664	2.273	17.359
8	DD9	IN	-.114	120.813	.124	114.291
9	DD10	IN	-.116	136.266	.199	142.387
10	DD11	IN	-.778	149.712	.791	159.144
11	DF1	KIP	-17.822	121.215	18.502	113.689
12	DF7	KIP	-16.997	121.215	15.484	113.689
13	DA1	G	-.101	2.709	.142	2.810
14	DA2	G	-1.227	173.493	11.105	2.810
15	DA3	G	-.083	2.910	.021	3.412
16	DA4	G	-.024	113.789	.122	2.810
17	DA5	G	-.017	215.738	.051	2.709
18	DA6	G	-.081	2.910	.033	3.412
19	DA7	G	-.022	3.010	.050	2.810
20	DD16	IN	-.768	194.666	.857	121.315
21	DD7B	IN	-.849	203.797	.803	135.865
22	DD16-DD2	IN	-.294	113.890	.357	149.812
23	DD16-DD3	IN	-.716	159.245	.736	149.812
24	DD16-DD4	IN	-.669	159.245	.761	149.812
25	DD7B-DD6	IN	-.322	128.038	.295	135.865
26	DD7B-DD5	IN	-.706	203.797	.673	135.865
27	DD7B-DD4	IN	-.731	203.797	.709	135.865
28	DD9-DD8	IN	-2.243	17.359	.713	150.013
29	DD10-11	IN	-.602	195.067	.666	121.716

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2849

CHANNEL NO.	CHANNEL LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		57.156	
2	DD2	IN	-4.155	13.727	2.002	7.686
3	DD3	IN	-4.222	13.767	2.095	7.686
4	DD4	IN	-4.202	13.727	2.104	7.686
5	DD5	IN	-4.218	13.747	2.096	7.686
6	DD6	IN	-4.114	13.707	2.007	6.924
7	DD8	IN	-1.980	6.944	4.044	13.747
8	DD9	IN	-2.087	7.666	4.228	13.727
9	DD10	IN	-2.090	7.686	4.192	13.747
10	DD11	IN	-1.951	6.944	4.073	13.747
11	DF1	KIP	-21.265	9.071	17.761	4.255
12	DF7	KIP	-18.688	9.071	17.572	3.452
13	DA1	G	-.396	9.071	.371	4.255
14	DA2	G	-34.180	9.051	33.488	4.234
15	DA3	G	-.356	8.931	.323	3.412
16	DA4	G	-.708	9.031	.596	9.272
17	DA5	G	-.679	4.054	.547	9.272
18	DA6	G	-14.330	9.773	3.124	9.854
19	DA7	G	-.583	5.499	.590	8.850
20	DD1B	IN	-4.038	13.747	1.963	6.964
21	DD7B	IN	-4.022	13.727	1.957	6.944
22	DD1B-DD2	IN	-1.645	28.698	.384	4.034
23	DD1B-DD3	IN	-2.411	11.519	.744	4.034
24	DD1B-DD4	IN	-2.904	14.931	.719	9.031
25	DD7B-DD6	IN	-1.949	40.800	.355	15.172
26	DD7B-DD5	IN	-2.499	29.059	.691	15.172
27	DD7B-DD4	IN	-2.899	14.931	.681	15.172
28	DD9-DD8	IN	-1.817	53.041	.654	4.054
29	DD10-11	IN	-1.846	21.393	2.437	20.309

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 3113

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		312.268	
2	DD2	IN	-.773	251.761	.729	191.054
3	DD3	IN	-.077	251.360	.211	190.652
4	DD4	IN	-.083	79.673	.103	168.878
5	DD5	IN	-.097	79.873	.121	106.063
6	DD6	IN	-.531	115.194	.580	165.535
7	DD8	IN	-1.106	190.552	2.329	302.234
8	DD9	IN	-.147	191.054	.185	276.747
9	DD10	IN	-.116	107.066	.134	4.816
10	DD11	IN	-1.194	168.376	1.185	226.073
11	DF1	KIP	-19.899	168.175	22.285	157.338
12	DF7	KIP	-15.378	106.565	15.332	97.534
13	DA1	G	-.121	2.107	.062	2.308
14	DA2	G	-2.623	2.107	6.544	2.208
15	DA3	G	-.047	2.308	.024	125.128
16	DA4	G	-.030	4.214	.059	2.208
17	DA5	G	-.014	126.834	.028	2.208
18	DA6	G	-11.939	120.813	3.460	189.749
19	DA7	G	-.027	123.824	.037	2.208
20	DD1B	IN	-1.225	261.595	1.203	191.254
21	DD7B	IN	-1.202	202.292	1.201	190.953
22	DD1B-DD2	IN	-.460	261.695	.475	213.029
23	DD1B-DD3	IN	-1.158	276.245	.998	168.677
24	DD1B-DD4	IN	-1.155	202.192	1.103	190.953
25	DD7B-DD6	IN	-.758	275.944	.694	213.430
26	DD7B-DD5	IN	-1.176	226.675	1.137	213.129
27	DD7B-DD4	IN	-1.135	275.944	1.106	168.777
28	DD9-DD8	IN	-2.266	302.234	1.009	191.254
29	DD10-11	IN	-1.149	106.264	1.127	213.029

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3130

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		62.795	
2	DD2	IN	-3.076	15.092	4.342	12.222
3	DD3	IN	-3.317	15.112	4.488	12.242
4	DD4	IN	-3.434	15.132	4.552	12.262
5	DD5	IN	-3.546	15.132	4.631	12.282
6	DD6	IN	-3.362	15.132	4.461	12.282
7	DD8	IN	-4.442	12.061	2.895	15.051
8	DD9	IN	-4.460	12.262	3.320	15.152
9	DD10	IN	-4.619	12.282	3.536	15.152
10	DD11	IN	-4.442	12.081	2.890	15.072
11	DF1	KIP	-12.474	11.580	9.996	11.238
12	DF7	KIP	-9.455	12.703	11.965	11.279
13	DA1	G	-.360	11.058	.558	11.098
14	DA2	G	-19.400	11.560	32.069	11.118
15	DA3	G	-.399	9.212	.507	9.252
16	DA4	G	-.417	11.519	.428	11.198
17	DA5	G	-.401	11.539	.461	11.158
18	DA6	G	-28.650	16.818	1.835	18.925
19	DA7	G	-.516	11.519	.437	11.218
20	DD18	IN	-2.853	15.051	4.490	12.081
21	DD78	IN	-2.859	15.051	4.415	12.081
22	DD18-DD2	IN	-3.394	18.945	.430	11.539
23	DD18-DD3	IN	-3.477	18.945	.915	11.539
24	DD18-DD4	IN	-3.510	18.945	1.073	12.663
25	DD78-DD6	IN	-1.916	3.612	.949	12.663
26	DD78-DD5	IN	-1.184	11.279	1.265	12.663
27	DD78-DD4	IN	-1.014	11.279	1.085	12.663
28	DD9-DD8	IN	-2.074	29.581	3.331	12.703
29	DD10-11	IN	-1.665	18.082	2.953	10.275

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 4364

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		437.797	
2	DD2	IN	-1.024	380.200	.983	281.864
3	DD3	IN	-.117	357.523	.277	281.964
4	DD4	IN	-.079	375.685	.070	248.751
5	DD5	IN	-.049	251.561	.097	203.596
6	DD6	IN	-.350	7.024	.357	17.058
7	DD8	IN	-1.523	250.356	2.301	95.727
8	DD9	IN	-.182	251.862	.279	299.524
9	DD10	IN	-.066	201.790	.032	5.619
10	DD11	IN	-1.592	250.256	1.618	319.894
11	DF1	KIP	-21.080	218.447	23.392	171.788
12	DF7	KIP	-6.895	17.460	7.158	6.422
13	DA1	G	-.014	233.499	.017	311.766
14	DA2	G	-.826	168.878	3.747	233.298
15	DA3	G	-.174	201.690	.024	335.949
16	DA4	G	-.012	244.035	.072	201.790
17	DA5	G	-.073	233.398	.023	201.389
18	DA6	G	-29.555	38.532	.002	.602
19	DA7	G	-.027	201.690	.052	201.790
20	DD1B	IN	-1.627	322.804	1.613	281.764
21	DD7B	IN	-1.566	319.091	1.645	218.849
22	DD1B-DD2	IN	-.612	337.856	.640	218.447
23	DD1B-DD3	IN	-1.525	322.804	1.363	218.447
24	DD1B-DD4	IN	-1.575	203.697	1.556	250.256
25	DD7B-DD6	IN	-1.590	298.521	1.472	250.557
26	DD7B-DD5	IN	-1.724	203.697	1.682	218.548
27	DD7B-DD4	IN	-1.599	319.091	1.587	218.849
28	DD9-DD8	IN	-2.284	95.727	1.395	250.156
29	DD10-11	IN	-1.660	357.723	1.606	281.864

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 5
NO. OF DATA POINTS . . . 2888

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		57.938	
2	DD2	IN	-7.206	12.904	3.576	6.884
3	DD3	IN	-7.333	2.970	3.907	6.964
4	DD4	IN	-7.862	3.010	4.299	7.004
5	DD5	IN	-6.486	3.050	4.647	7.024
6	DD6	IN	-7.409	3.151	4.676	7.024
7	DD8	IN	-3.523	6.743	7.267	13.607
8	DD9	IN	-3.903	6.924	7.359	2.990
9	DD10	IN	-4.662	7.024	8.500	3.071
10	DD11	IN	-3.512	6.743	7.300	13.607
11	DF1	KIP	-13.923	2.990	25.251	3.572
12	DF7	KIP	-10.165	3.111	8.362	3.592
13	DA1	G	-.546	2.890	.398	3.331
14	DA2	G	-.123	1.766	1.826	1.726
15	DA3	G	-1.232	4.375	1.440	5.017
16	DA4	G	-.366	3.632	.711	3.652
17	DA5	G	-.419	3.010	.630	3.552
18	DA6	G	-24.621	22.537	.687	5.037
19	DA7	G	-.505	3.171	.545	3.592
20	DD1B	IN	-7.330	13.607	3.548	6.763
21	DD7B	IN	-7.269	13.566	3.488	6.803
22	DD1B-DD2	IN	-2.822	3.552	1.228	3.151
23	DD1B-DD3	IN	-2.443	44.051	2.706	3.151
24	DD1B-DD4	IN	-3.181	3.652	3.644	3.151
25	DD7B-DD6	IN	-4.079	3.652	4.877	3.191
26	DD7B-DD5	IN	-4.043	3.652	5.142	3.151
27	DD7B-DD4	IN	-3.190	3.652	3.906	3.151
28	DD9-DD8	IN	-2.252	3.612	3.112	5.017
29	DD10-11	IN	-3.983	3.652	4.737	3.151

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . R
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2607

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		52.299	
2	DD2	IN	-6.260	9.773	4.557	15.533
3	DD3	IN	-6.307	9.773	4.989	14.349
4	DD4	IN	-6.435	9.793	5.326	14.369
5	DD5	IN	-6.584	9.673	5.638	14.389
6	DD6	IN	-6.576	9.673	5.587	14.369
7	DD8	IN	-4.507	15.473	6.078	9.773
8	DD9	IN	-4.971	14.369	6.312	9.793
9	DD10	IN	-5.634	14.389	6.573	9.633
10	DD11	IN	-4.441	15.473	6.118	9.793
11	DF1	KIP	-9.982	6.402	12.066	7.144
12	DF7	KIP	-6.689	4.255	5.144	7.144
13	DA1	G	-.394	5.699	.513	3.251
14	DA2	G	-.022	47.061	1.823	2.589
15	DA3	G	-1.370	2.127	1.567	5.118
16	DA4	G	-.371	3.472	.304	7.124
17	DA5	G	-.310	3.030	.307	7.124
18	DA6	G	-17.626	12.041	14.821	12.543
19	DA7	G	-.358	3.151	.355	7.064
20	DD1B	IN	-6.085	9.773	4.515	15.493
21	DD7B	IN	-6.067	9.793	4.429	15.473
22	DD1B-DD2	IN	-2.149	41.201	1.022	4.174
23	DD1B-DD3	IN	-1.782	7.144	2.208	4.154
24	DD1B-DD4	IN	-2.469	7.104	3.084	4.174
25	DD7B-DD6	IN	-3.172	7.124	4.000	4.174
26	DD7B-DD5	IN	-3.169	7.124	4.053	4.174
27	DD7B-DD4	IN	-2.590	7.124	3.167	4.174
28	DD9-DD8	IN	-2.498	27.534	2.782	1.686
29	DD10-11	IN	-3.075	7.124	3.849	4.174

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GS 1
NO. OF DATA POINTS . . . 641

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		67.600	
2	DD2	IN	-.048	22.498	.127	13.097
3	DD3	IN	-.027	35.384	.117	17.111
4	DD4	IN	-.217	34.011	.261	15.104
5	DD5	IN	-39.412	4.859	38.485	10.246
6	DD6	IN	-.114	35.067	.103	12.886
7	DD8	IN	-.132	15.104	.053	20.808
8	DD9	IN	-.090	15.104	.085	33.694
9	DD10	IN	-.106	15.104	.099	33.694
10	DD11	IN	-.104	12.992	.133	33.694
11	DF1	KIP	-8.171	12.781	12.382	33.166
12	DF7	KIP	-10.114	12.781	8.789	32.955
13	DA1	G	-.109	53.446	.060	10.140
14	DA2	G	-.903	13.731	1.055	48.587
15	DA3	G	-.019	13.731	.030	3.274
16	DA4	G	-.030	3.380	.029	10.774
17	DA5	G	-.026	3.380	.029	10.774
18	DA6	G	-.611	3.274	.086	14.471
19	DA7	G	-.115	12.358	.103	10.034
20	DD1B	IN	-.045	23.554	.150	12.992
21	DD7B	IN	-.141	32.849	.114	12.886
22	DD1B-DD2	IN	-.009	53.446	.043	42.461
23	DD1B-DD3	IN	-.034	23.554	.057	11.407
24	DD1B-DD4	IN	-.175	45.841	.217	63.797
25	DD7B-DD6	IN	-.040	56.192	.013	52.264
26	DD7B-DD5	IN	-38.544	10.246	39.418	4.859
27	DD7B-DD4	IN	-.252	42.461	.185	53.657
28	DD9-DD8	IN	-.006	2.746	.061	57.354
29	DD10-11	IN	-.045	41.510	.020	25.984

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 2
NO. OF DATA POINTS . . . 2347

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		49.559	
2	DD2	IN	-2.481	9.675	2.153	11.830
3	DD3	IN	-2.525	9.675	2.201	11.830
4	DD4	IN	-2.548	9.696	2.323	11.788
5	DD5	IN	-43.230	13.499	40.672	11.978
6	DD6	IN	-2.611	9.717	2.284	11.767
7	DD8	IN	-2.115	11.872	2.421	9.696
8	DD9	IN	-2.170	11.872	2.453	9.717
9	DD10	IN	-2.262	11.788	2.588	9.696
10	DD11	IN	-2.333	11.788	2.650	9.717
11	DF1	KIP	-11.447	9.675	9.982	10.372
12	DF7	KIP	-9.590	9.717	8.488	9.548
13	DA1	G	-.354	8.450	.314	10.372
14	DA2	G	-1.334	5.302	2.016	6.612
15	DA3	G	-.195	9.696	.140	9.316
16	DA4	G	-.175	9.696	.162	10.964
17	DA5	G	-.154	9.739	.131	9.548
18	DA6	G	-.276	9.717	.264	9.527
19	DA7	G	-.238	9.739	.232	9.548
20	DD18	IN	-2.392	9.739	2.138	11.809
21	DD78	IN	-2.675	9.717	2.379	11.767
22	DD18-DD2	IN	-.081	10.795	.099	13.309
23	DD18-DD3	IN	-.161	10.795	.155	13.309
24	DD18-DD4	IN	-.332	11.006	.363	12.696
25	DD78-DD6	IN	-.120	9.570	.113	11.555
26	DD78-DD5	IN	-41.157	29.406	42.342	35.807
27	DD78-DD4	IN	-.392	9.591	.397	11.281
28	DD9-DD8	IN	-.141	10.541	.106	12.485
29	DD10-11	IN	-.129	12.485	.134	11.281

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 1
NO. OF DATA POINTS . . . 2673

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		56.446	
2	DD2	IN	-1.888	22.942	1.010	50.446
3	DD3	IN	-1.886	22.942	.282	4.605
4	DD4	IN	-2.015	22.667	.403	4.563
5	DD5	IN	-44.595	37.835	40.093	1.204
6	DD6	IN	-1.861	22.709	.745	48.925
7	DD8	IN	-.272	4.880	1.865	22.794
8	DD9	IN	-.270	4.880	1.837	22.752
9	DD10	IN	-.289	4.563	1.867	22.899
10	DD11	IN	-.264	4.563	1.865	22.752
11	DF1	KIP	-9.324	8.323	10.152	8.661
12	DF7	KIP	-9.296	8.323	7.348	8.175
13	DA1	G	-.140	8.281	.219	9.316
14	DA2	G	-1.288	21.188	2.140	9.316
15	DA3	G	-.146	8.302	.166	8.661
16	DA4	G	-.189	8.302	.187	8.661
17	DA5	G	-.172	8.323	.135	8.661
18	DA6	G	-.221	8.344	.243	8.640
19	DA7	G	-.186	8.323	.068	9.358
20	DD1B	IN	-1.865	22.963	.276	5.070
21	DD7B	IN	-1.900	22.730	.294	4.521
22	DD1B-DD2	IN	-2.365	50.446	.072	8.302
23	DD1B-DD3	IN	-.077	14.661	.145	8.302
24	DD1B-DD4	IN	-.232	8.619	.309	8.218
25	DD7B-DD6	IN	-2.426	48.925	.036	14.555
26	DD7B-DD5	IN	-41.417	48.223	43.152	37.835
27	DD7B-DD4	IN	-.314	31.497	.252	14.893
28	DD9-DD8	IN	-.081	14.576	.101	8.281
29	DD10-11	IN	-.095	8.196	.078	14.576

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . QS 2
NO. OF DATA POINTS . . . 978

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		103.195	
2	DD2	IN	-.109	62.635	.142	51.545
3	DD3	IN	-.059	62.318	.109	51.545
4	DD4	IN	-.274	96.646	.253	47.953
5	DD5	IN	-39.960	10.351	38.545	84.394
6	DD6	IN	-.160	62.635	.168	51.439
7	DD8	IN	-.157	55.664	.125	63.692
8	DD9	IN	-.117	51.333	.079	62.213
9	DD10	IN	-.148	51.333	.125	64.008
10	DD11	IN	-.164	51.333	.190	74.993
11	DF1	KIP	-14.623	59.044	18.913	61.473
12	DF7	KIP	-15.725	59.044	14.822	61.262
13	DA1	G	-.029	92.421	.020	94.428
14	DA2	G	-.622	97.069	.854	95.696
15	DA3	G	-.017	94.428	.008	50.488
16	DA4	G	-.010	50.277	.011	50.488
17	DA5	G	-.016	50.277	.007	94.534
18	DA6	G	-.026	37.919	.029	97.174
19	DA7	G	-.064	96.858	.042	91.154
20	DD1B	IN	-.157	64.537	.208	51.545
21	DD7B	IN	-.234	77.211	.209	51.439
22	DD1B-DD2	IN	-.060	89.041	.079	51.333
23	DD1B-DD3	IN	-.116	89.041	.129	59.572
24	DD1B-DD4	IN	-.216	76.683	.248	80.803
25	DD7B-DD6	IN	-.068	61.262	.051	59.044
26	DD7B-DD5	IN	-36.751	84.394	39.855	10.351
27	DD7B-DD4	IN	-.310	82.493	.244	55.136
28	DD9-DD8	IN	-.059	87.668	.056	71.296
29	DD10-11	IN	-.096	81.859	.057	58.938

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . QS 3
NO. OF DATA POINTS . . . 1112

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		117.349	
2	DD2	IN	-.143	64.537	.527	92.949
3	DD3	IN	-.050	15.844	.532	92.949
4	DD4	IN	-.261	41.405	.307	78.796
5	DD5	IN	-41.960	8.767	40.726	78.268
6	DD6	IN	-.189	64.537	.280	92.949
7	DD8	IN	-.156	78.796	.270	92.949
8	DD9	IN	-.126	78.796	.747	92.949
9	DD10	IN	-.165	78.479	.373	92.949
10	DD11	IN	-.275	67.283	.856	92.949
11	DF1	KIP	-20.465	67.072	36.406	81.120
12	DF7	KIP	-23.280	67.072	39.314	81.014
13	DA1	G	-.259	54.291	.045	54.713
14	DA2	G	-.839	65.698	.973	12.041
15	DA3	G	-.099	54.291	.034	92.949
16	DA4	G	-.098	54.397	1.189	92.949
17	DA5	G	-.046	59.044	.084	92.949
18	DA6	G	-.190	54.608	.460	92.949
19	DA7	G	-.093	110.061	.079	79.324
20	DD18	IN	-.286	85.028	.204	78.901
21	DD7B	IN	-.315	99.393	.331	67.177
22	DD18-DD2	IN	-.568	92.949	.067	78.901
23	DD18-DD3	IN	-.573	92.949	.105	11.302
24	DD18-DD4	IN	-.381	83.655	.233	6.866
25	DD7B-DD6	IN	-.256	92.949	.098	72.775
26	DD7B-DD5	IN	-40.398	78.268	41.773	8.767
27	DD7B-DD4	IN	-.402	81.225	.356	72.564
28	DD9-DD6	IN	-.155	83.971	.476	92.949
29	DD10-11	IN	-.483	92.949	.120	67.072

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 3
NO. OF DATA POINTS . . . 3035

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		64.093	
2	DD2	IN	-2.732	16.520	4.215	13.499
3	DD3	IN	-2.789	16.520	4.238	13.499
4	DD4	IN	-2.962	16.541	4.300	13.499
5	DD5	IN	-41.664	48.925	45.584	38.490
6	DD6	IN	-2.848	16.520	4.290	13.499
7	DD8	IN	-4.145	13.499	2.700	16.541
8	DD9	IN	-4.164	13.499	2.731	16.541
9	DD10	IN	-4.278	13.499	2.840	16.541
10	DD11	IN	-4.321	13.499	2.872	16.520
11	DF1	KIP	-14.260	15.844	19.378	8.851
12	DF7	KIP	-16.005	9.210	13.869	10.774
13	DA1	G	-.342	15.844	.402	9.316
14	DA2	G	-1.322	20.660	2.252	13.795
15	DA3	G	-.241	16.330	.376	8.851
16	DA4	G	-.286	9.189	.382	8.851
17	DA5	G	-.261	9.210	.256	10.774
18	DA6	G	-.510	9.189	.596	8.830
19	DA7	G	-.446	22.815	.301	26.364
20	DD1B	IN	-2.653	16.710	4.161	13.626
21	DD7B	IN	-2.893	16.499	4.377	13.499
22	DD1B-DD2	IN	-2.398	7.499	.169	13.900
23	DD1B-DD3	IN	-.136	20.280	.344	13.900
24	DD1B-DD4	IN	-.304	12.506	.616	13.921
25	DD7B-DD6	IN	-.120	16.161	.159	22.815
26	DD7B-DD5	IN	-43.877	38.490	41.462	48.925
27	DD7B-DD4	IN	-.387	13.964	.353	13.288
28	DD9-DD8	IN	-2.044	21.970	3.250	24.378
29	DD10-11	IN	-2.393	55.622	.144	12.506

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . QS 4
NO. OF DATA POINTS . . . 746

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		78.690	
2	DD2	IN	-.198	59.995	.220	63.163
3	DD3	IN	-.073	59.995	.199	62.635
4	DD4	IN	-.271	17.217	.404	62.847
5	DD5	IN	-41.086	67.494	38.356	53.446
6	DD6	IN	-.239	59.467	.380	62.635
7	DD8	IN	-.254	63.163	.242	59.889
8	DD9	IN	-.103	62.847	.112	59.255
9	DD10	IN	-.289	62.635	.191	59.255
10	DD11	IN	-.421	62.635	.307	59.255
11	DF1	KIP	-21.228	7.182	37.974	59.361
12	DF7	KIP	-31.646	62.318	39.766	59.255
13	DA1	G	-.111	62.424	.085	36.229
14	DA2	G	-.410	27.145	2.282	63.480
15	DA3	G	-.158	62.424	.132	62.847
16	DA4	G	-.266	62.424	.153	62.635
17	DA5	G	-.221	62.424	.208	62.847
18	DA6	G	-.872	62.530	.496	62.635
19	DA7	G	-.303	62.741	.133	63.163
20	DD1B	IN	-.327	59.889	.313	63.058
21	DD7B	IN	-.392	59.150	.469	62.424
22	DD1B-DD2	IN	-.135	59.889	.114	7.922
23	DD1B-DD3	IN	-.256	59.889	.171	7.922
24	DD1B-DD4	IN	-.332	34.434	.316	13.626
25	DD7B-DD6	IN	-.155	59.150	.165	62.213
26	DD7B-DD5	IN	-38.593	53.446	41.041	67.494
27	DD7B-DD4	IN	-.420	58.938	.440	49.432
28	DD9-DD8	IN	-.135	59.678	.185	63.058
29	DD10-11	IN	-.141	52.178	.225	62.318

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 4
NO. OF DATA POINTS . . . 2510

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.002	
2	DD2	IN	-3.899	15.442	1.832	9.591
3	DD3	IN	-3.889	15.442	1.846	9.548
4	DD4	IN	-4.021	14.766	1.978	8.788
5	DD5	IN	-43.019	14.154	39.617	24.167
6	DD6	IN	-3.956	15.442	1.845	8.767
7	DD8	IN	-1.804	9.570	3.858	15.485
8	DD9	IN	-1.943	9.591	3.711	15.506
9	DD10	IN	-1.854	8.788	3.927	15.485
10	DD11	IN	-1.856	8.788	3.985	15.463
11	DF1	KIP	-17.173	4.880	17.813	6.274
12	DF7	KIP	-18.608	5.704	12.072	6.316
13	DA1	G	-.947	6.253	.782	6.274
14	DA2	G	-1.356	6.675	1.780	17.365
15	DA3	G	-.291	4.880	.343	6.295
16	DA4	G	-.350	5.704	.340	6.295
17	DA5	G	-.309	5.725	.245	6.316
18	DA6	G	-.439	5.704	.378	12.231
19	DA7	G	-.339	4.838	.236	7.647
20	DD1B	IN	-3.850	15.527	1.823	9.570
21	DD7B	IN	-4.029	15.442	1.887	8.767
22	DD1B-DD2	IN	-.093	5.154	.136	4.859
23	DD1B-DD3	IN	-.224	5.154	.192	5.704
24	DD1B-DD4	IN	-.386	5.070	.348	4.711
25	DD7B-DD6	IN	-2.482	29.723	.075	6.168
26	DD7B-DD5	IN	-39.352	4.140	40.771	39.081
27	DD7B-DD4	IN	-.361	4.753	.372	5.112
28	DD9-DD8	IN	-.251	6.295	2.968	8.577
29	DD10-11	IN	-.130	11.978	.192	5.133

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 6
NO. OF DATA POINTS . . . 2284

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		48.228	
2	DD2	IN	-5.908	10.837	4.315	16.520
3	DD3	IN	-5.942	10.837	4.362	16.541
4	DD4	IN	-5.967	10.837	4.389	16.562
5	DD5	IN	-49.073	12.886	39.593	3.676
6	DD6	IN	-6.020	10.837	4.369	16.520
7	DD8	IN	-4.256	16.541	5.804	10.837
8	DD9	IN	-5.463	16.541	4.650	10.816
9	DD10	IN	-4.376	16.541	6.008	10.816
10	DD11	IN	-4.387	16.541	6.042	10.795
11	DF1	KIP	-57.234	4.774	39.509	4.647
12	DF7	KIP	-47.946	5.007	38.035	5.619
13	DA1	G	-2.034	4.943	.711	5.577
14	DA2	G	-1.420	24.040	2.248	19.287
15	DA3	G	-1.068	4.774	.828	4.626
16	DA4	G	-1.149	5.007	1.101	5.366
17	DA5	G	-.847	5.007	.620	5.366
18	DA6	G	-2.307	5.471	2.017	5.345
19	DA7	G	-1.517	5.915	.865	5.619
20	DD1B	IN	-5.790	10.943	4.260	16.541
21	DD7B	IN	-6.123	10.837	4.445	16.520
22	DD1B-DD2	IN	-.287	5.366	.460	4.753
23	DD1B-DD3	IN	-.394	7.858	.797	4.753
24	DD1B-DD4	IN	-3.126	31.032	.987	7.246
25	DD7B-DD6	IN	-.327	4.647	.352	5.957
26	DD7B-DD5	IN	-36.379	19.181	43.780	12.886
27	DD7B-DD4	IN	-2.927	31.032	.863	5.978
28	DD9-DD8	IN	-1.685	13.985	.560	4.542
29	DD10-11	IN	-.518	4.647	.525	13.942

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 5-1
NO. OF DATA POINTS . . . 2526

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		53.340	
2	DD2	IN	-7.091	14.597	3.325	7.880
3	DD3	IN	-7.079	14.576	3.352	7.858
4	DD4	IN	-7.193	14.618	3.414	8.640
5	DD5	IN	-53.293	14.006	41.430	8.577
6	DD6	IN	-7.185	14.513	3.335	7.668
7	DD8	IN	-3.267	7.858	7.038	14.618
8	DD9	IN	-3.320	7.858	6.925	14.618
9	DD10	IN	-3.342	7.858	7.163	14.534
10	DD11	IN	-3.362	7.668	7.213	14.534
11	DF1	KIP	-25.651	4.753	21.233	6.654
12	DF7	KIP	-28.160	3.866	22.215	7.668
13	DA1	G	-.528	3.929	.568	6.654
14	DA2	G	-1.520	5.260	2.160	11.619
15	DA3	G	-.516	7.499	.437	6.675
16	DA4	G	-.534	4.732	.514	7.140
17	DA5	G	-.462	3.687	.416	7.668
18	DA6	G	-1.012	3.866	.872	7.182
19	DA7	G	-.562	4.753	.472	4.140
20	DD1B	IN	-7.049	14.597	3.260	7.858
21	DD7B	IN	-7.342	14.513	3.431	7.774
22	DD1B-DD2	IN	-.245	4.246	.292	3.824
23	DD1B-DD3	IN	-.613	4.246	.519	3.845
24	DD1B-DD4	IN	-1.016	4.204	.809	3.845
25	DD7B-DD6	IN	-.303	3.718	.277	4.225
26	DD7B-DD5	IN	-39.071	10.795	46.513	14.006
27	DD7B-DD4	IN	-.738	3.739	.963	4.225
28	DD9-DD8	IN	-.585	4.204	.334	3.845
29	DD10-11	IN	-.351	3.718	2.653	9.591

DIAPHRAGM TEST
MAXIMUM AND MINIMUM DATA

DIAPHRAGM . . . . S
INPUT MOTION . . . . GM 5-2
NO. OF DATA POINTS . . . 2484

CHANNEL NO.	LABEL	UNITS	MINIMUM VALUE	AT TIME (SEC)	MAXIMUM VALUE	AT TIME (SEC)
1	TIME	SEC	.000		52.453	
2	DD2	IN	-7.110	14.407	3.292	7.647
3	DD3	IN	-7.093	14.323	3.346	8.196
4	DD4	IN	-7.166	14.365	3.413	8.196
5	DD5	IN	-48.556	14.217	41.555	7.774
6	DD6	IN	-7.178	14.259	3.381	7.436
7	DD8	IN	-3.249	7.647	7.039	14.407
8	DD9	IN	-3.284	8.218	6.936	14.344
9	DD10	IN	-3.363	8.218	7.164	14.259
10	DD11	IN	-3.430	7.436	7.206	14.259
11	DF1	KIP	-48.104	3.718	38.086	4.140
12	DF7	KIP	-45.653	3.760	29.626	4.098
13	DA1	G	-1.447	4.204	.792	4.415
14	DA2	G	-1.468	3.739	1.901	5.788
15	DA3	G	-.781	3.718	.606	4.394
16	DA4	G	-1.011	4.521	.674	4.140
17	DA5	G	-.717	4.542	.524	7.457
18	DA6	G	-1.194	3.760	1.145	4.098
19	DA7	G	-1.061	4.478	.836	4.098
20	DD1B	IN	-7.051	14.407	3.264	7.626
21	DD7B	IN	-7.343	14.302	3.426	7.436
22	DD1B-DD2	IN	-.264	4.098	.285	3.718
23	DD1B-DD3	IN	-.605	4.098	.443	3.570
24	DD1B-DD4	IN	-.912	4.035	.735	3.443
25	DD7B-DD6	IN	-2.312	10.900	.288	4.014
26	DD7B-DD5	IN	-38.696	46.116	43.023	39.588
27	DD7B-DD4	IN	-.917	3.486	.921	4.014
28	DD9-DD8	IN	-.545	4.098	.338	3.486
29	DD10-11	IN	-.416	3.486	.573	4.035

APPENDIX C

QUASI-STATIC PLOTS FOR ALL DIAPHRAGMS

This appendix gives force-deformation plots for all of the quasi-static diaphragm tests conducted in the experimental program (Tables 2-2 and 2-3). For each quasi-static test two plots are given, one for each end (Fig. 2-7) of the diaphragm (i.e, end 1 and end 7), where the end force is plotted as a function of the relative deflection between the end and the corresponding one-third point. In general, DF1 is plotted as a function of -(DD1B-DD3) for end 1, and DF7 is plotted as a function of -(DD7B-DD5) for end 7. However, when the displacement instrument records are contaminated, the backup gages -(DD9-DD8) and -(DD10-DD11) were used (Fig. 2-7). The use of the negative sign for the relative deflections is to orient the quasi-static, force-deflection plots so that they occupy the first and third quadrants, as this has been the standard practice in previous testing.

The plots for each diaphragm are grouped together in the order that the tests were conducted, where all the plots for end 1 are given first and are followed by those for end 7; and the plots for each diaphragm are given in alphabetic order using the diaphragm identification letter.

The plots for Diaphragm B are given in Figures C-1 through C-8, where the results of QS 1, QS 2, QS 3, and QS 4 for end 1 are given in Figures C-1 through C-4, respectively; and the results of QS 1, QS 2, QS 3, and QS 4 for end 7 are given in Figures C-5 through C-8, respectively. The figure numbers for each diaphragm are:

- Diaphragm B, Figures C-1 through C-8
- Diaphragm C, Figures C-9 through C-16
- Diaphragm D, Figures C-17 through C-24
- Diaphragm E, Figures C-25 through C-32
- Diaphragm H, Figures C-33 through C-40
- Diaphragm I, Figures C-41 through C-46
- Diaphragm K, Figures C-47 through C-56
- Diaphragm N, Figures C-57 through C-64
- Diaphragm P, Figures C-65 through C-72
- Diaphragm Q, Figures C-73 through C-80
- Diaphragm R, Figures C-81 through C-88
- Diaphragm S, Figures C-89 through C-96

These quasi-static plots are the basis for determining the nonlinear, hysteretic characteristics of each type of diaphragm (ABK, 1982).

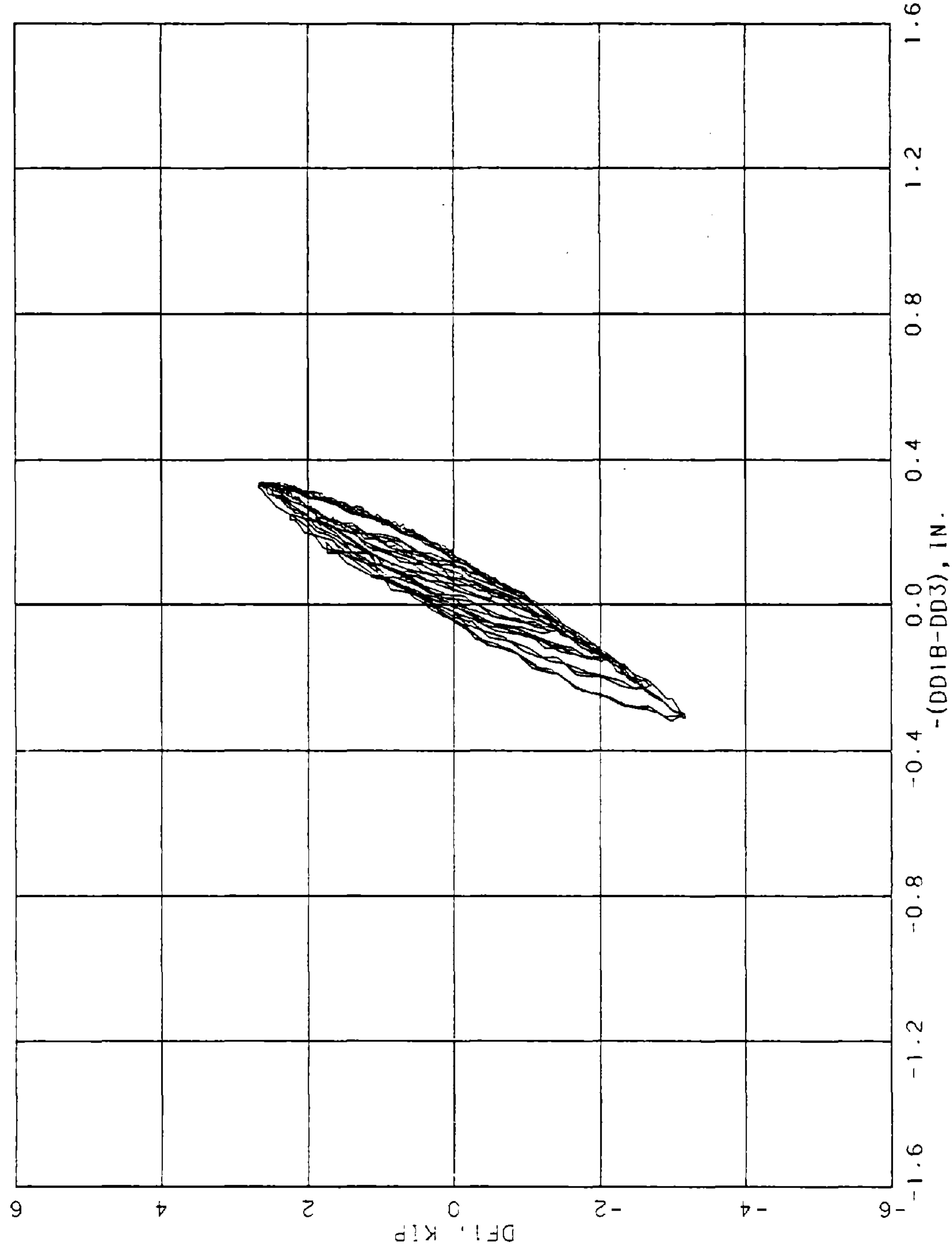


FIGURE C-1. DIAPHRAGM B. END 1. QS 1

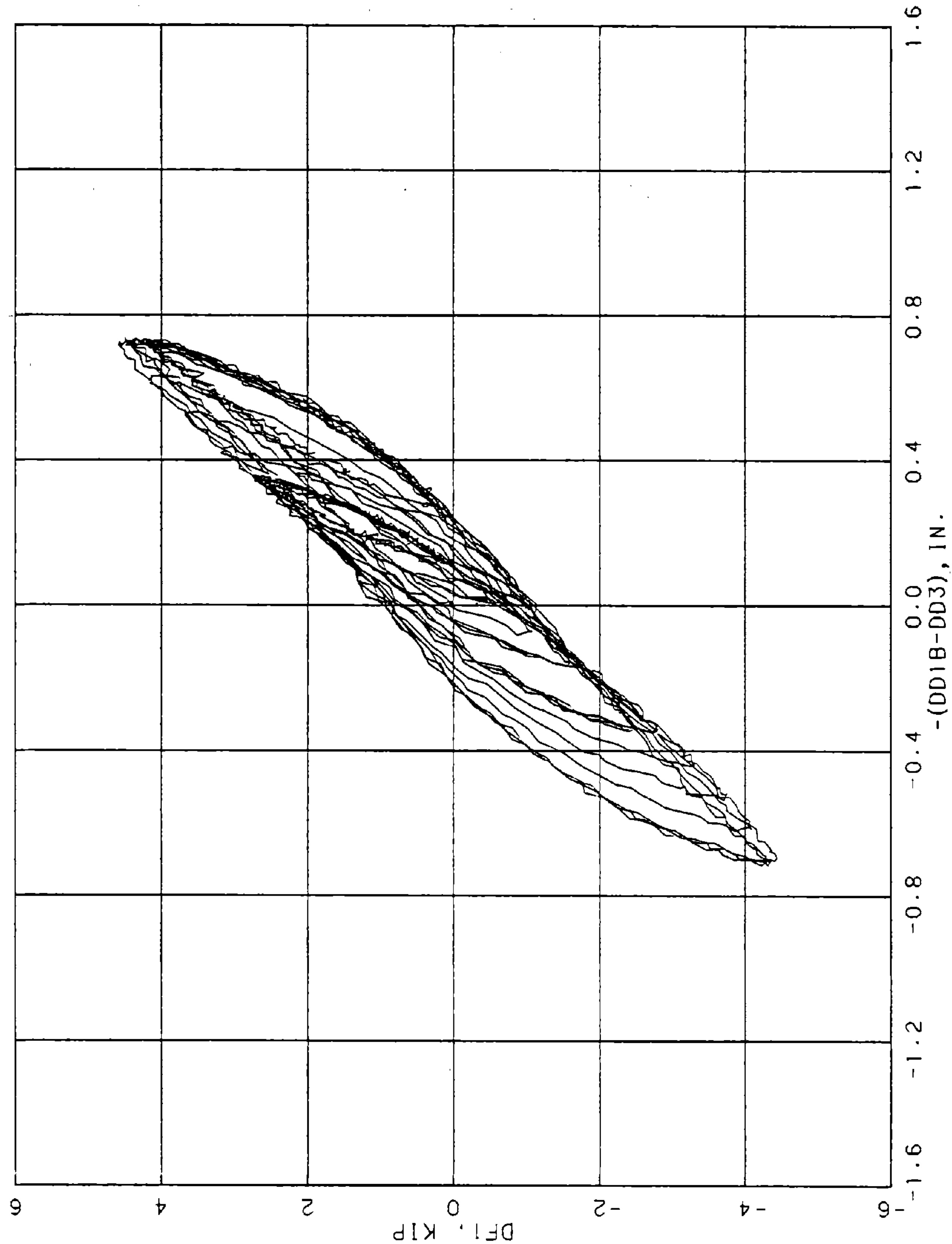


FIGURE C-2. DIAPHRAGM B. END 1. QS 2

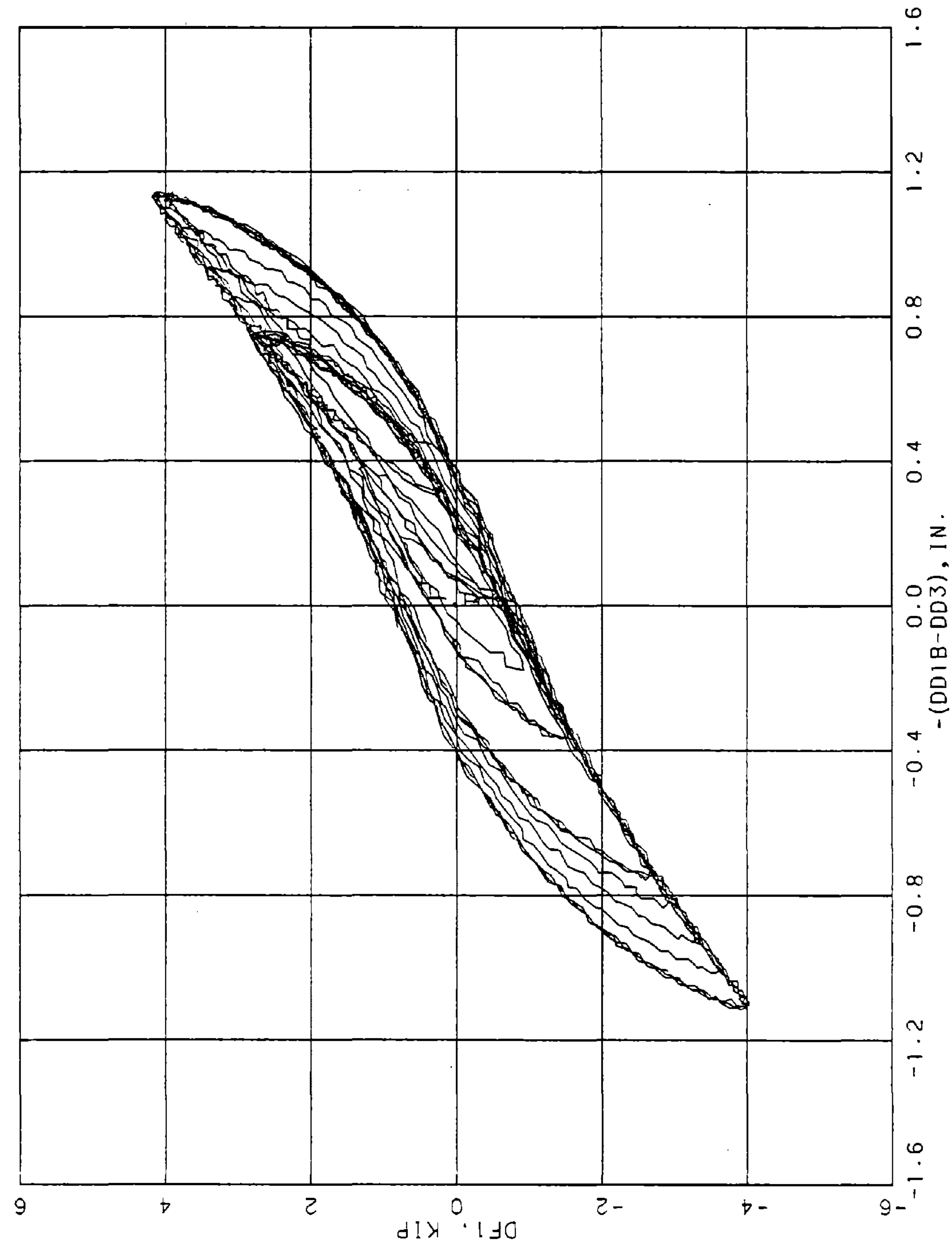


FIGURE C-3. DIAPHRAGM B, END 1, QS 3

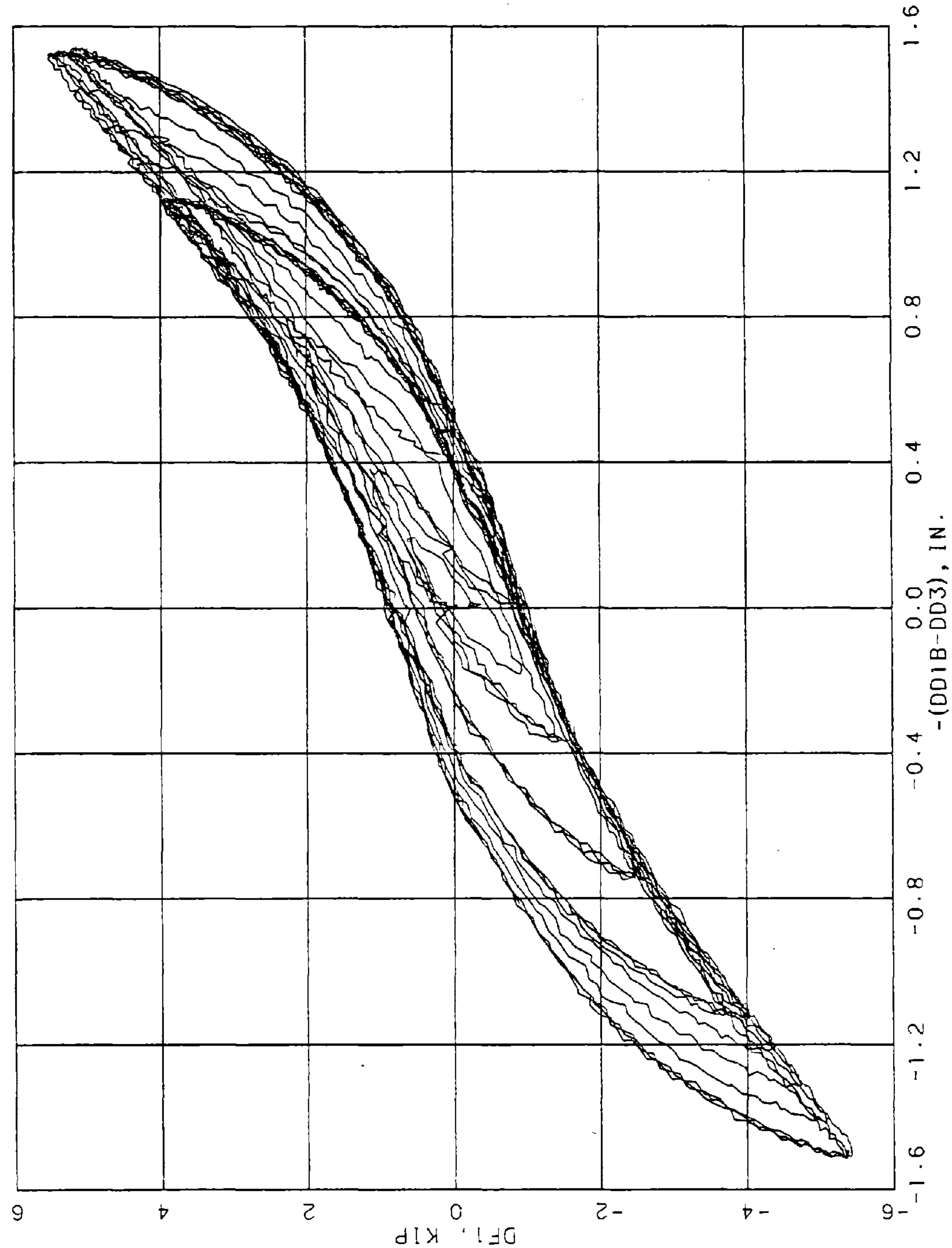


FIGURE C-4. DIAPHRAGM B. END 1. QS 4

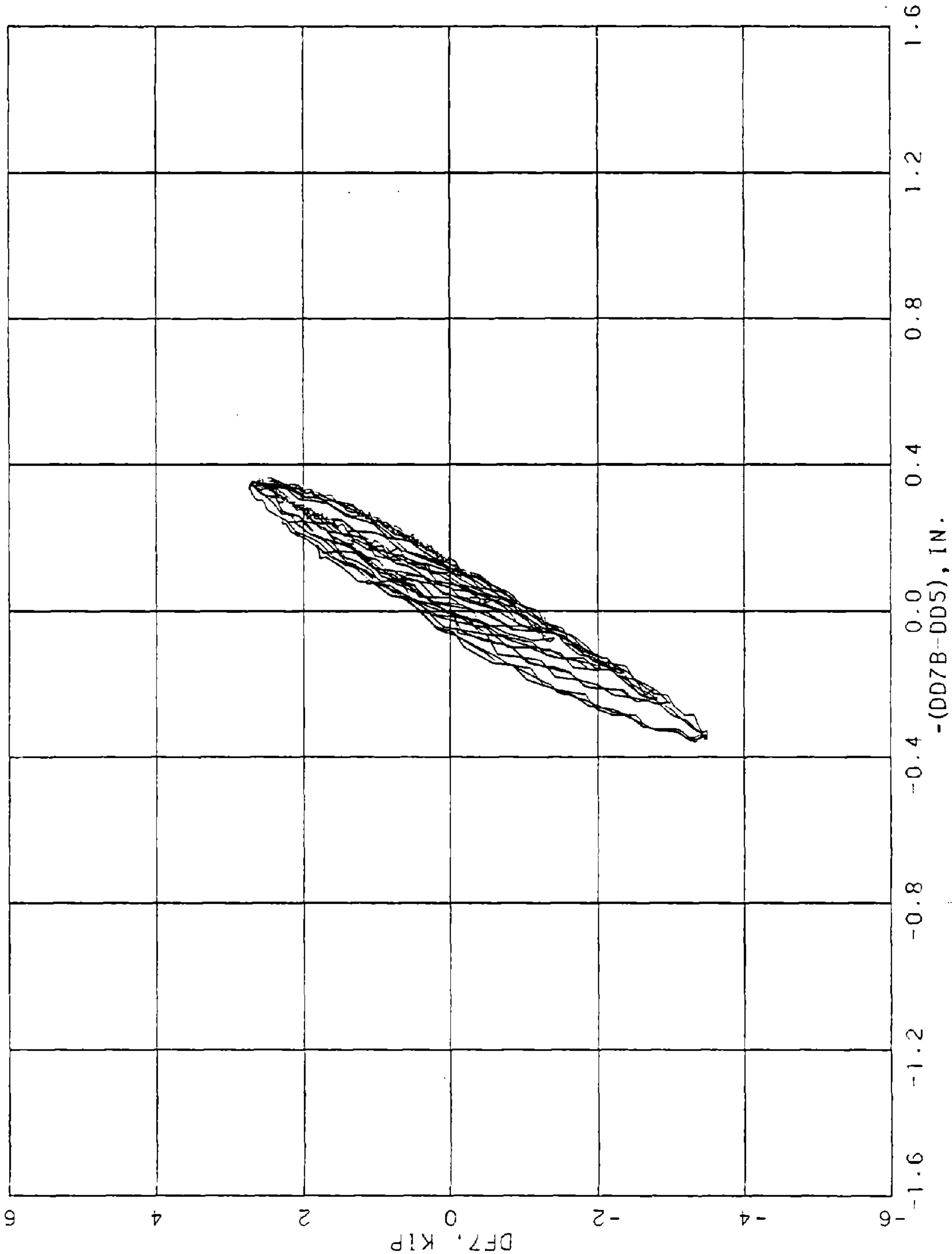


FIGURE C-5. DIAPHRAGM B. END 7. QS 1

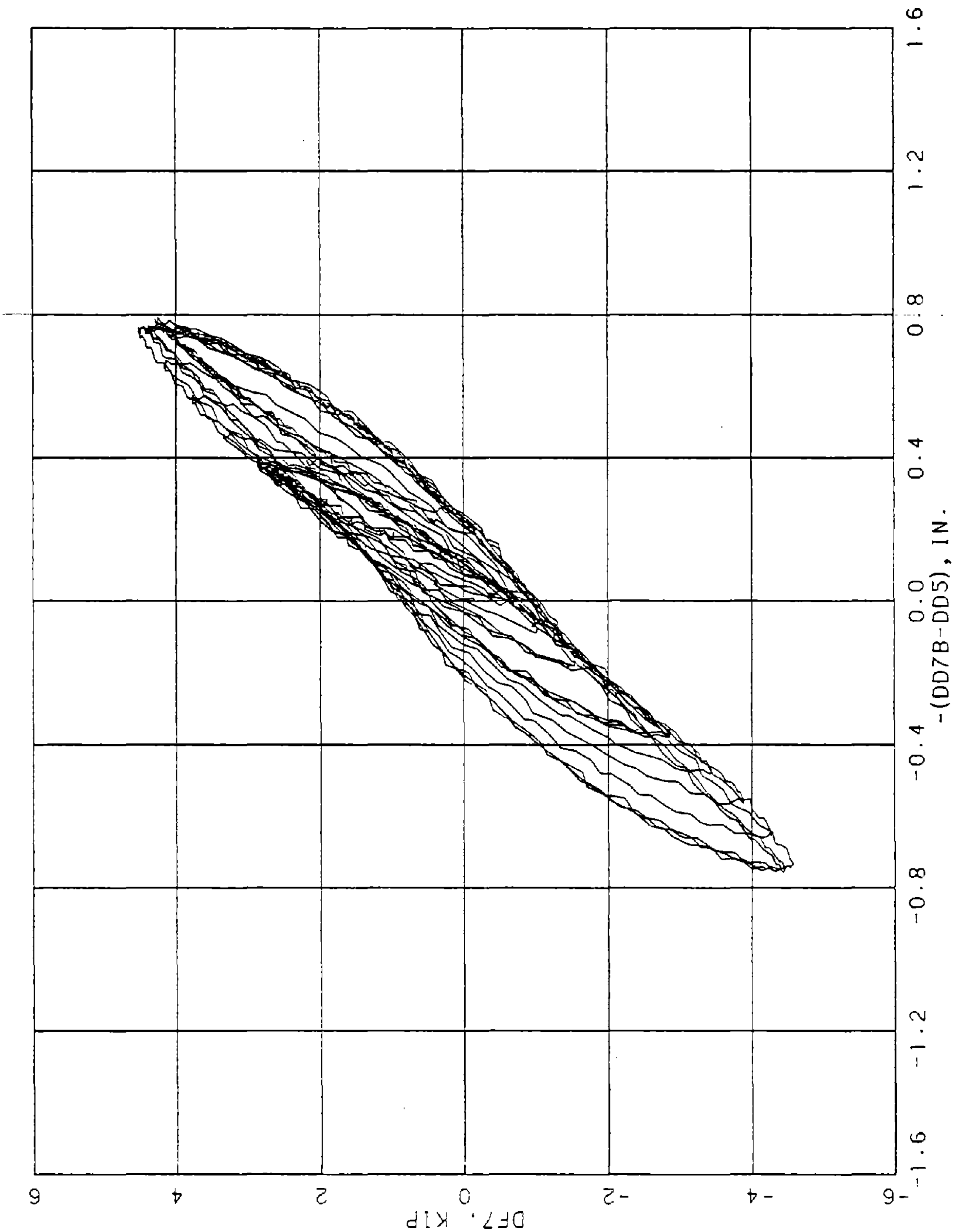


FIGURE C-6. DIAPHRAGM B. END 7. QS 2

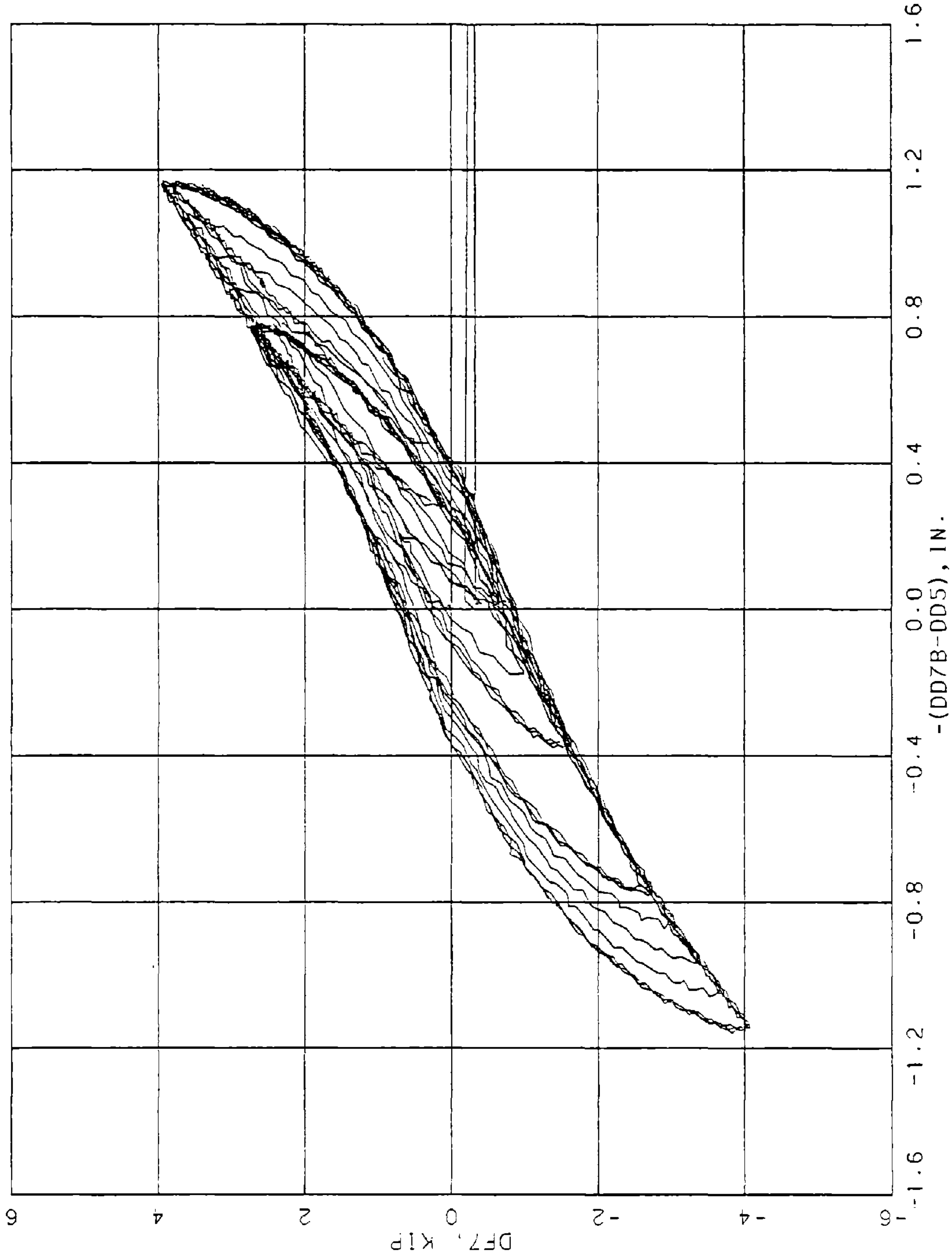


FIGURE C-7. DIAPHRAGM B, END 7, QS 3

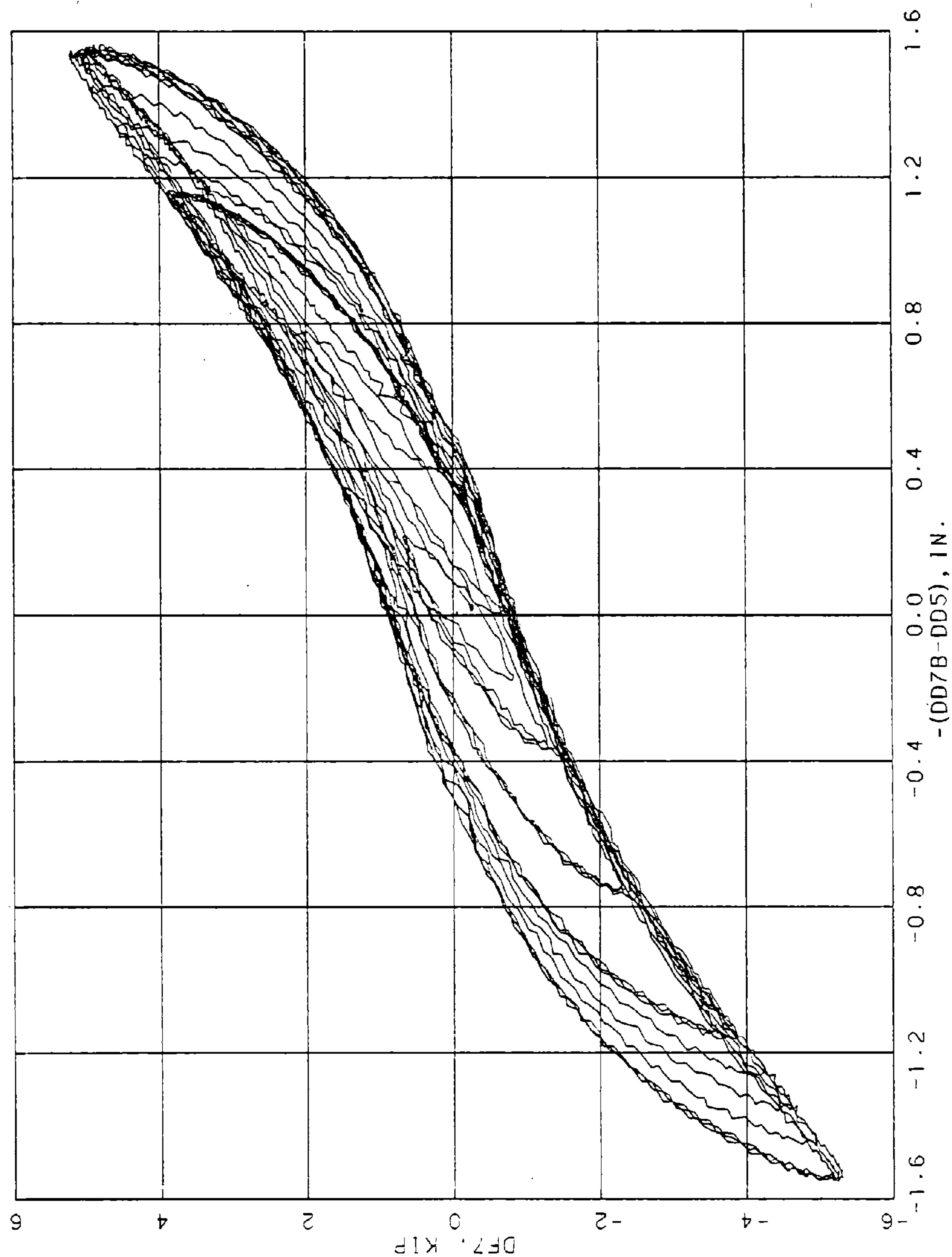


FIGURE C-8. DIAPHRAGM B. END 7. QS 4

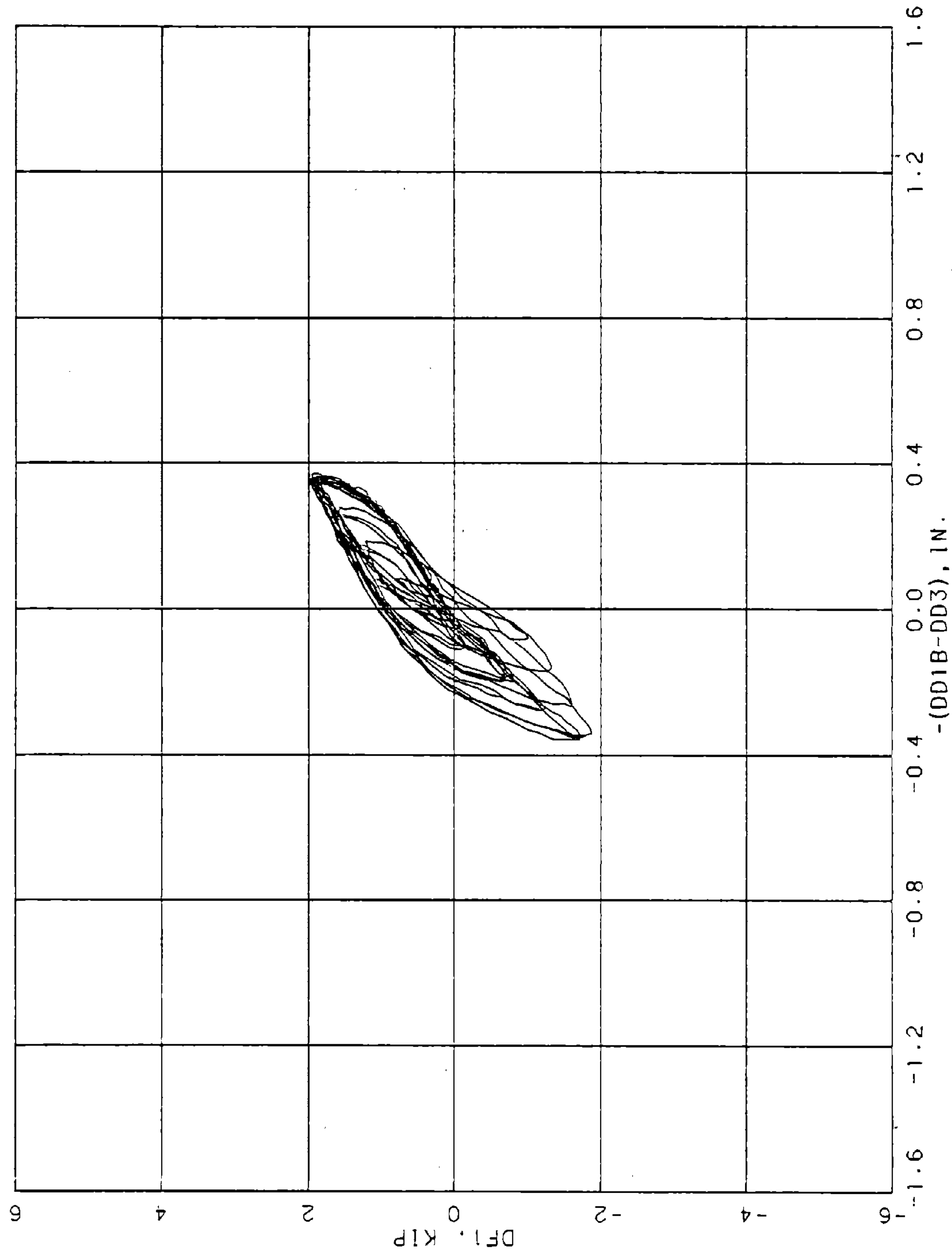


FIGURE C-9. DIAPHRAGM C. END 1. QS 1

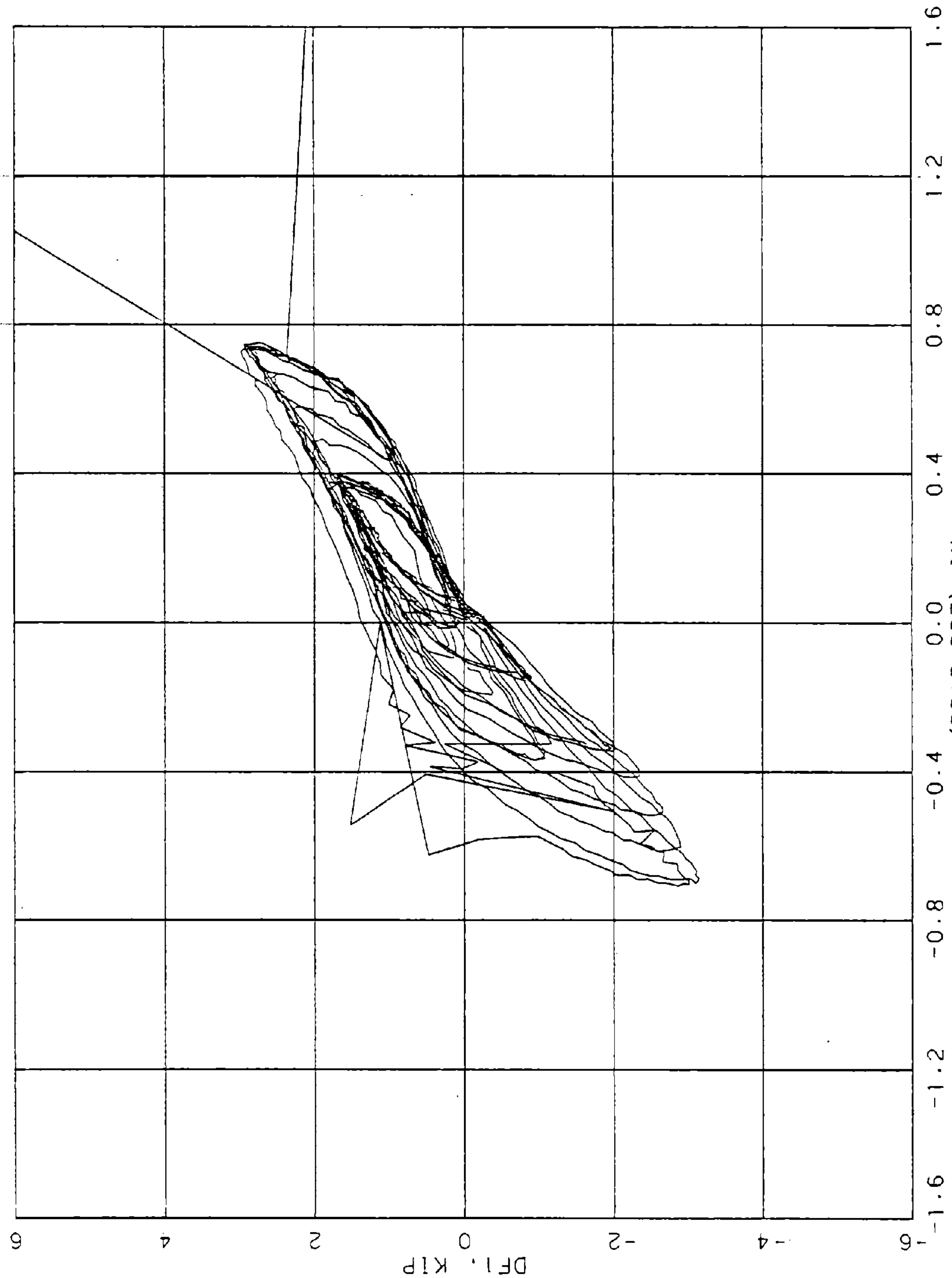


FIGURE C-10. DIAPHRAGM C. END 1. QS 2

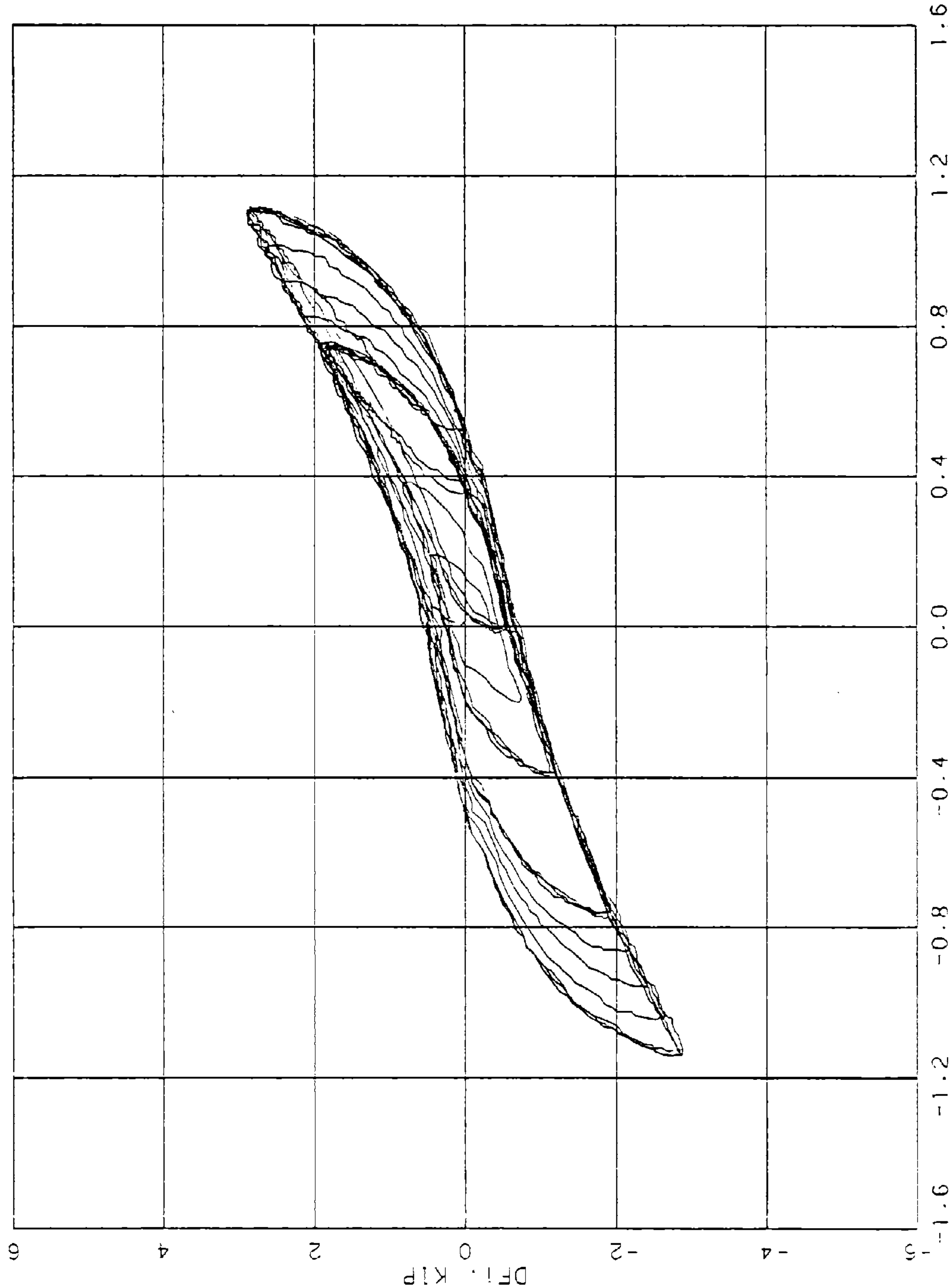


FIGURE C-11. DIAPHRAGM C. END 1. QS 3

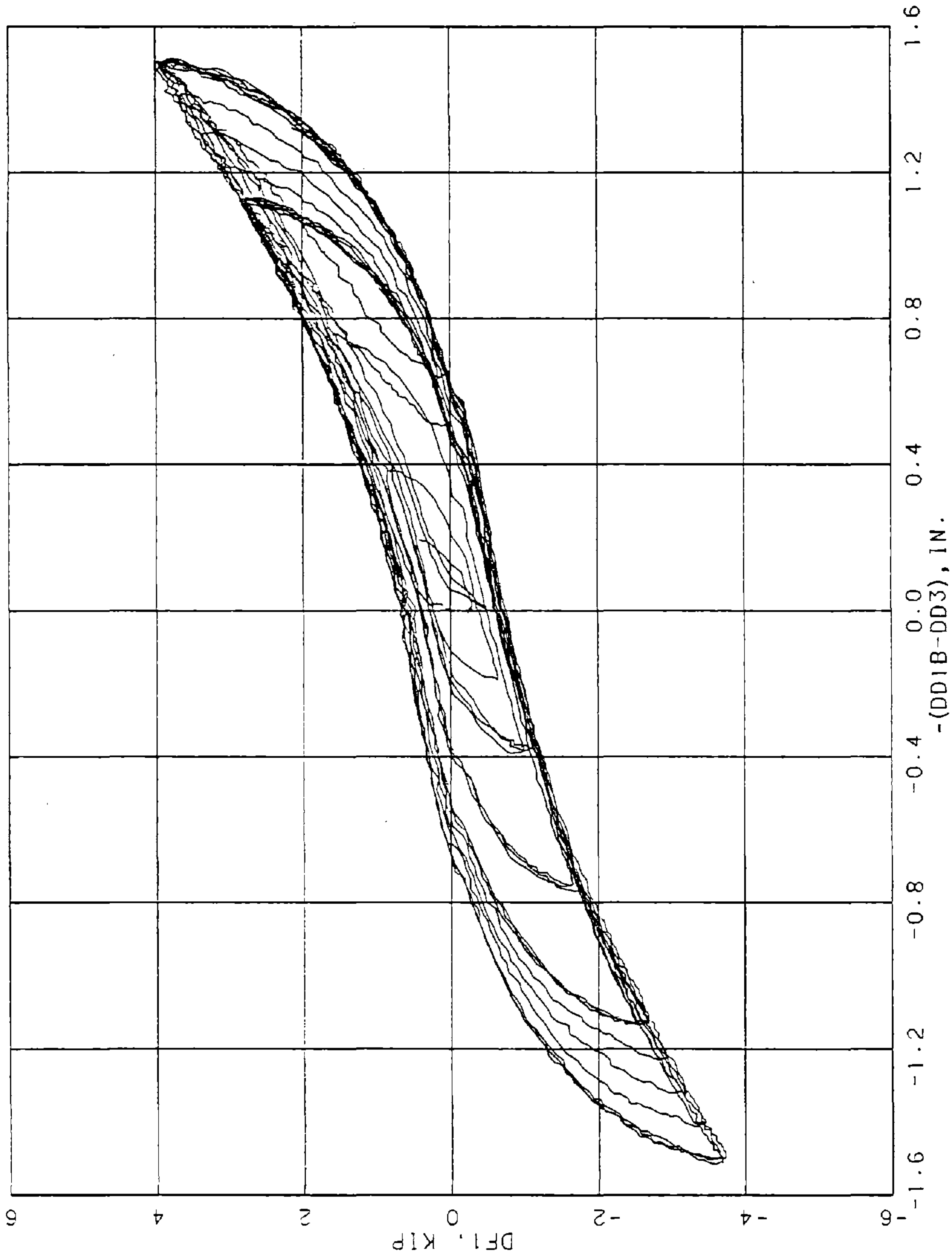


FIGURE C-12. DIAPHRAGM C. END 1. QS 4

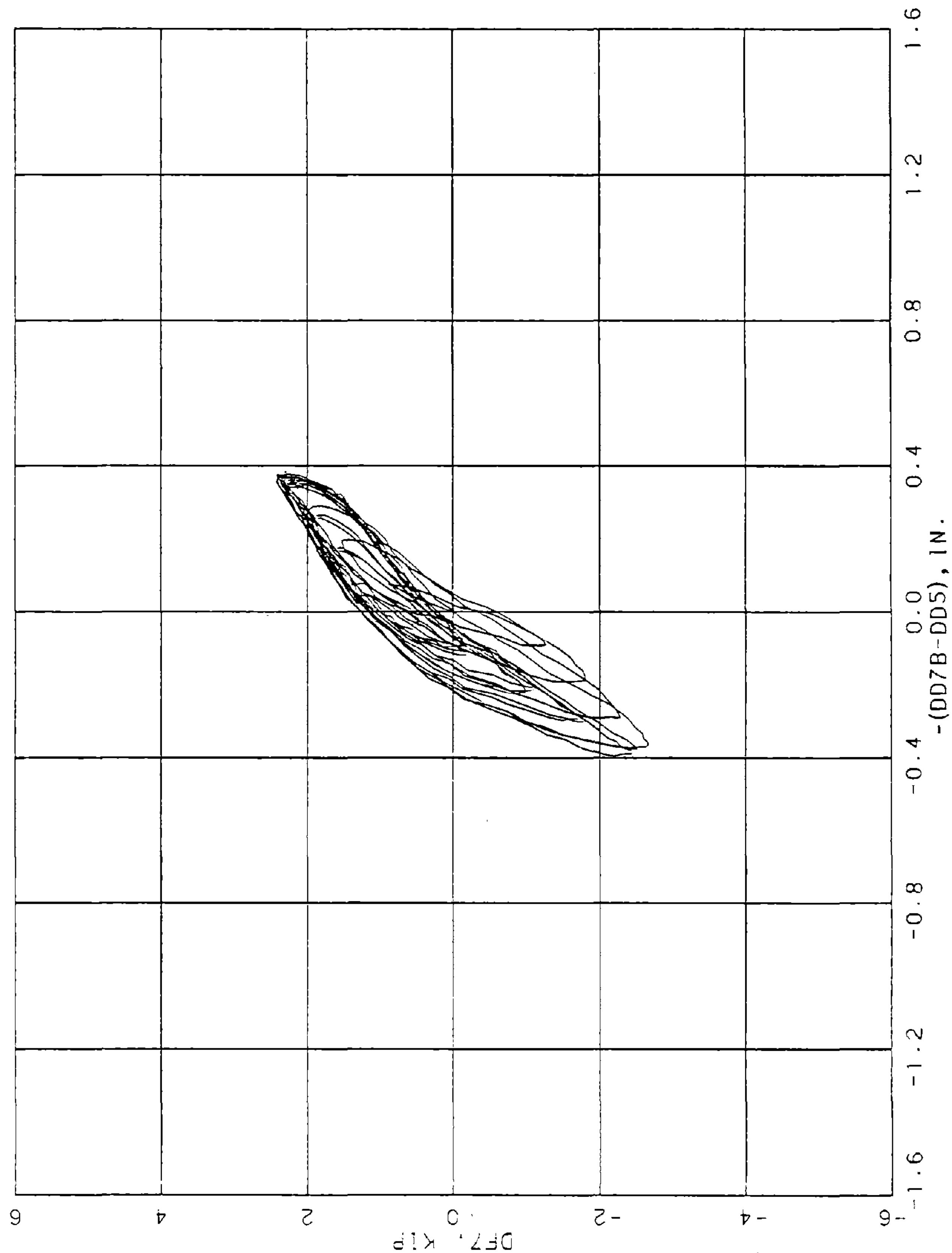


FIGURE C-13. DIAPHRAGM C. END 7. QS 1

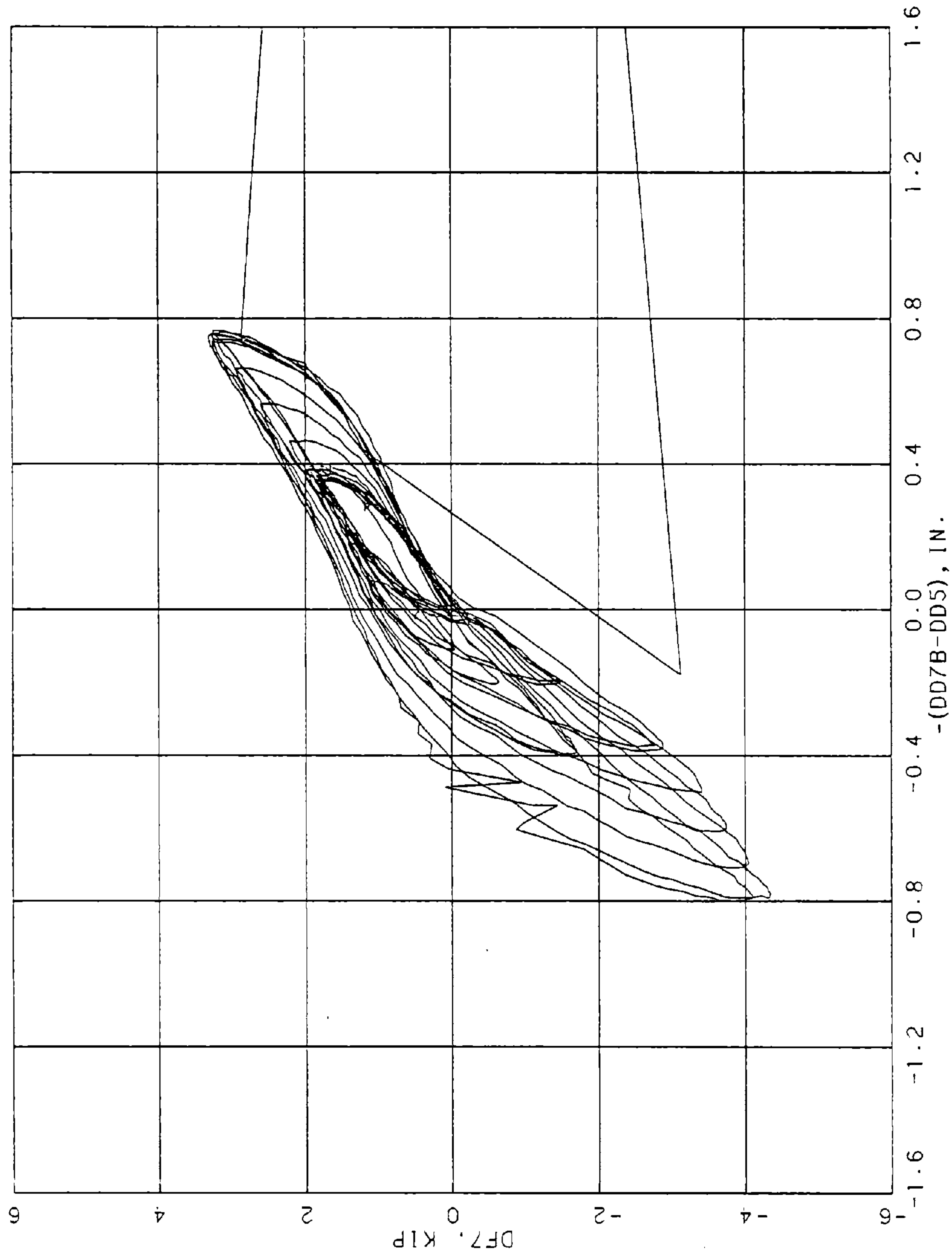


FIGURE C-14. DIAPHRAGM C, END 7, QS 2

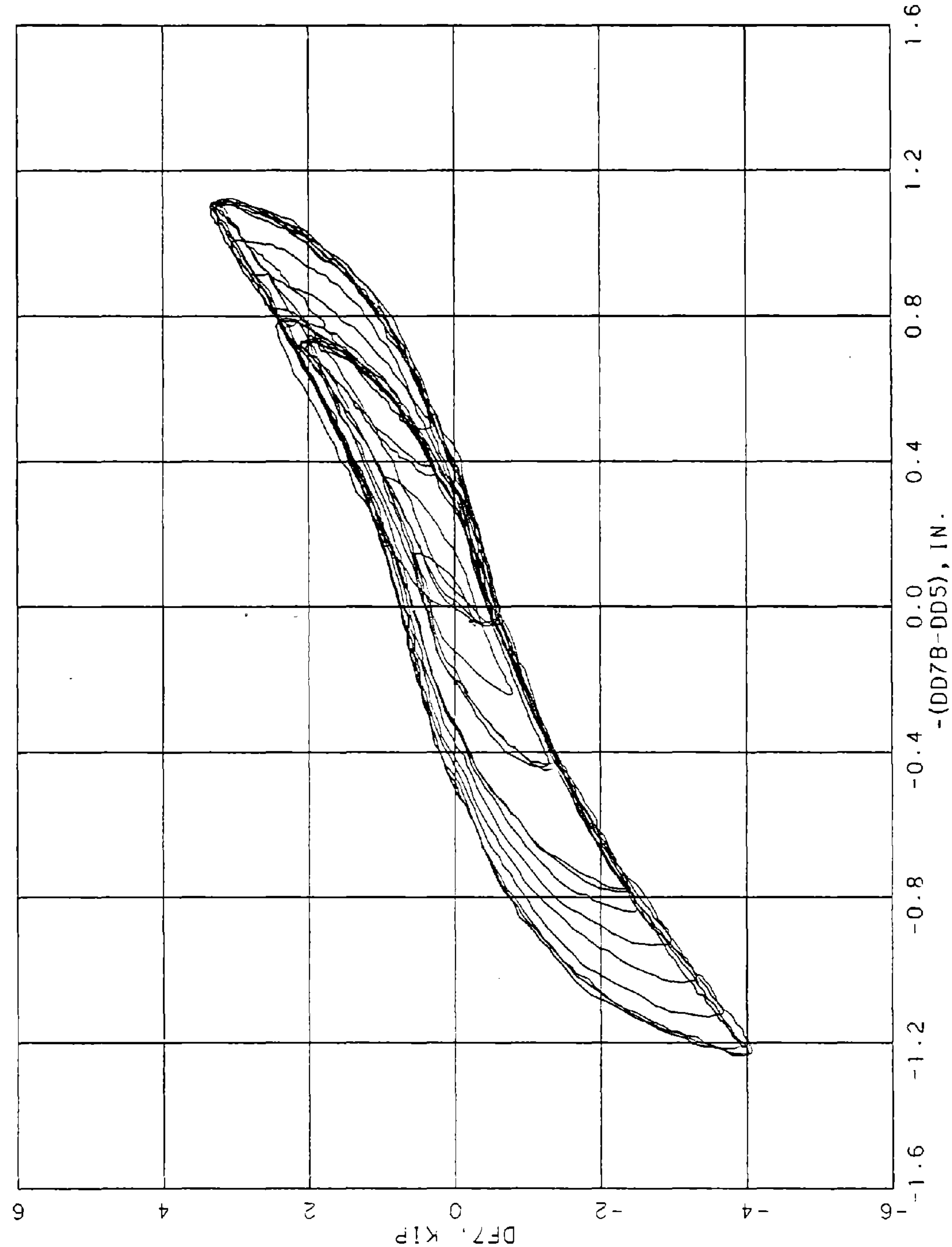


FIGURE C-15. DIAPHRAGM C. END 7. QS 3

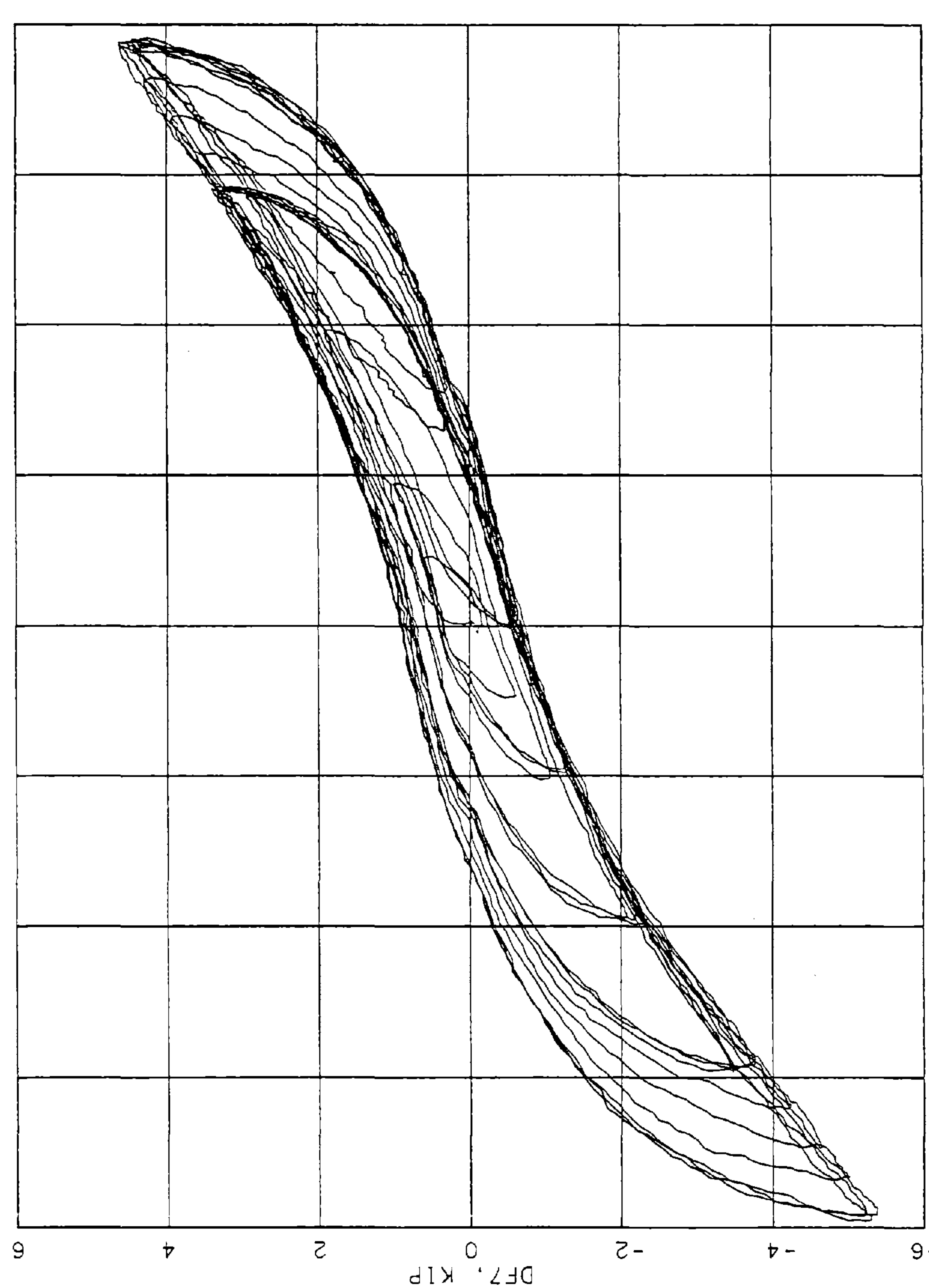


FIGURE C-16. DIAPHRAGM C, END 7, QS 4

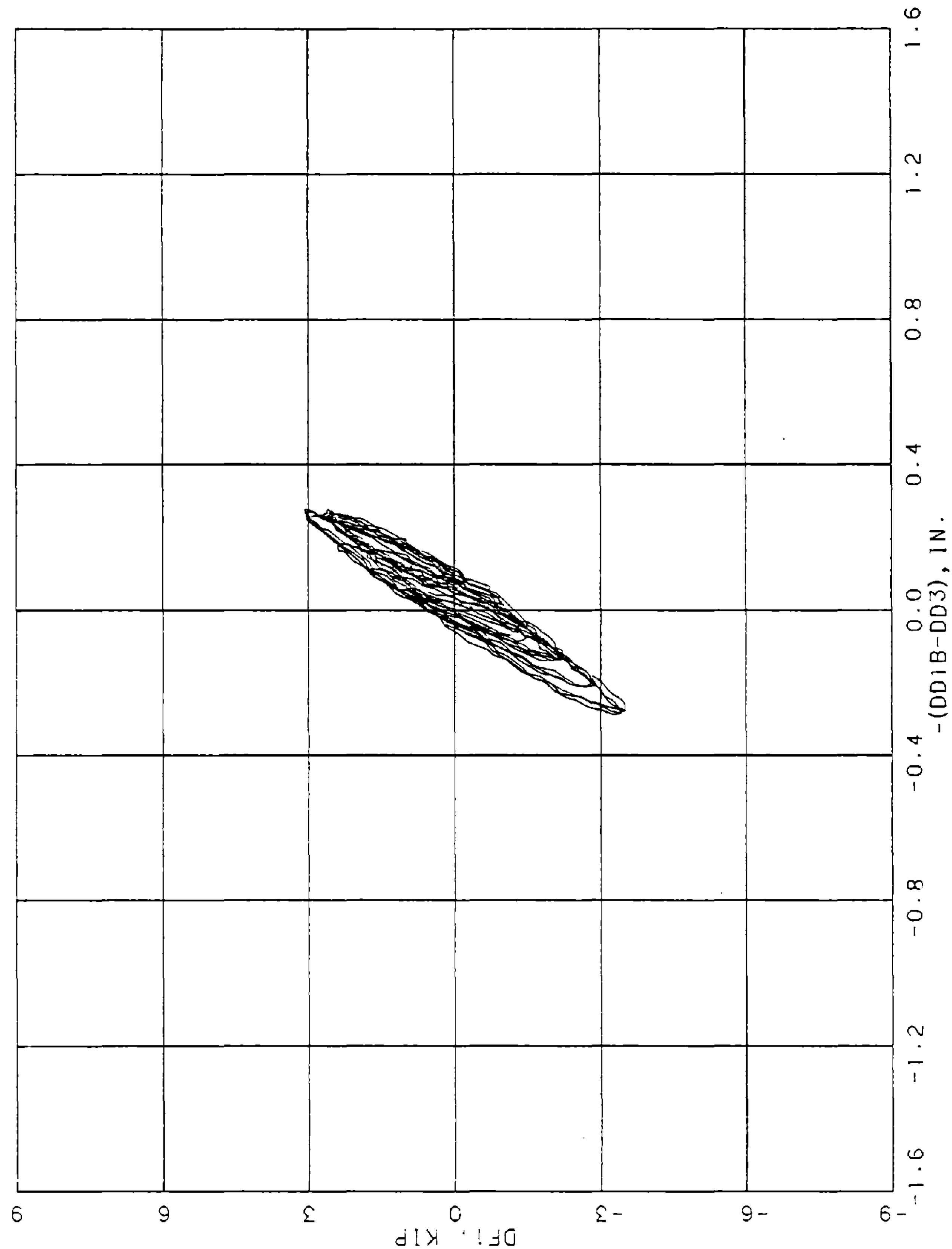


FIGURE C-17. DIAPHRAGM D, END 1, QS 1

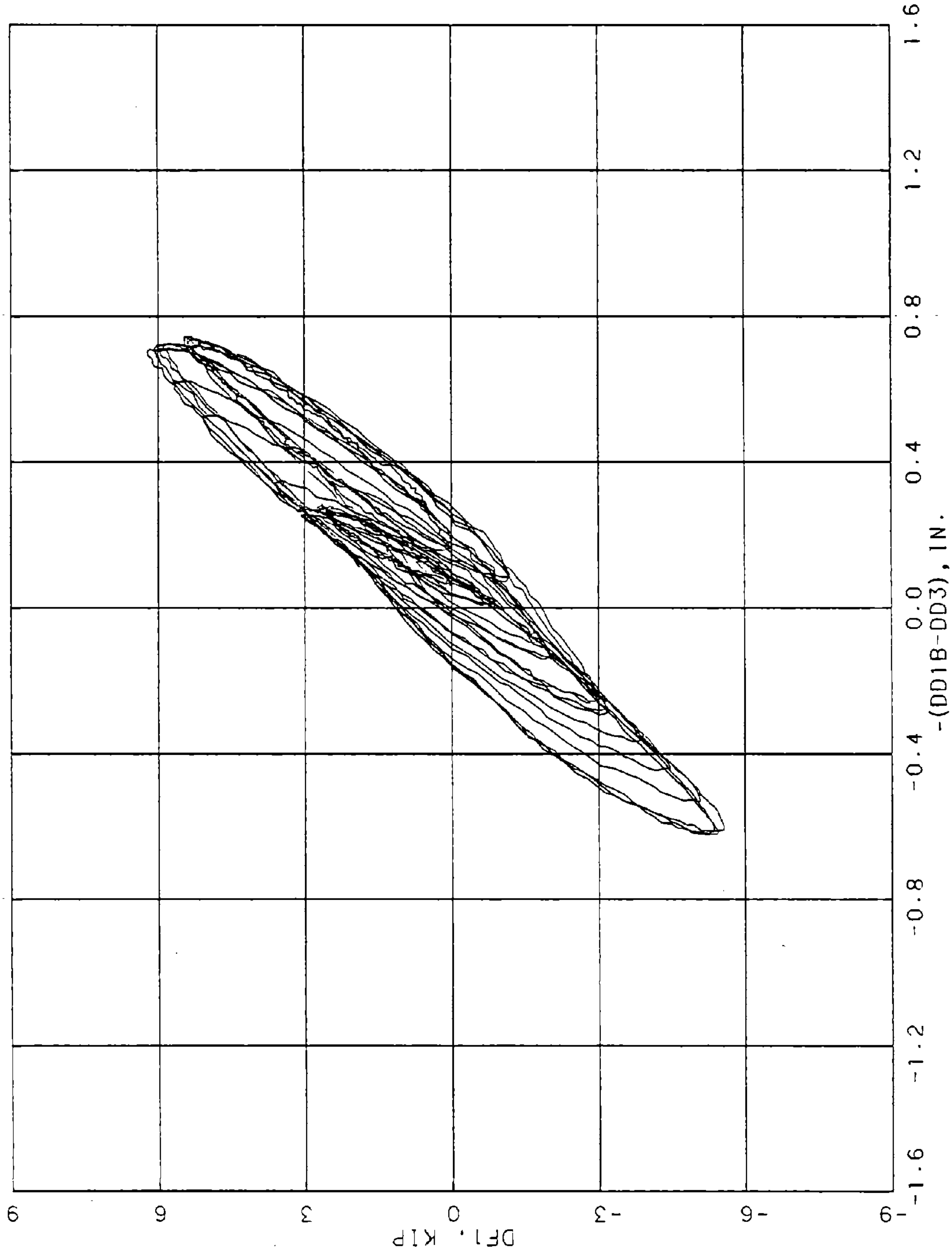


FIGURE C-18. DIAPHRAGM D. END 1. QS 2

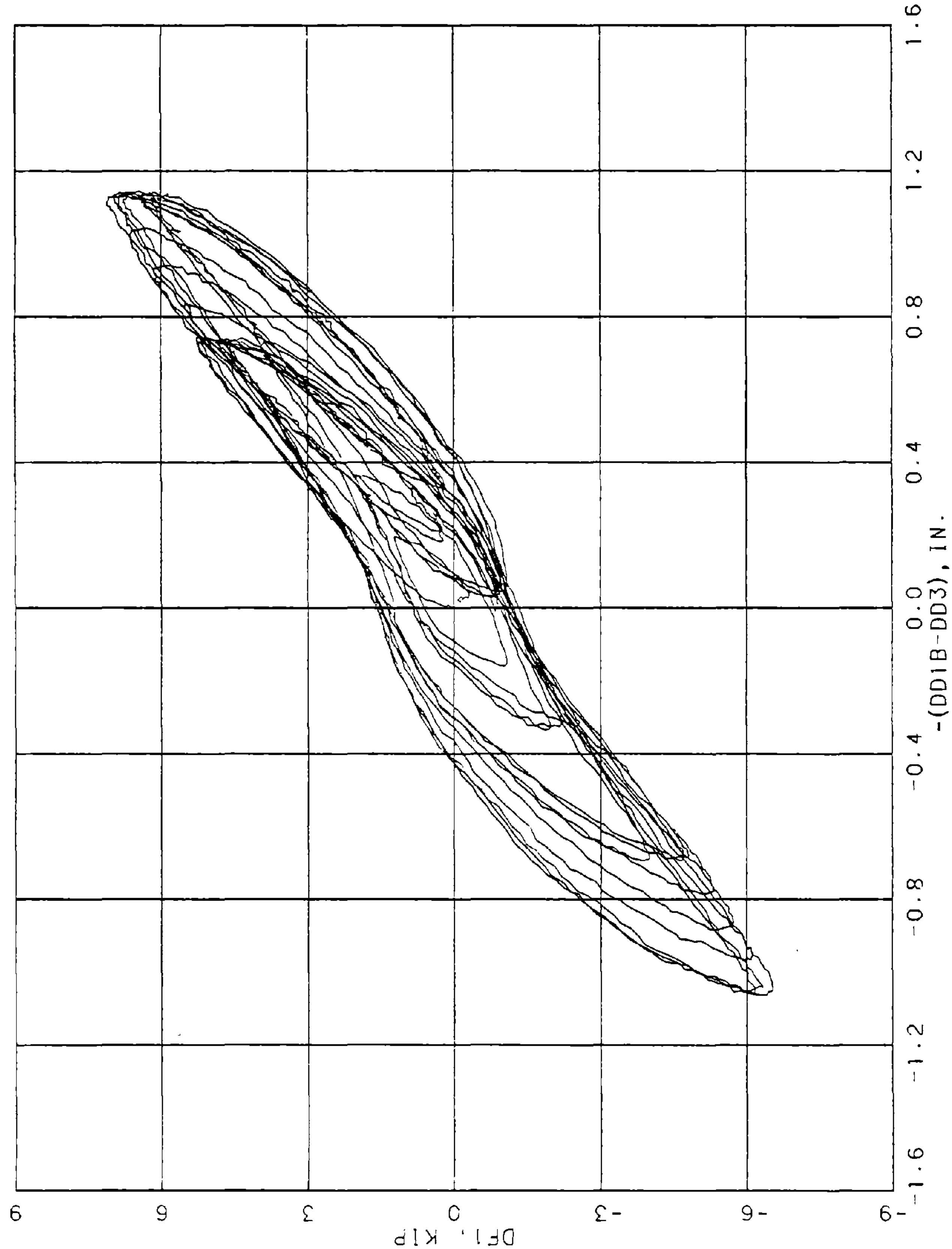


FIGURE C-19. DIAPHRAGM D. END 1. QS 3

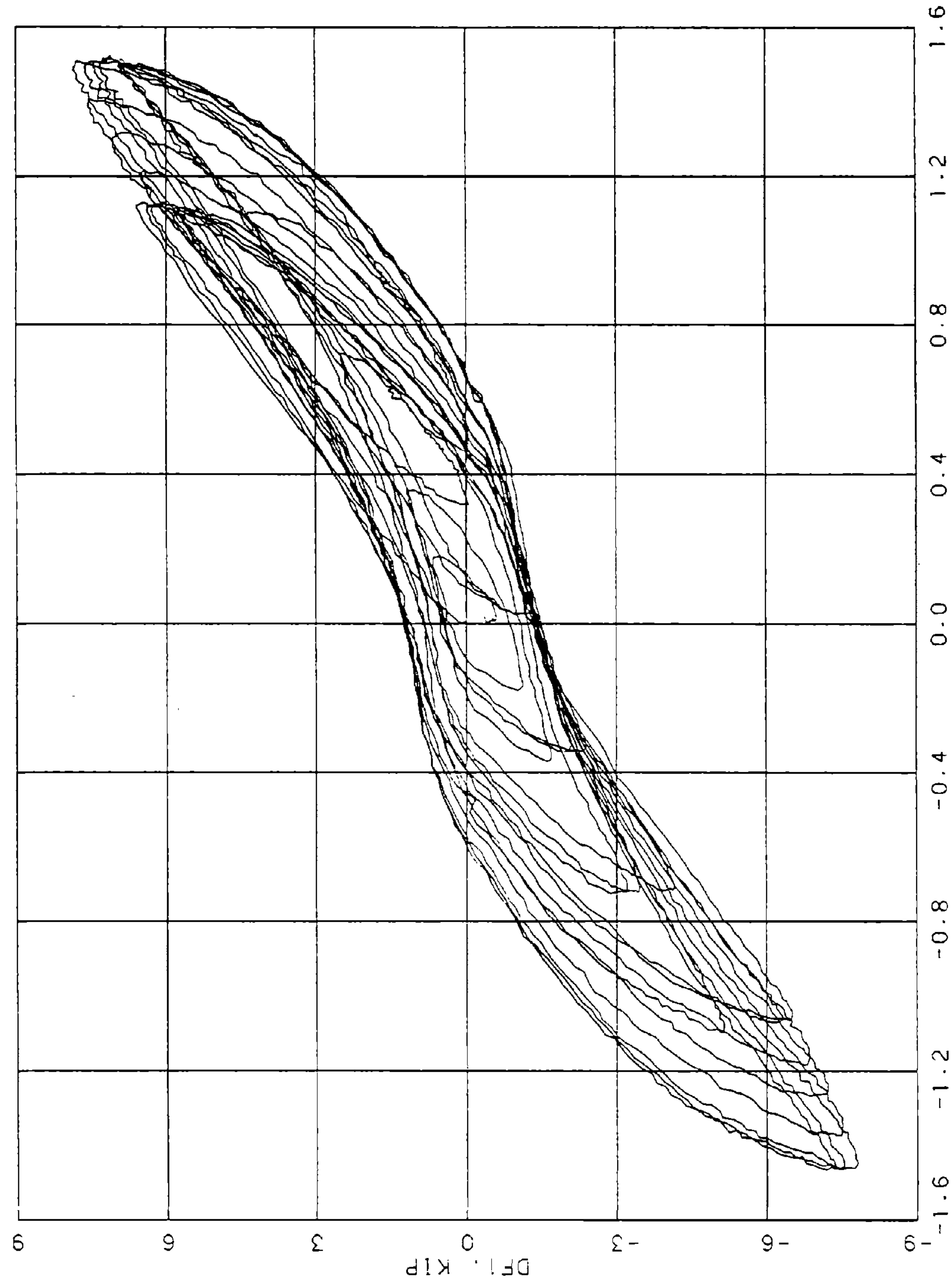


FIGURE C-20. DIAPHRAGM D. END 1. QS 4

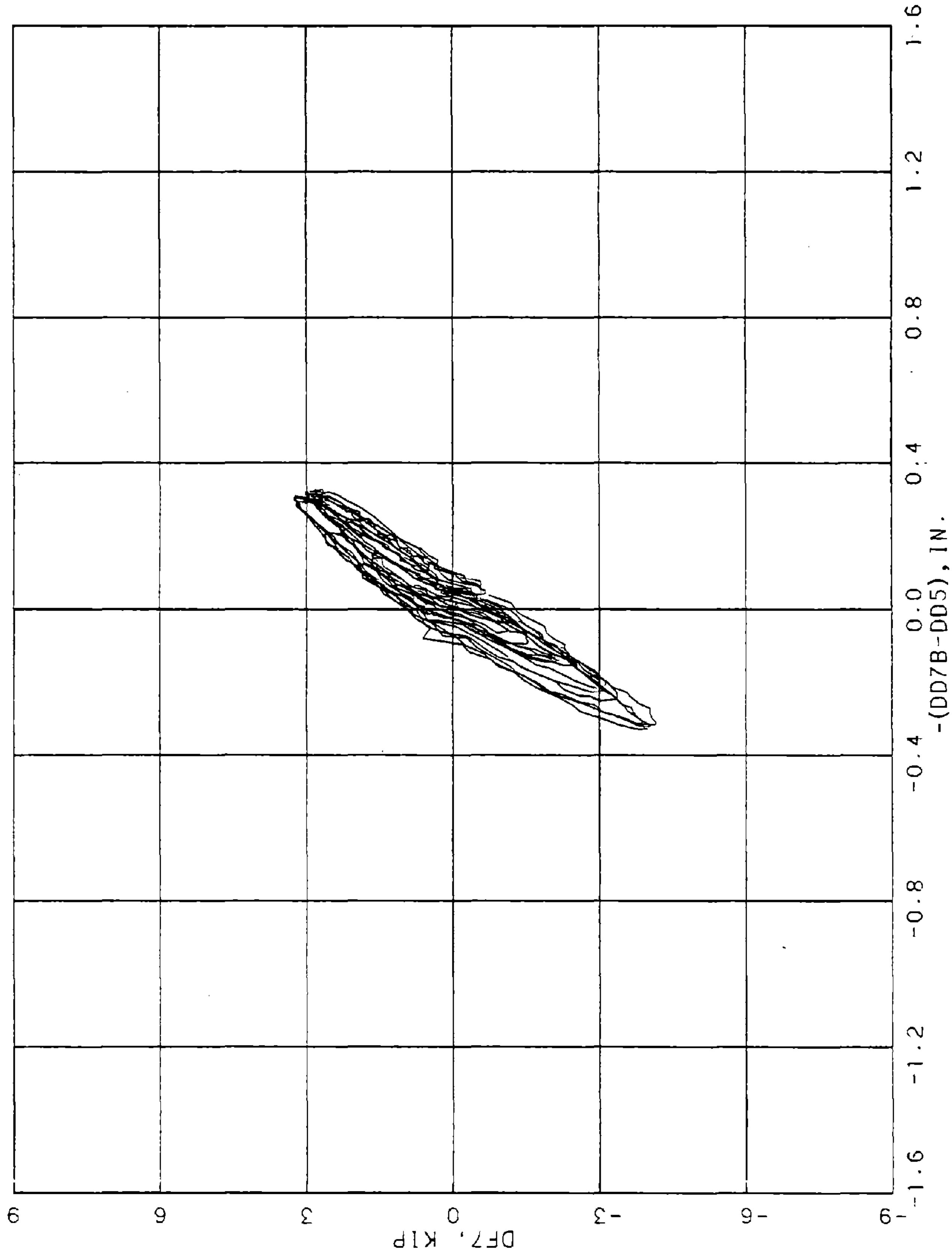


FIGURE C-21. DIAPHRAGM D. END 7. QS 1

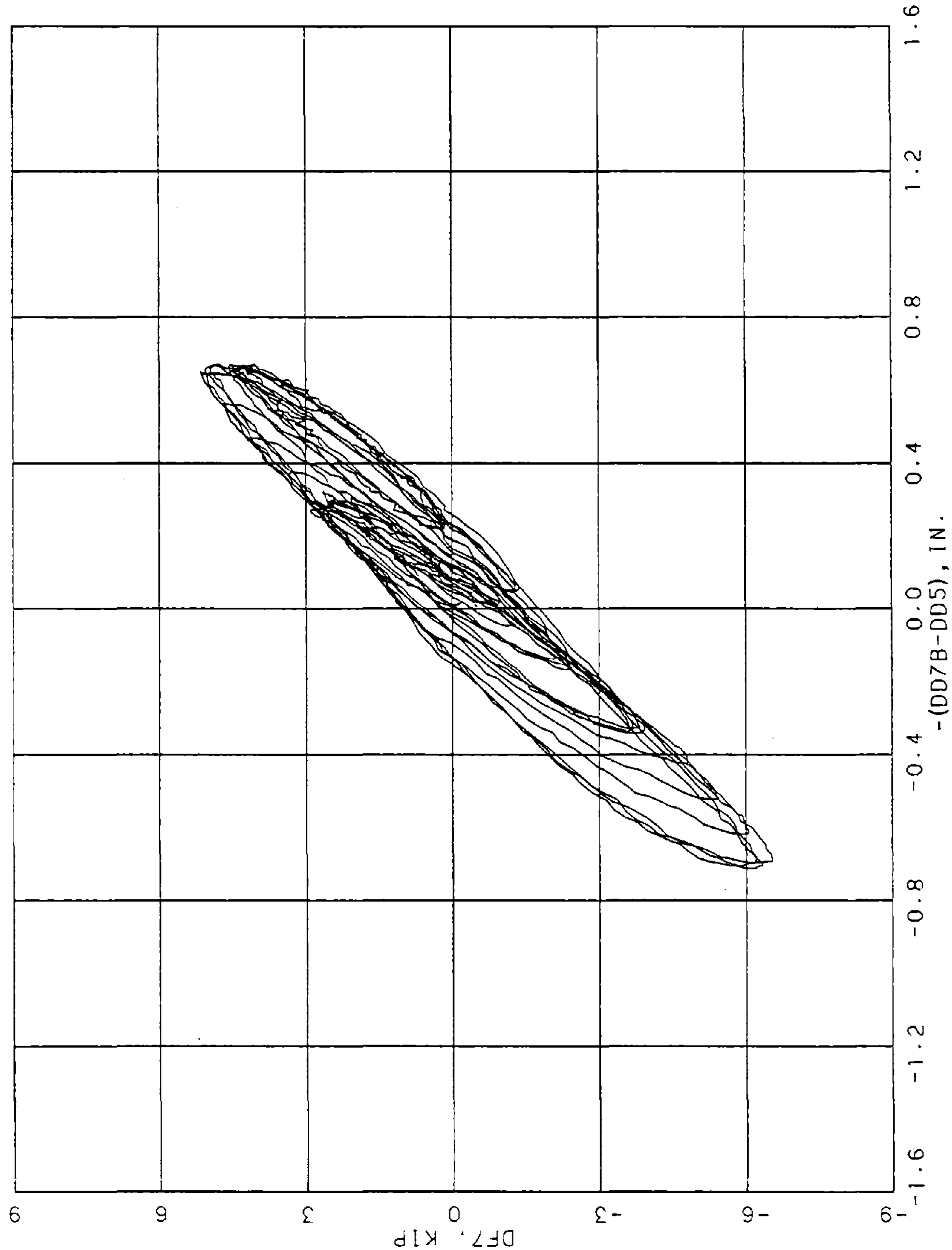


FIGURE C-22. DIAPHRAGM D. END 7. QS 2

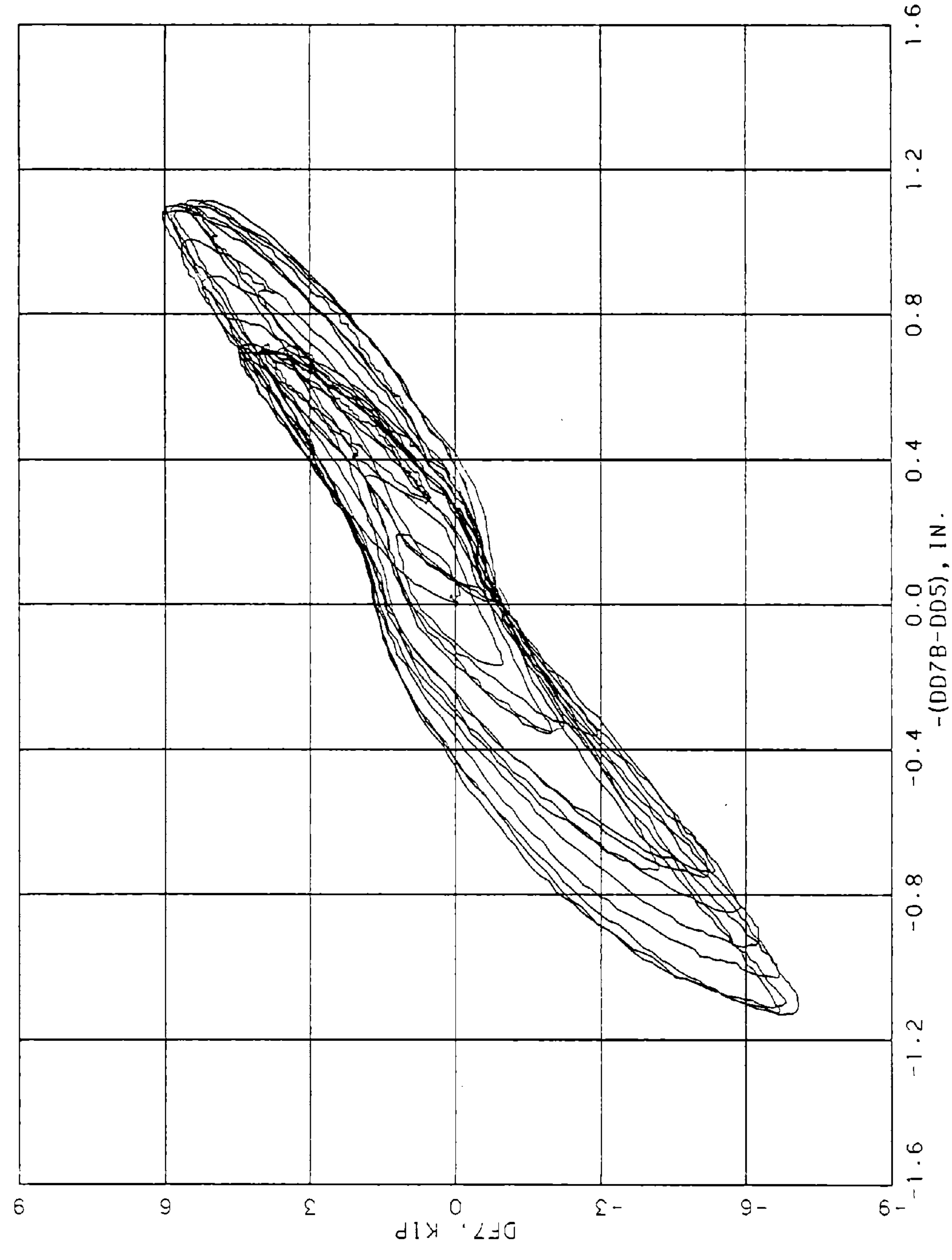


FIGURE C-23. DIAPHRAGM D. END 7. QS 3

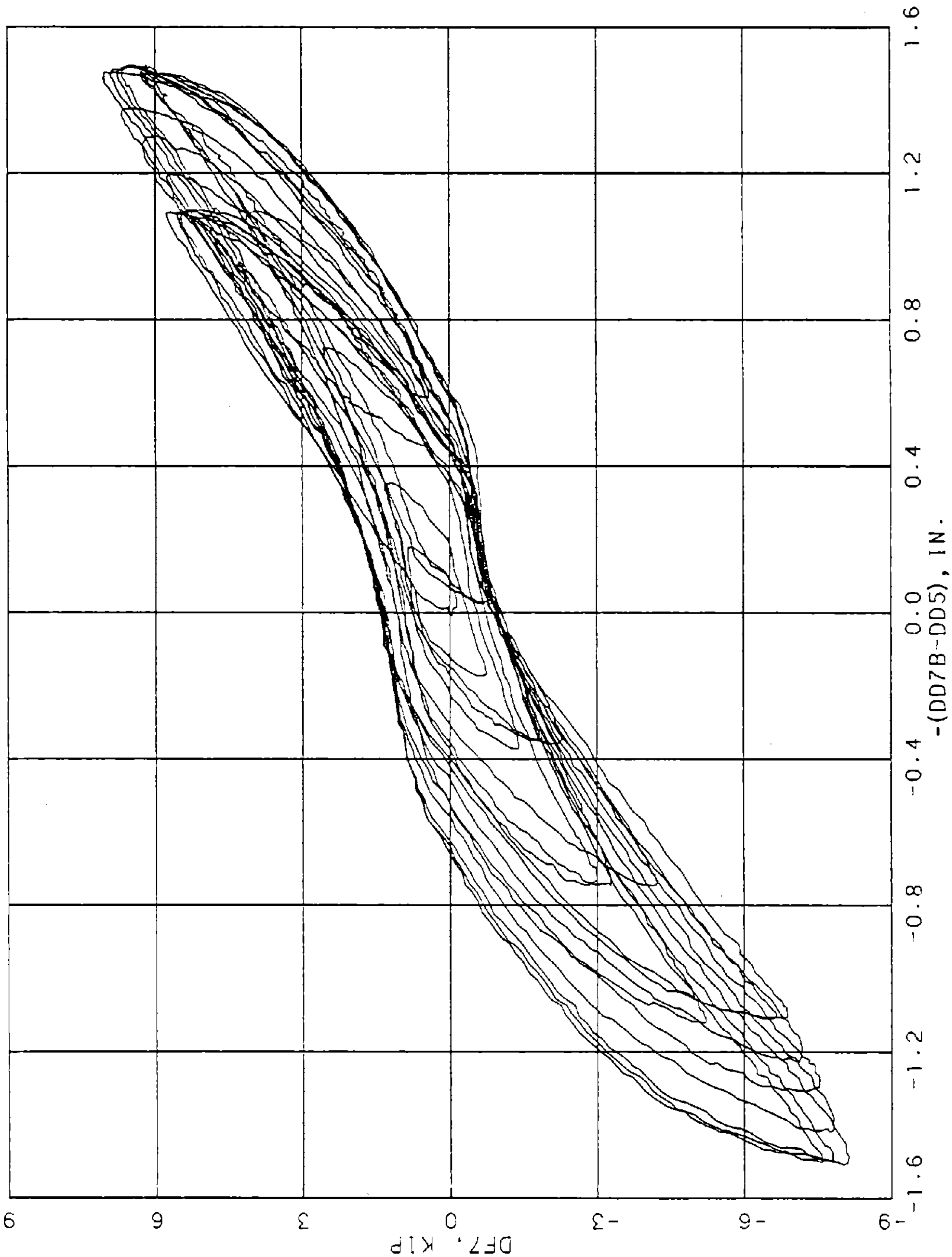


FIGURE C-24. DIAPHRAGM D. END 7. QS 4

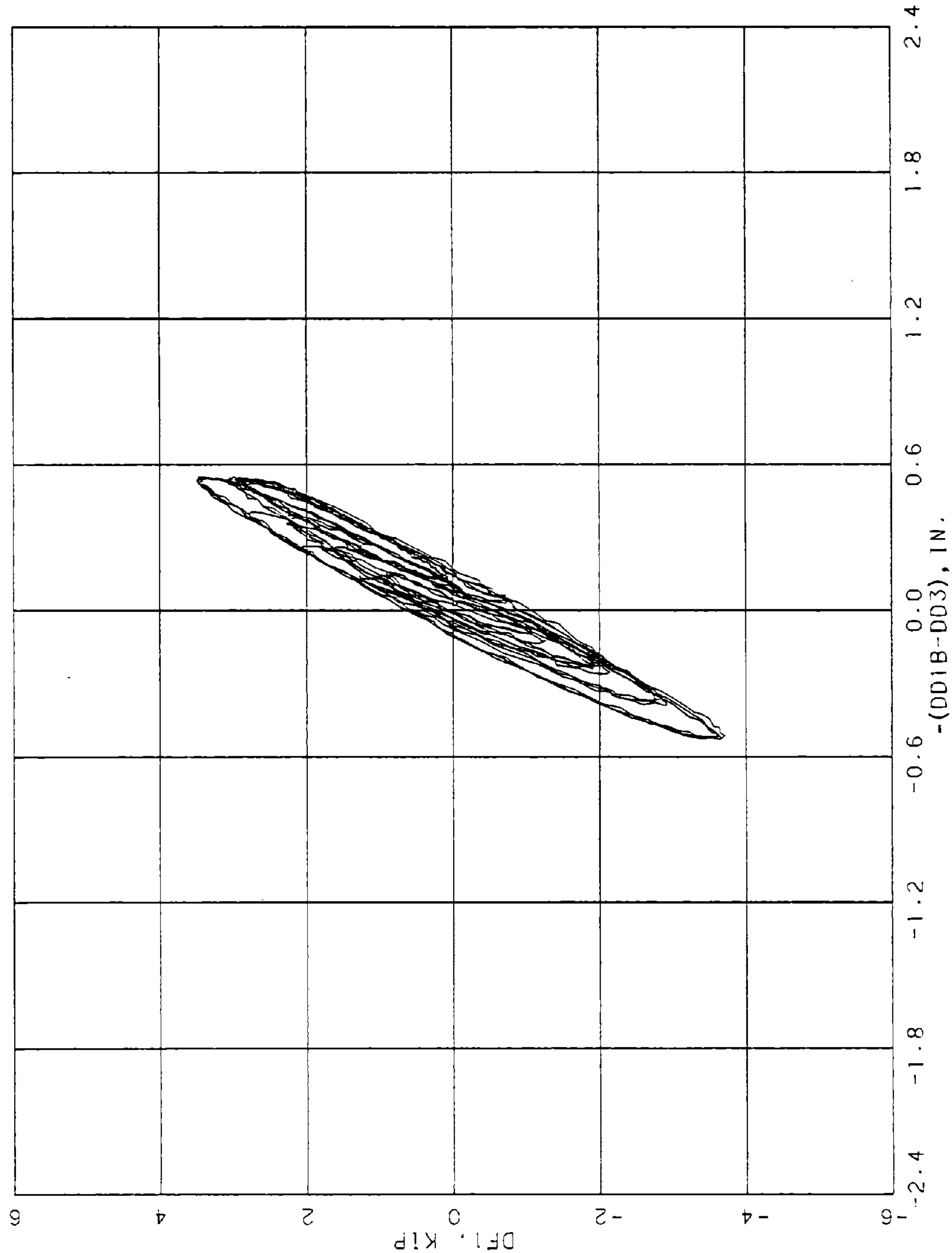


FIGURE C-25. DIAPHRAGM E. END 1. QS 1.

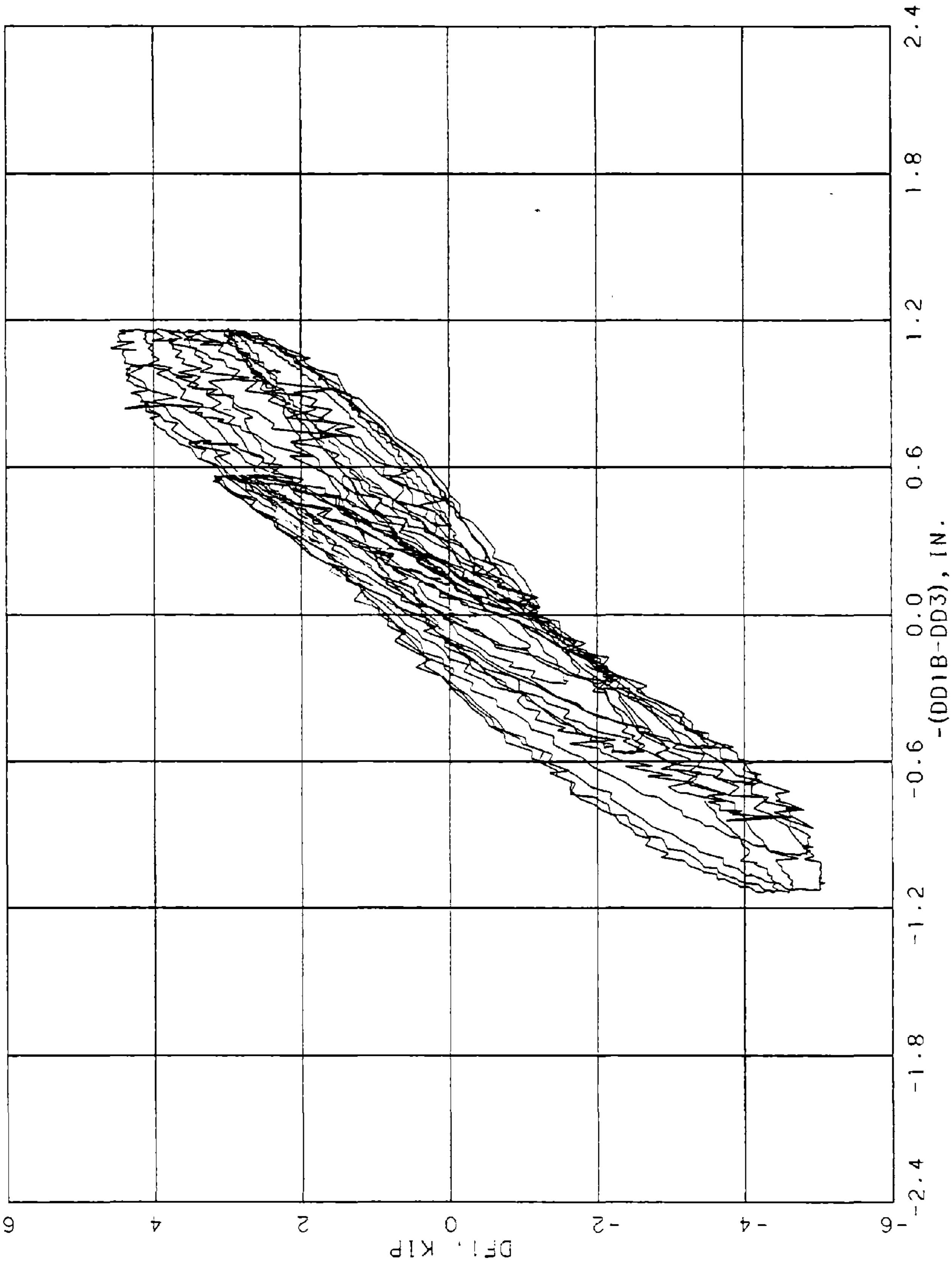


FIGURE C-26. DIAPHRAGM E. END 1. QS 2.

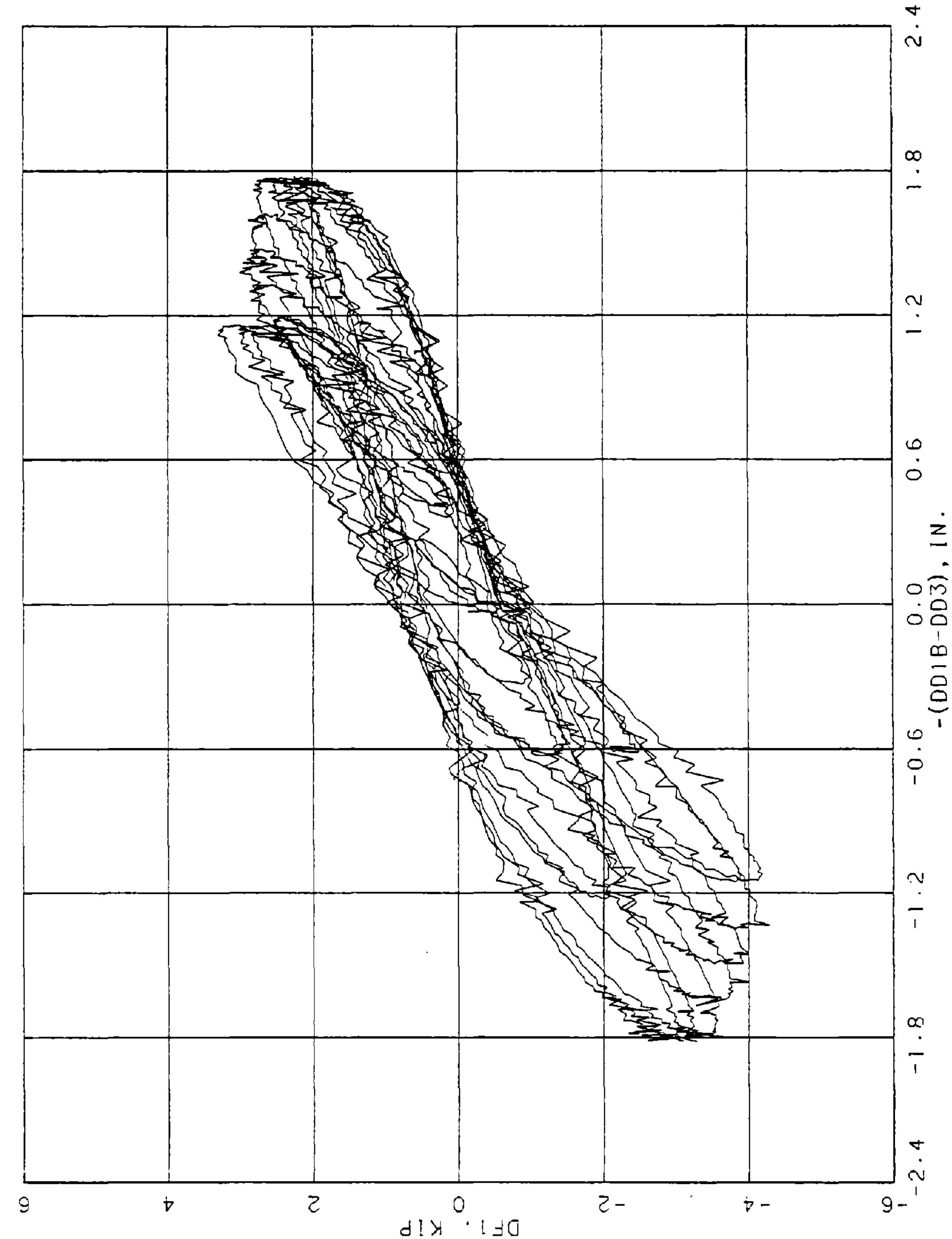


FIGURE C-27. DIAPHRAGM E, END 1. QS 3.

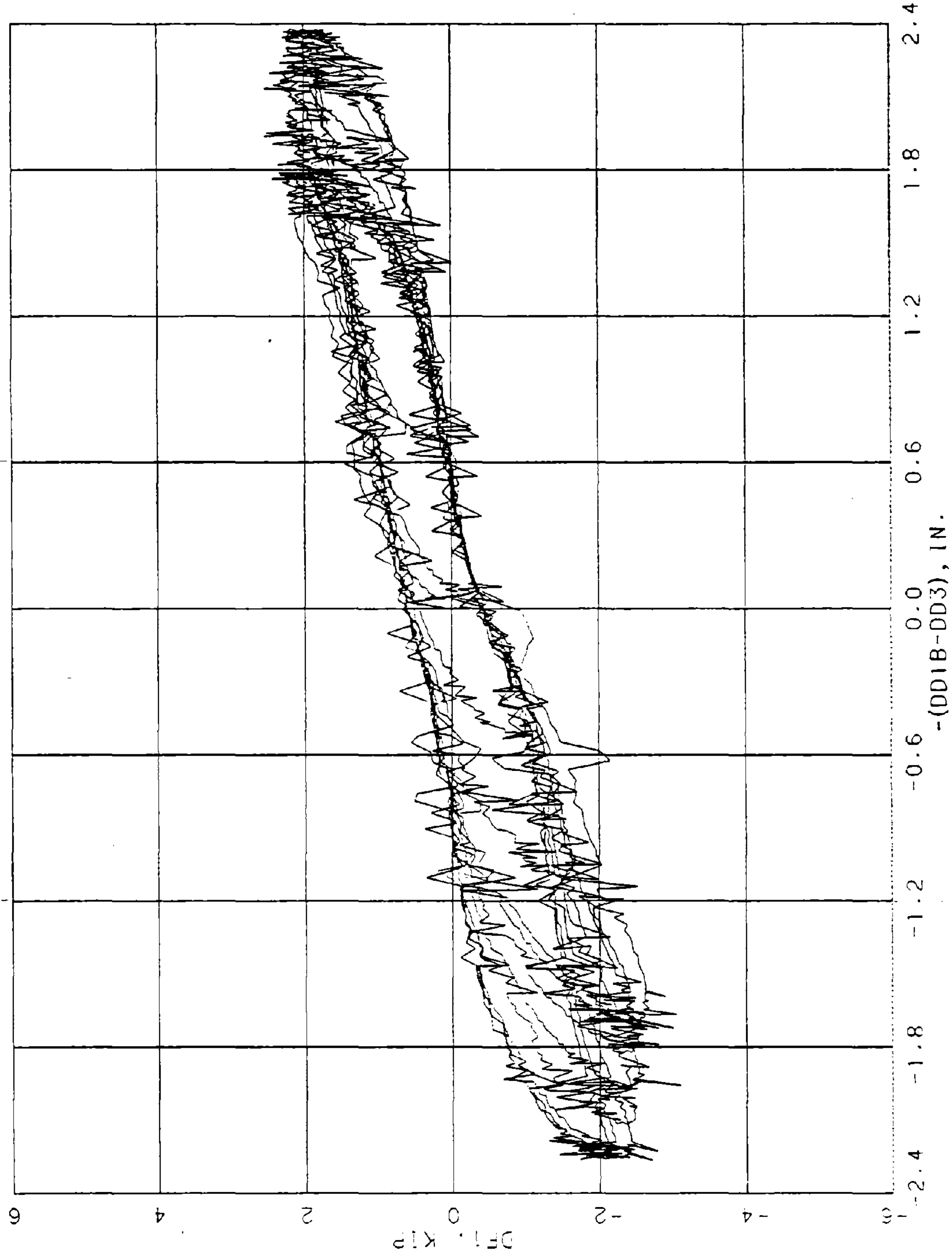


FIGURE C-28. DIAPHRAGM E. END 1. QS 4.

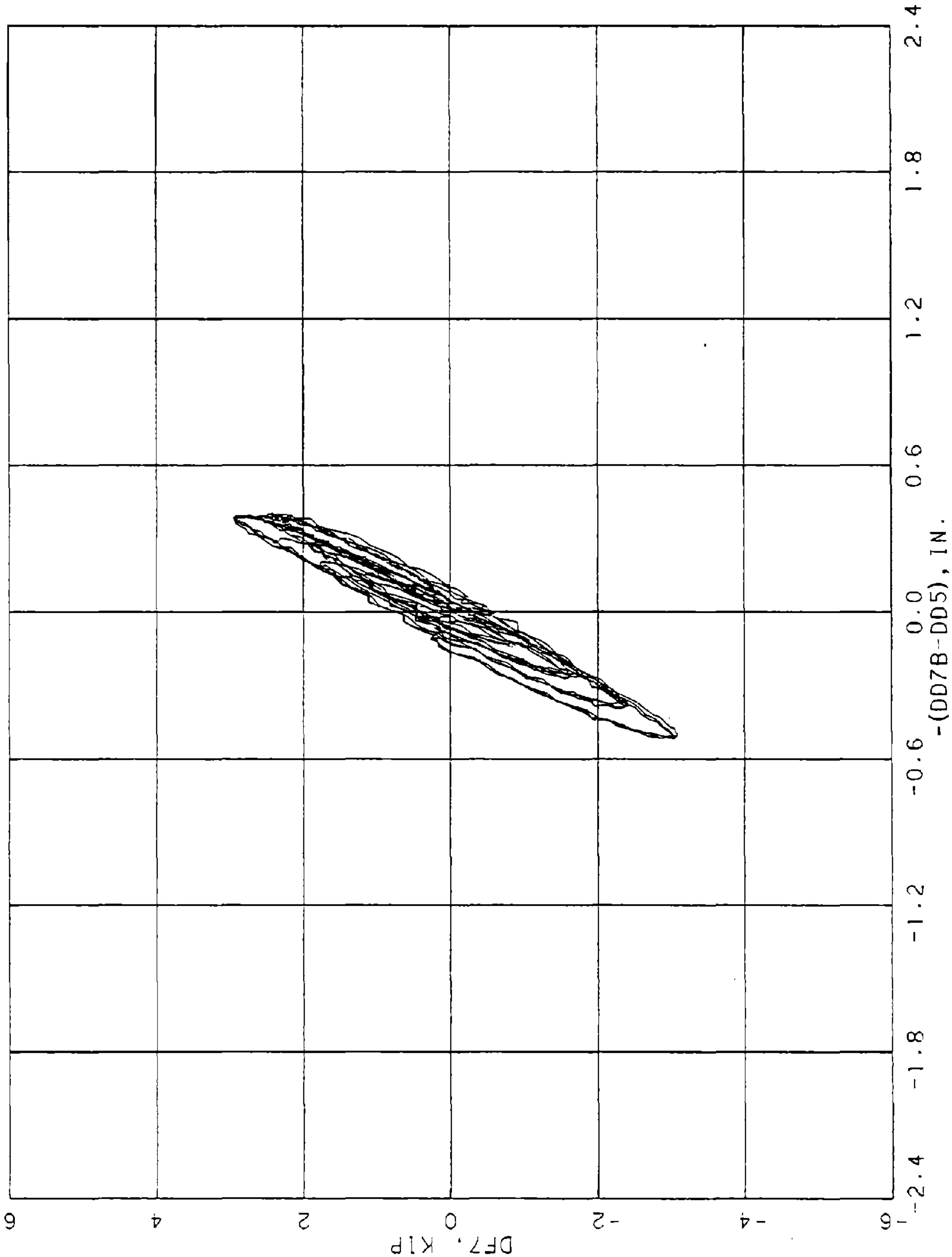


FIGURE C-29. DIAPHRAGM E. END 7. QS 1.

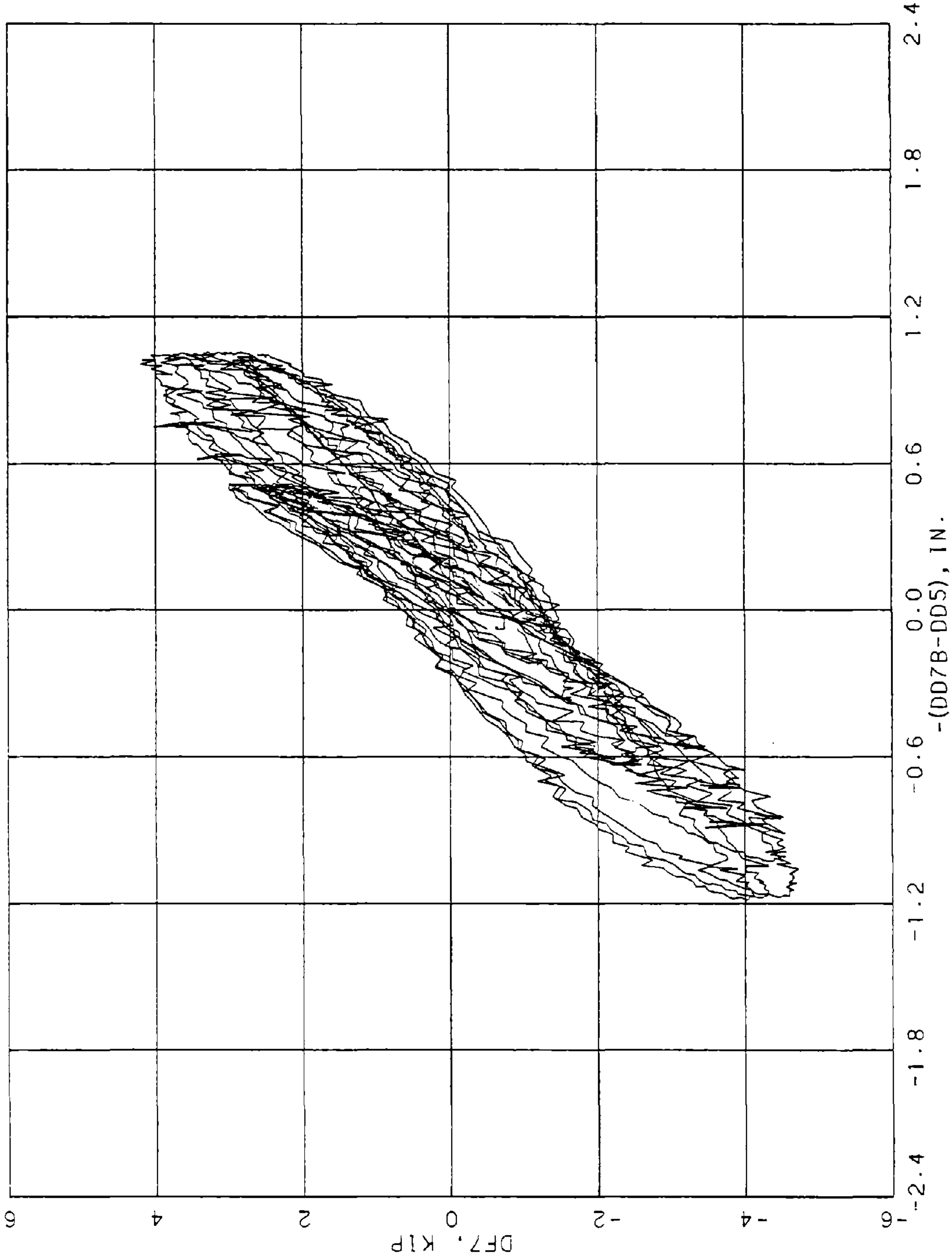


FIGURE C-30. DIAPHRAGM E. END 7. QS 2.

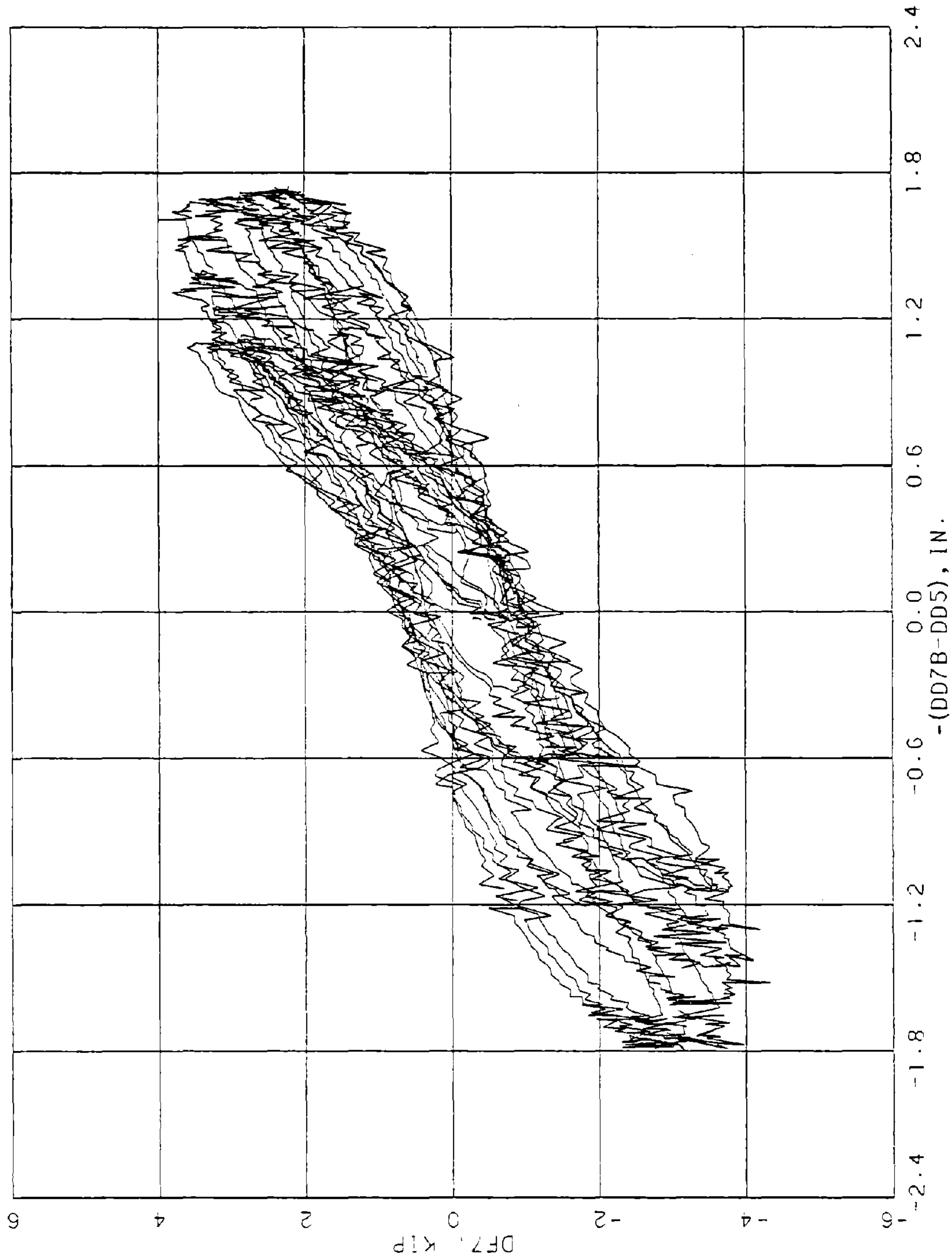


FIGURE C-31. DIAPHRAGM E. END 7. QS 3.

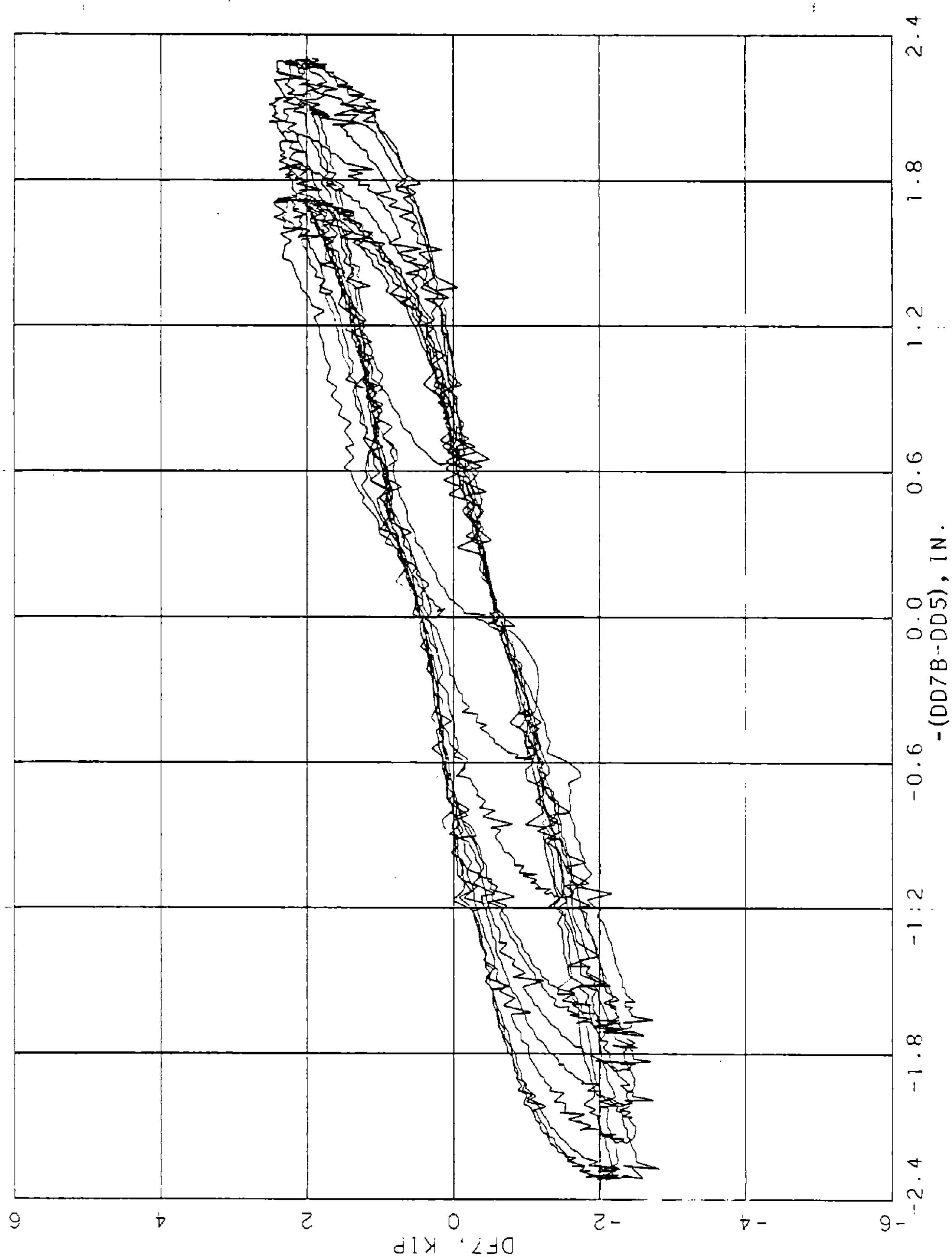


FIGURE C-32. DIAPHRAGM E. END 7. QS 4.

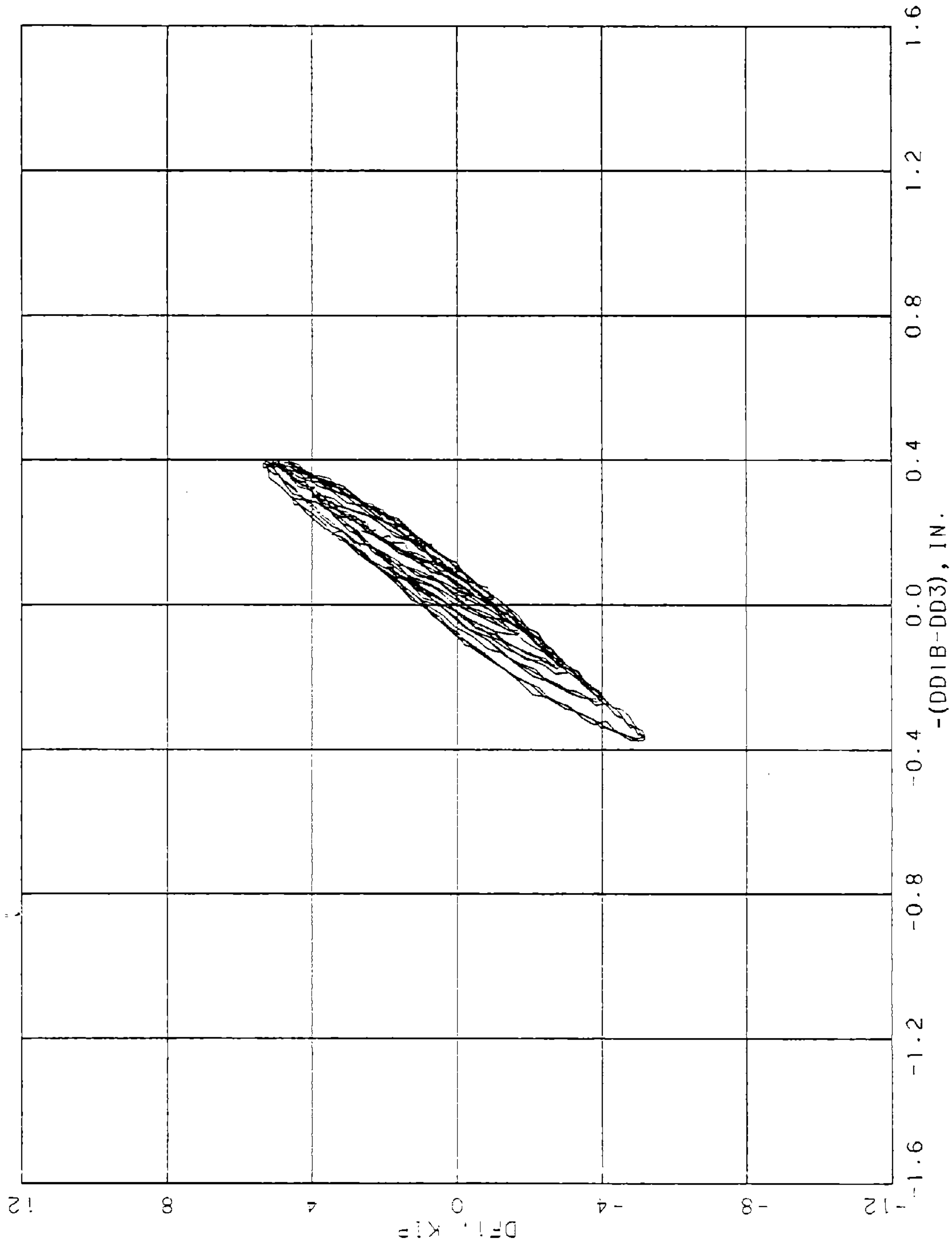


FIGURE C-33. DIAPHRAGM H. END 1. QS 1.

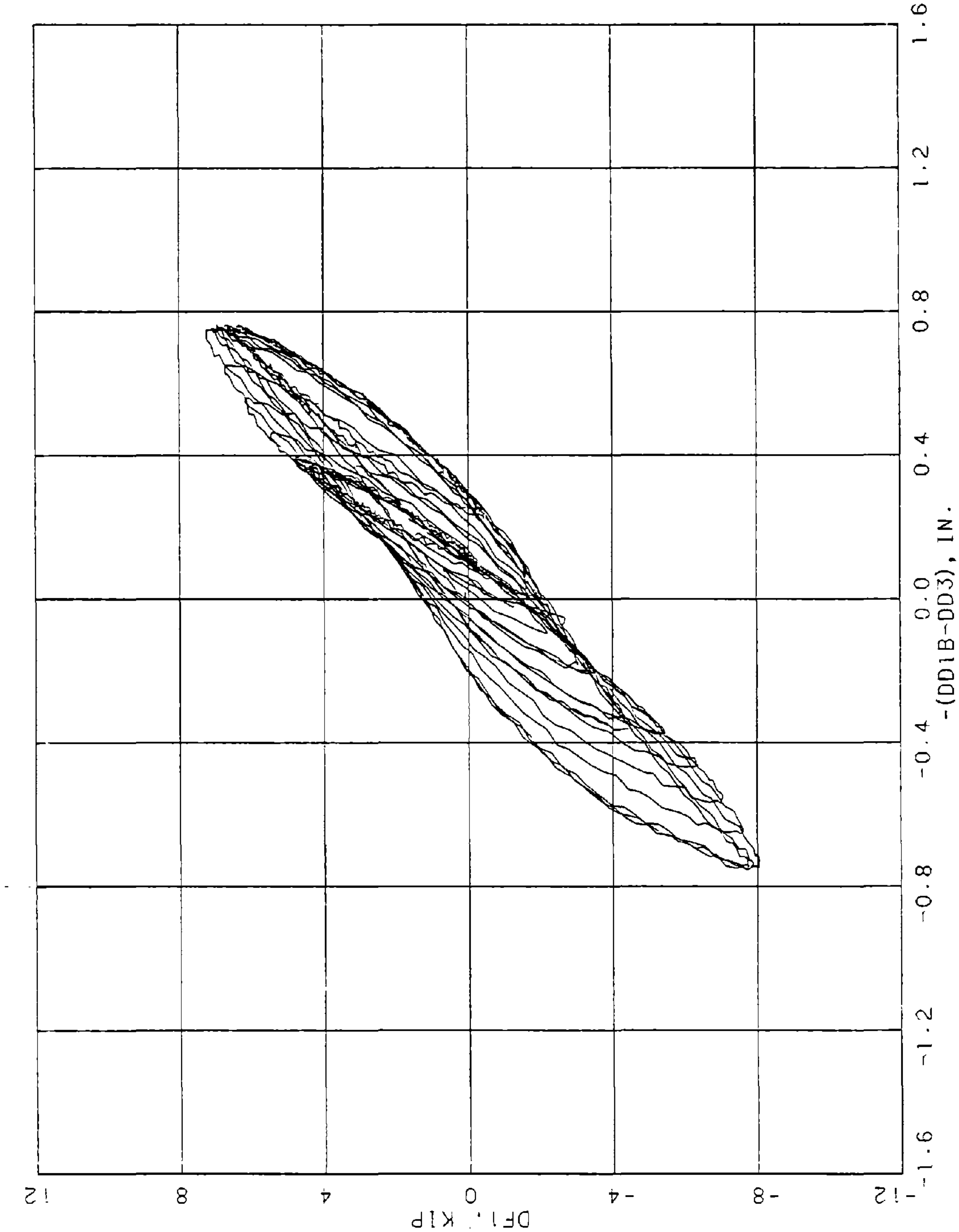


FIGURE C-34. DIAPHRAGM H, END 1, QS 2.

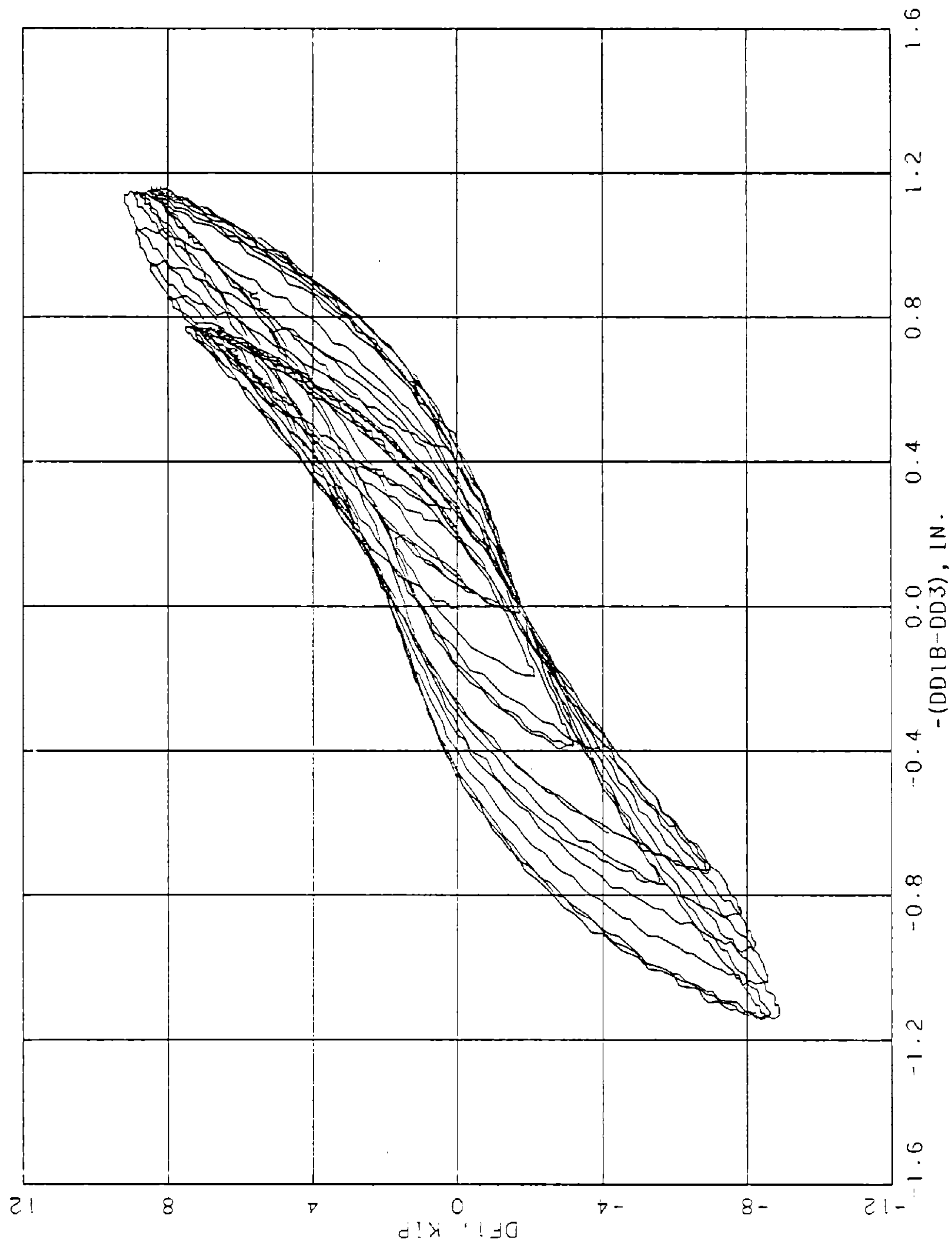


FIGURE C-35. DIAPHRAGM H. END 1. QS 3.

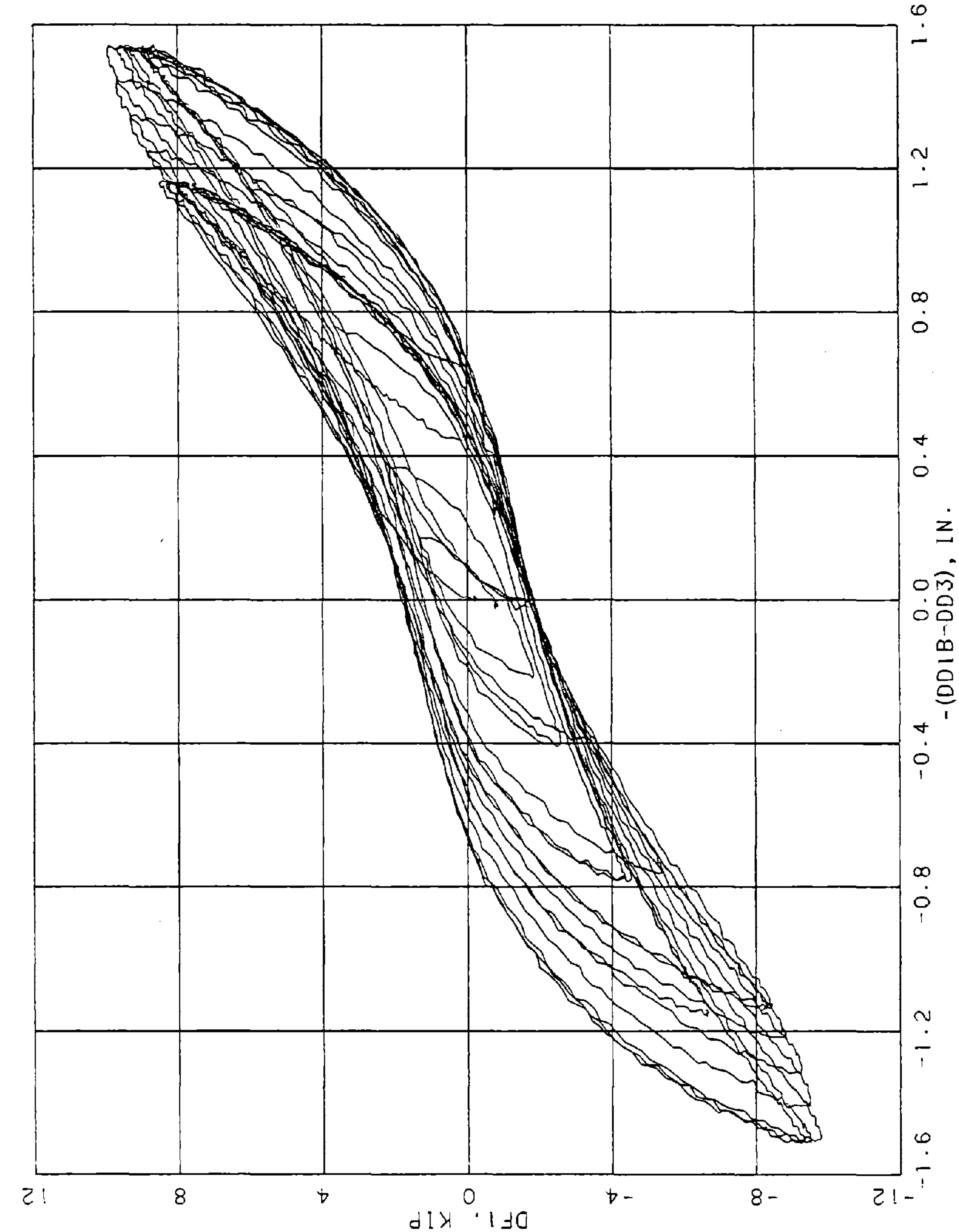


FIGURE C-36. DIAPHRAGM H. END 1. QS 4.

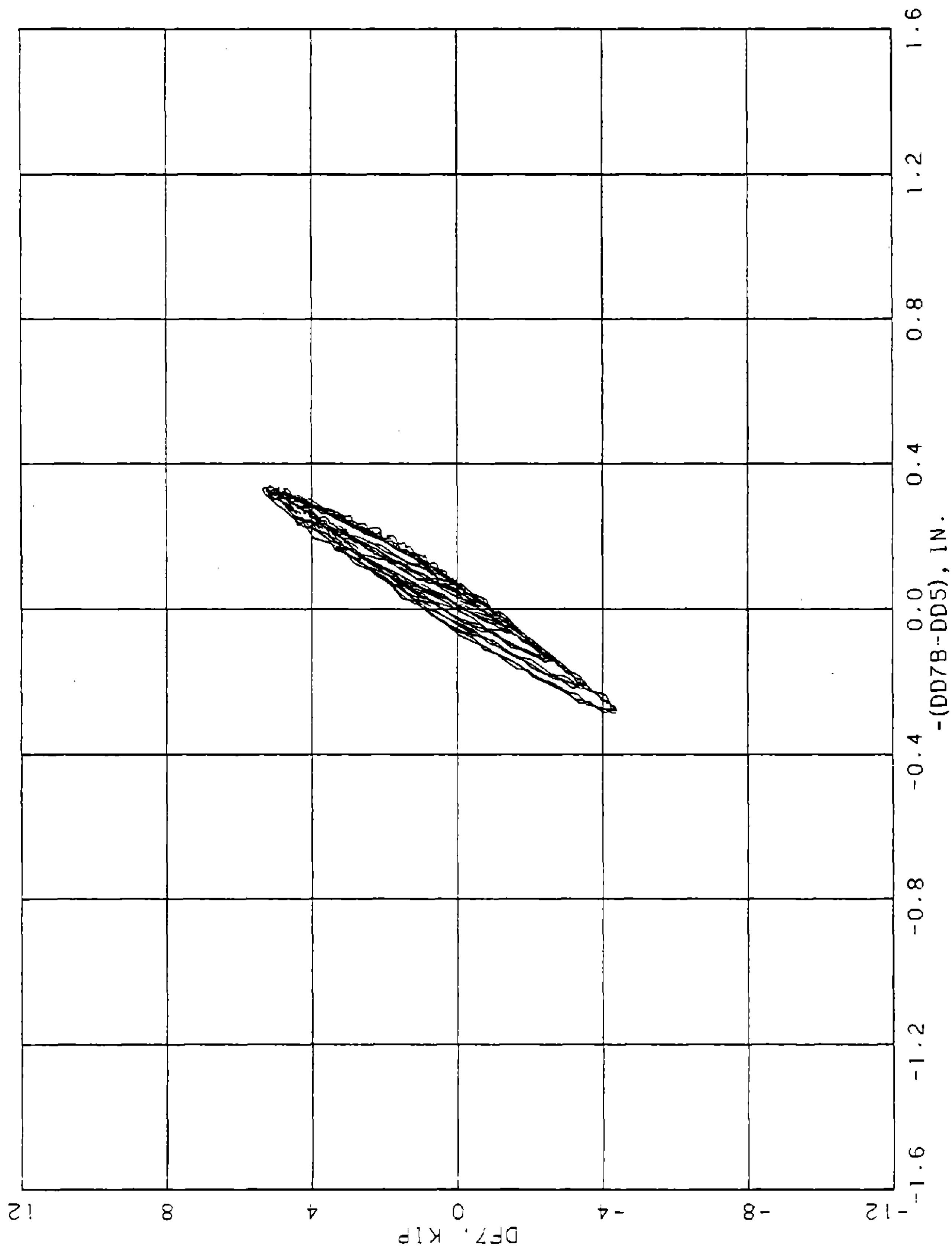


FIGURE C-37. DIAPHRAGM H. END 7. QS 1.

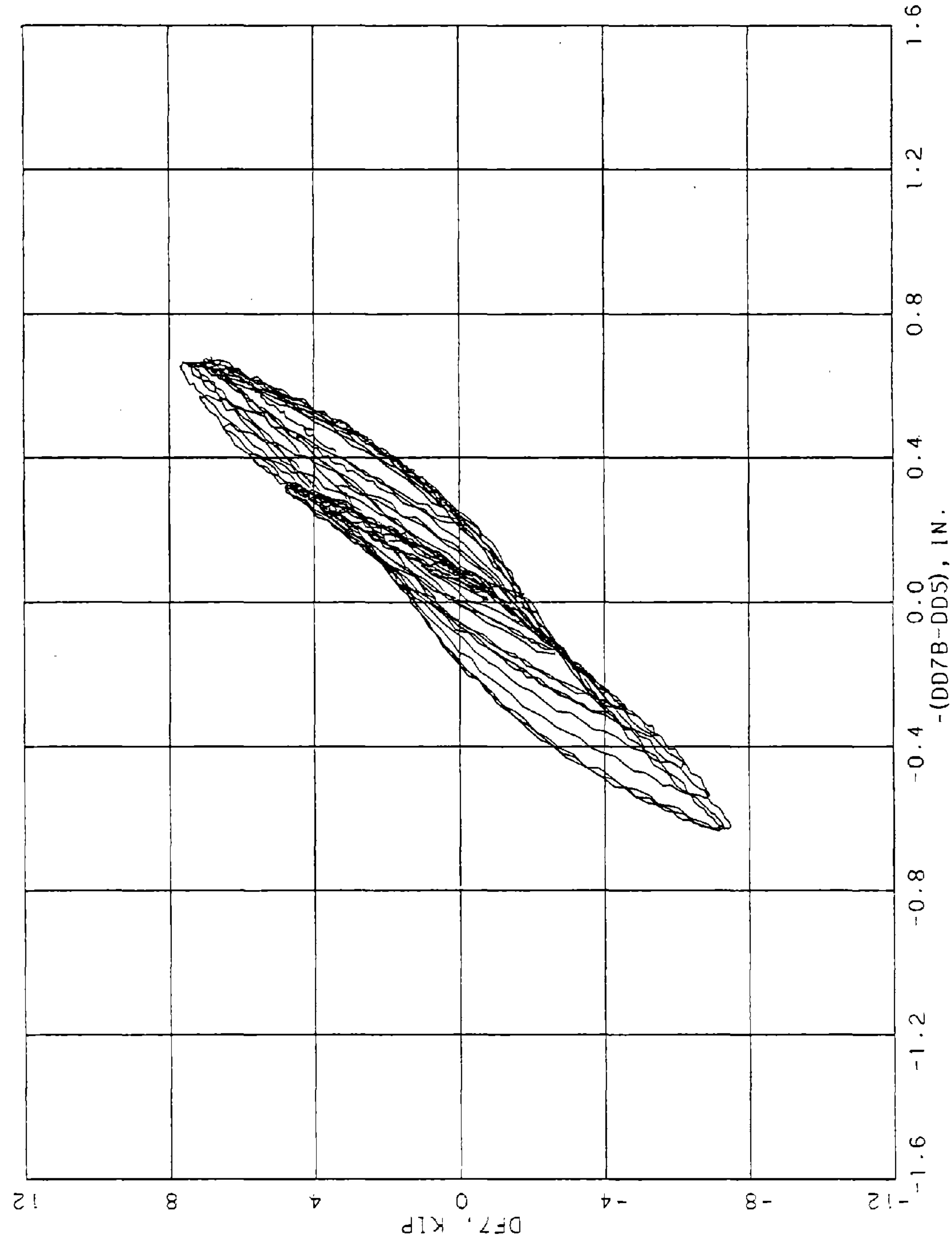


FIGURE C-38. DIAPHRAGM H. END 7. OS 2.

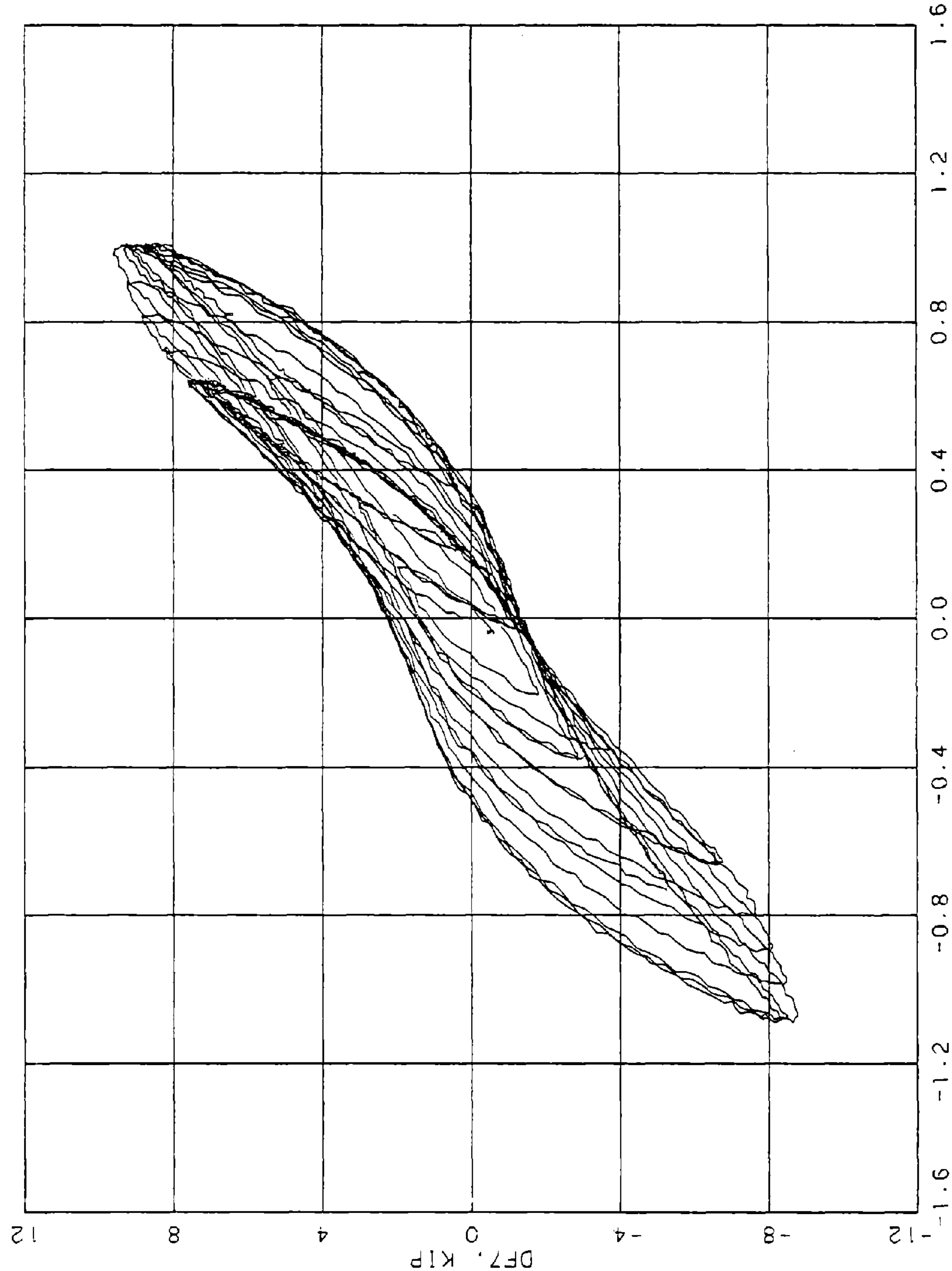


FIGURE C-39. DIAPHRAGM H. END 7. OS 3.

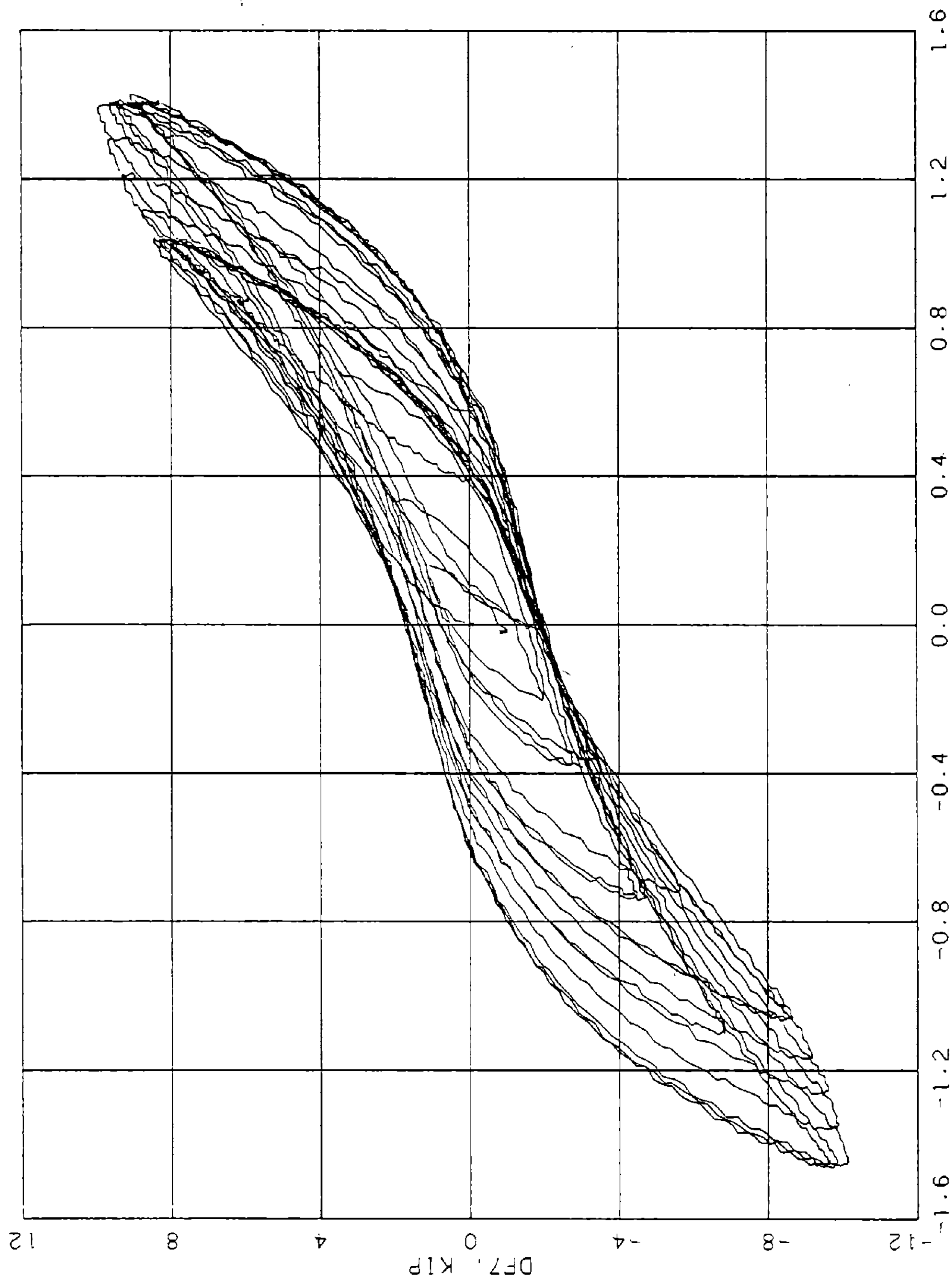


FIGURE C-40. DIAPHRAGM H. END 7. QS 4.

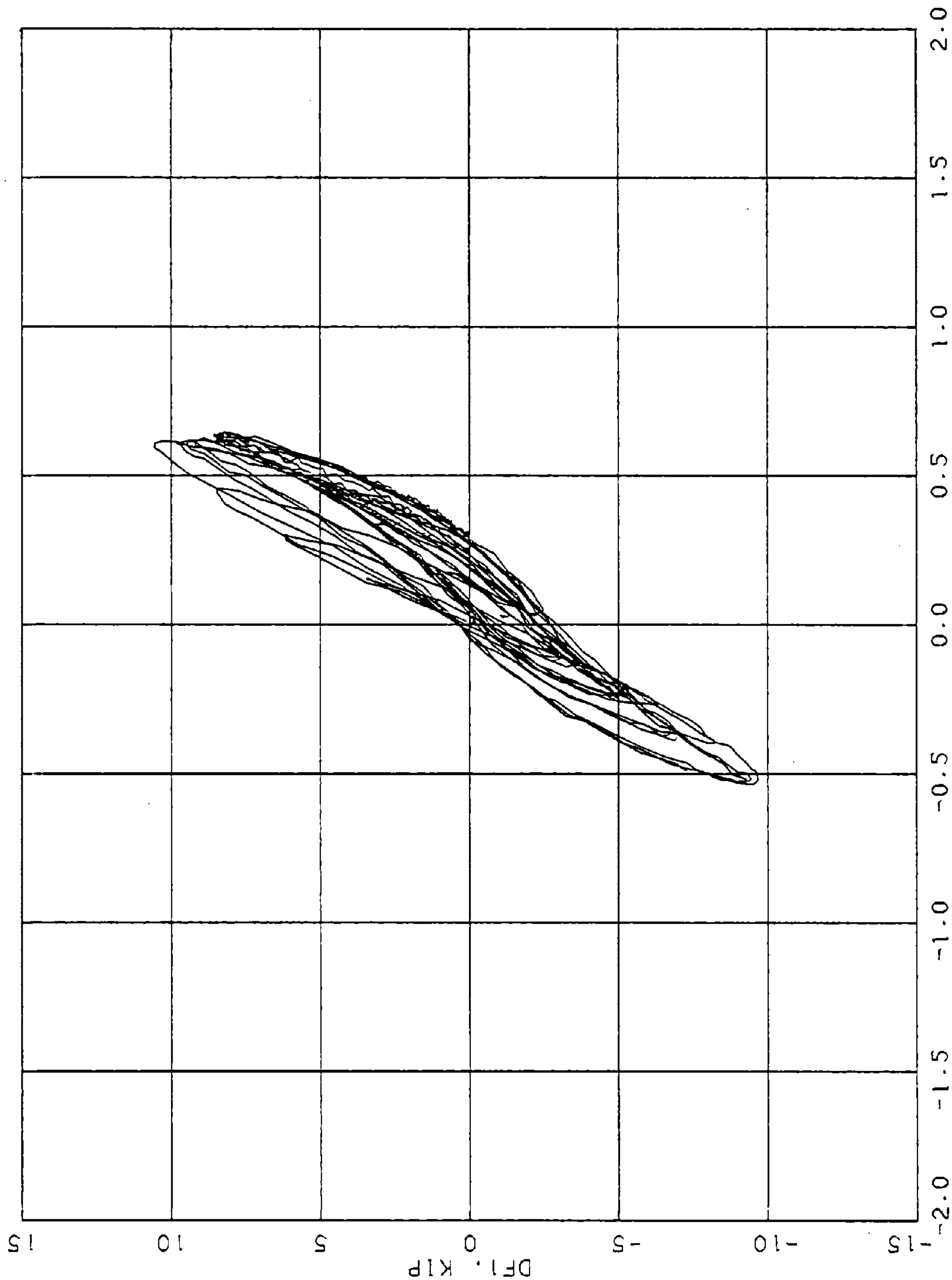


FIGURE C-41. DIAPHRAGM 1. END 1. QS 1.

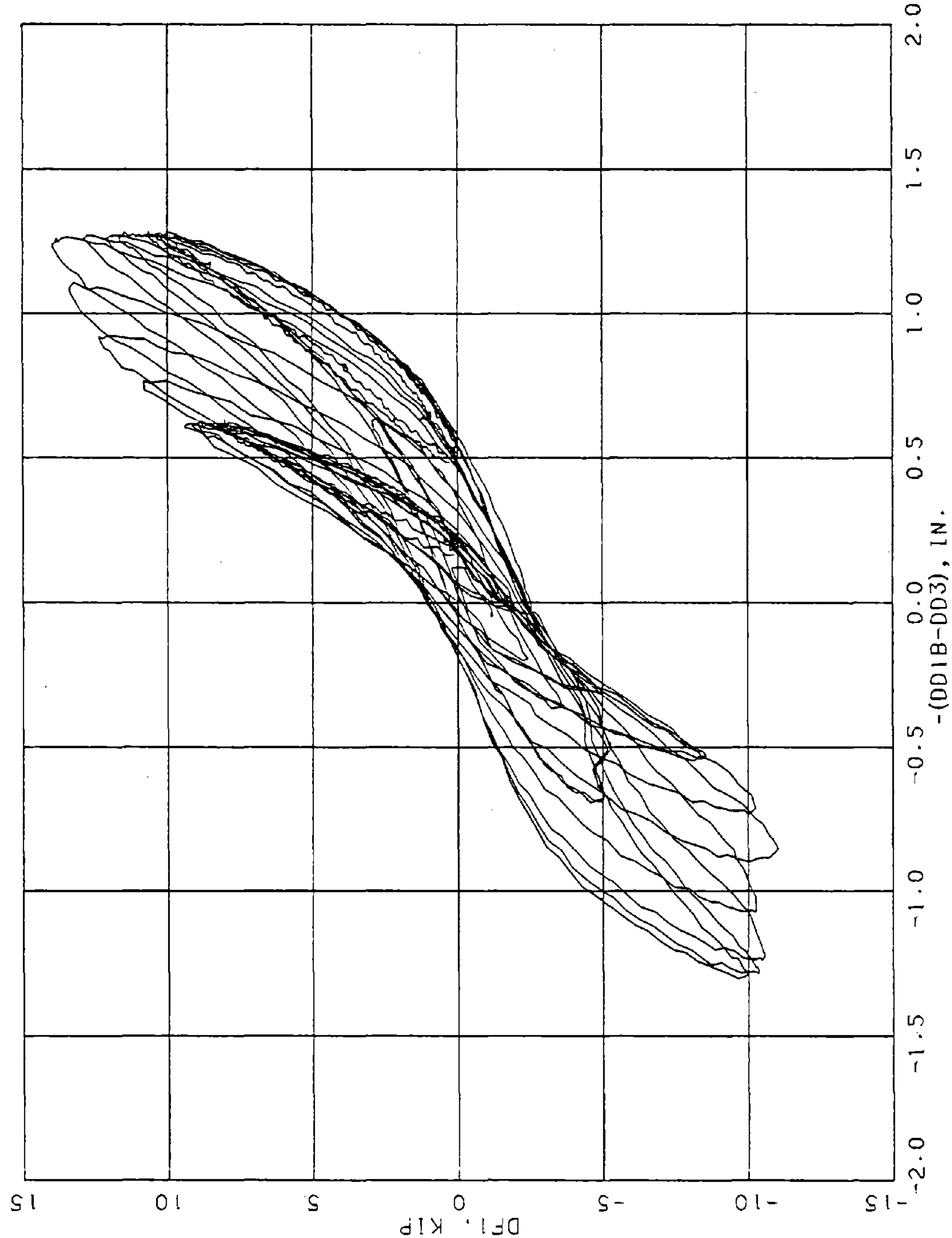


FIGURE C-42. DIAPHRAGM 1. END 1. QS 2.

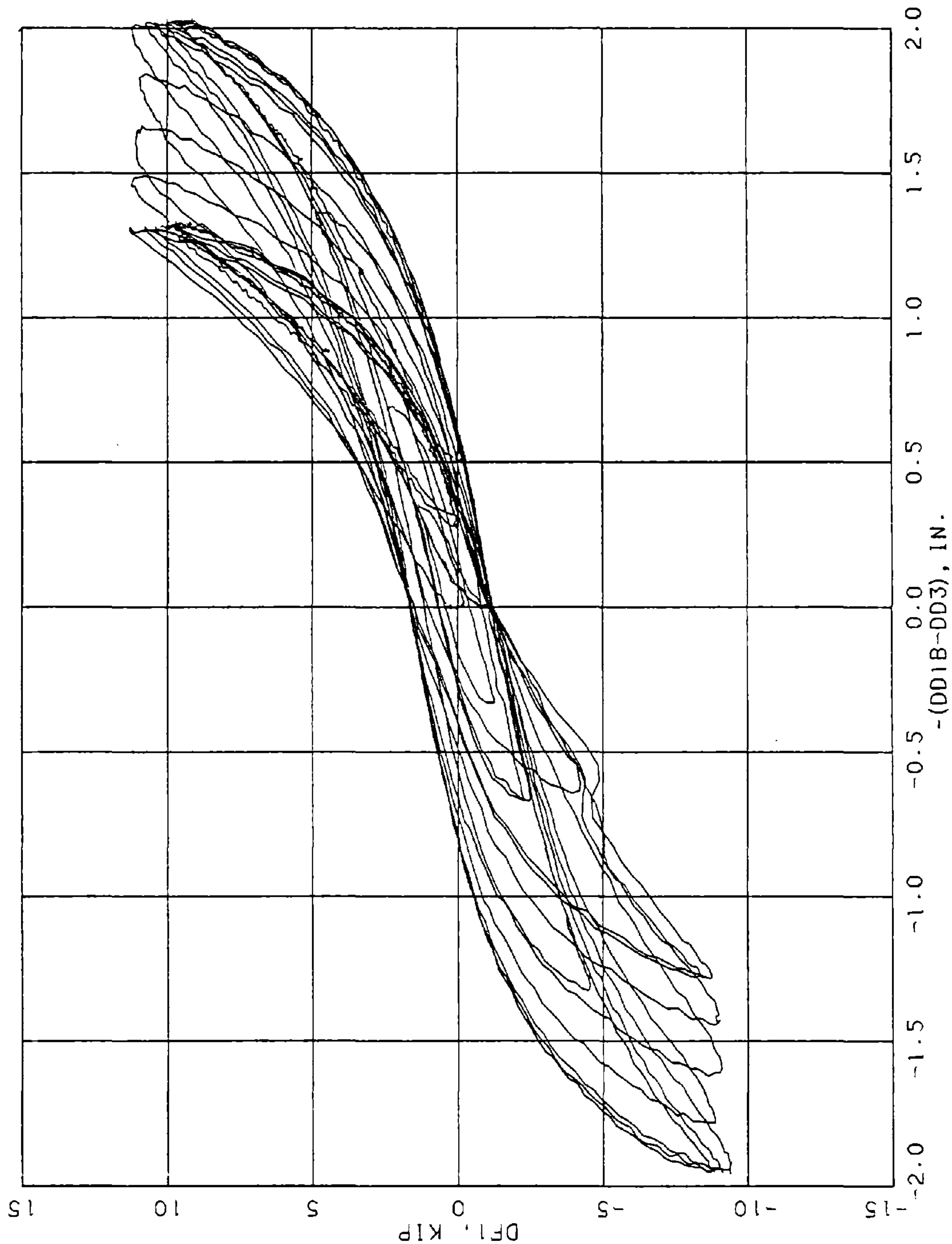


FIGURE C-43. DIAPHRAGM 1. END 1. QS 3.

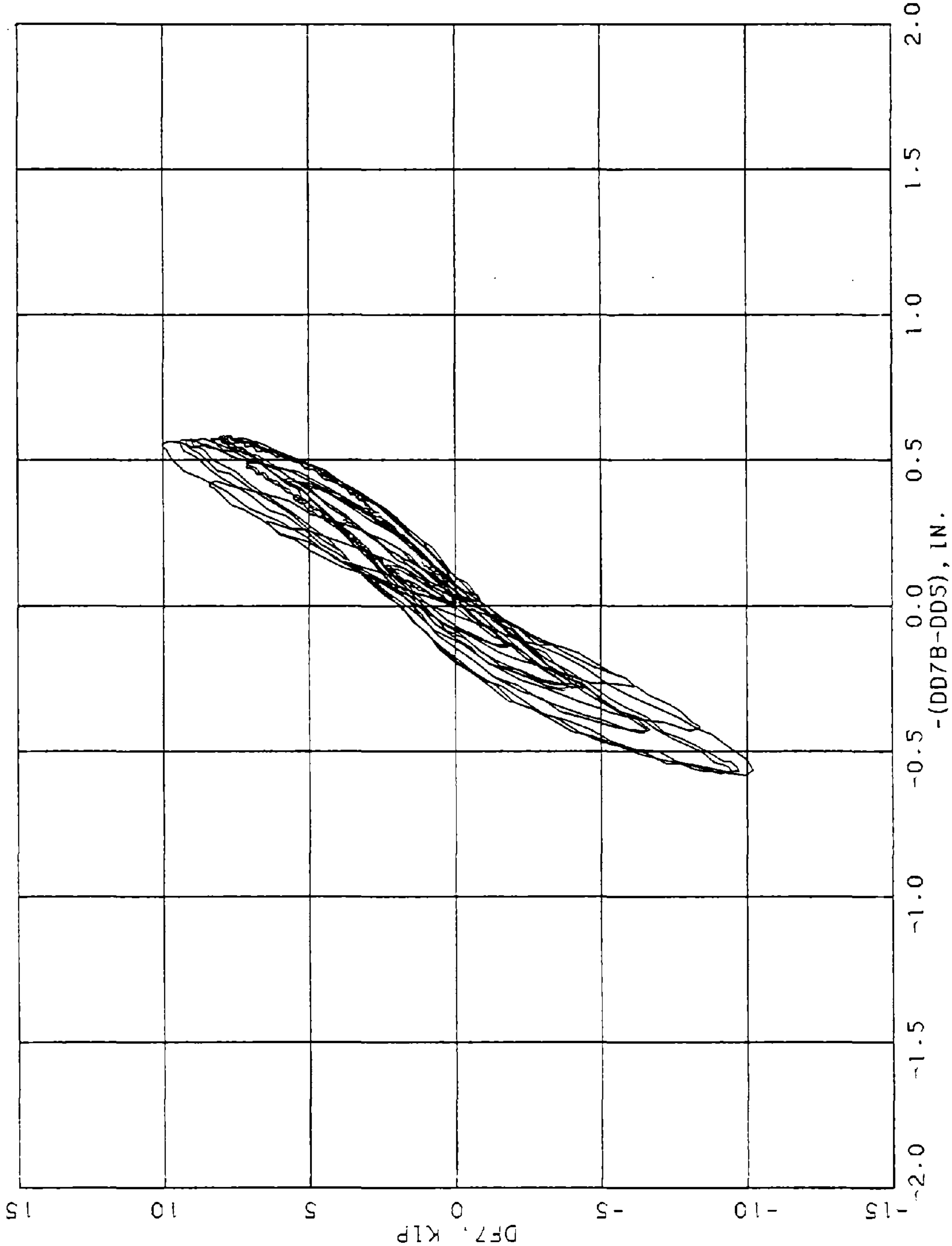


FIGURE C-44. DIAPHRAGM 1. END 7. QS 1.

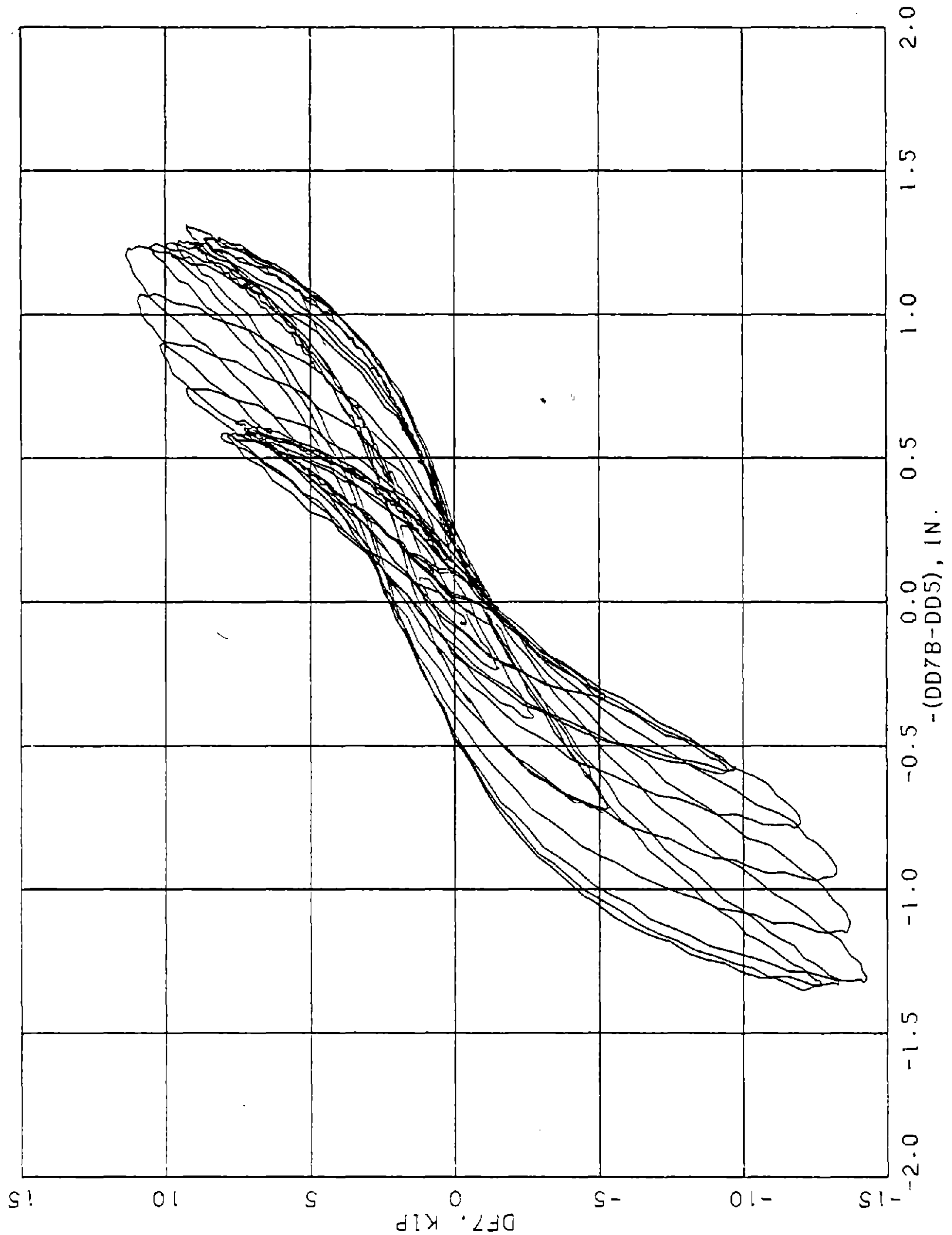


FIGURE C-45. DIAPHRAGM 1. END 7. QS 2.

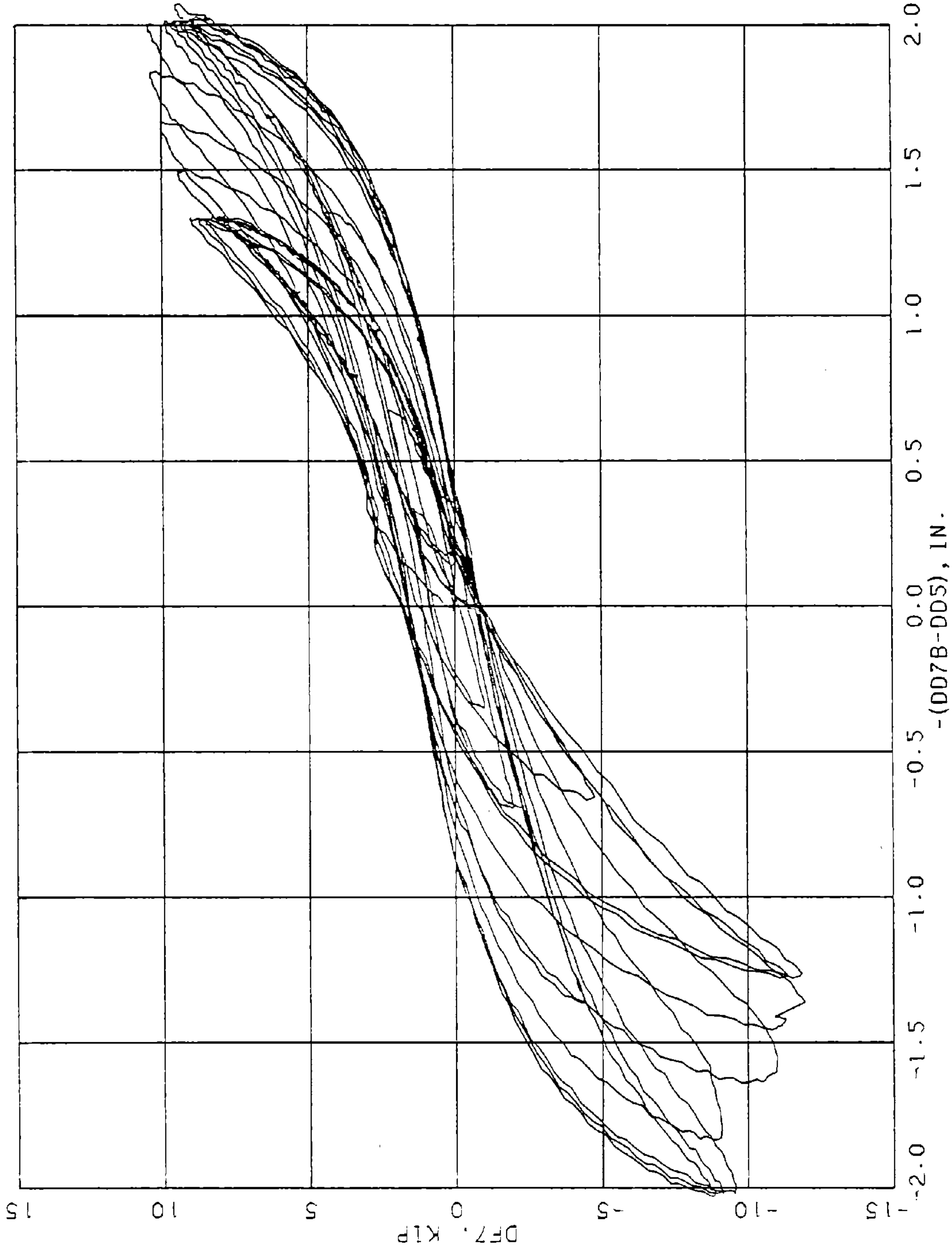


FIGURE C-46. DIAPHRAGM I, END 7, QS 3.

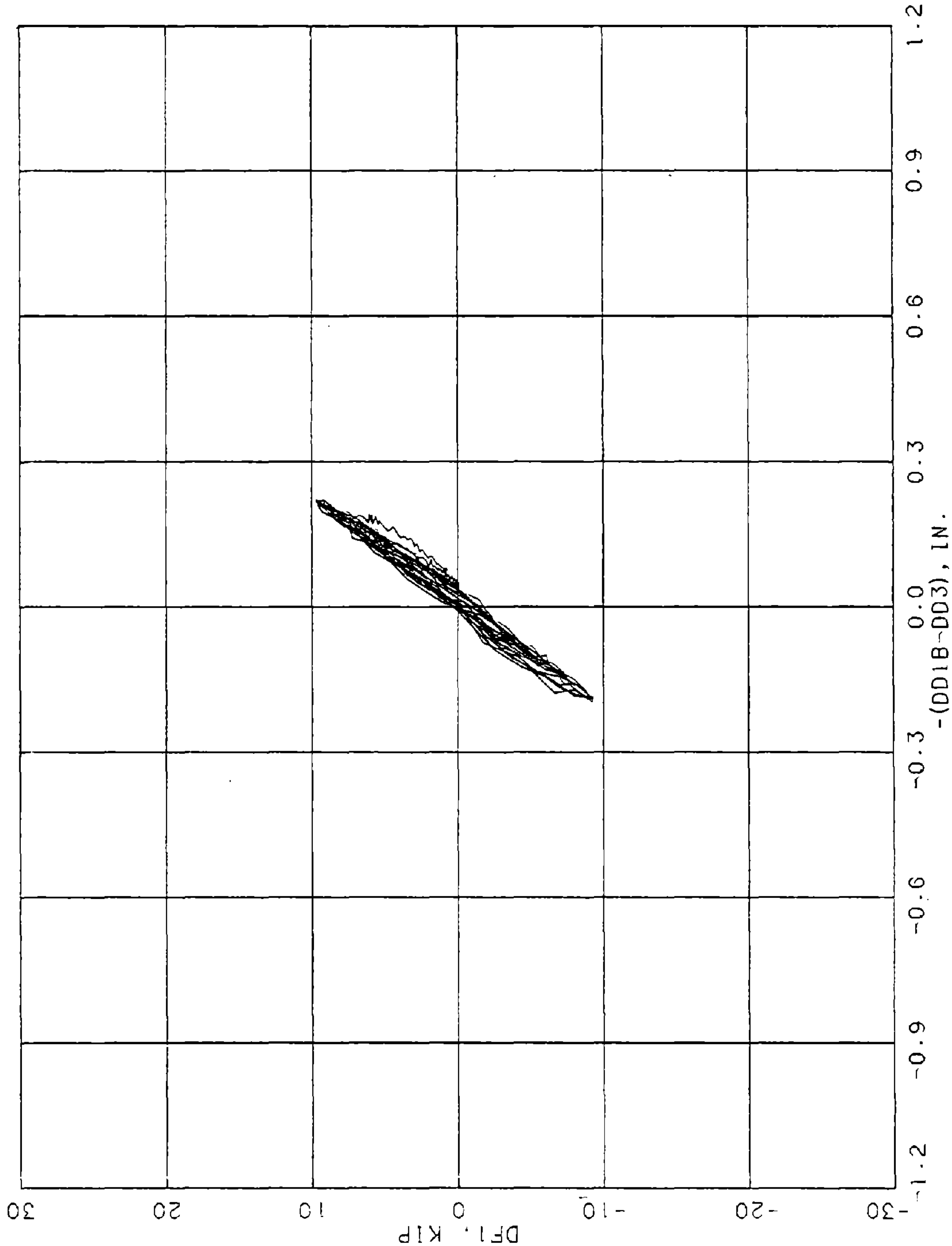


FIGURE C-47. DIAPHRAGM K. END 1. QS 1.

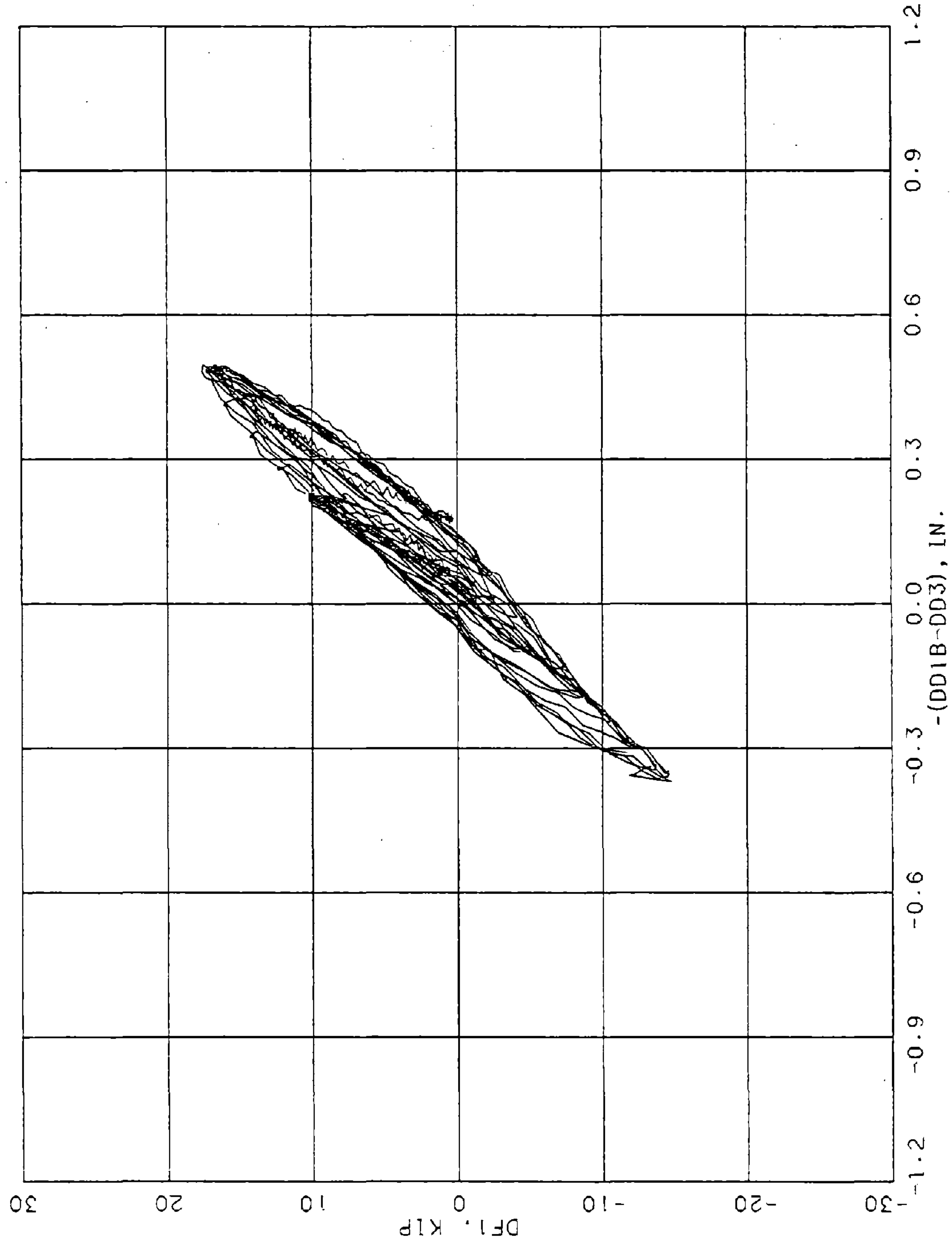


FIGURE C-48. DIAPHRAGM K. END 1. QS 2.

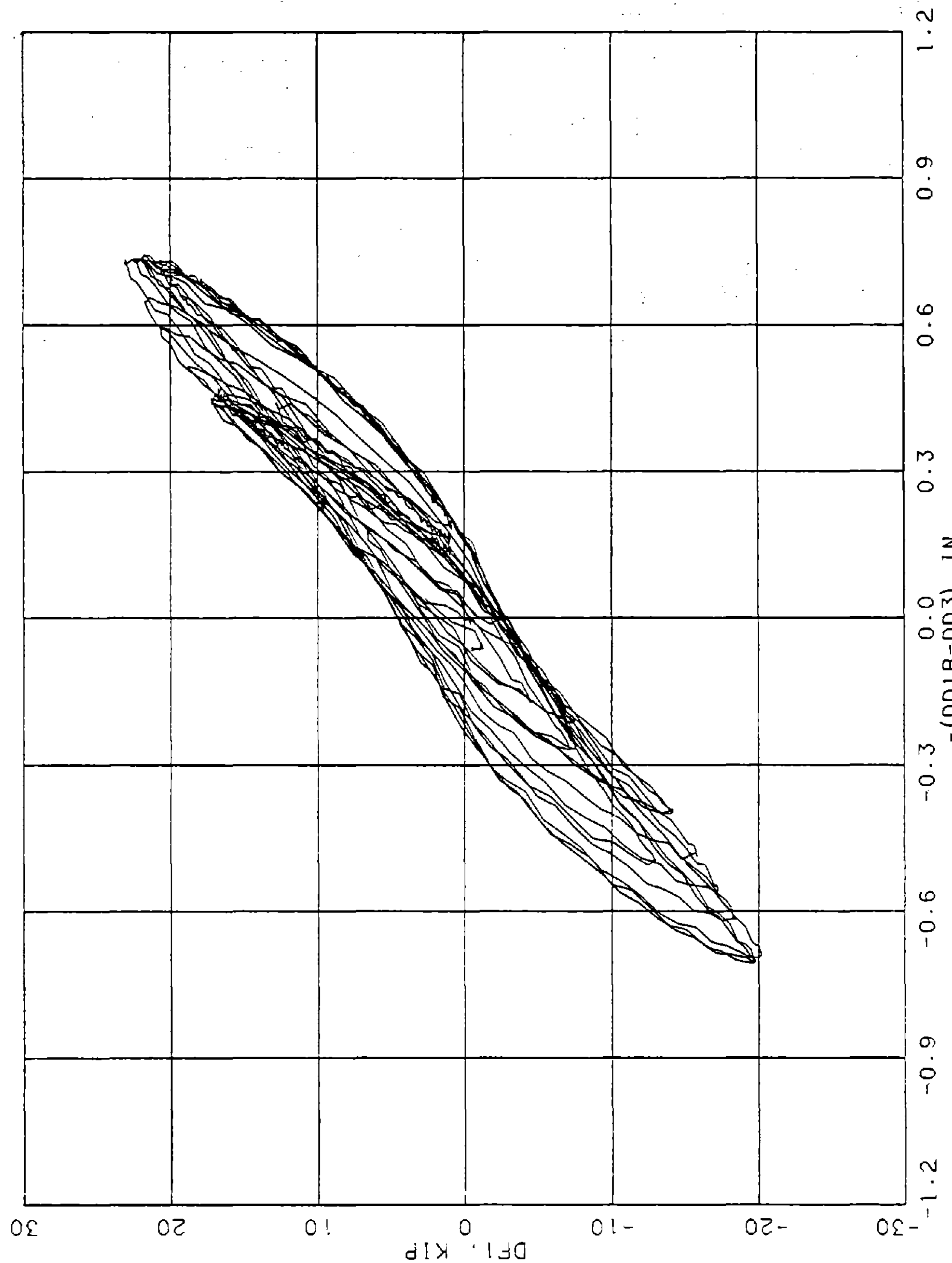


FIGURE C-49. DIAPHRAGM K. END 1. QS 3.

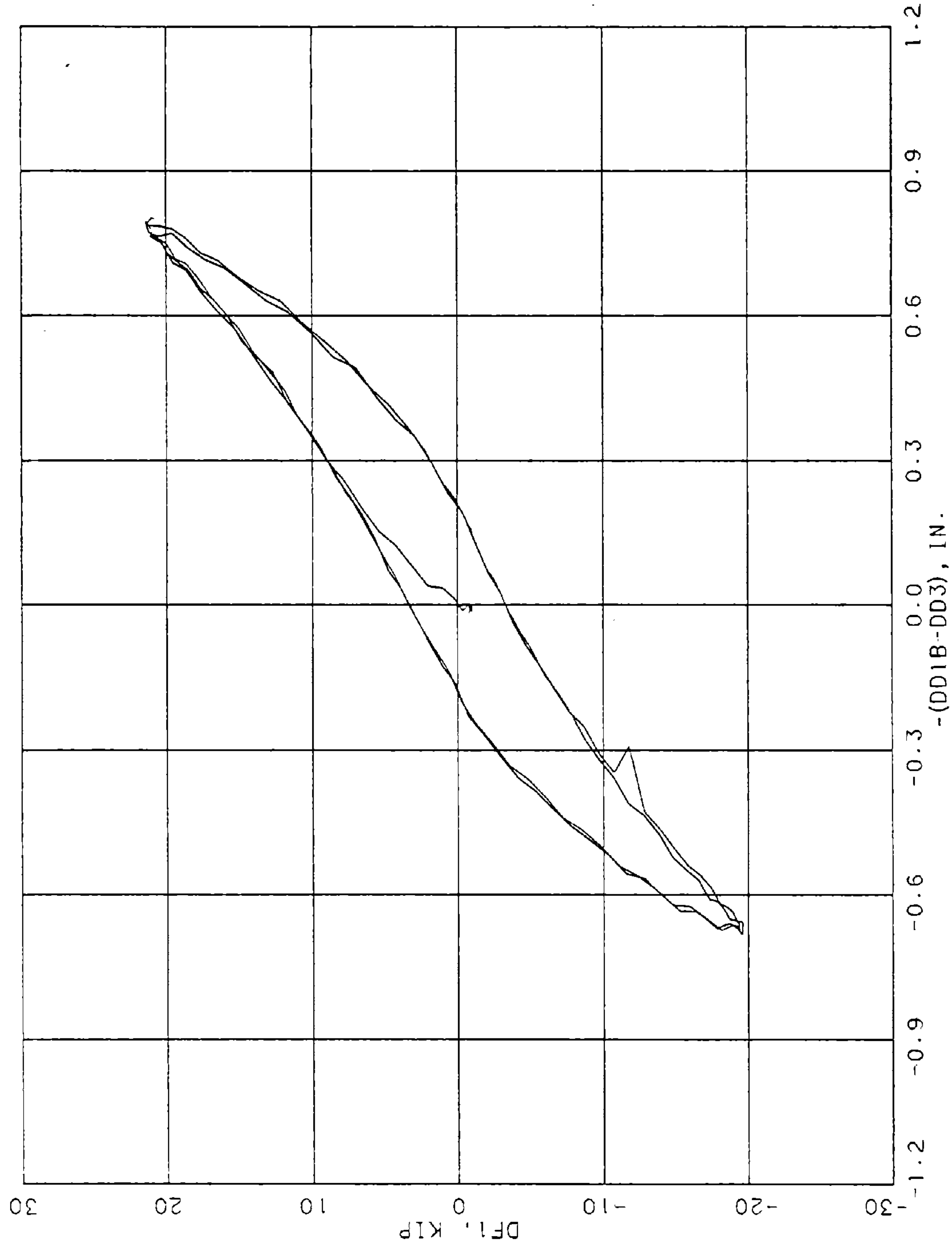


FIGURE C-50. DIAPHRAGM K. END 1. QS 4-1.

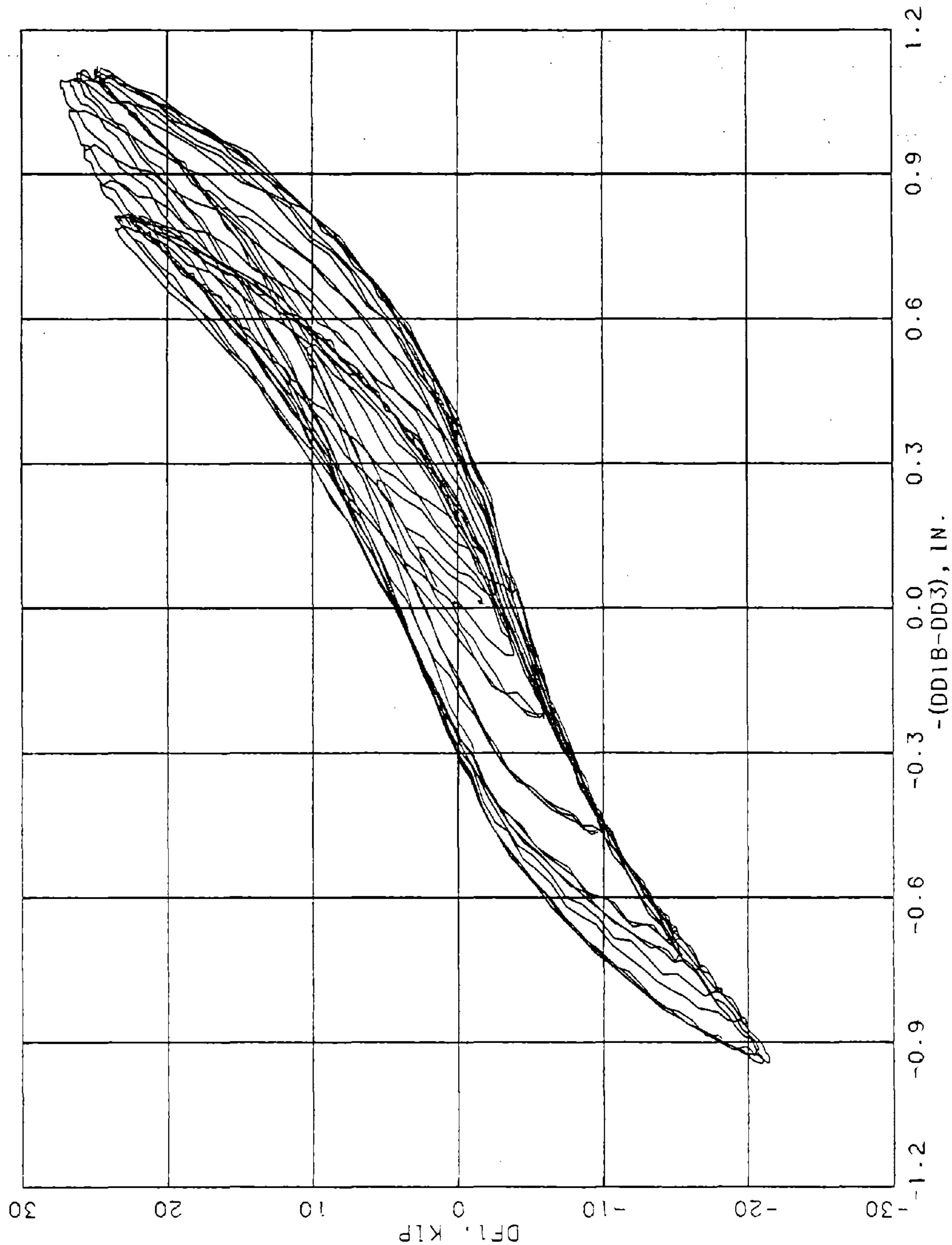


FIGURE C-51. DIAPHRAGM K. END 1. QS 4-2.

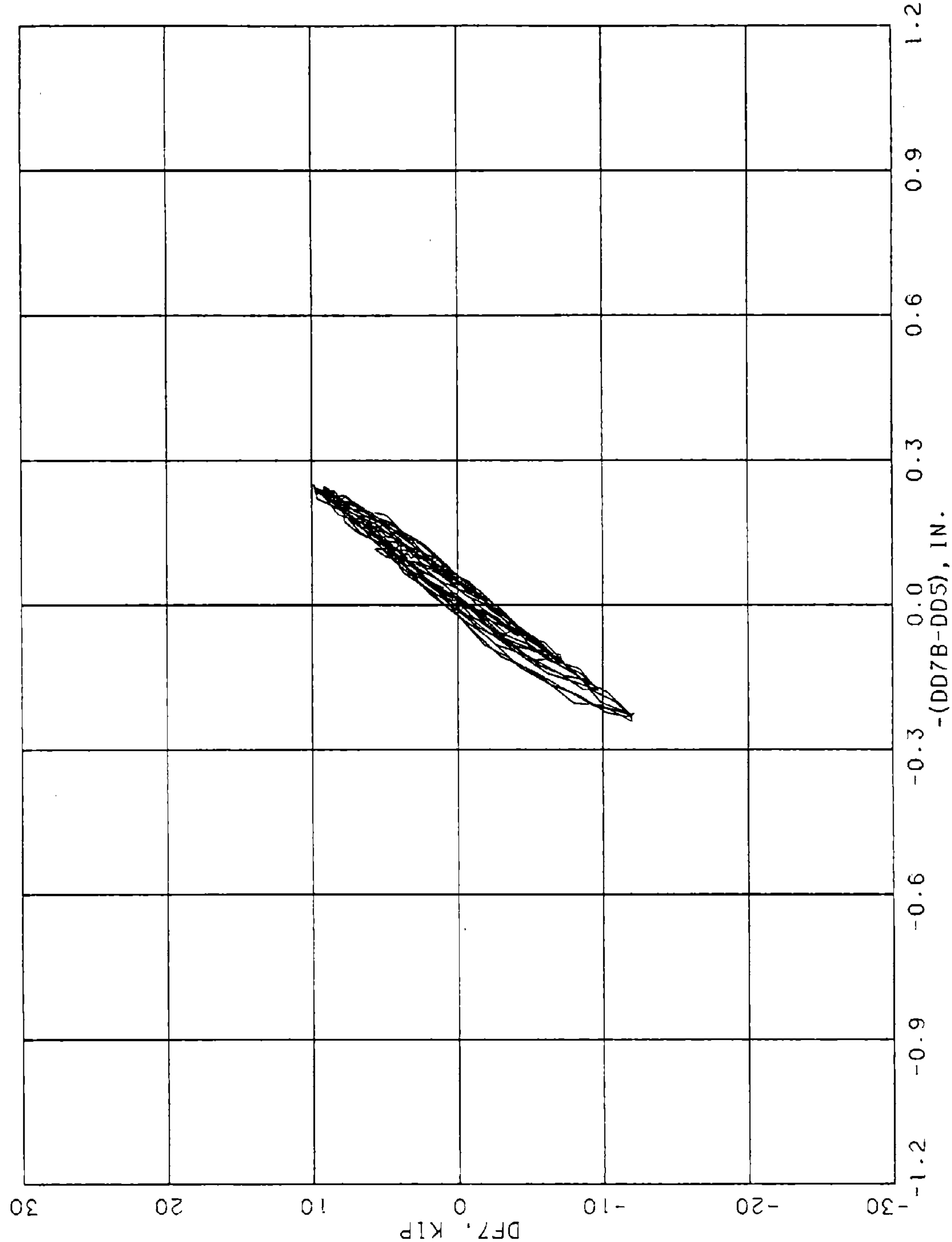


FIGURE C-52. DIAPHRAGM K, END 7, QS 1.

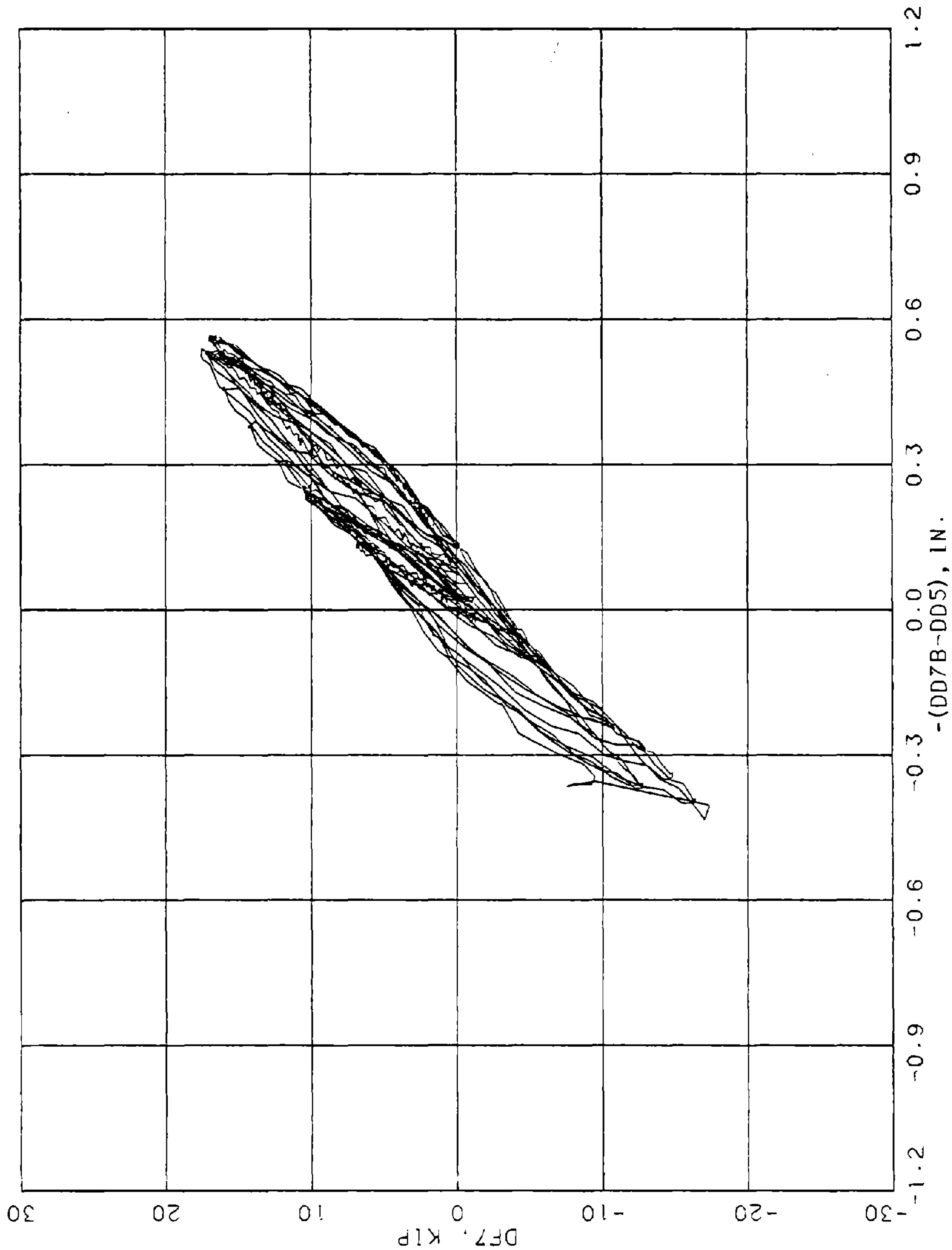


FIGURE C-53. DIAPHRAGM K. END 7. QS 2.

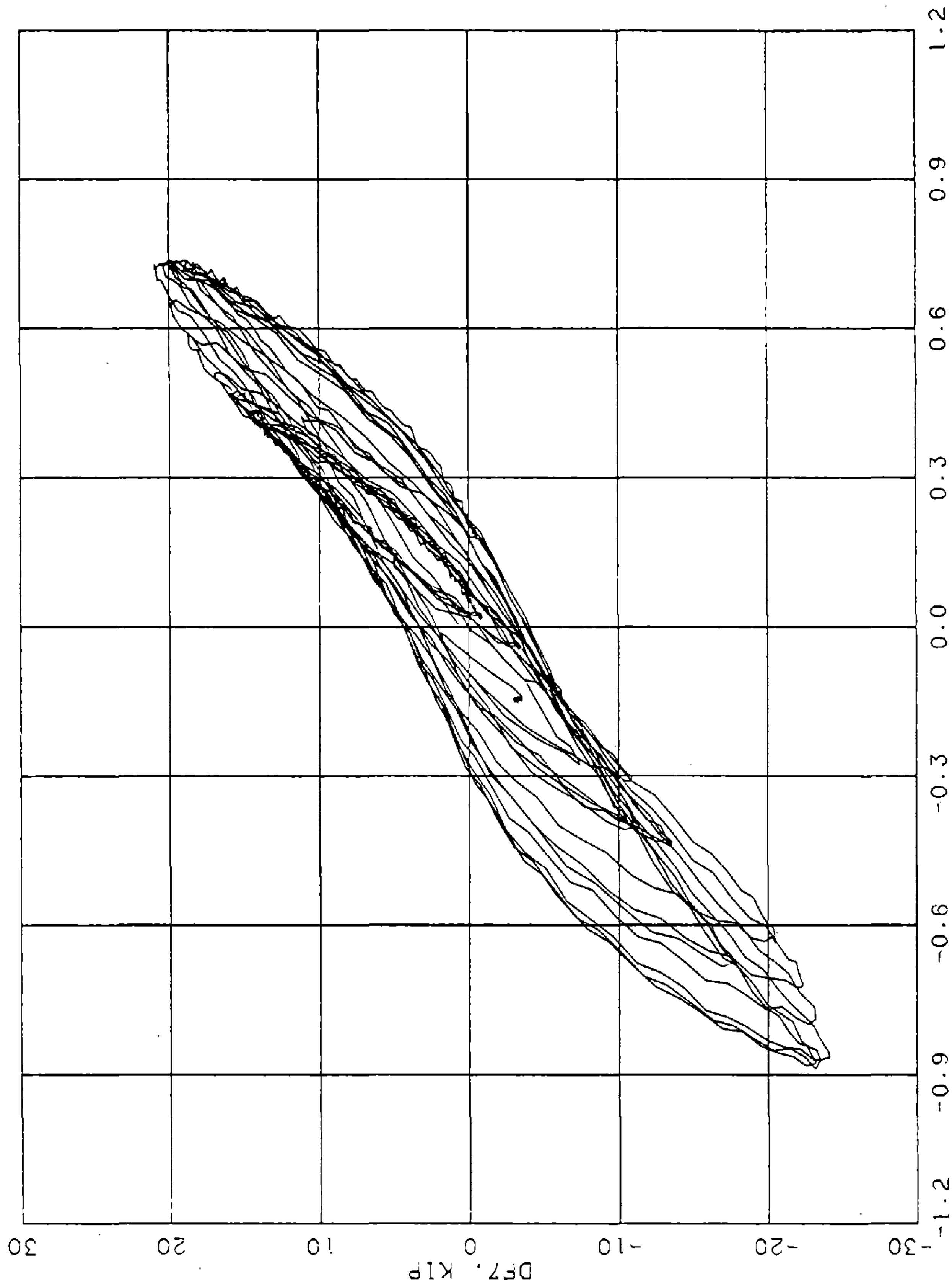


FIGURE C-54. DIAPHRAGM K. END 7. QS 3.

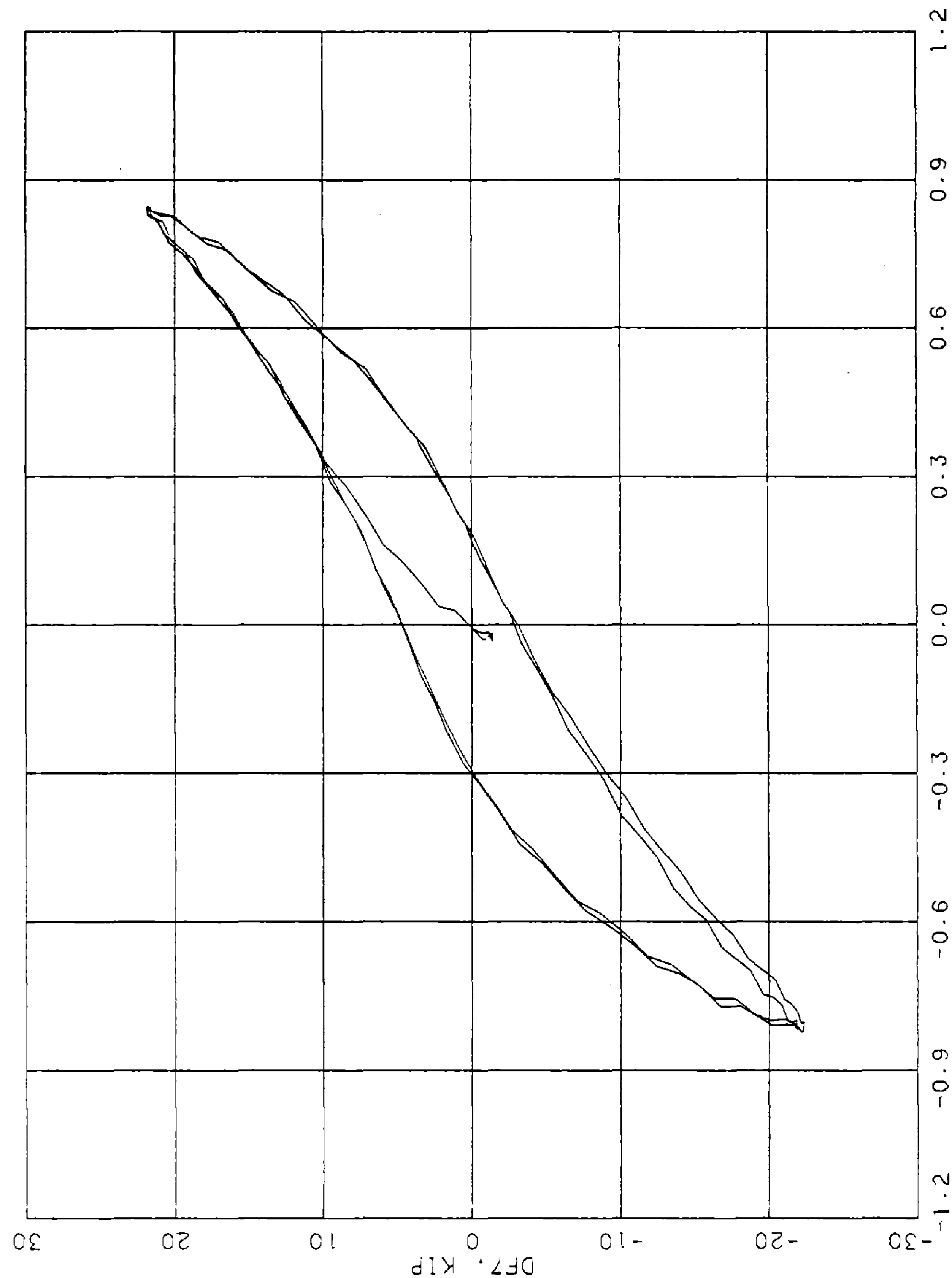


FIGURE C-55. DIAPHRAGM K. END 7. QS 4-1.

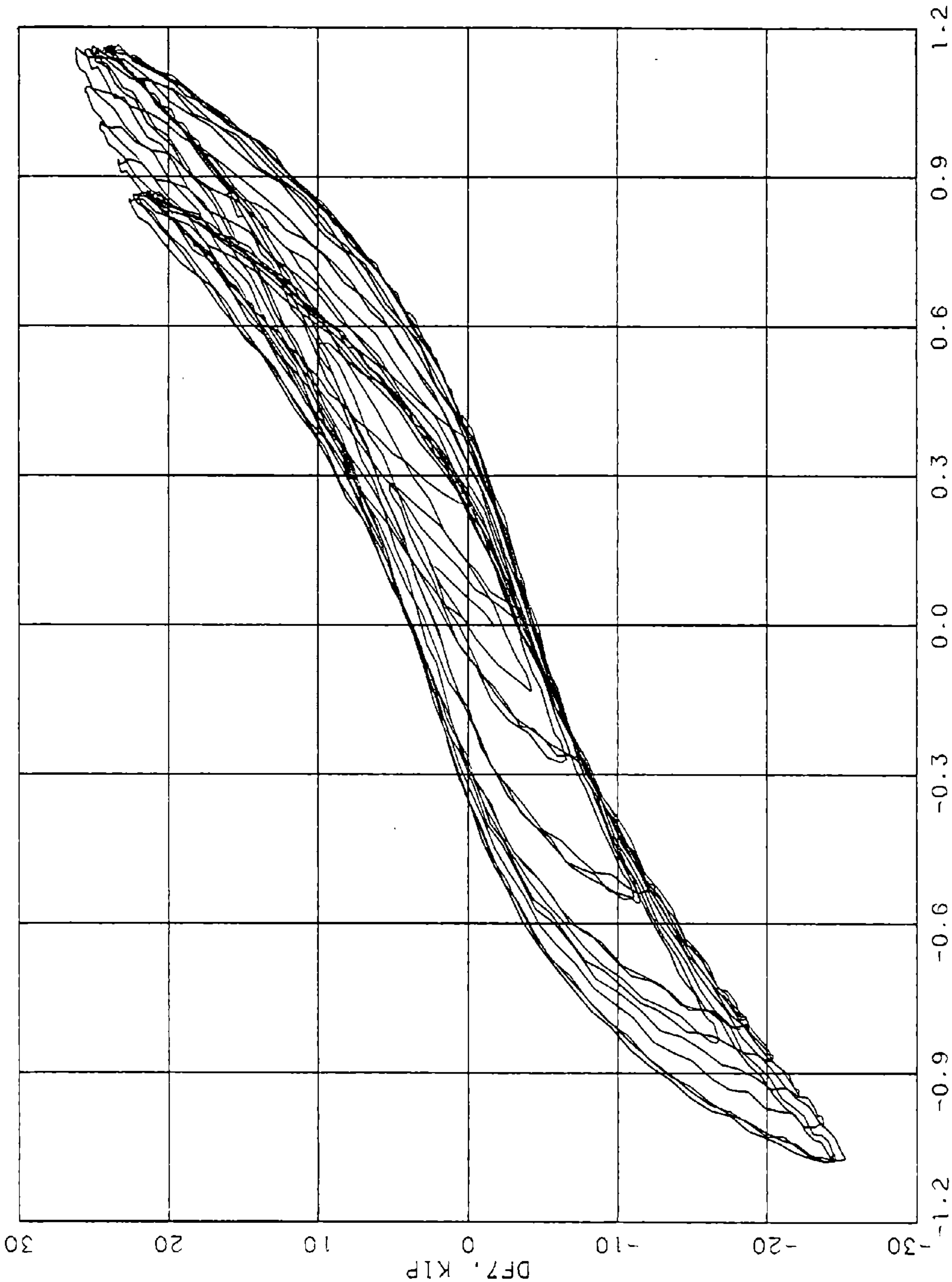


FIGURE C-56. DIAPHRAGM K. END 7. QS 4-2.

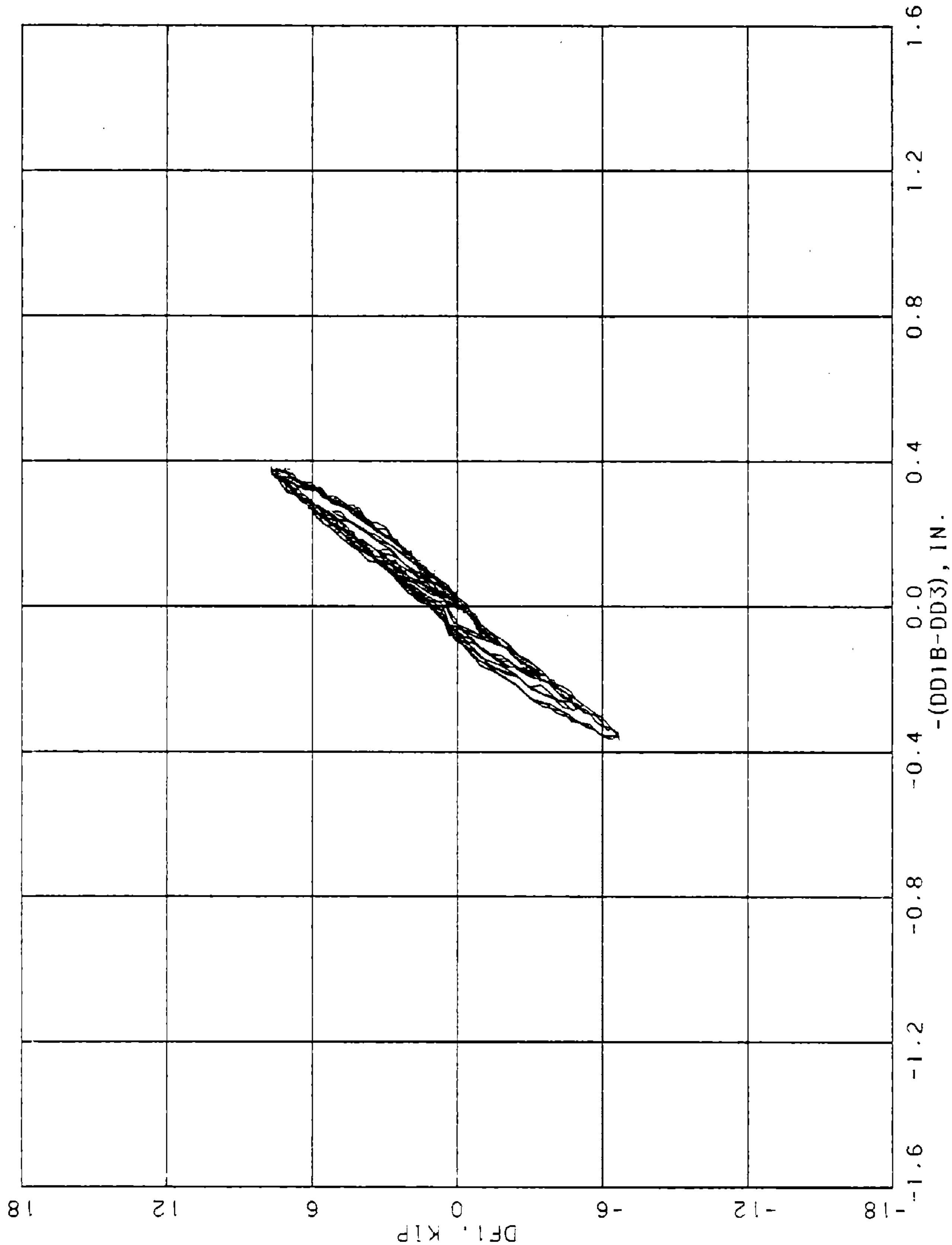


FIGURE C-57. DIAPHRAGM N. END 1. QS 1

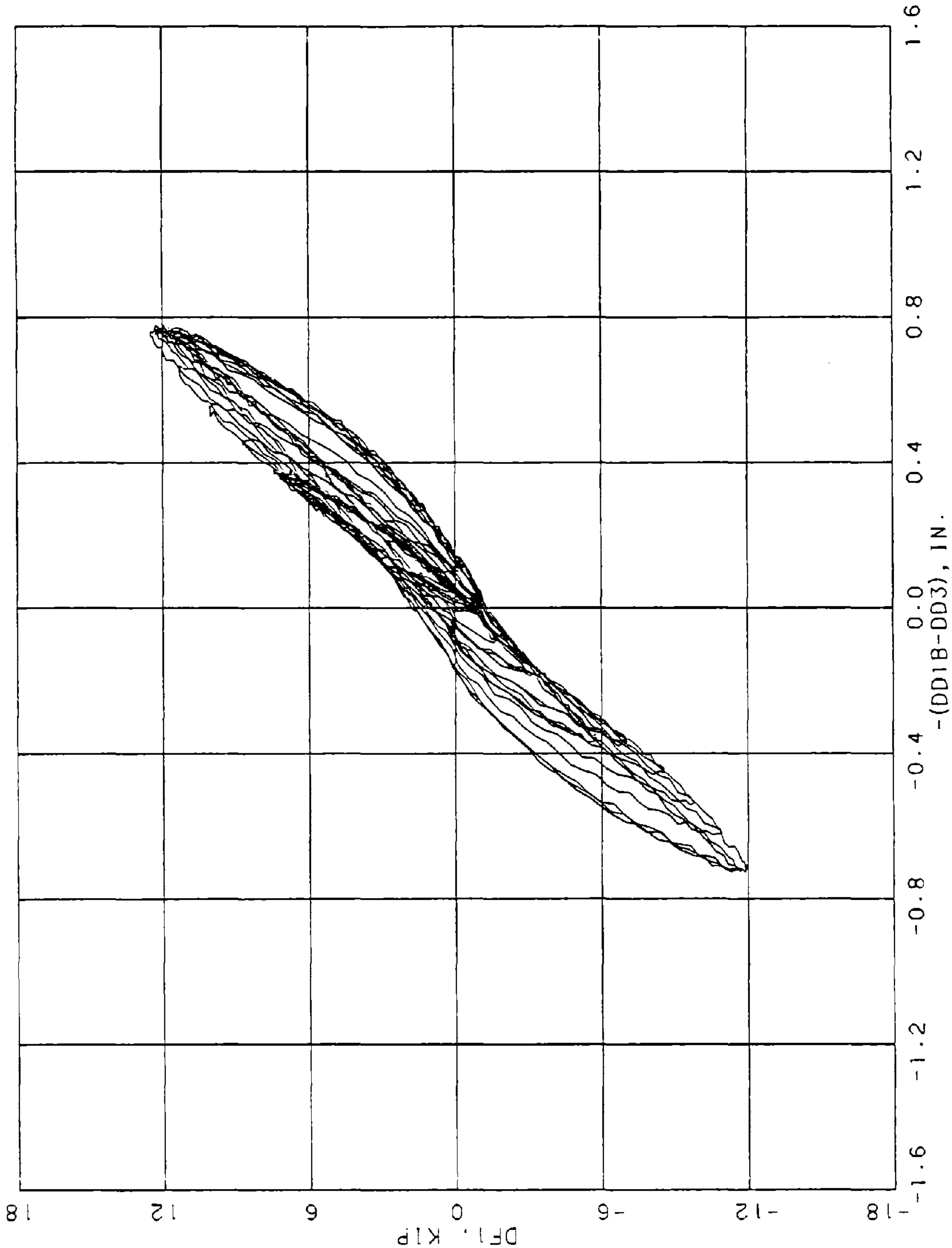


FIGURE C-58. DIAPHRAGM N. END 1. QS 2

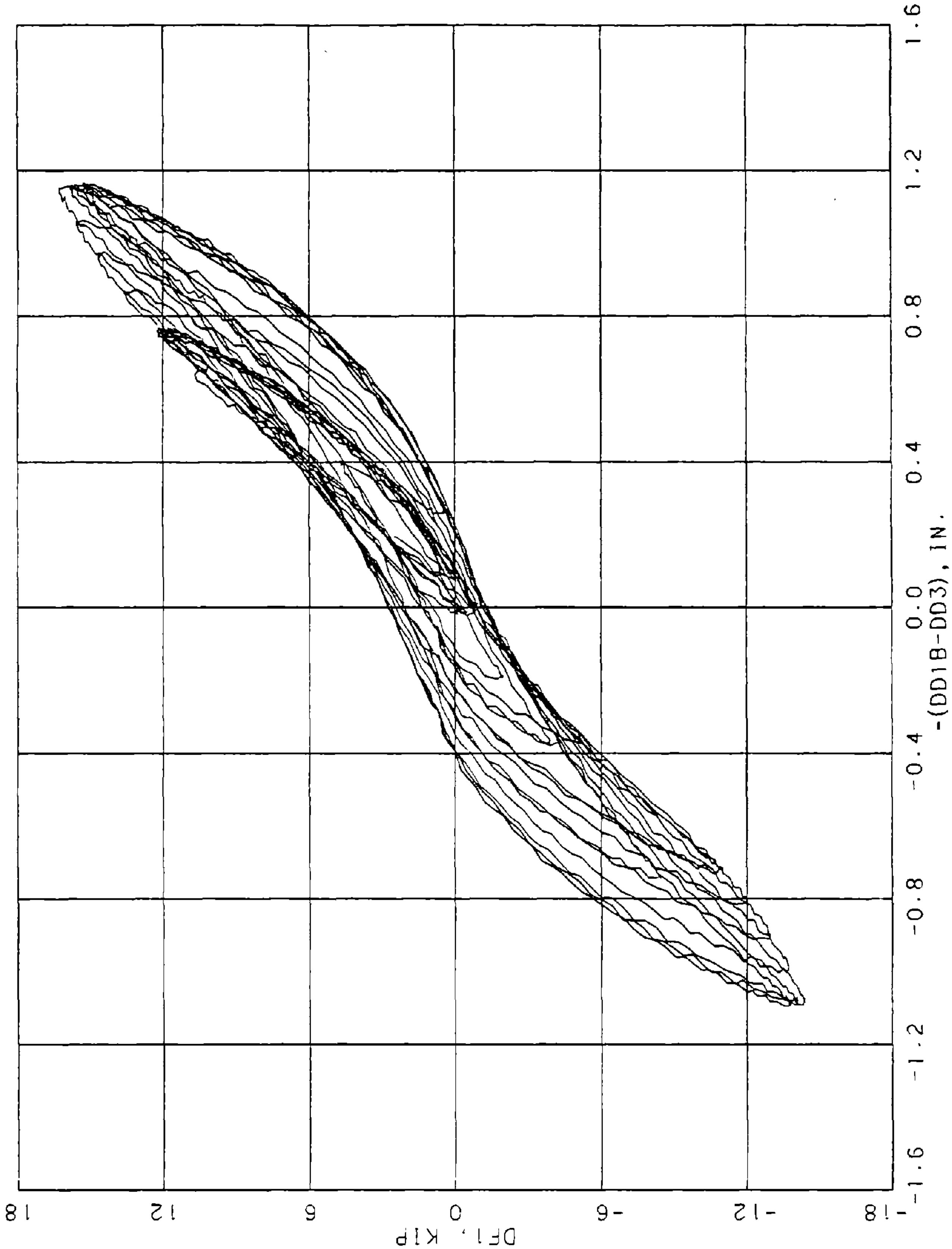


FIGURE C-59. DIAPHRAGM N. END 1. QS 3

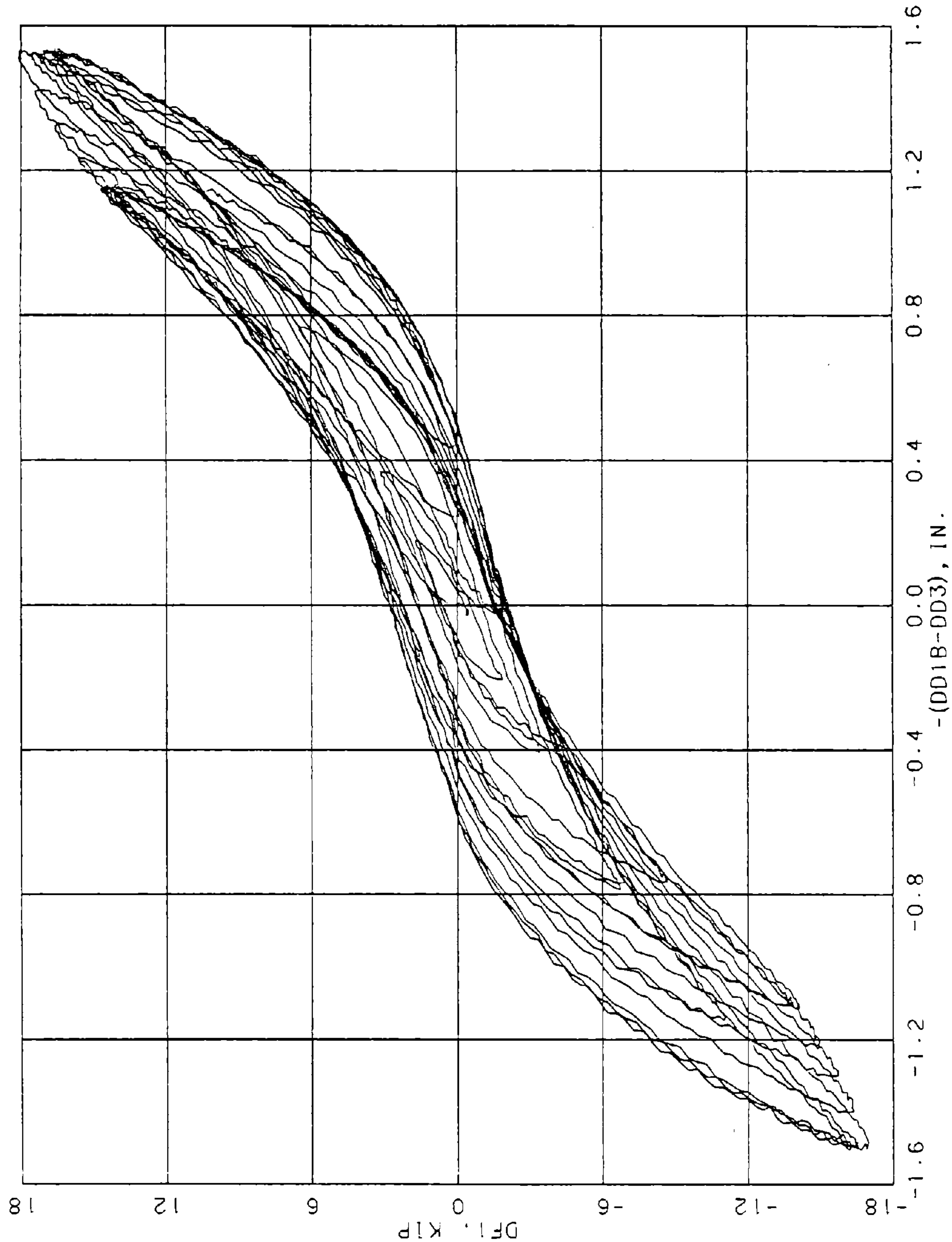


FIGURE C-60. DIAPHRAGM N. END 1. QS 4

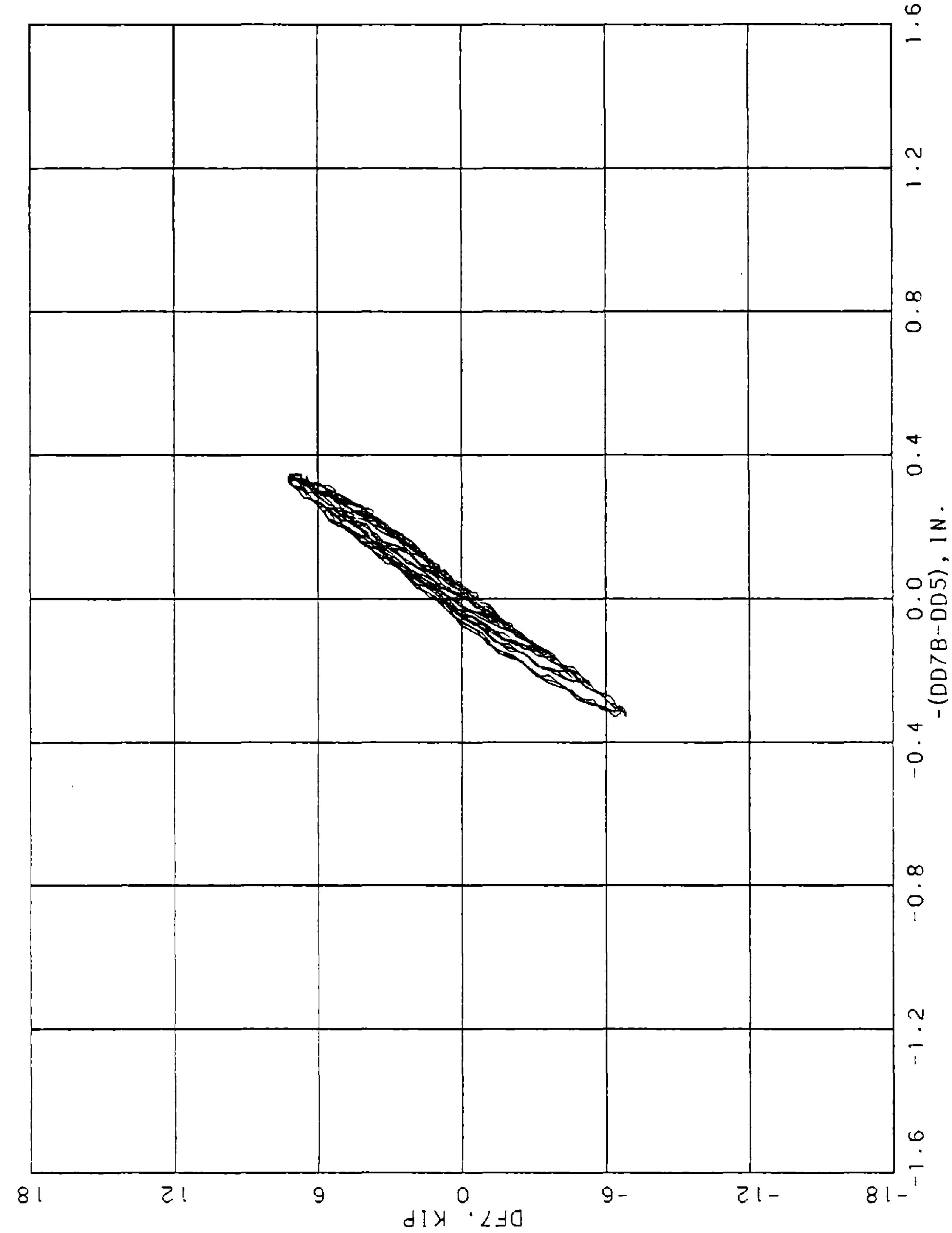


FIGURE C-61. DIAPHRAGM N. END 7. OS 1

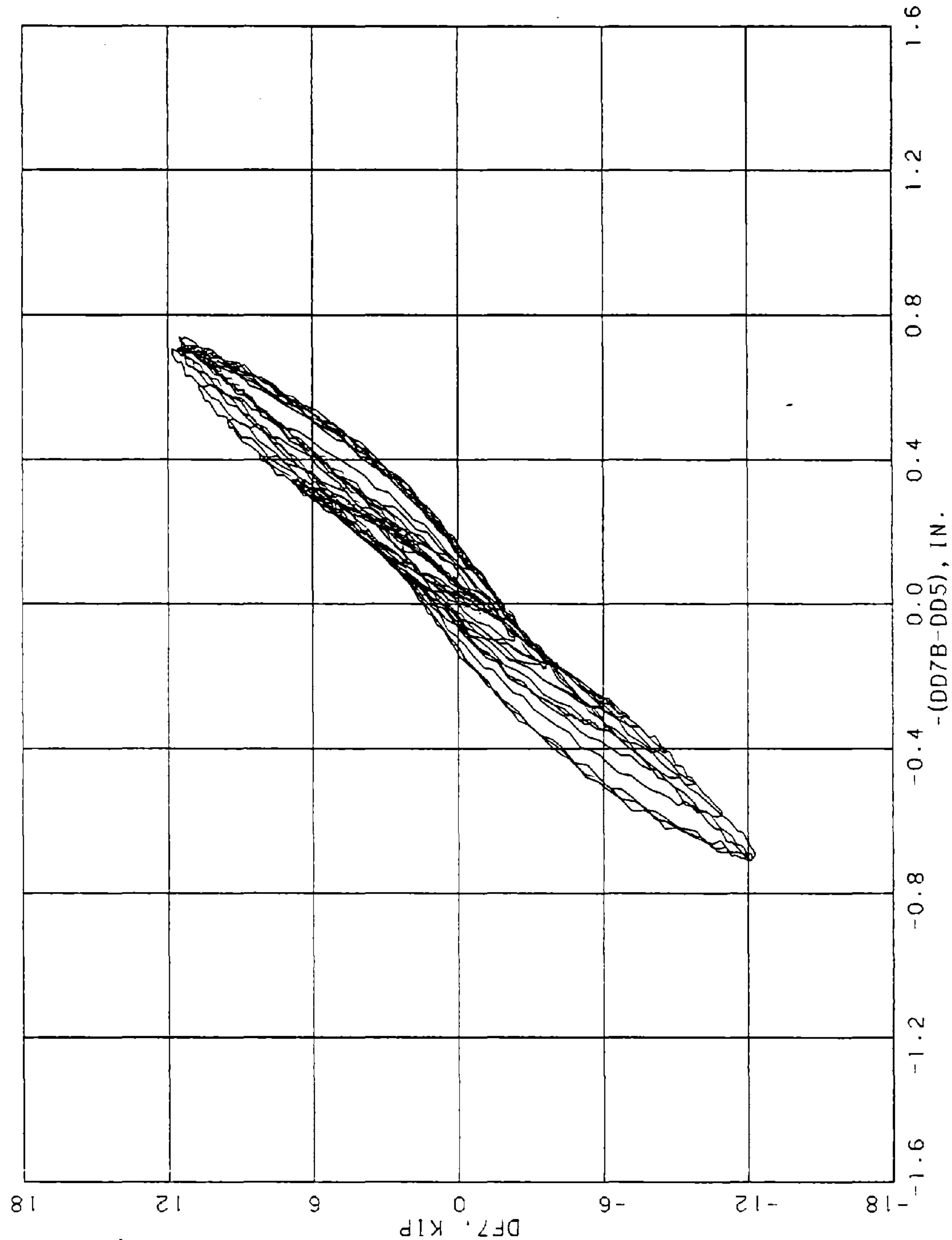


FIGURE C-62. DIAPHRAGM N. END 7, QS 2

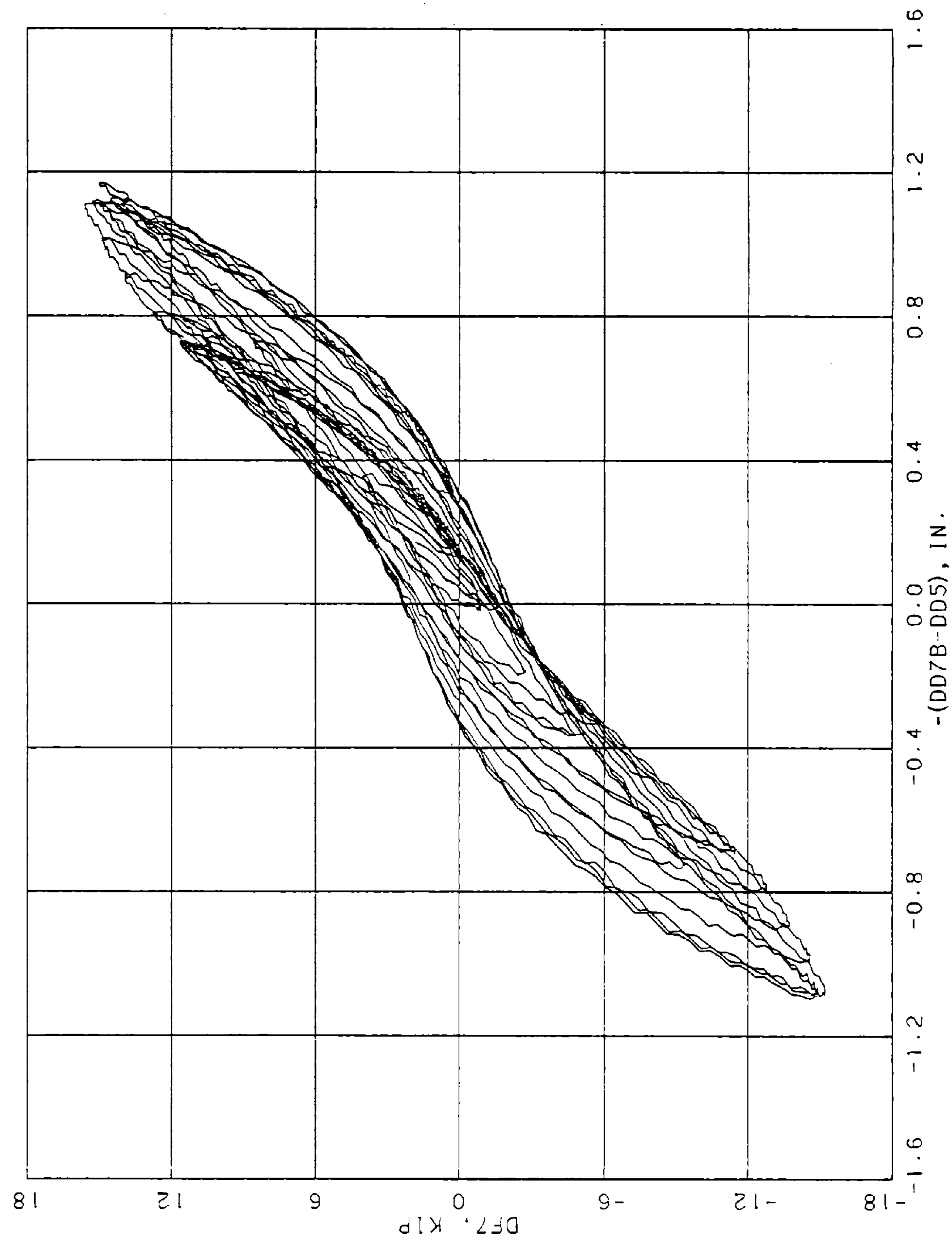


FIGURE C-63. DIAPHRAGM N. END 7. QS 3

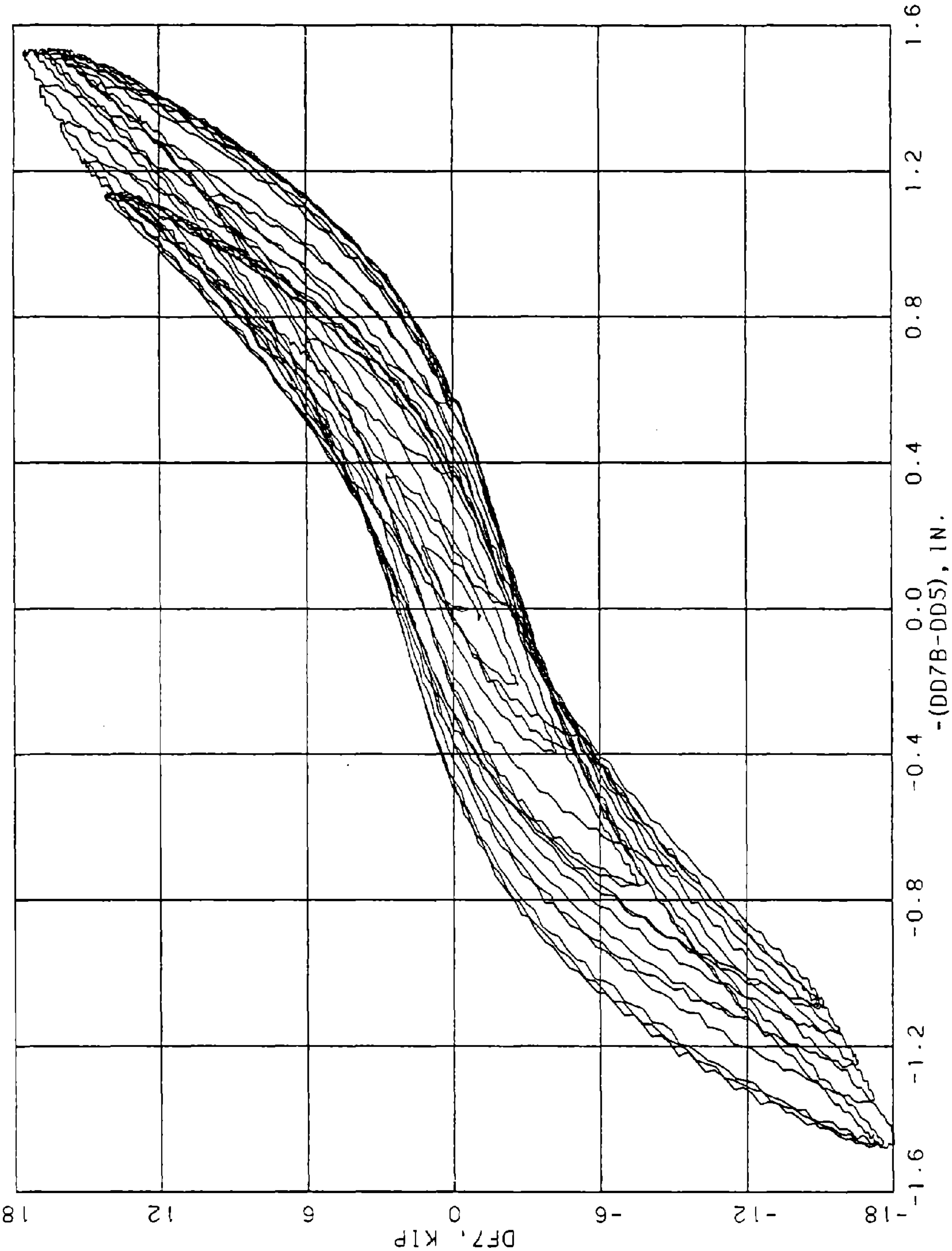


FIGURE C-64. DIAPHRAGM N. END 7. QS 4

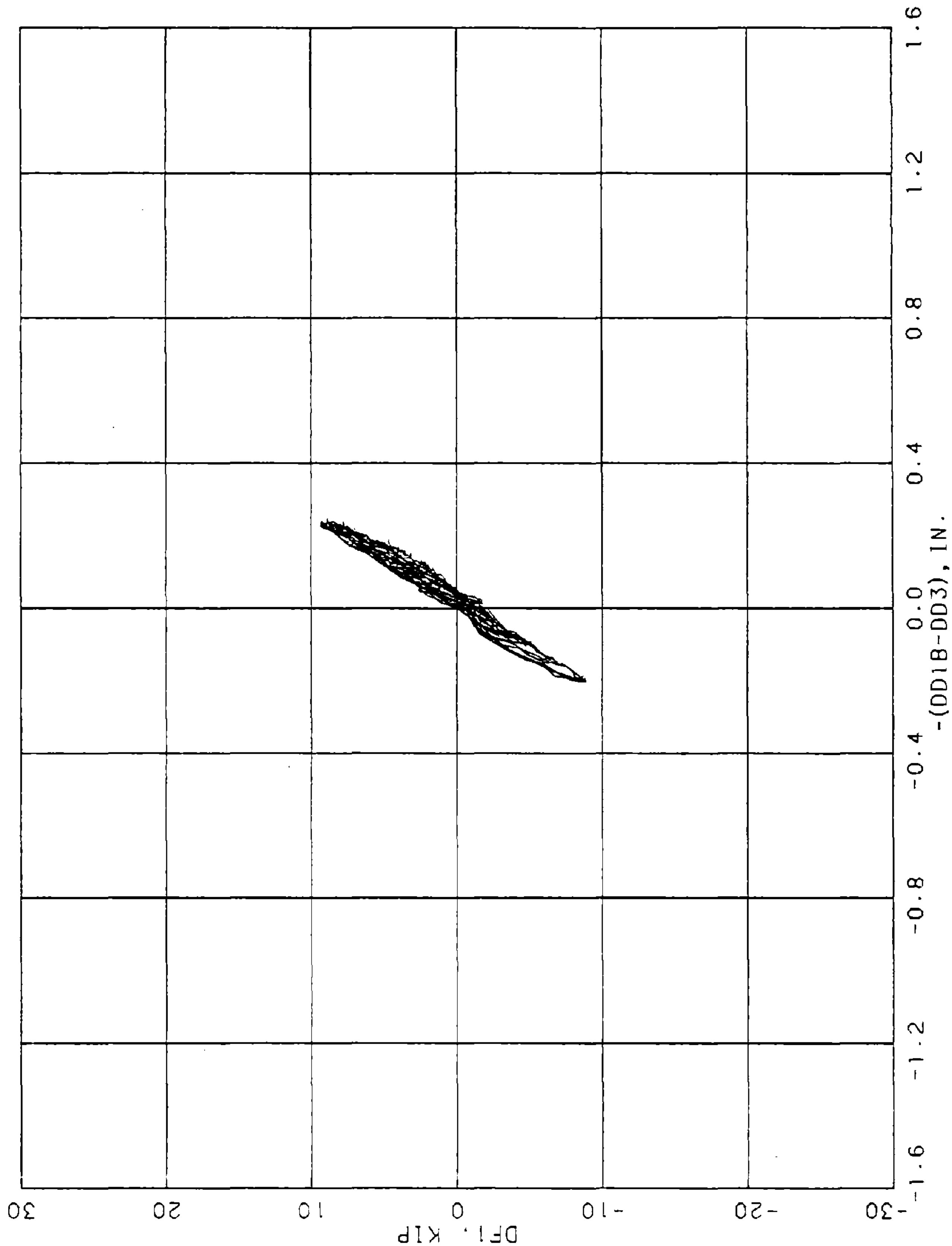


FIGURE C-65. DIAPHRAGM P. END 1. QS 1

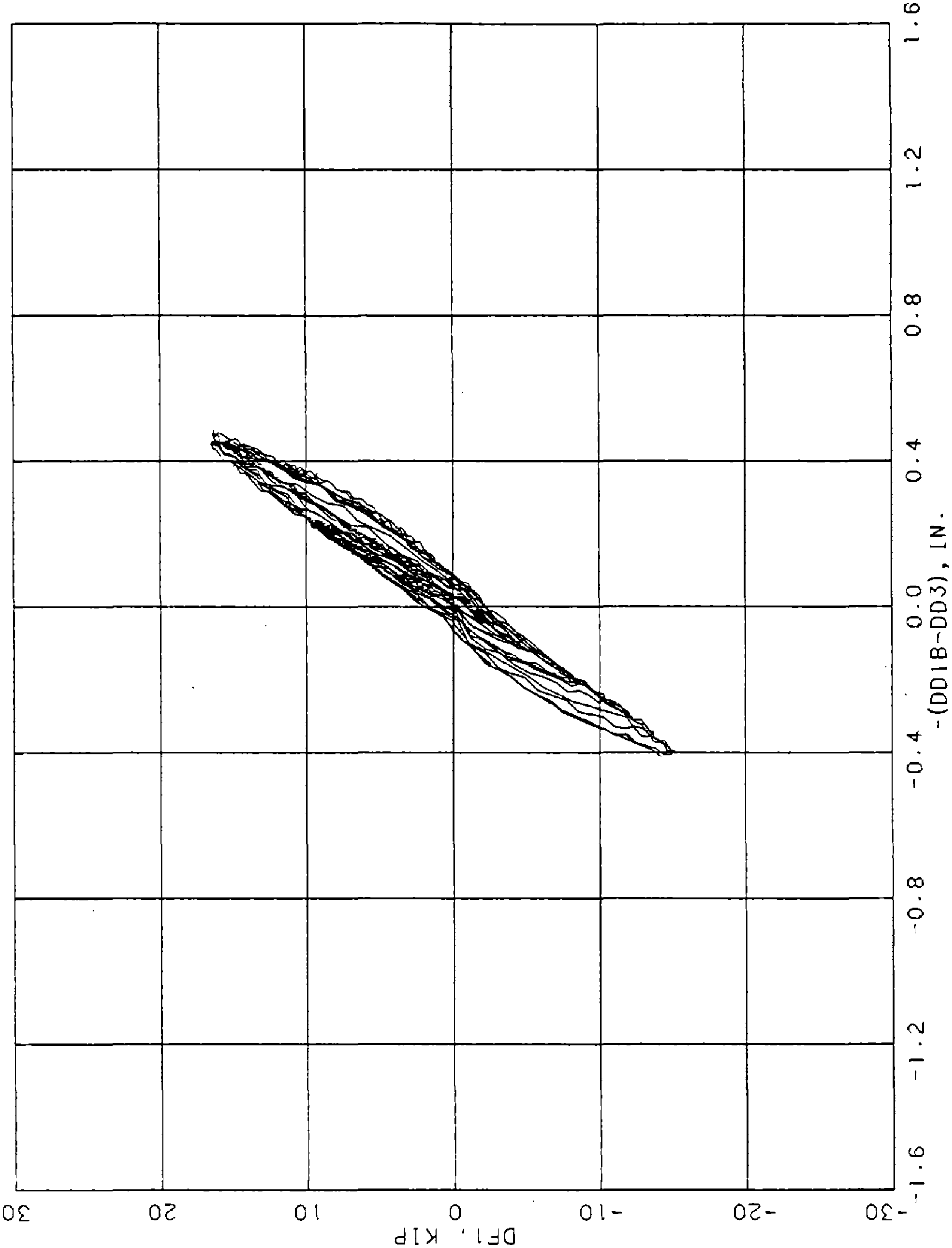


FIGURE C-66. DIAPHRAGM P. END 1. QS 2

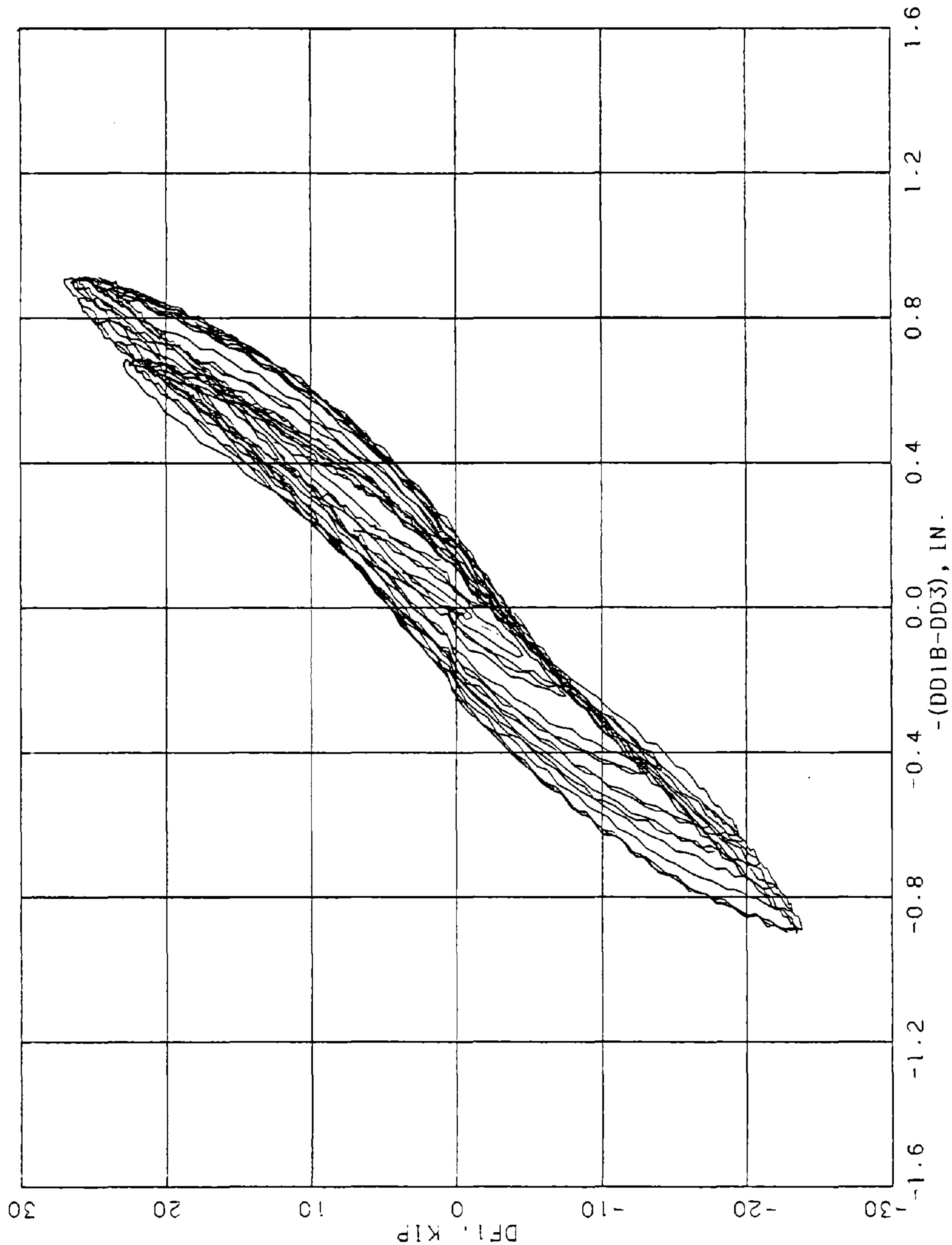


FIGURE C-67. DIAPHRAGM P. END 1. QS 4

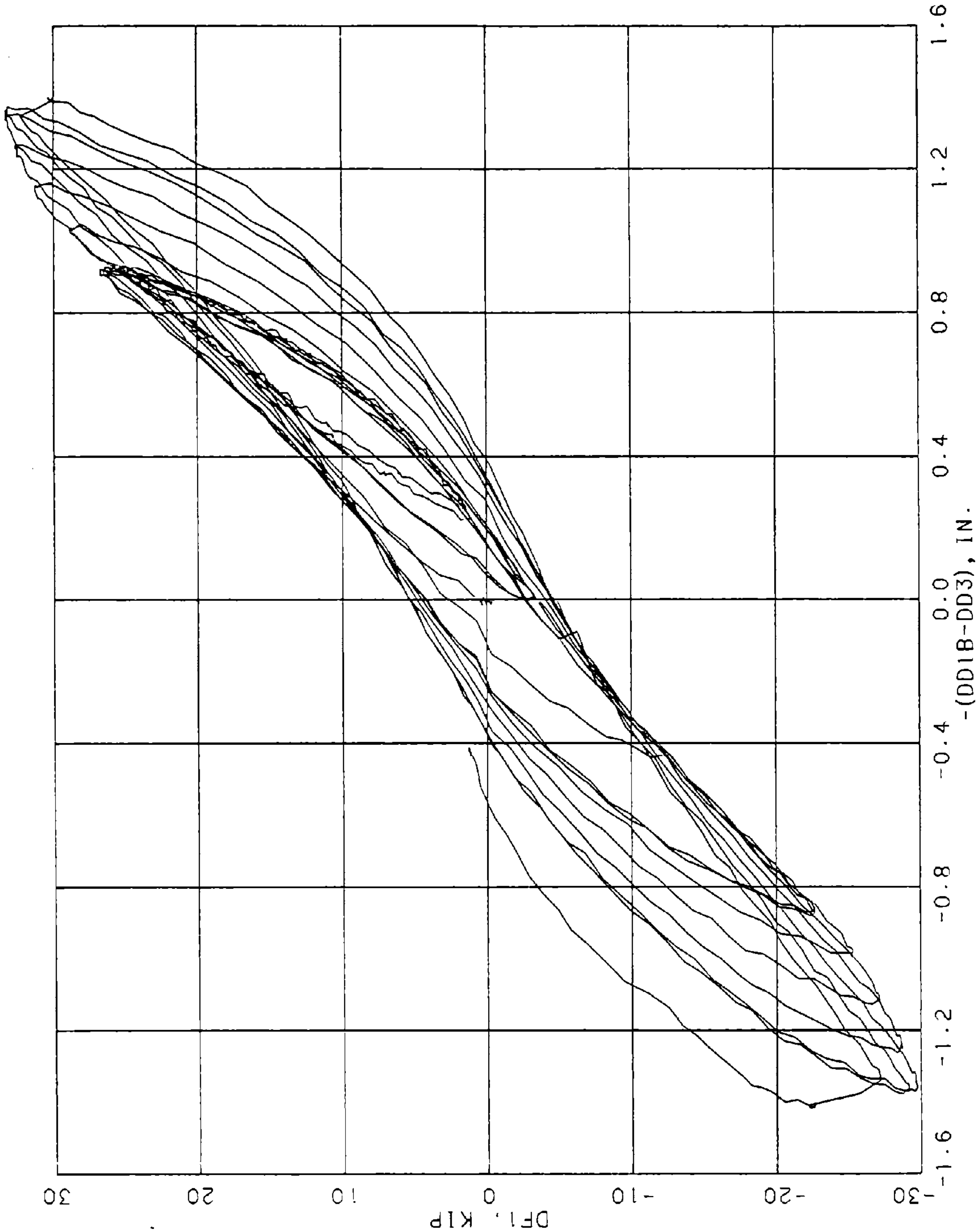


FIGURE C-68. DIAPHRAGM P. END 1. QS 6

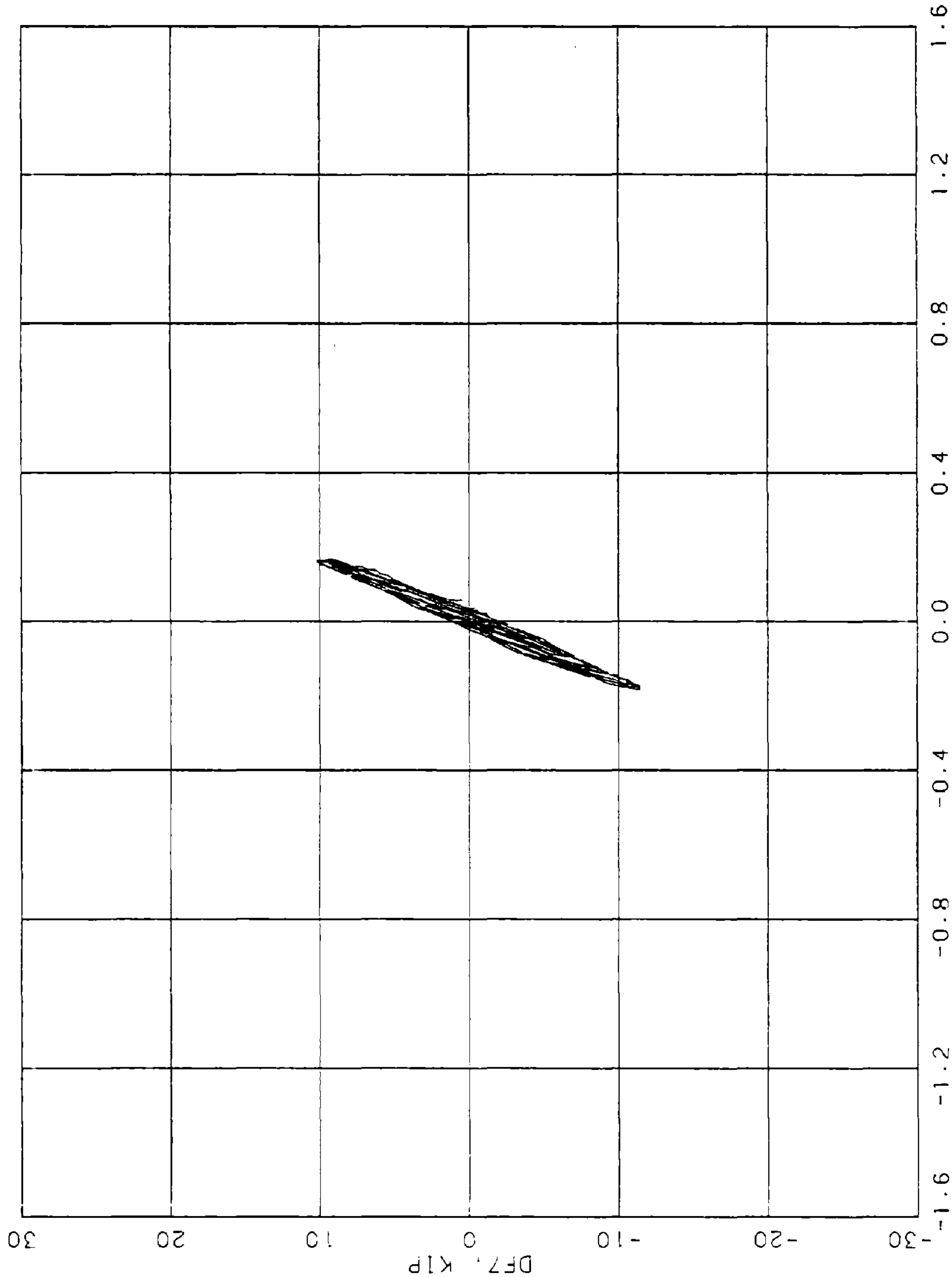


FIGURE C-69. DIAPHRAGM P. END 7. QS 1

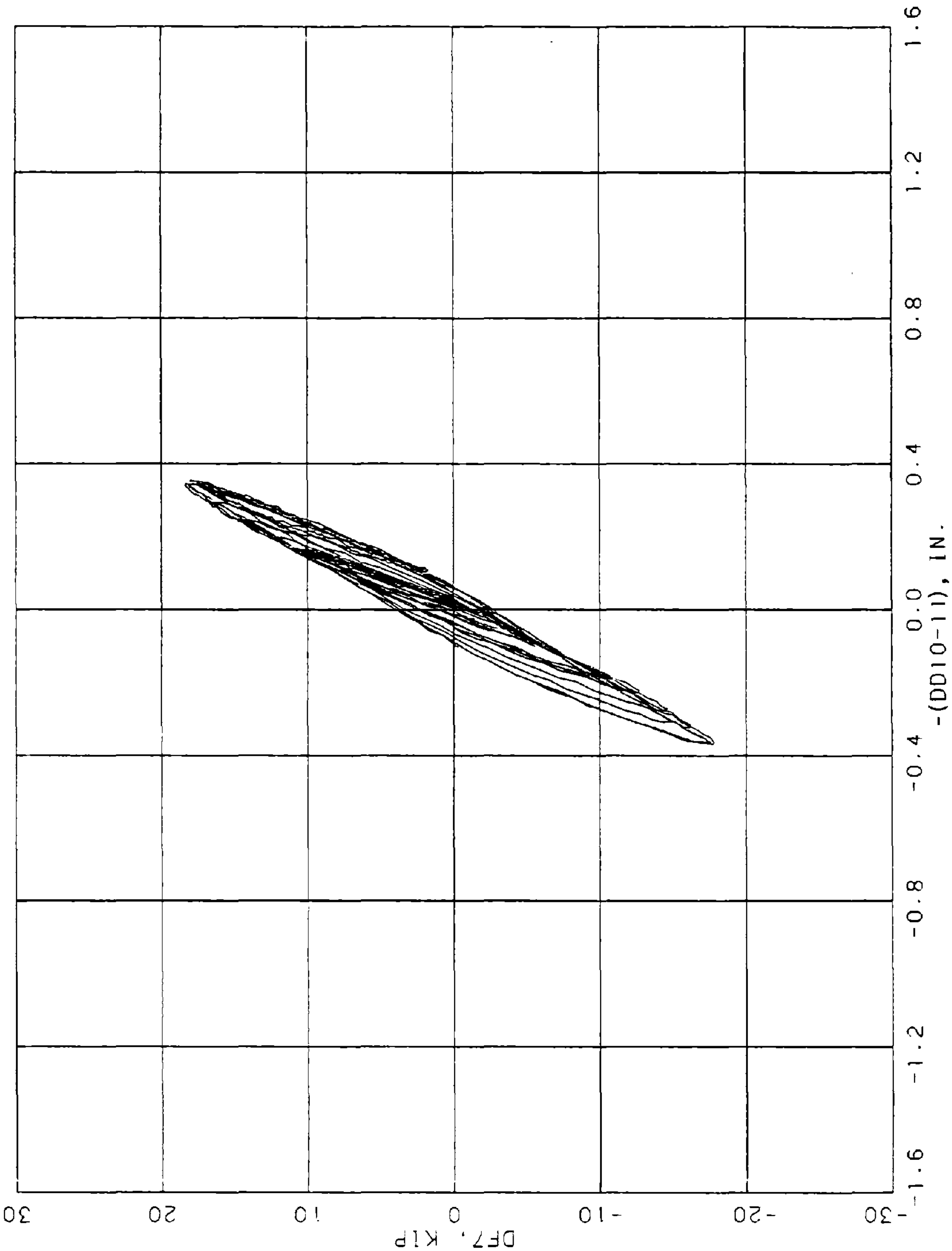


FIGURE C-70. DIAPHRAGM P. END 7. OS 2

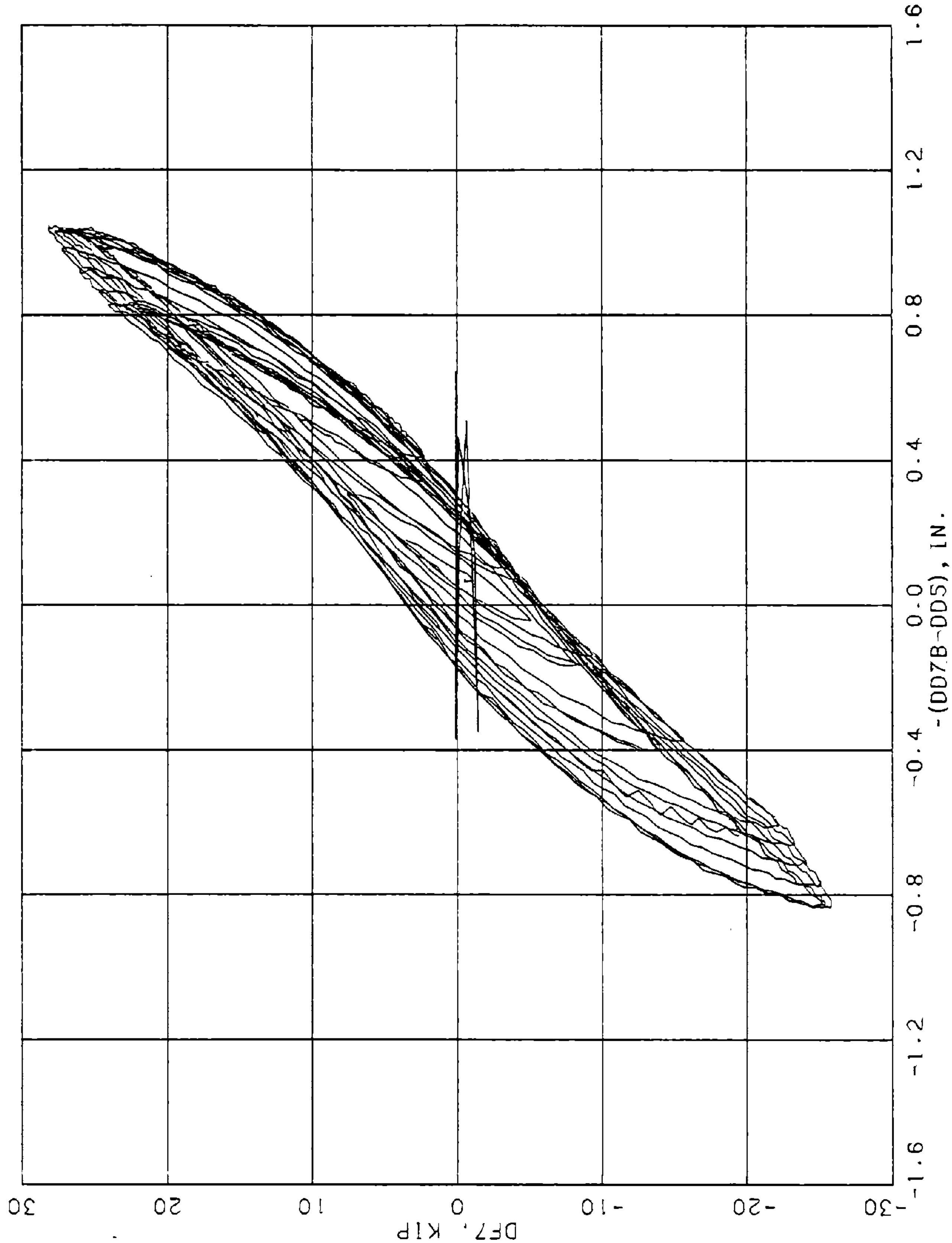


FIGURE C-71a. DIAPHRAGM P. END 7. QS 4

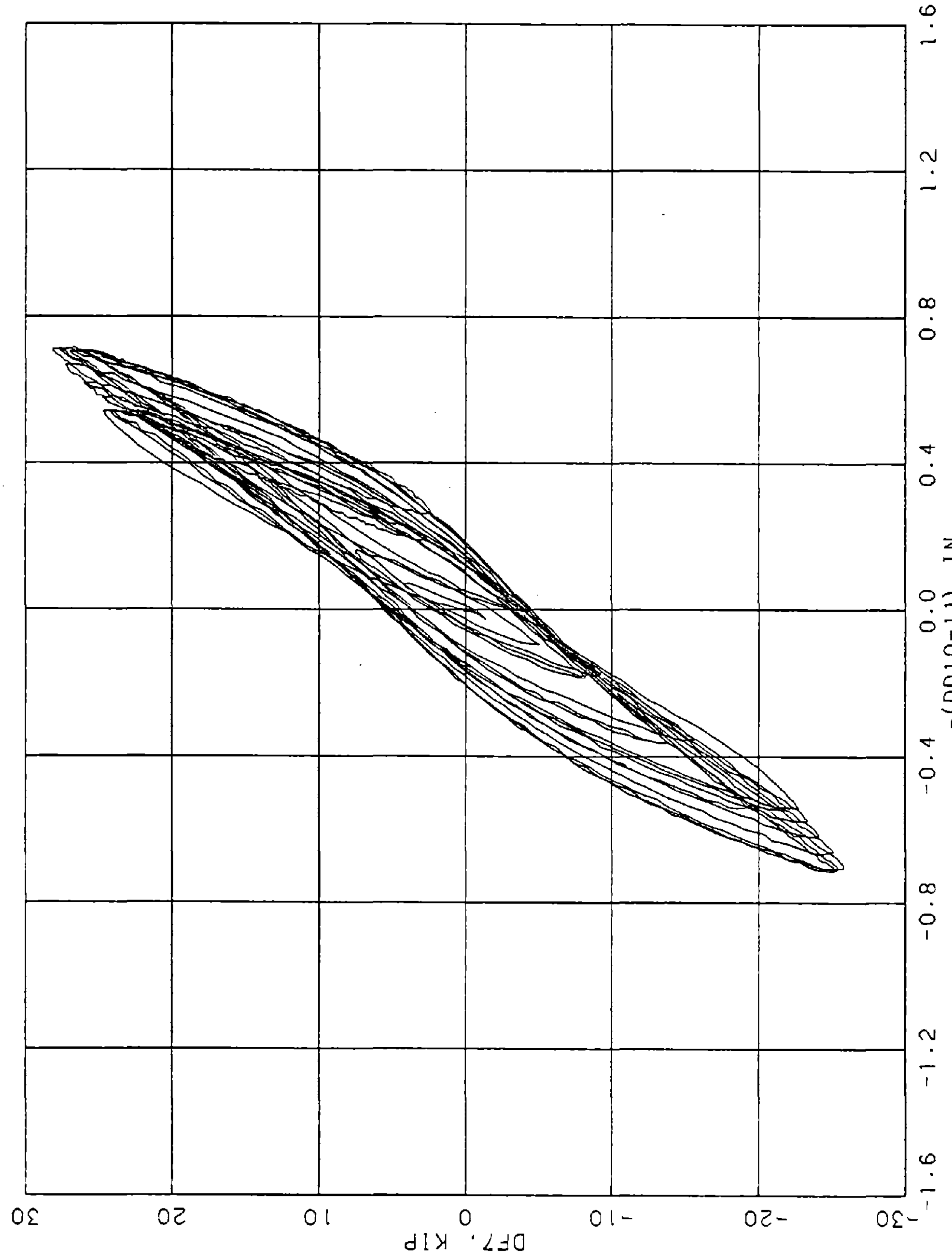


FIGURE C-71b. DIAPHRAGM P. END 7. QS 4

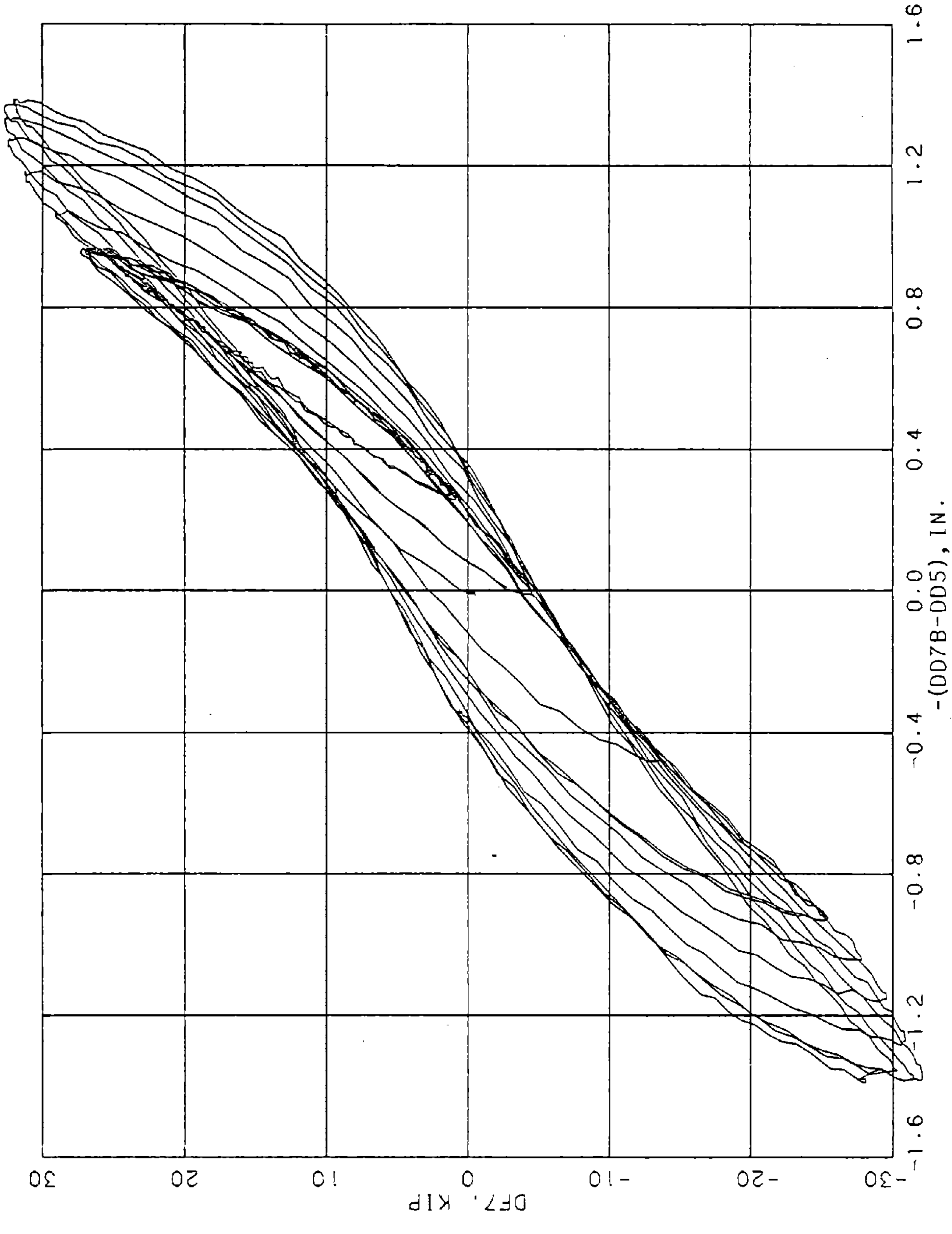


FIGURE C-72a. DIAPHRAGM P. END 7. QS 6

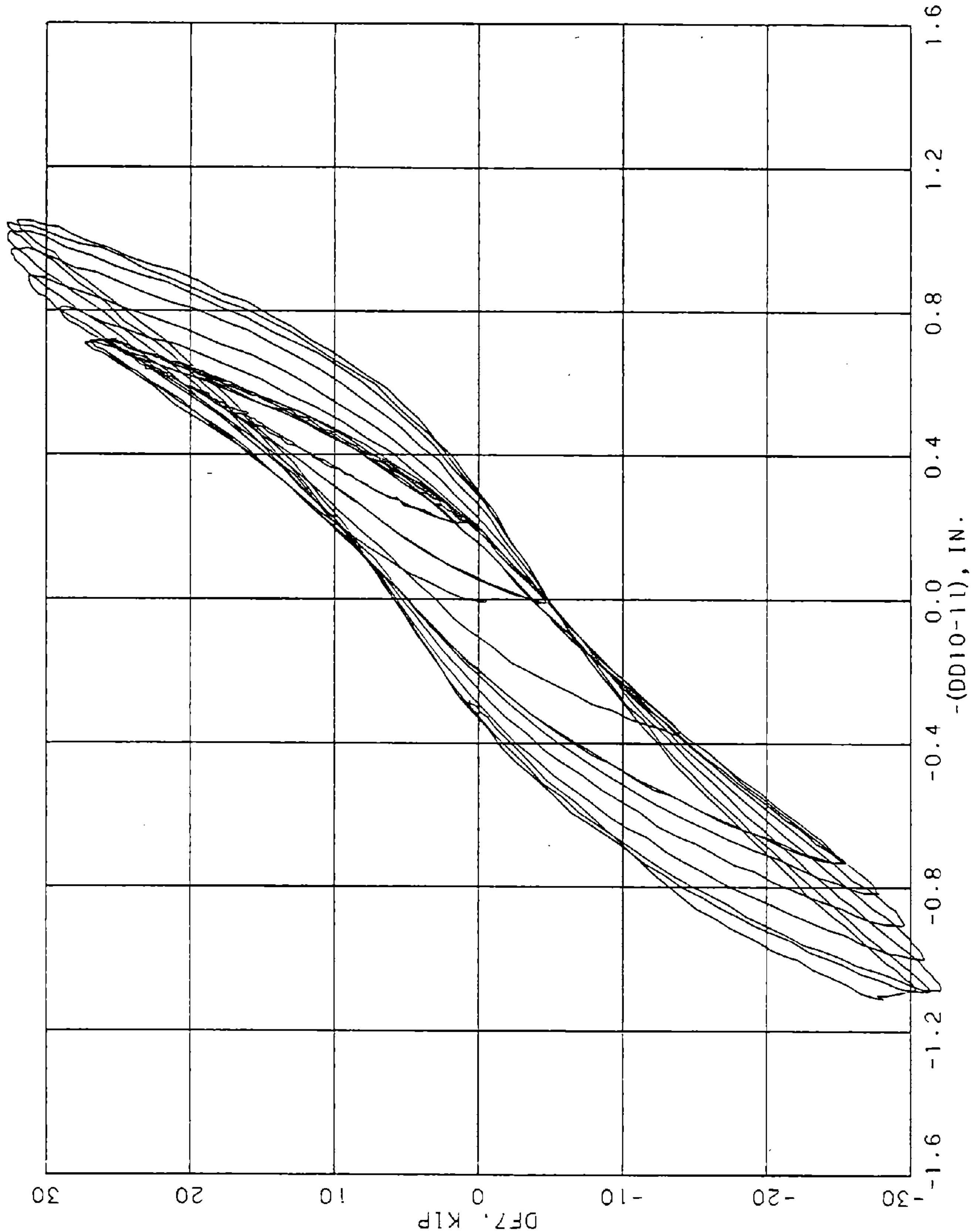


FIGURE C-72b. DIAPHRAGM P. END 7. QS 6

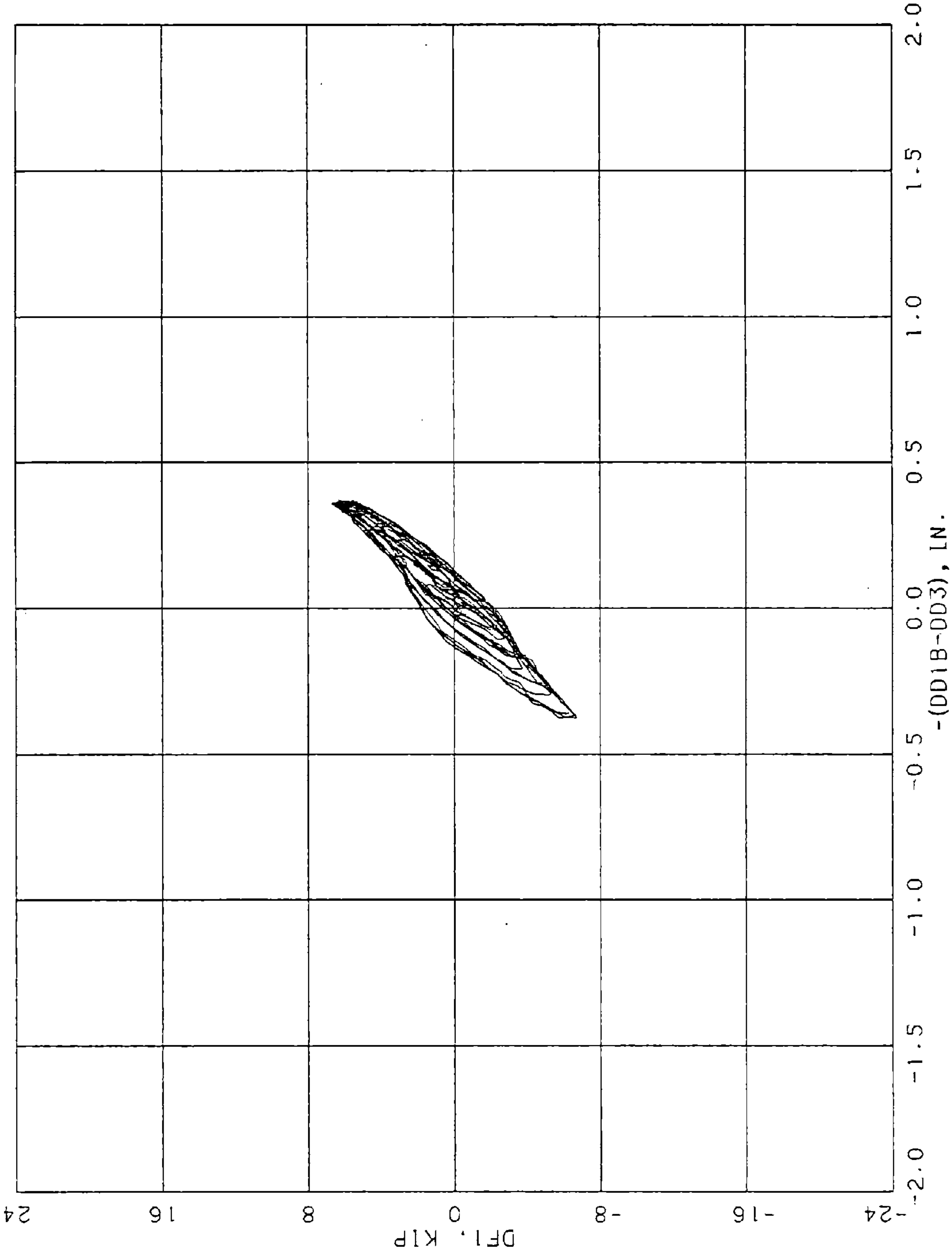


FIGURE C-73. DIAPHRAGM Q. END 1. QS 1.

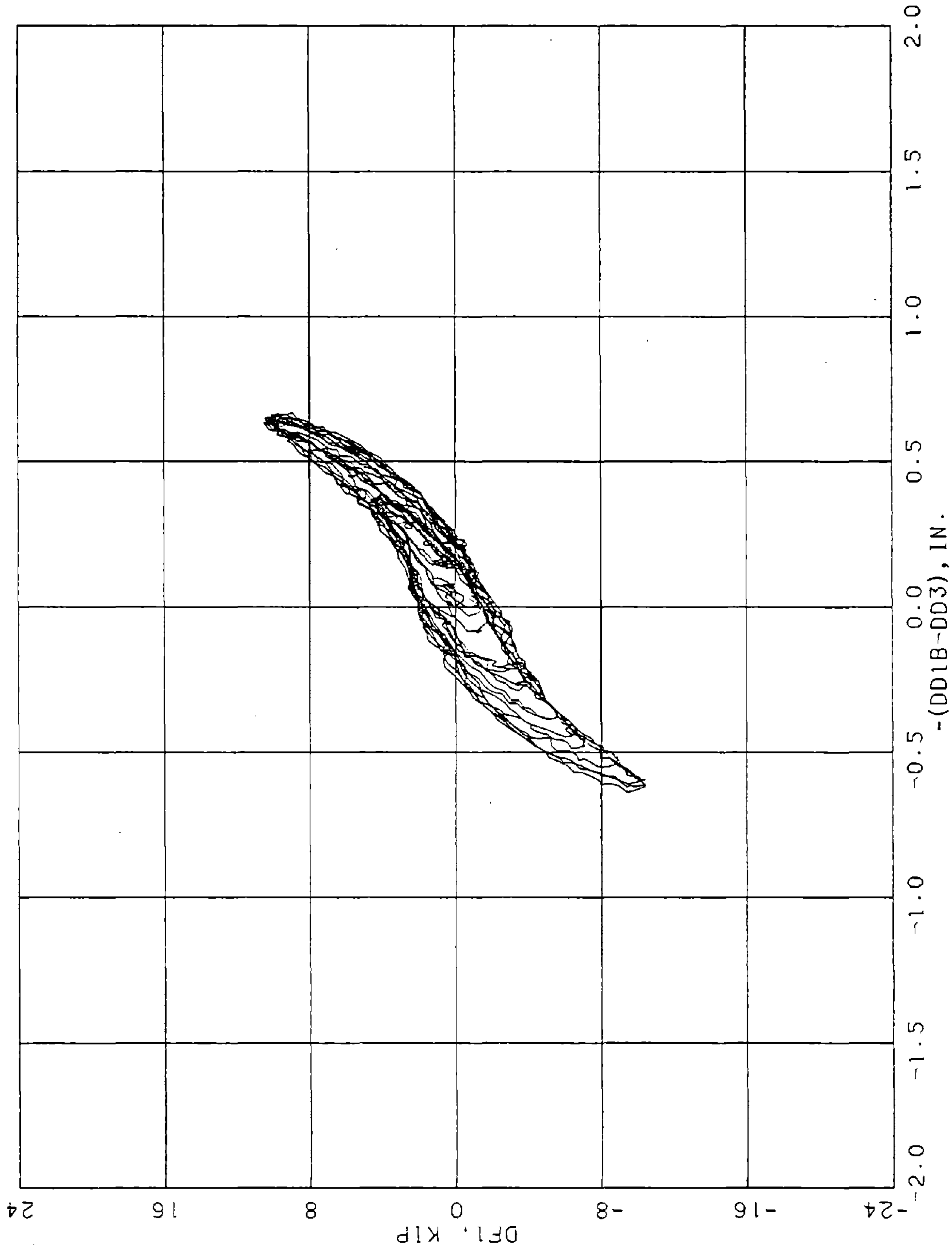


FIGURE C-74. DIAPHRAGM Q. END 1. QS 2.

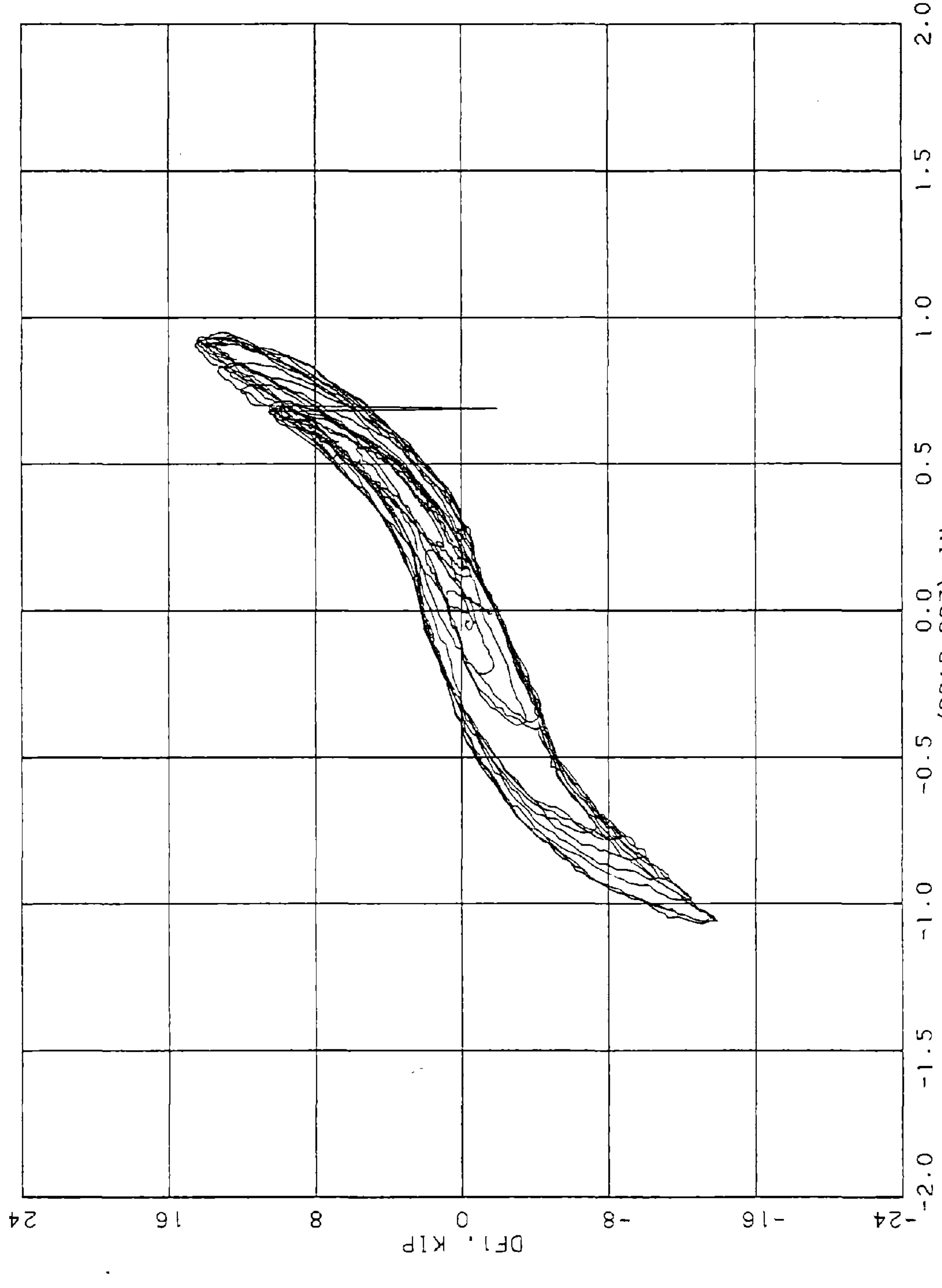


FIGURE C-75. DIAPHRAGM Q. END 1. QS 3.

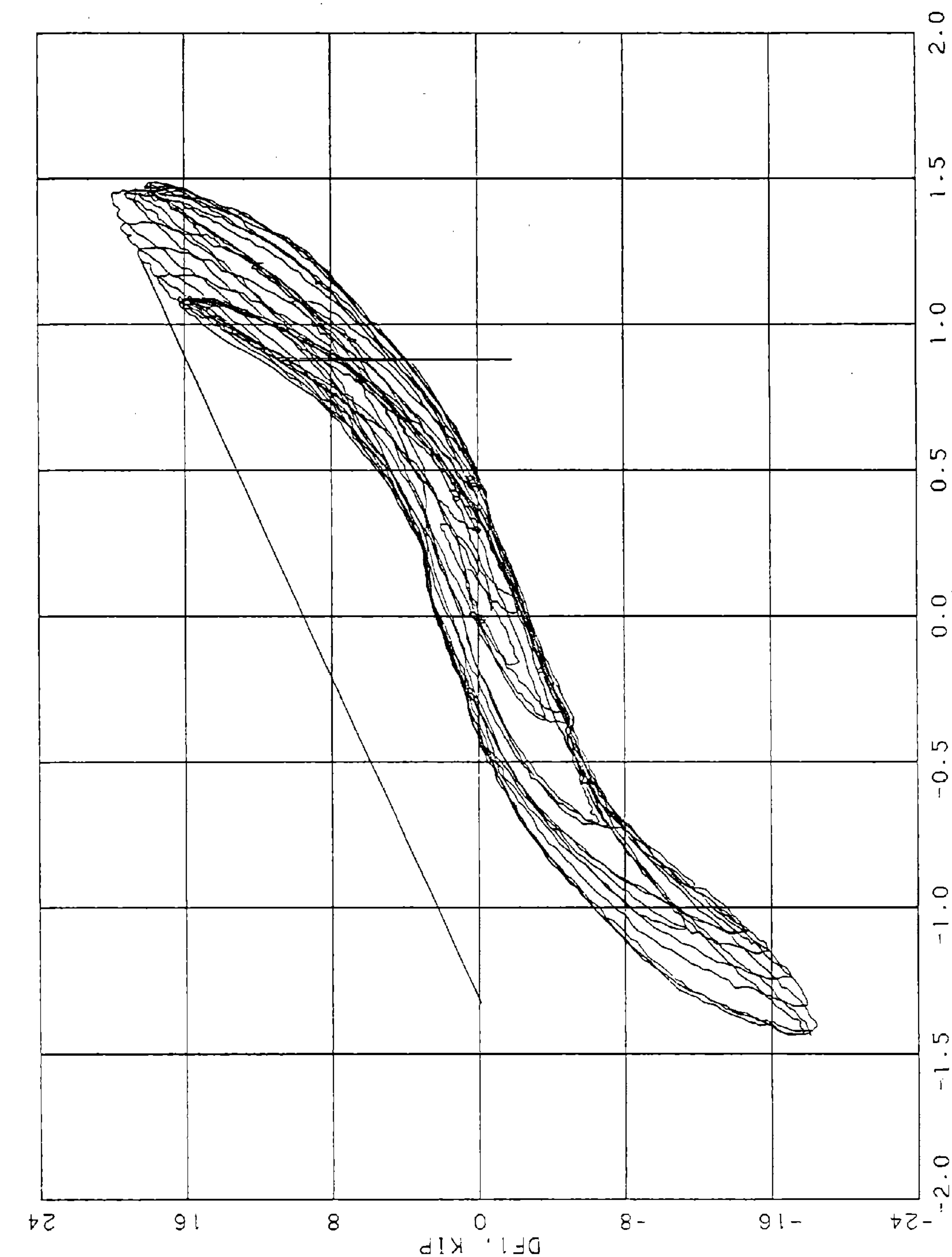


FIGURE C-76. DIAPHRAGM Q, END 1, QS 4.

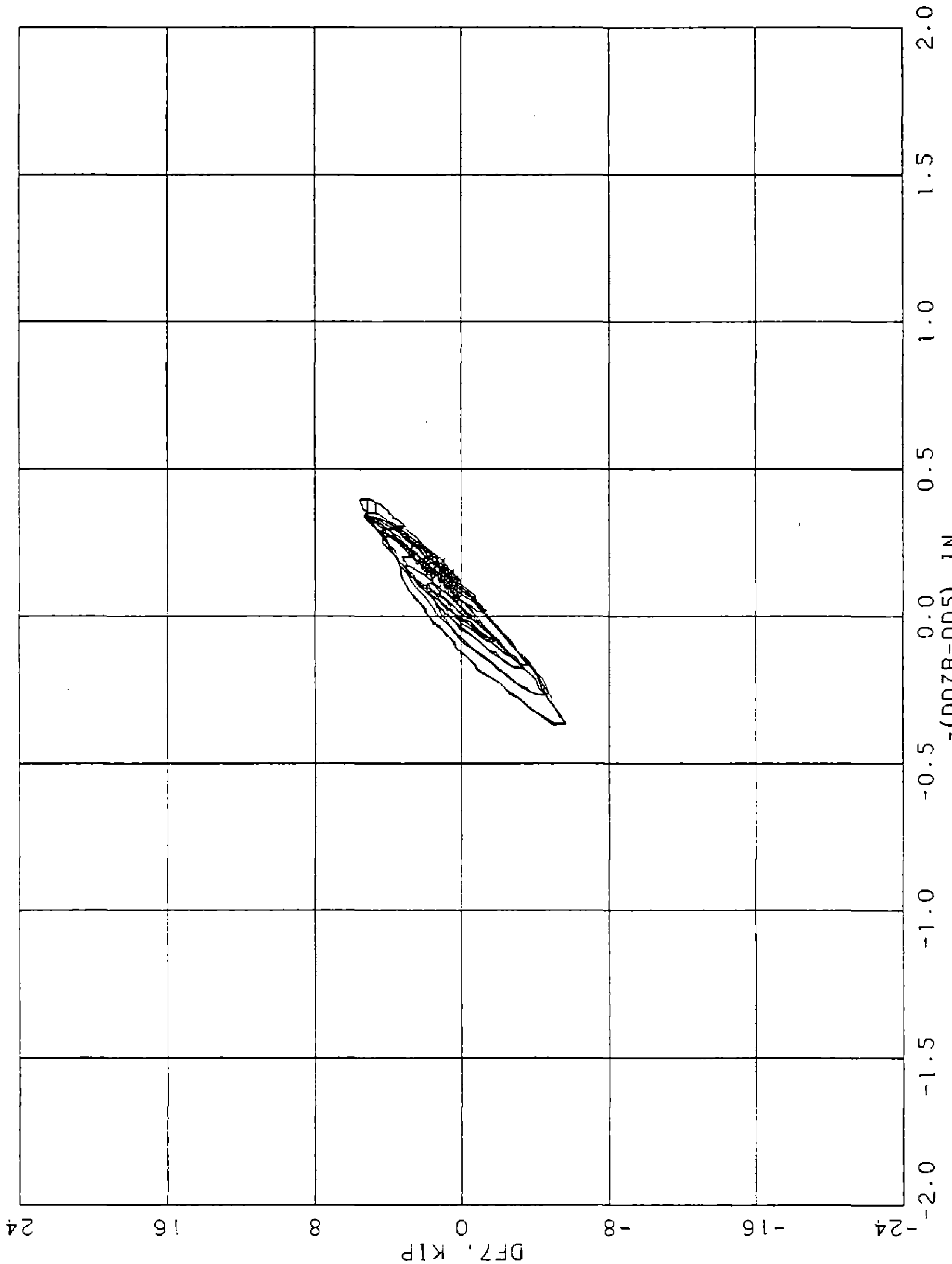


FIGURE C-77. DIAPHRAGM Q. END 7. QS 1.

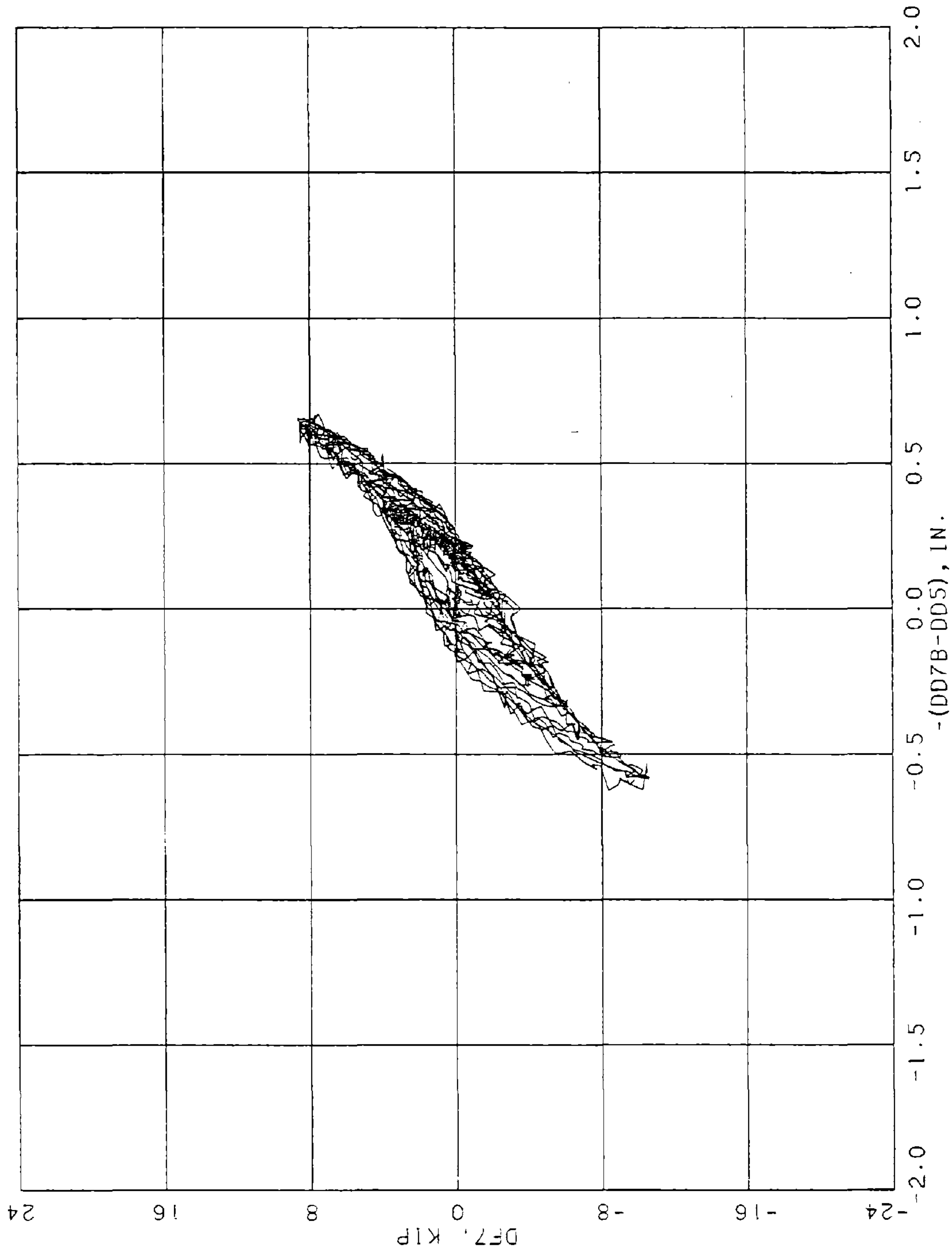


FIGURE C-78. DIAPHRAGM Q. END 7. QS 2.

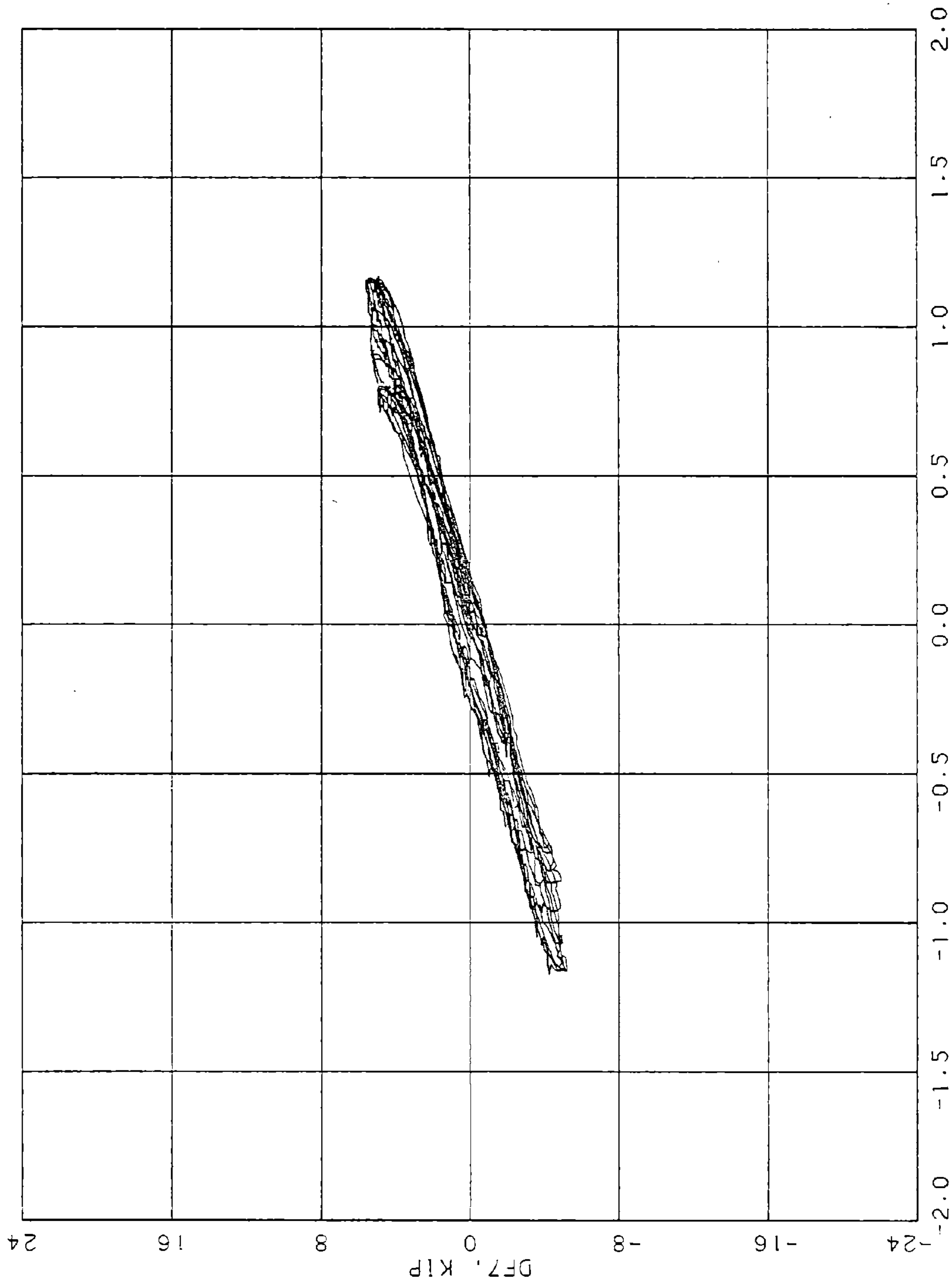


FIGURE C-79. DIAPHRAGM Q. END 7. QS 3.

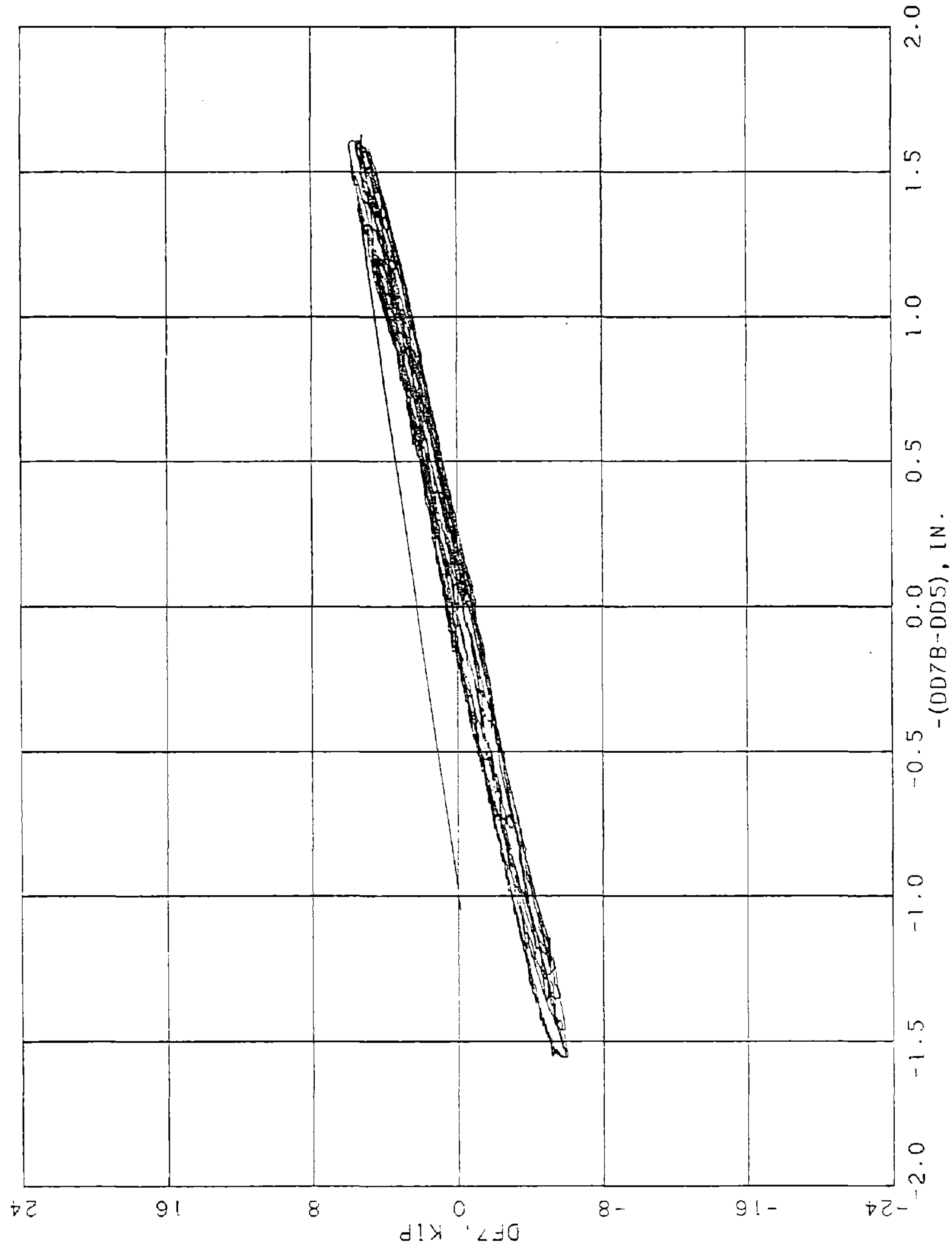


FIGURE C-80. DIAPHRAGM Q, END 7. QS 4.

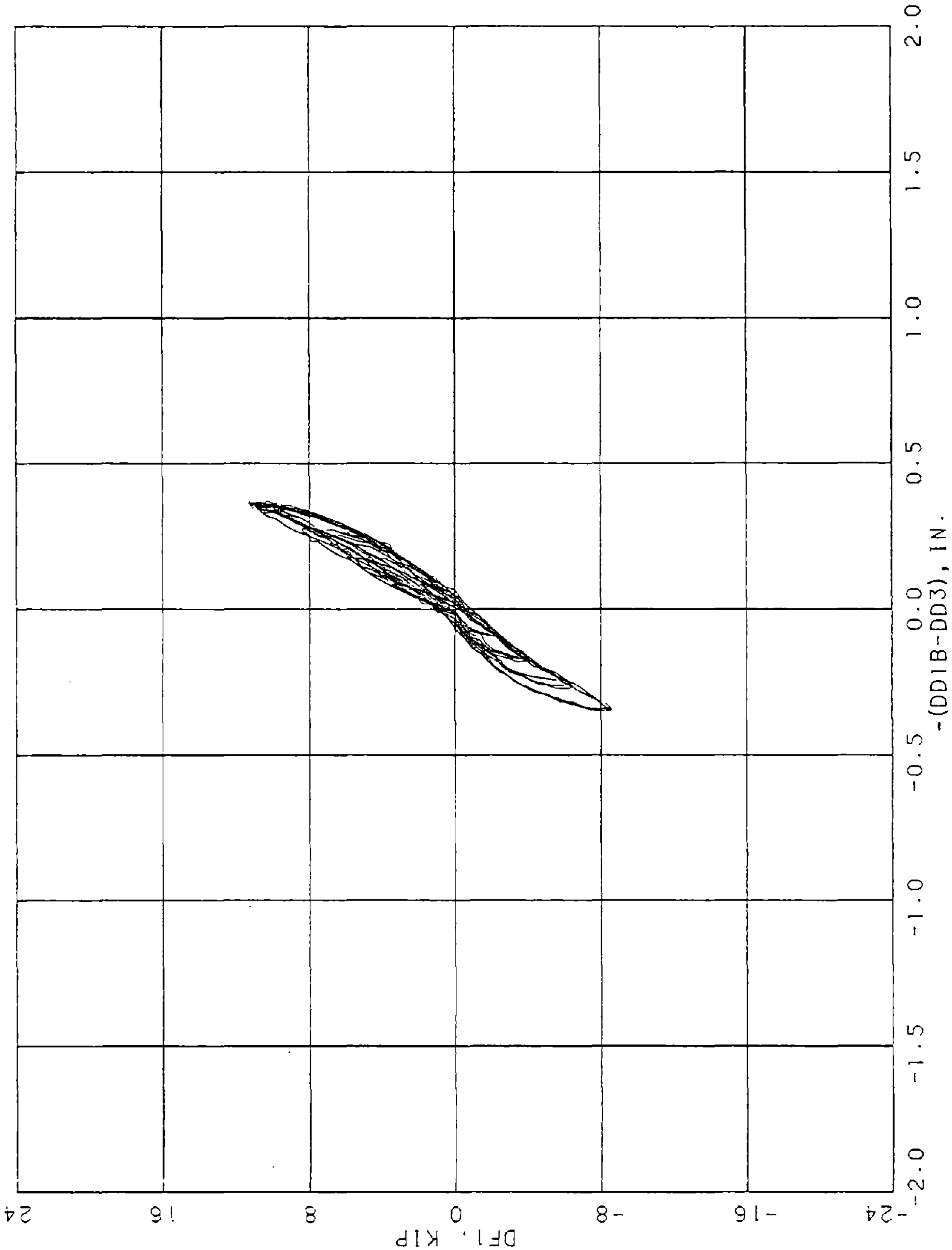


FIGURE C-81. DIAPHRAGM R. END 1. QS 1

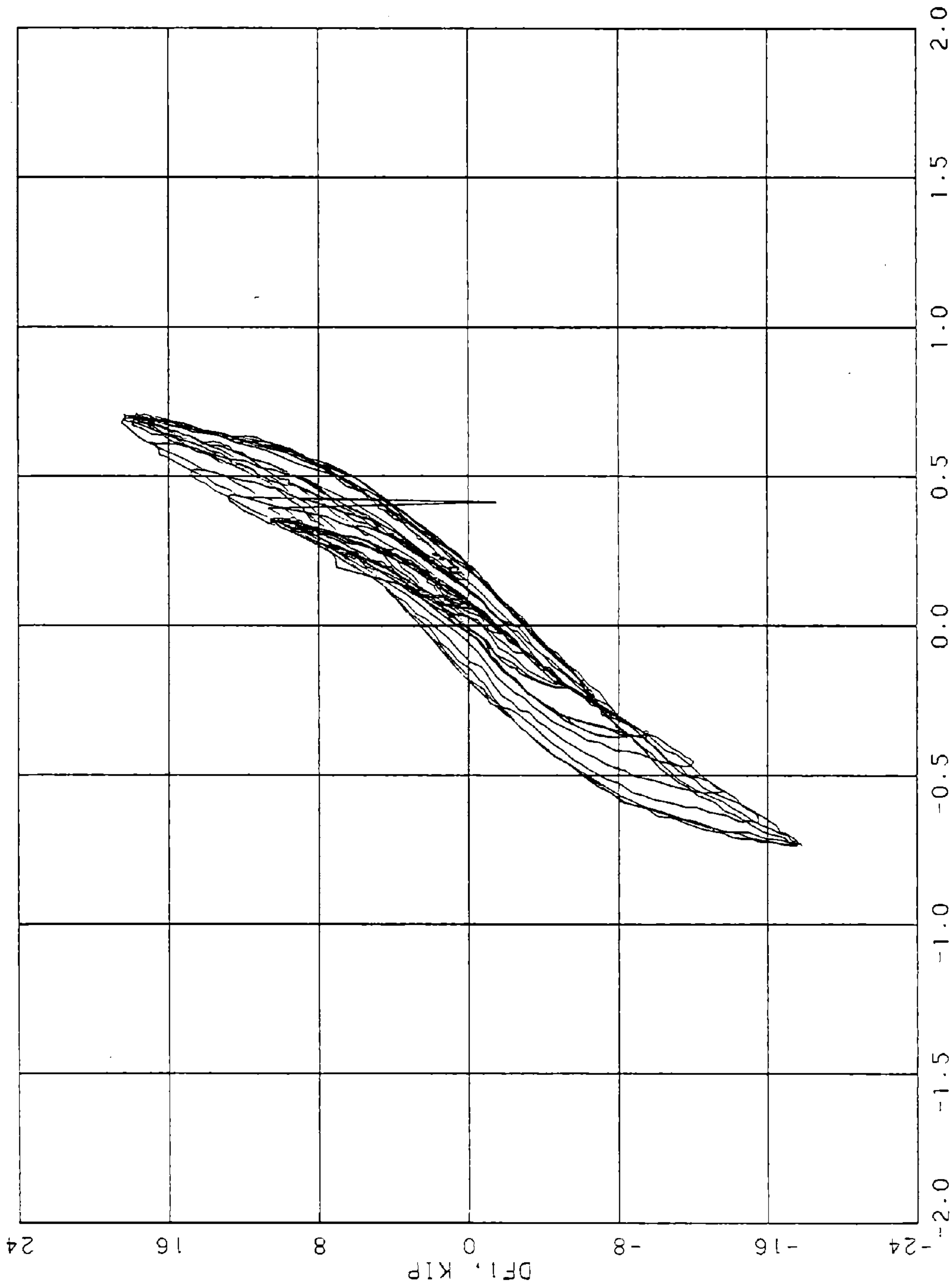


FIGURE C-82. DIAPHRAGM R. END 1. QS 2

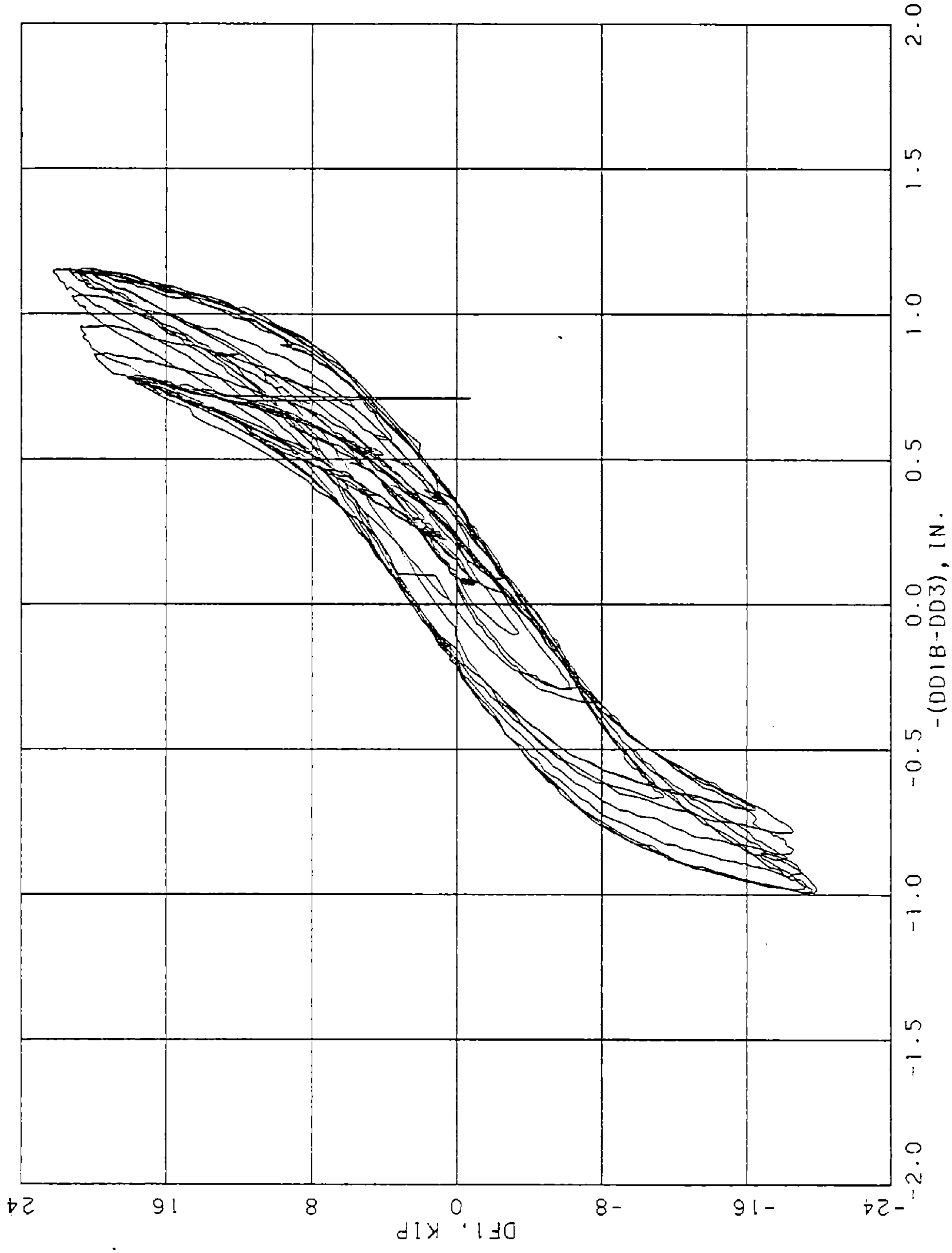


FIGURE C-83. DIAPHRAGM R. END 1. QS 3

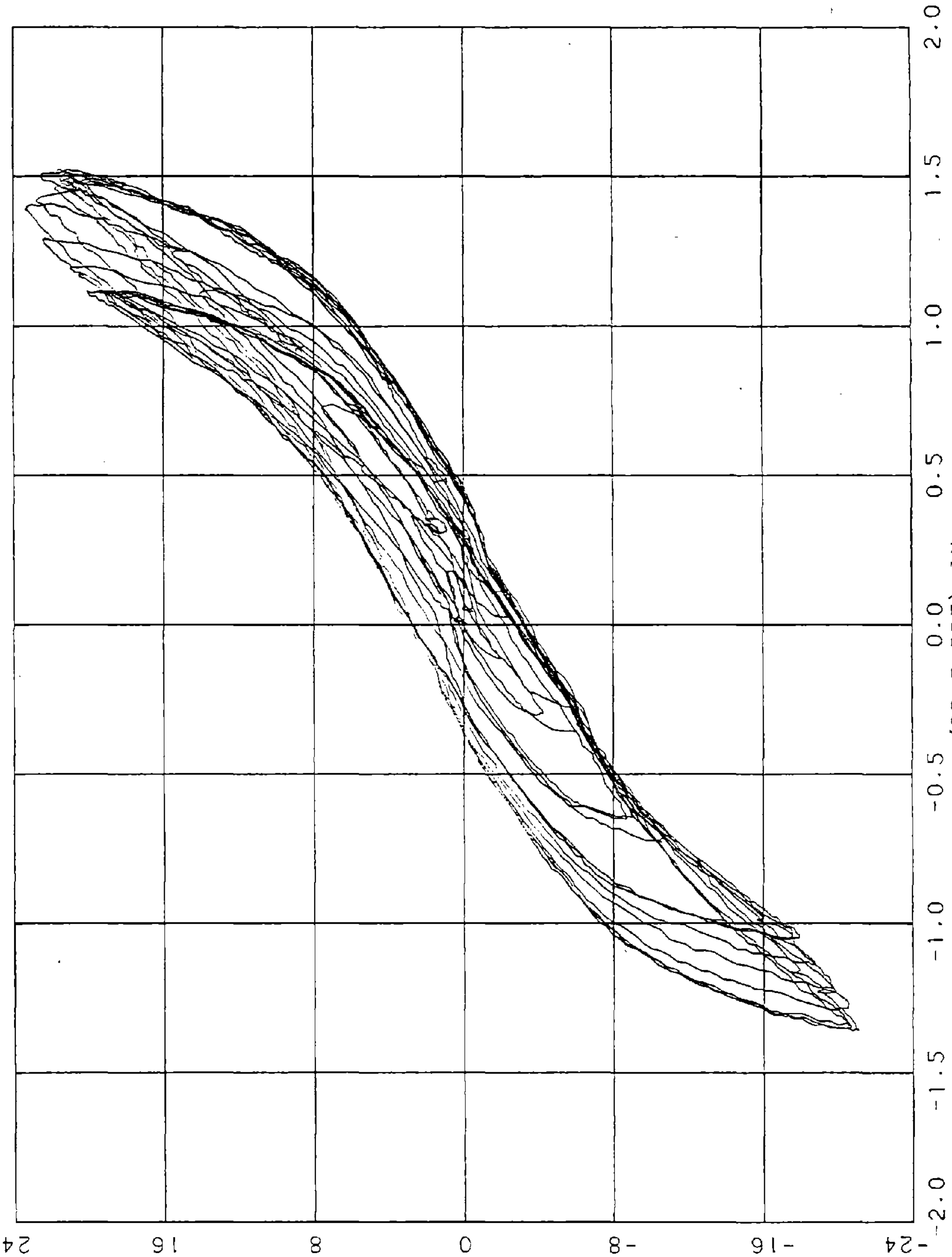


FIGURE C-84. DIAPHRAGM R. END 1. QS 4

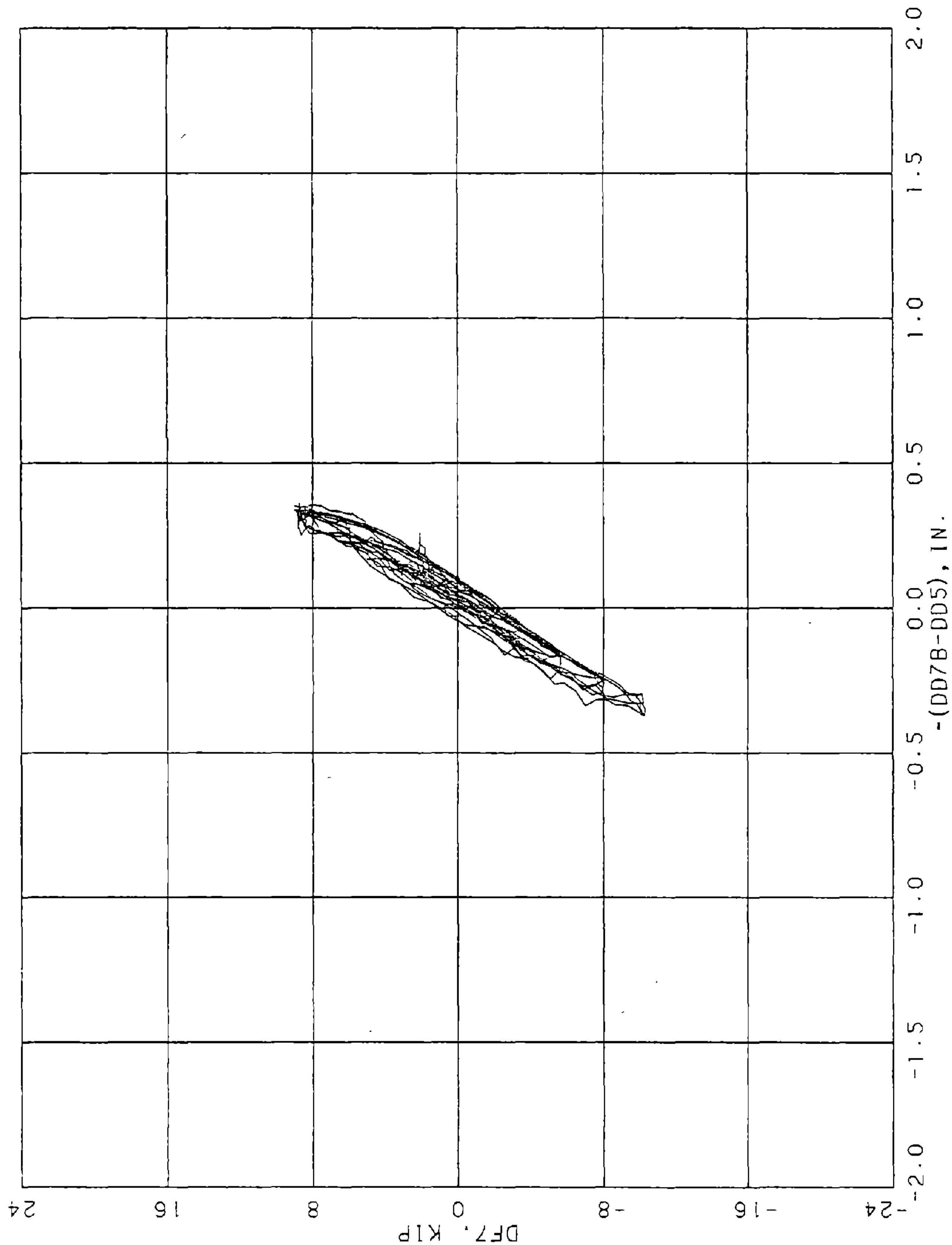


FIGURE C-85. DIAPHRAGM R. END 7. QS 1

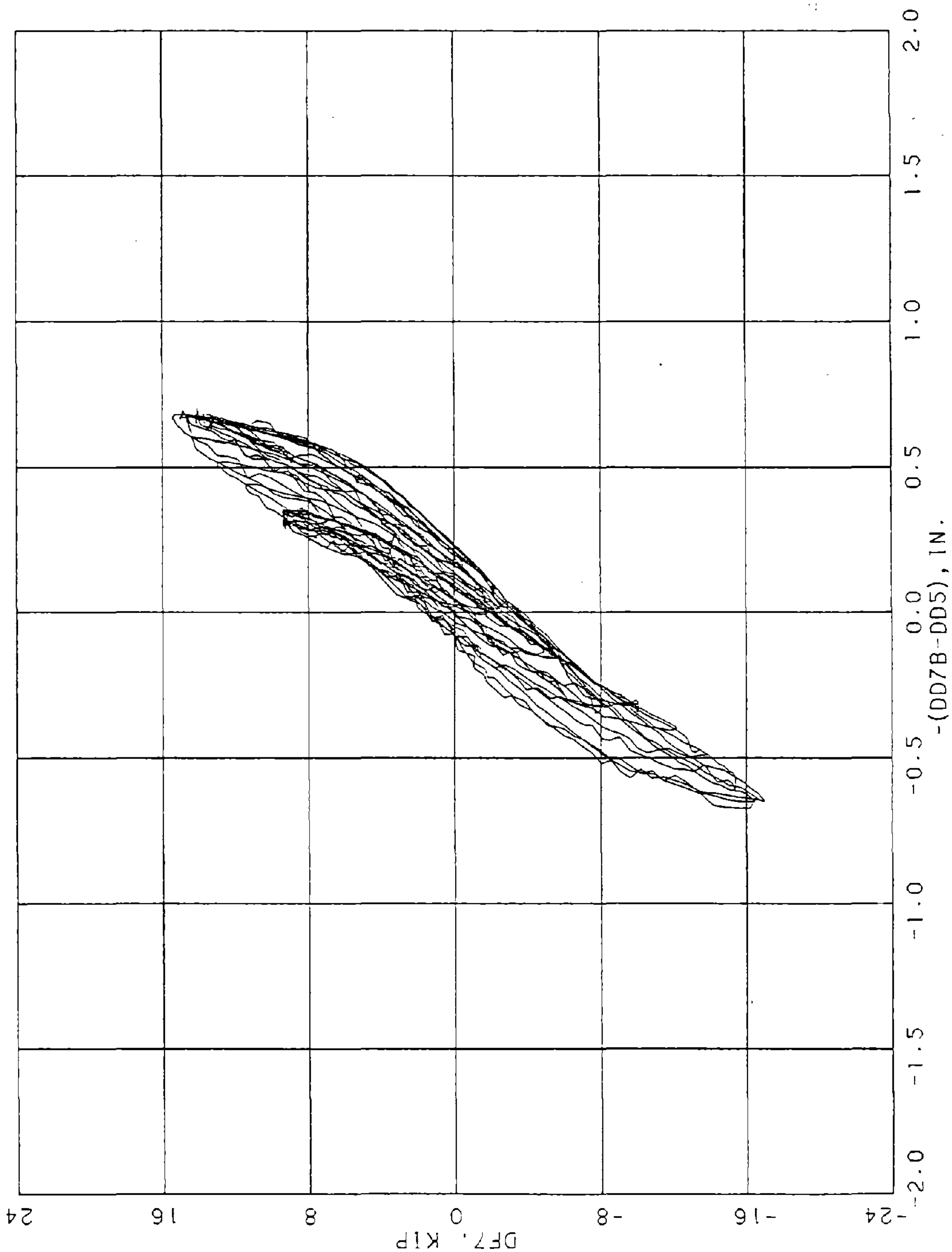


FIGURE C-86. DIAPHRAGM R. END 7. QS 2

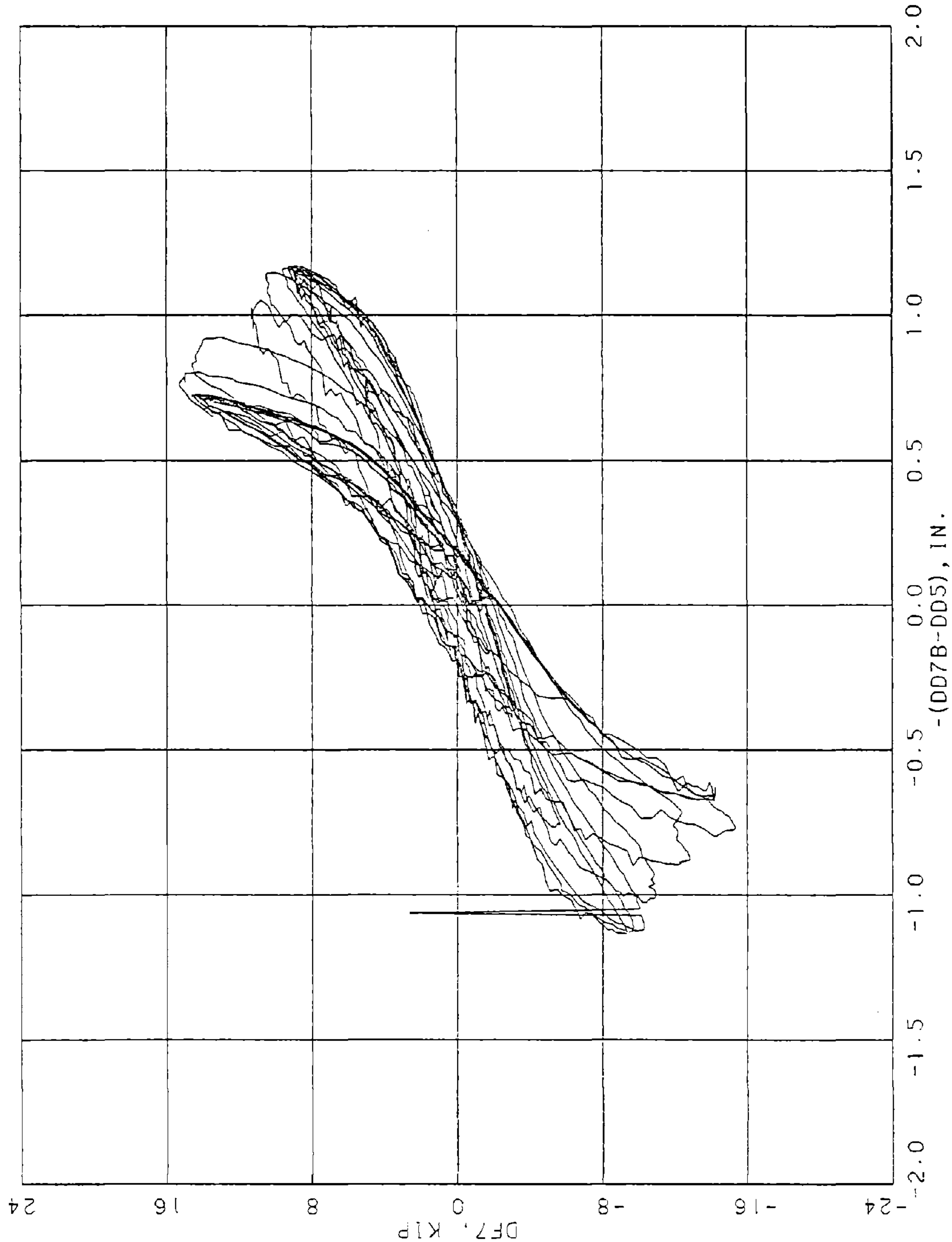


FIGURE C-87. DIAPHRAGM R. END 7. QS 3

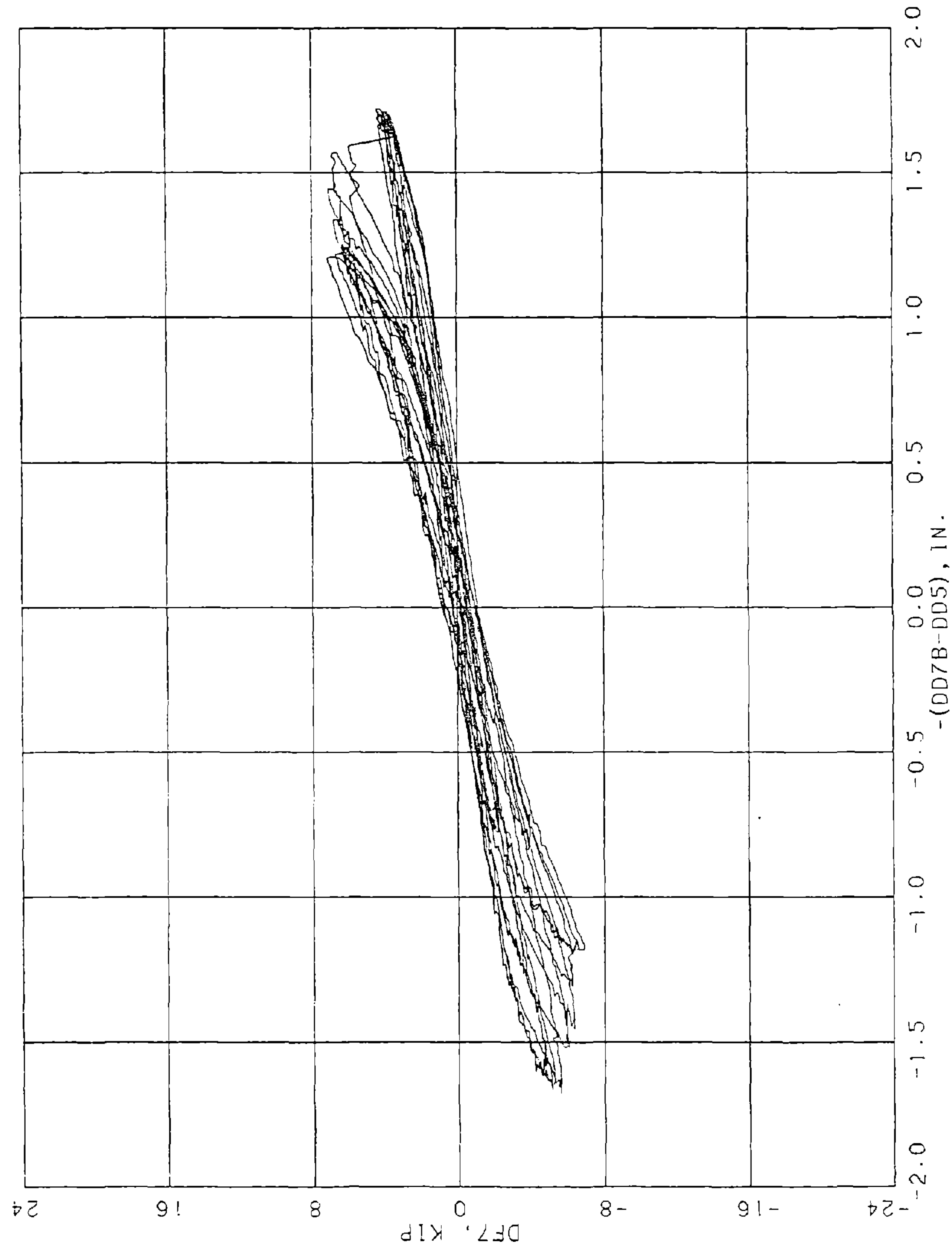


FIGURE C-88. DIAPHRAGM R. END 7. QS 4

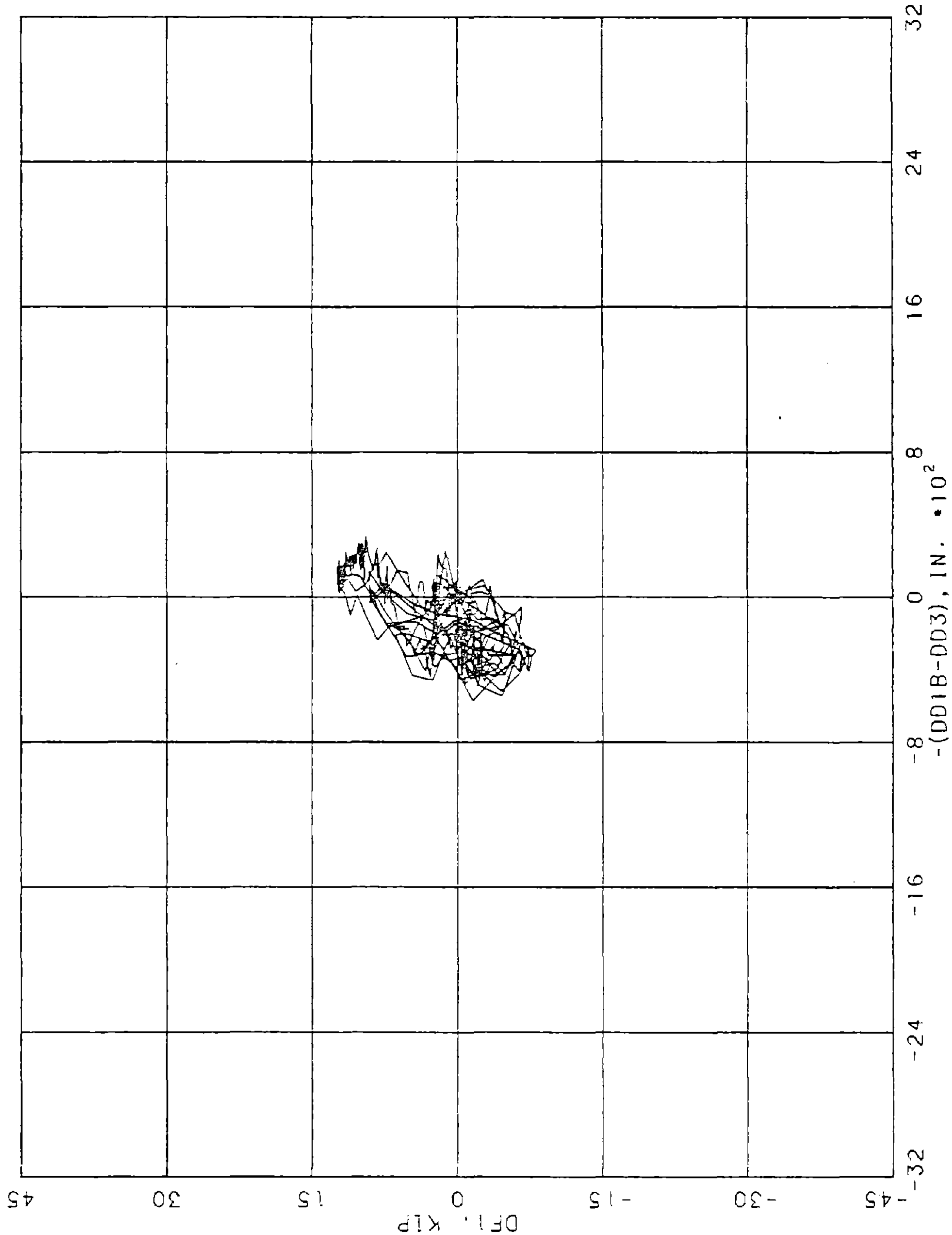


FIGURE C-89. DIAPHRAGM S. END 1. QS 1.

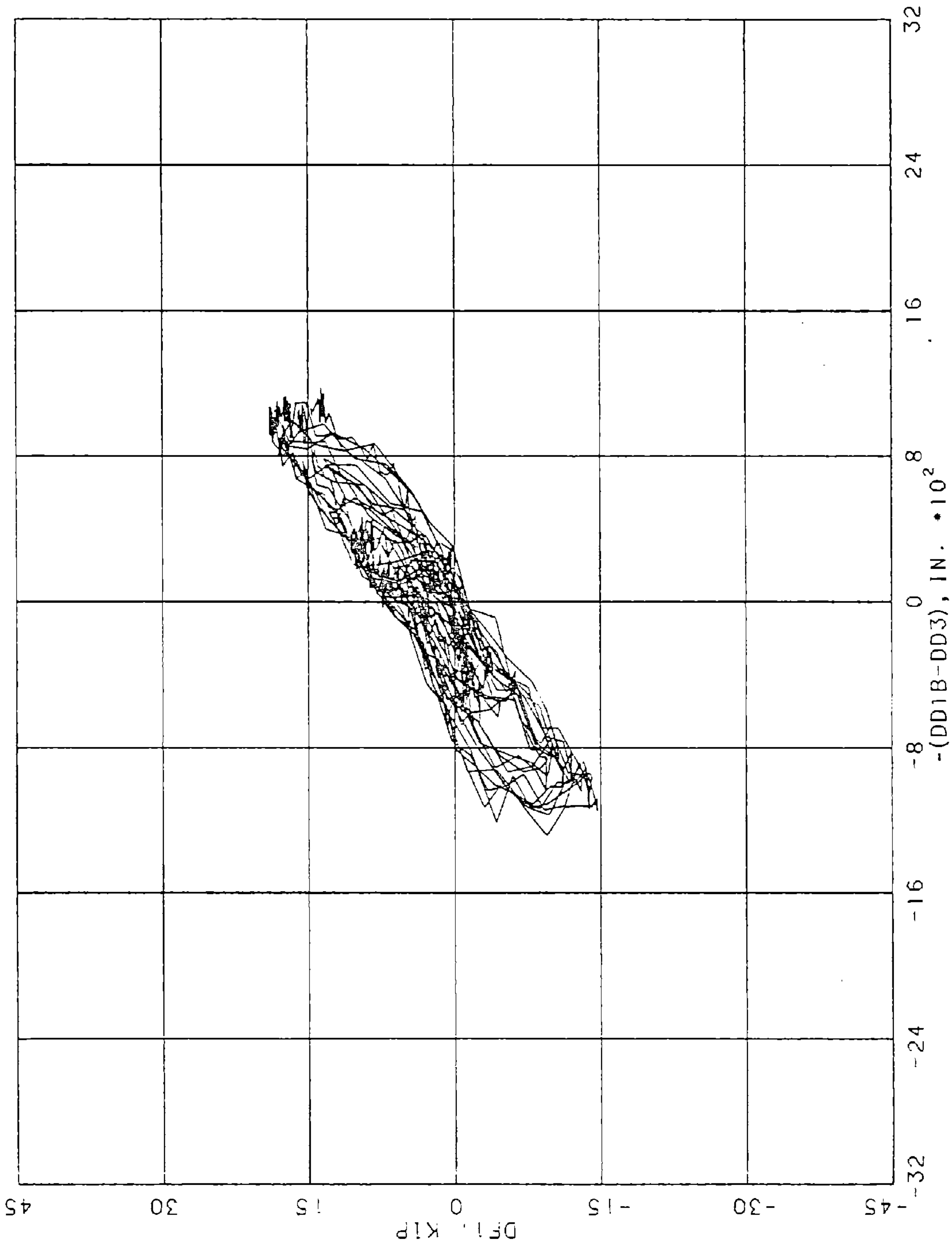


FIGURE C-90. DIAPHRAGM S. END 1. QS 2.

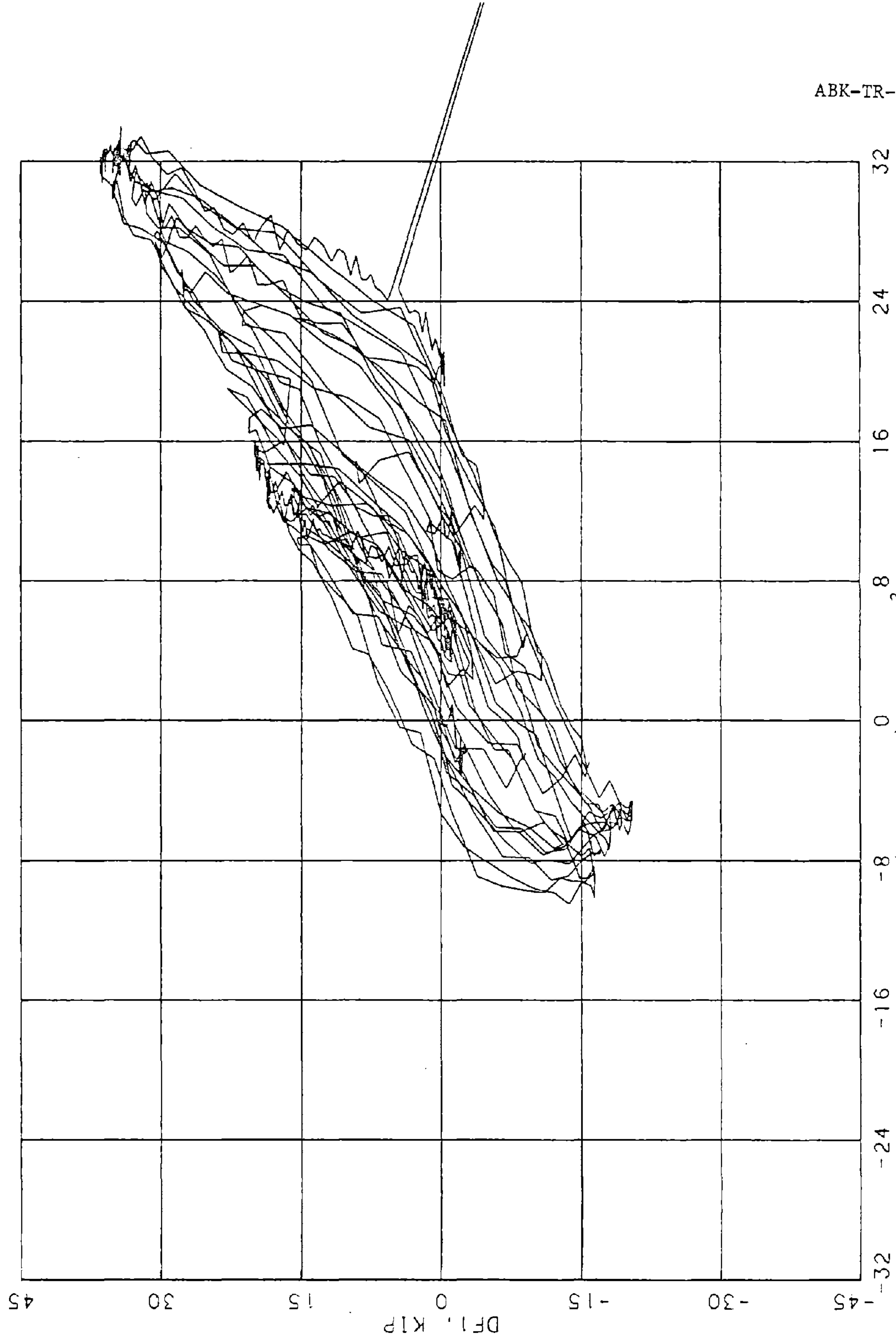


FIGURE C-91. DIAPHRAGM S. END 1. QS 3.

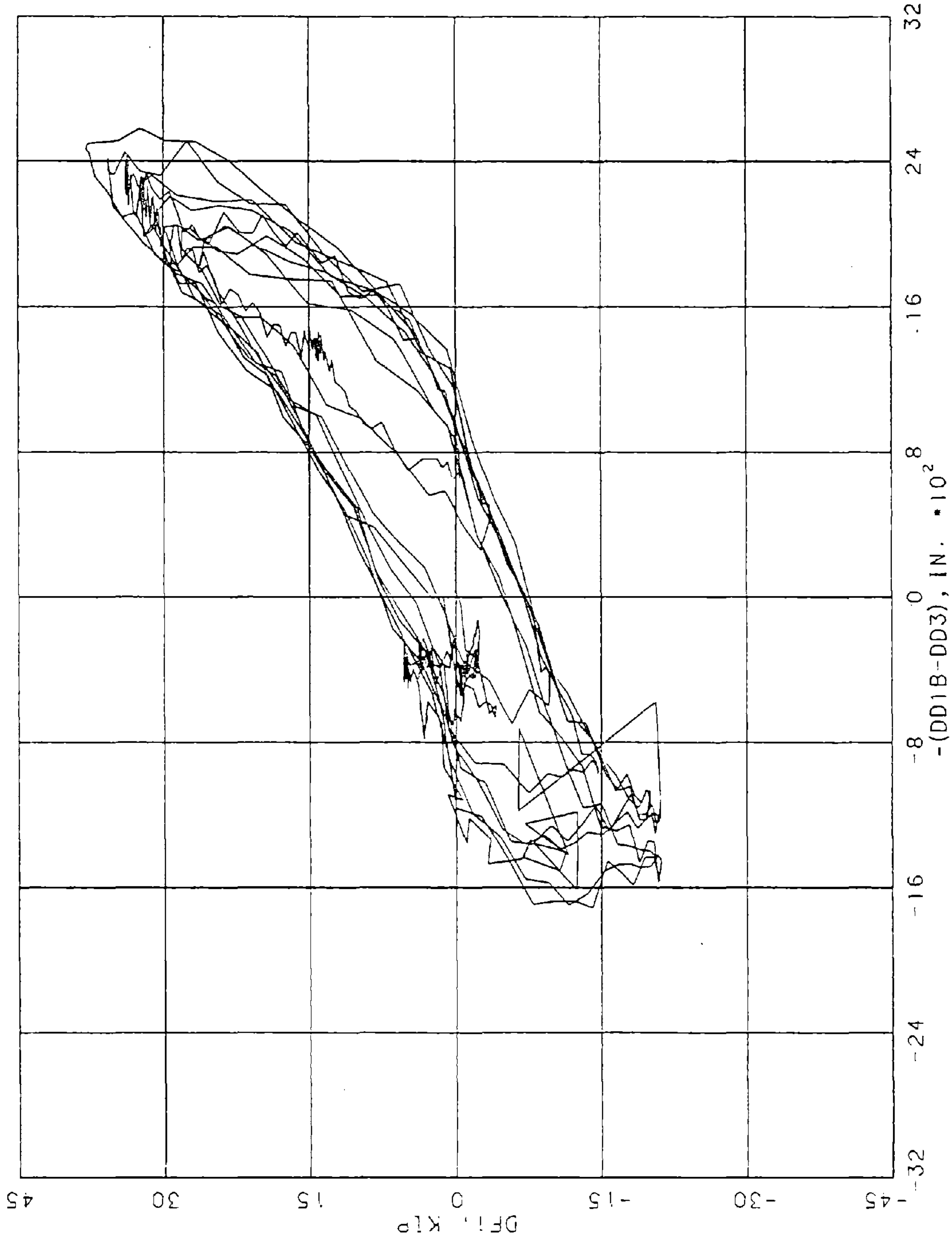


FIGURE C-92. DIAPHRAGM S. END 1. QS 4.

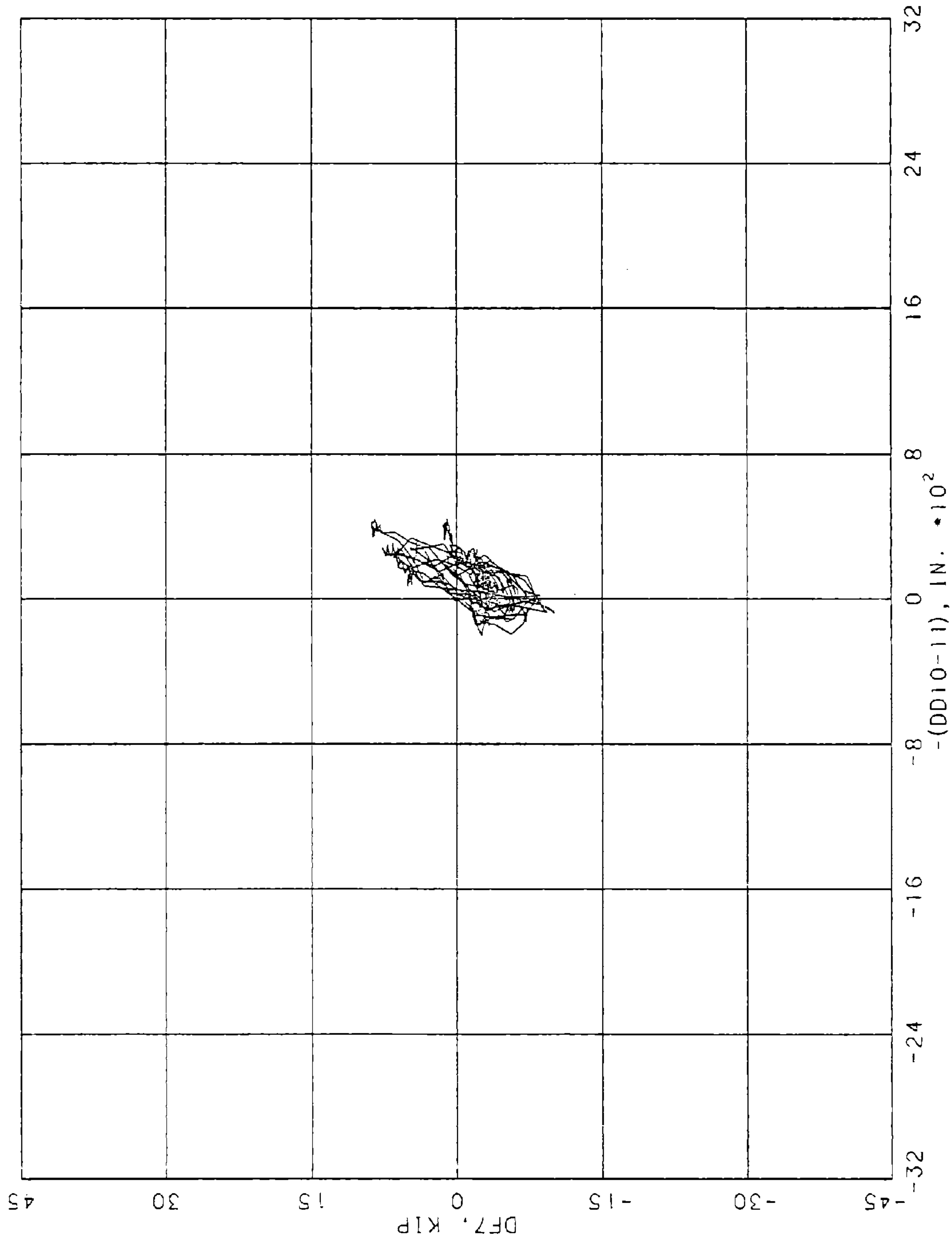


FIGURE C-93. DIAPHRAGM S. END 7. QS 1.

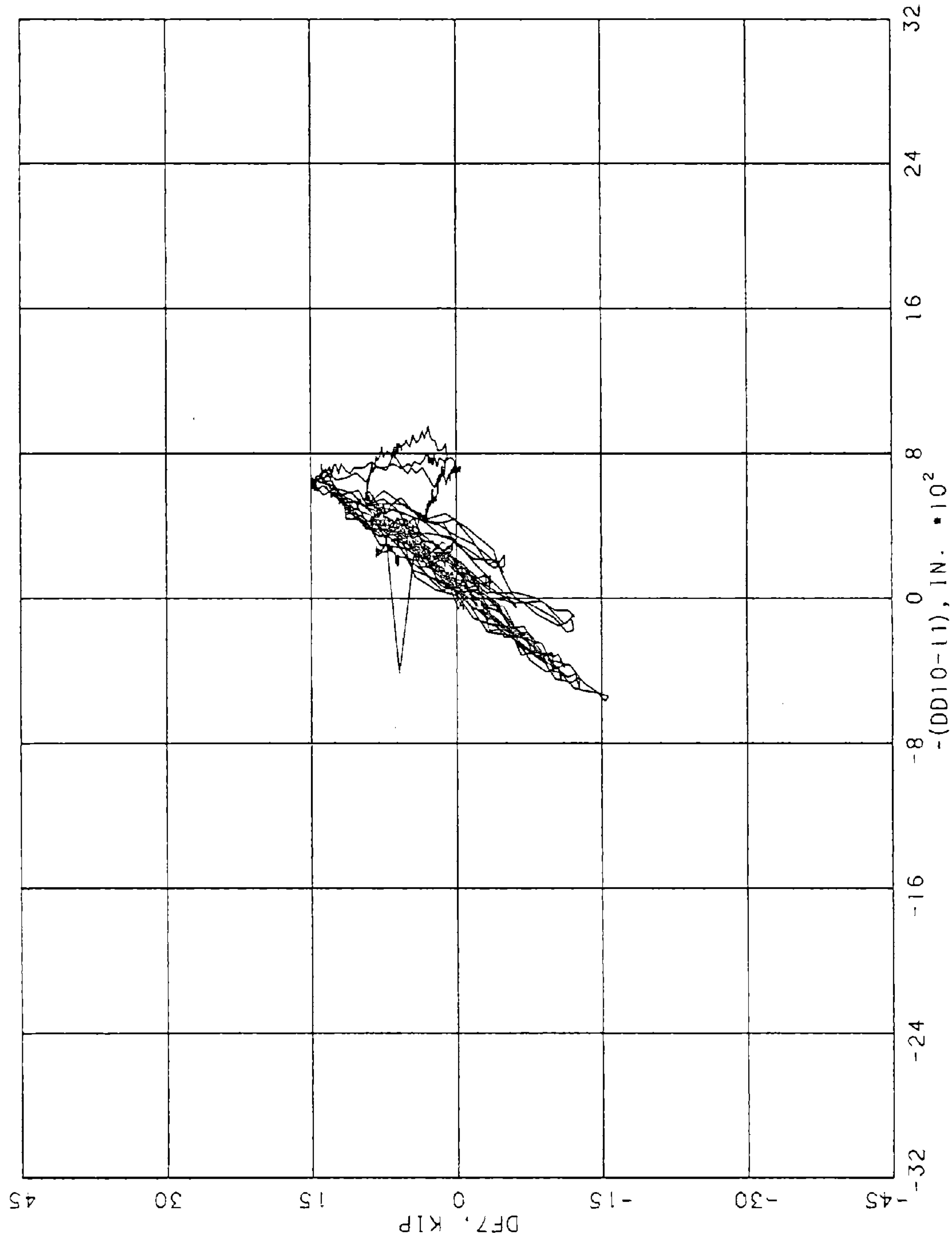


FIGURE C-94. DIAPHRAGM S. END 7. QS 2.

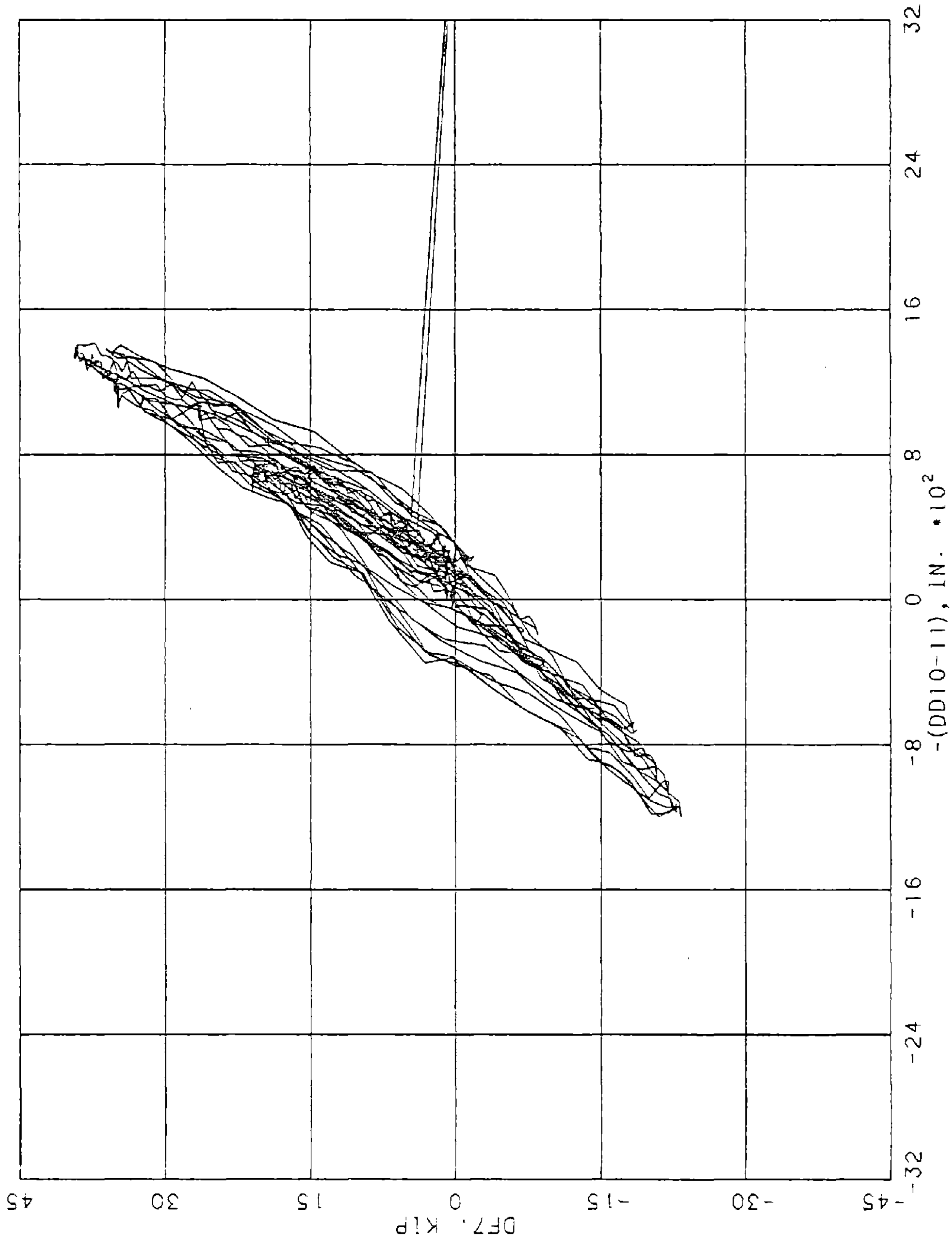


FIGURE C-95. DIAPHRAGM S. END 7. OS 3.

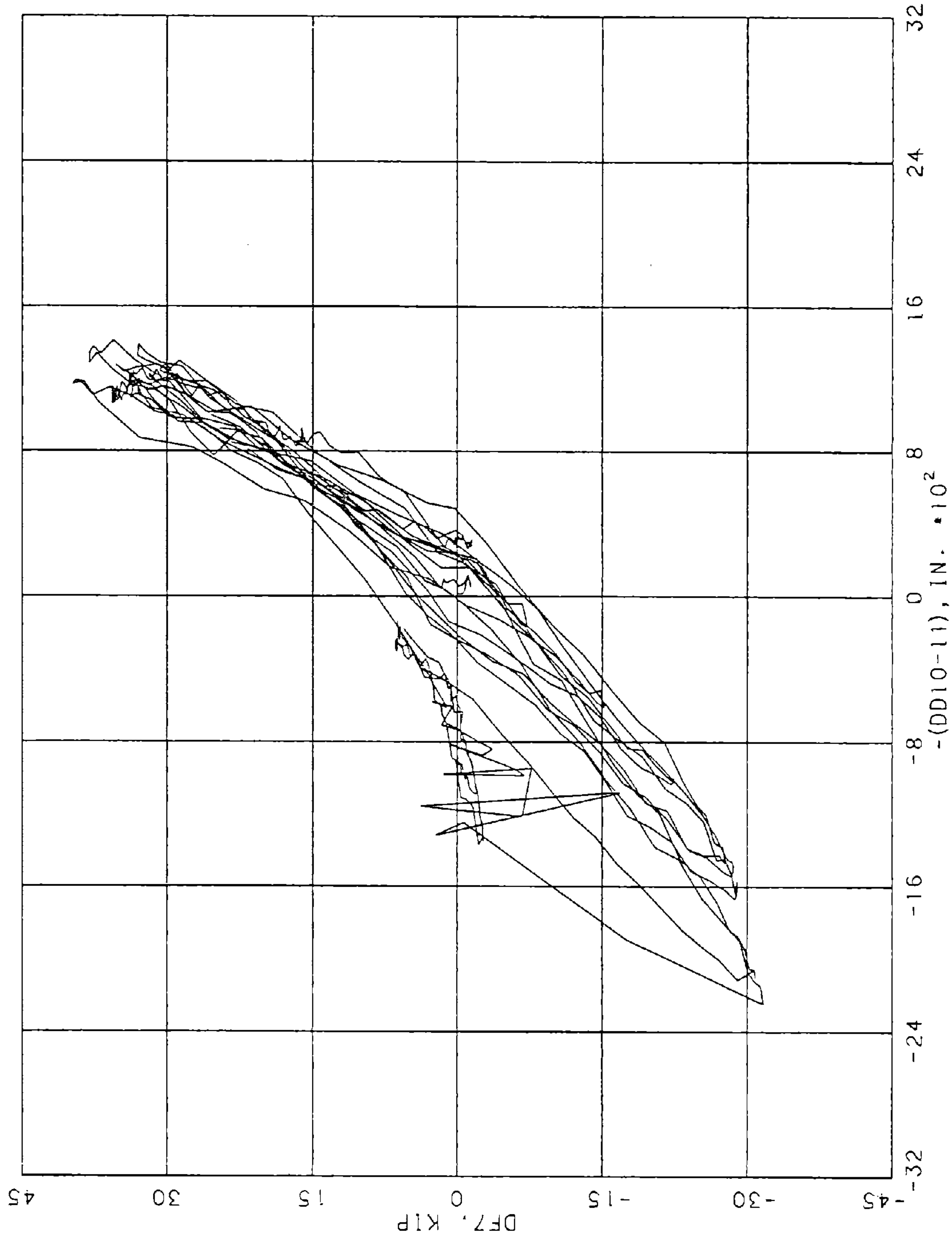


FIGURE C-96. DIAPHRAGM S. END 7. OS 4.

APPENDIX D

DYNAMIC FORCE-DEFORMATION PLOTS FOR ALL DIAPHRAGMS

This appendix gives dynamic force-deformation plots for selected time windows of two dynamic tests for all diaphragms. These plots are the dynamic counterparts of the plots given in Appendix C. The two dynamic tests presented are GM 3 and GM 5 (Tables 2-2 and 2-4). For each dynamic test two plots are given, one for each end (Fig. 2-7) of the diaphragm (i.e, end 1 and end 7), where the end force is plotted as a function of the dynamic, relative deflection between the end and the corresponding one-third point. In general, DF1 is plotted as a function of -(DD1B-DD3) for end 1, and DF7 is plotted as a function of -(DD7B-DD5) for end 7. However, when the displacement instrument records are contaminated, the backup gages -(DD9-DD8) and -(DD10-DD11) were used (Fig. 2-7). The negative sign for the relative deflection in these plots is employed to preserve the same orientation as that for the quasi-static plots in Appendix C. The use of the complete time record of the test would result in a very busy plot, and more useful information is obtained by selecting a time window (approximately 10 sec) that includes the most significant dynamic excursions of the diaphragm.

The plots for each diaphragm are grouped together in the order that the tests were conducted, where all the plots for end 1 are given first and are followed by those for end 7; and the plots for each diaphragm are given in alphabetic order using the diaphragm identification letter.

The plots for Diaphragm B are given in Figures D-1 through D-4, where the results for GM 3 and GM 5 for end 1 are given in Figures D-1 and D-2, respectively; and the results of GM 3 and GM 5 for end 7 are given in Figures D-3 and D-4, respectively. The figure numbers for each diaphragm are:

- o Diaphragm B, Figures D-1 through D-4
- o Diaphragm C, Figures D-5 through D-8
- o Diaphragm D, Figures D-9 through D-12
- o Diaphragm E, Figures D-13 through D-16
- o Diaphragm E_1, Figures D-17 through D-20
- o Diaphragm H, Figures D-21 through D-26
- o Diaphragm I, Figures D-27 through D-30
- o Diaphragm I_1, Figures D-31 through D-34

- Diaphragm K, Figures D-35 through D-40
- Diaphragm N, Figures D-41 through D-48
- Diaphragm P, Figures D-49 through D-52
- Diaphragm Q, Figures D-53 through D-56
- Diaphragm R, Figures D-57 through D-60
- Diaphragm S, Figures D-61 through D-68

These plots are used in conjunction with those given in Appendix C for determining the dynamic, nonlinear, hysteretic characteristics of each type of diaphragm (ABK 1982).

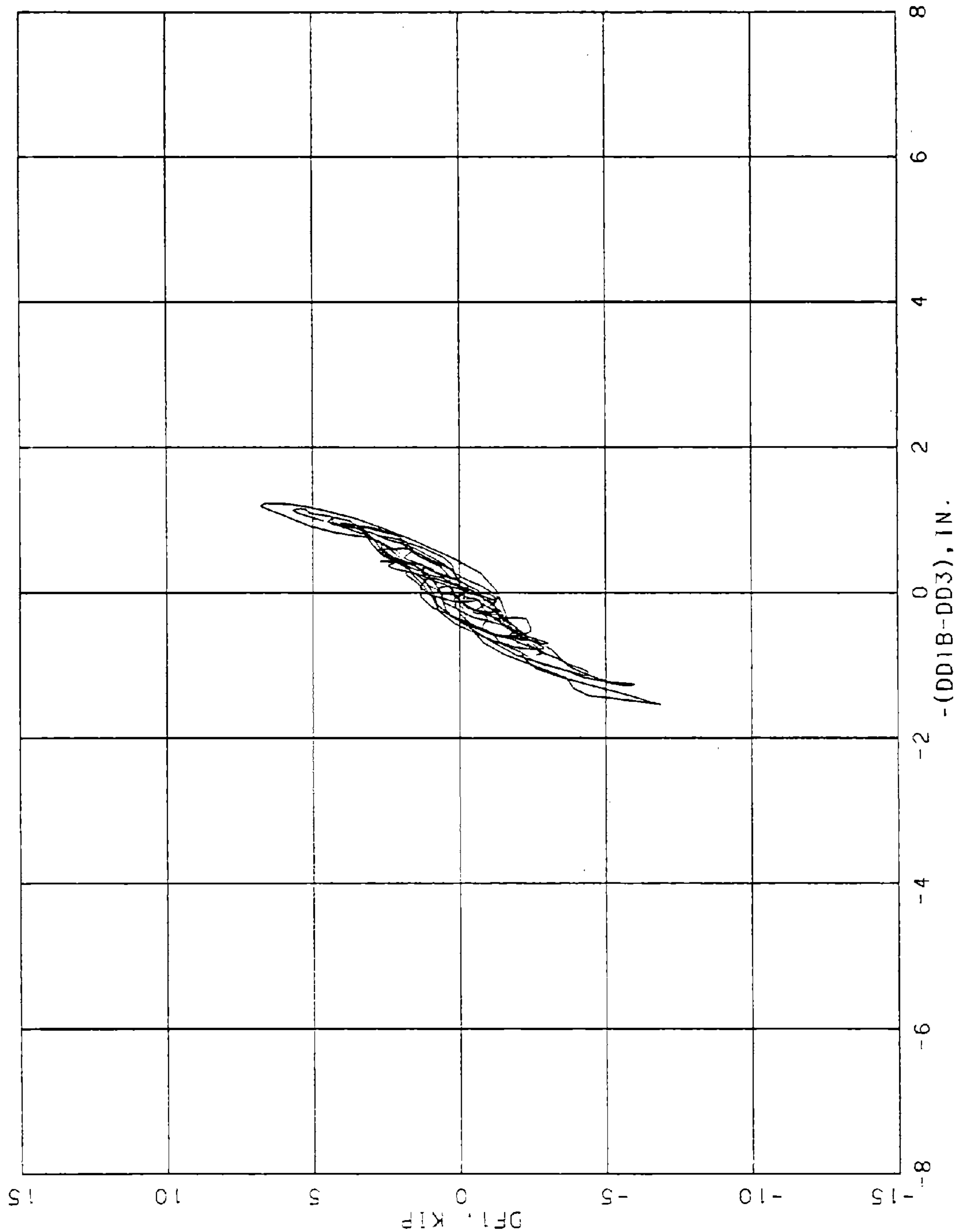


FIGURE D-1. DIAPHRAGM B. END 1. GM3.

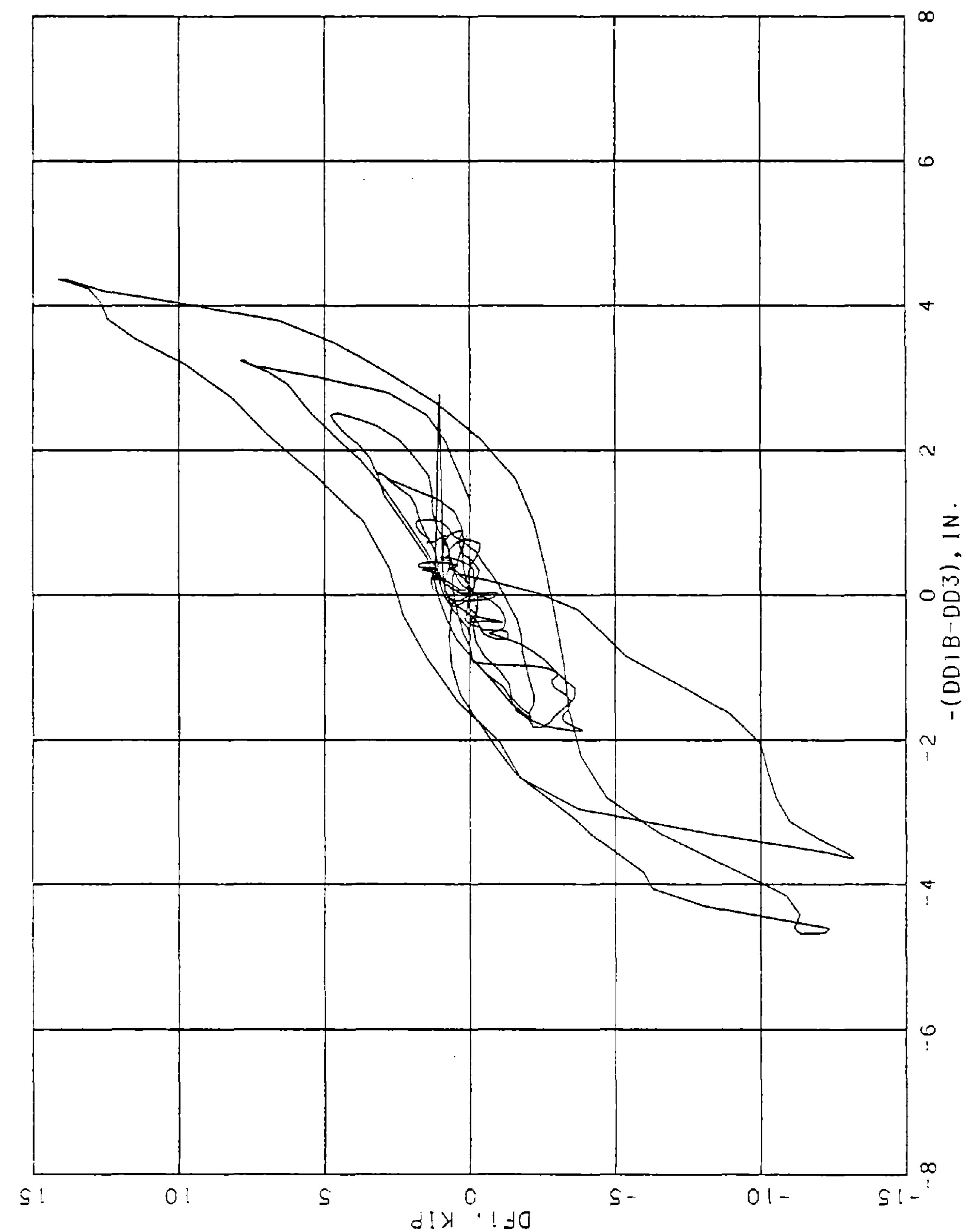


FIGURE D-2. DIAPHRAGM B. END 1. GM5.

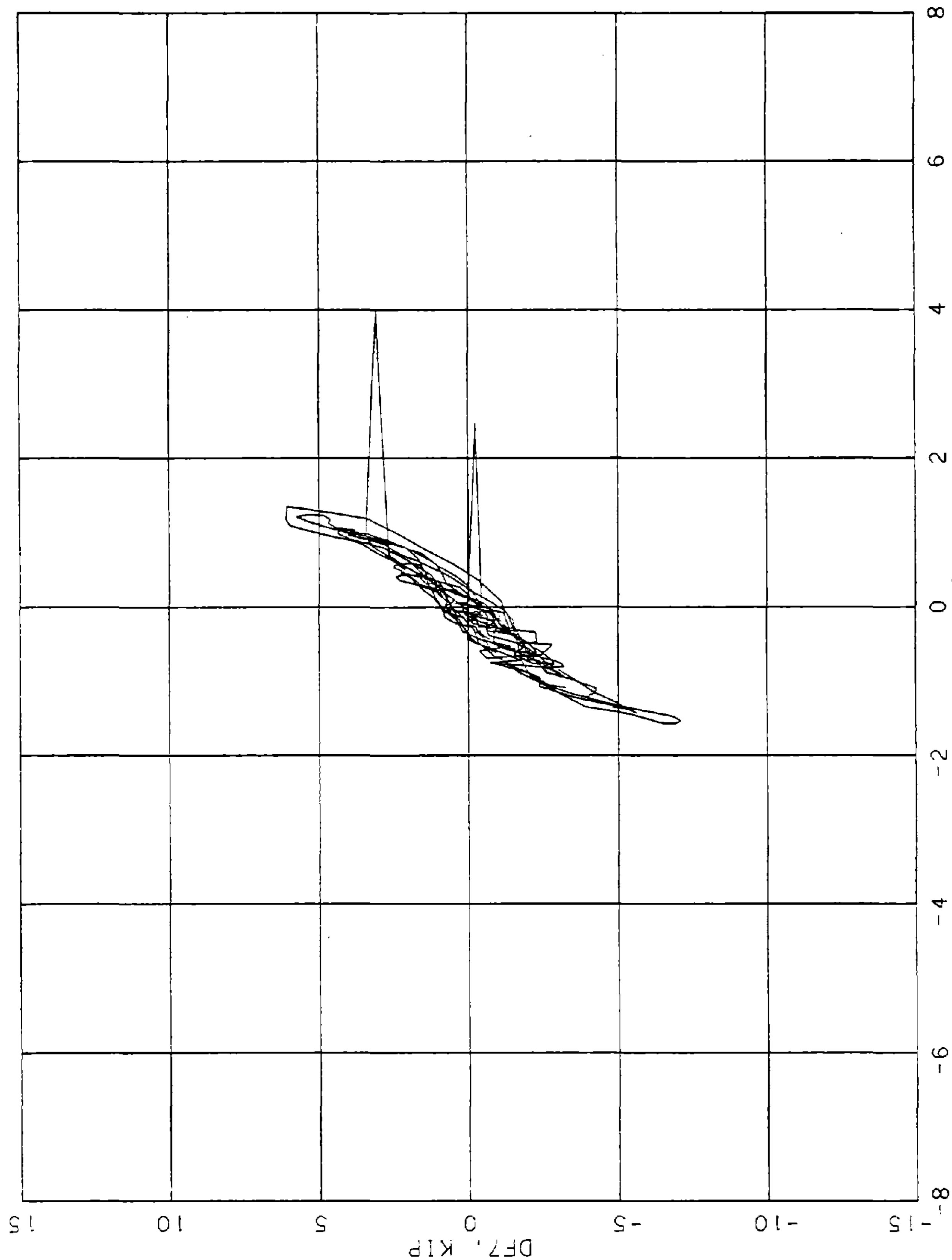


FIGURE D-3. DIAPHRAGM B. END 7. GM3.

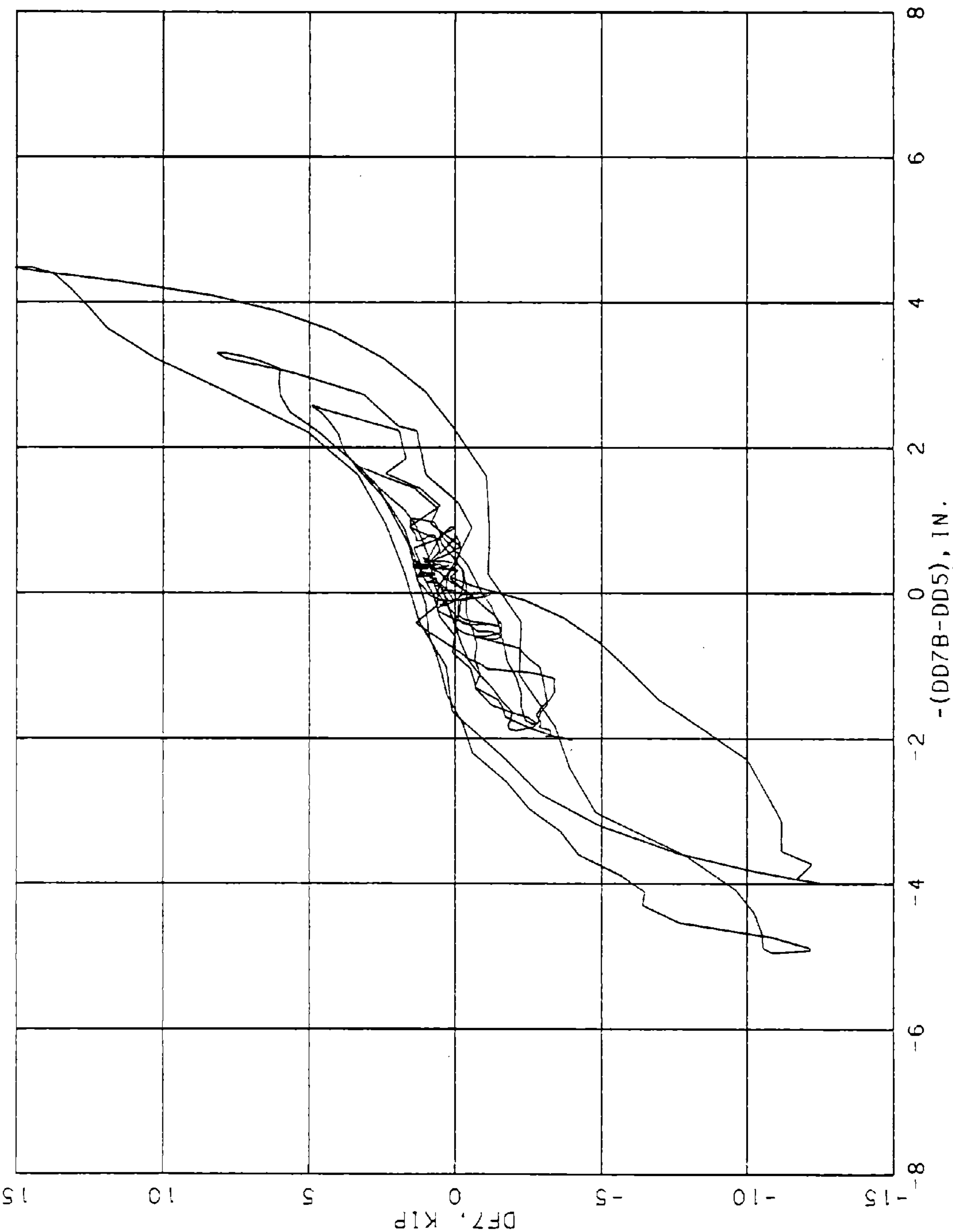


FIGURE D-4. DIAPHRAGM B. END 7. GM5.

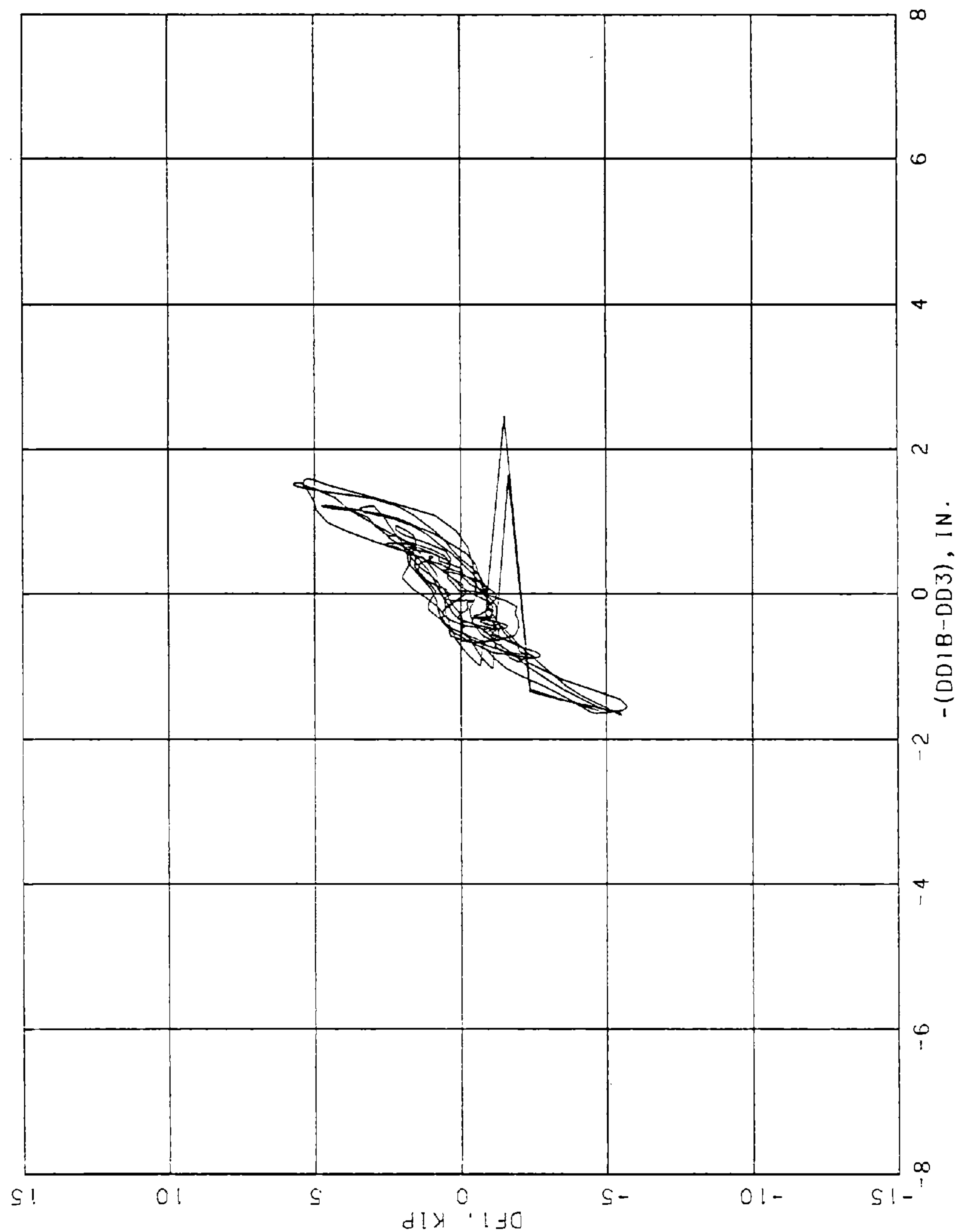


FIGURE D-5. DIAPHRAGM C. END 1. GM3.

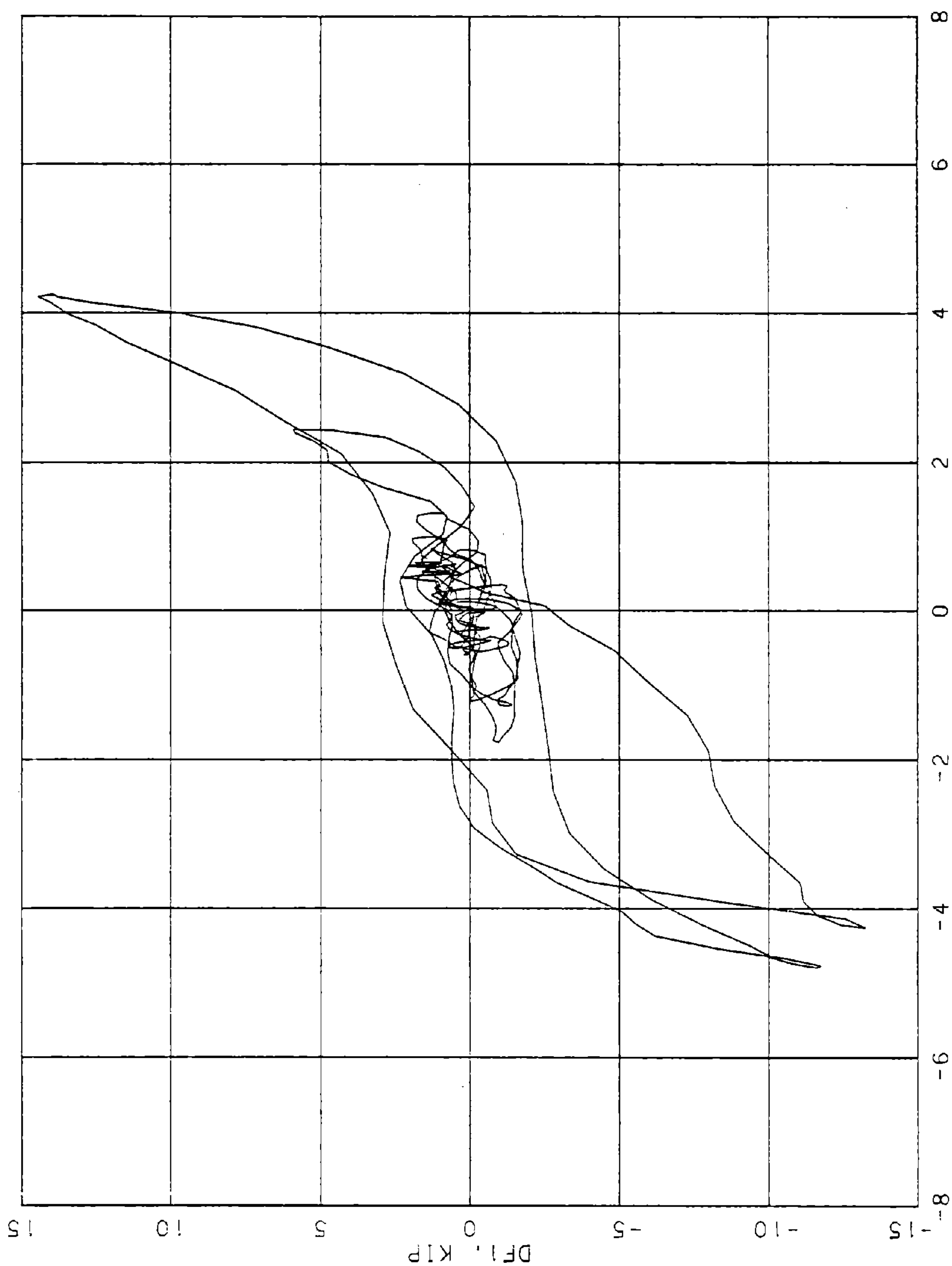


FIGURE D-6. DIAPHRAGM C. END 1. CM5.

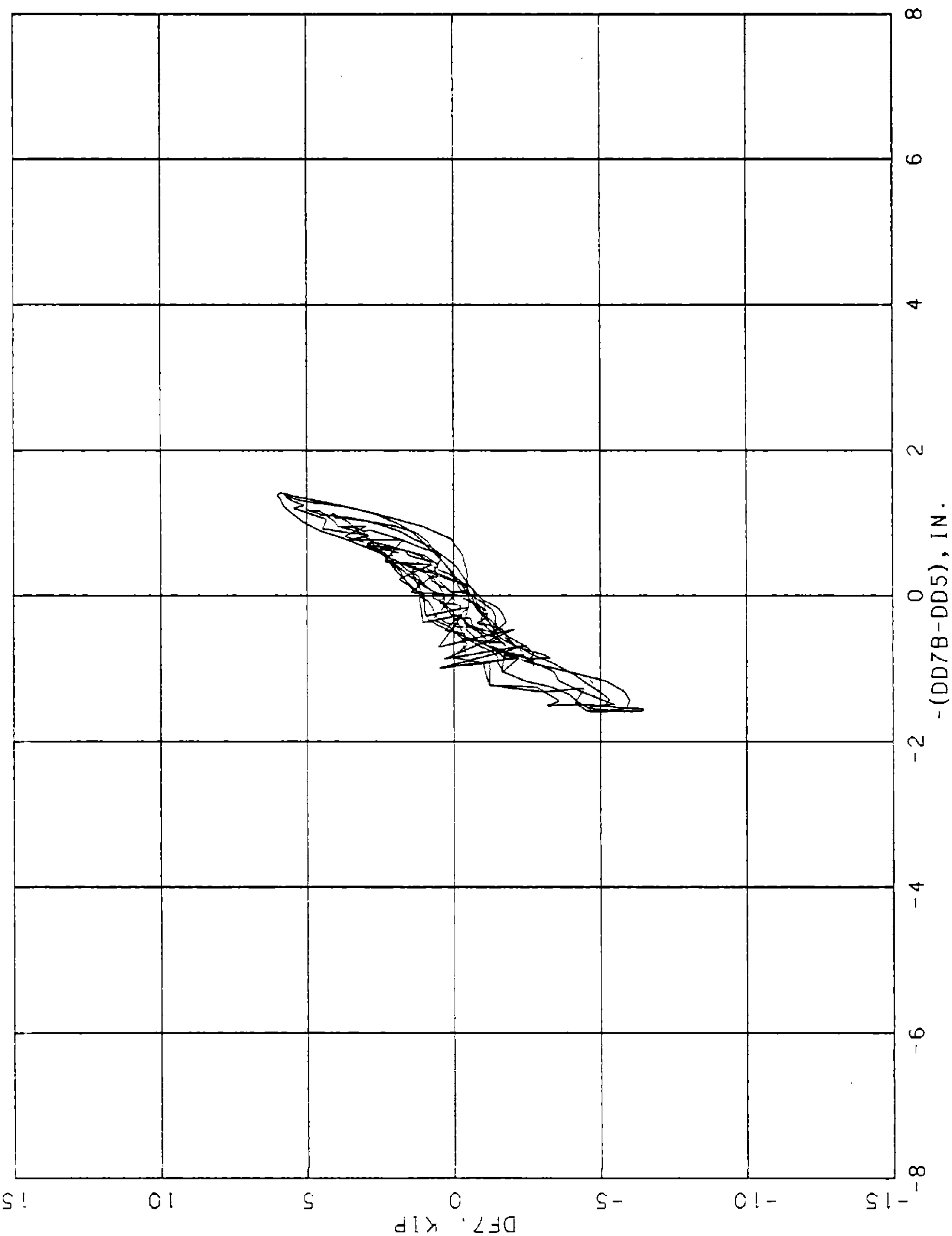


FIGURE D-7. DIAPHRAGM C. END 7. GM3.

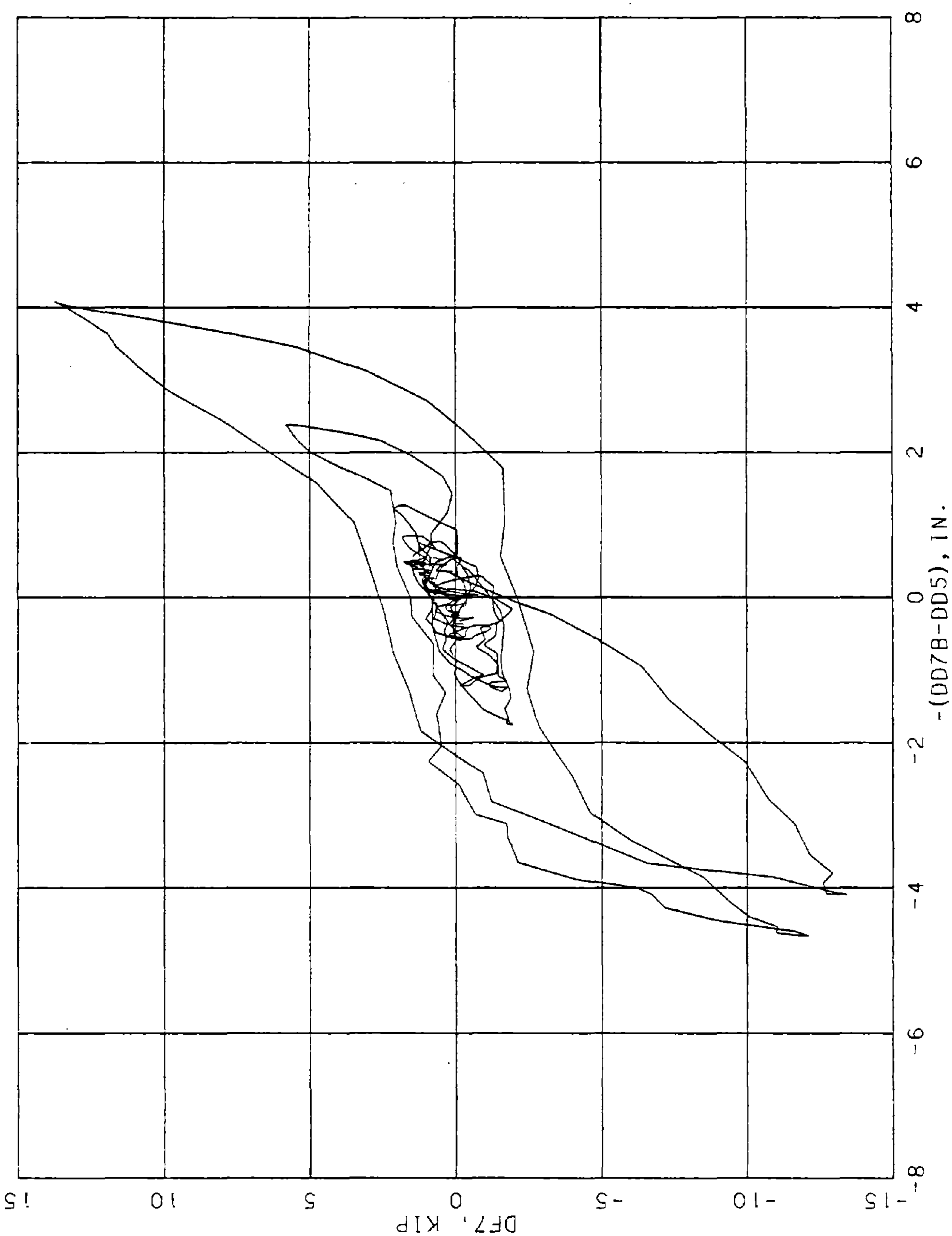


FIGURE D-8. DIAPHRAGM C. END 7. GM5.

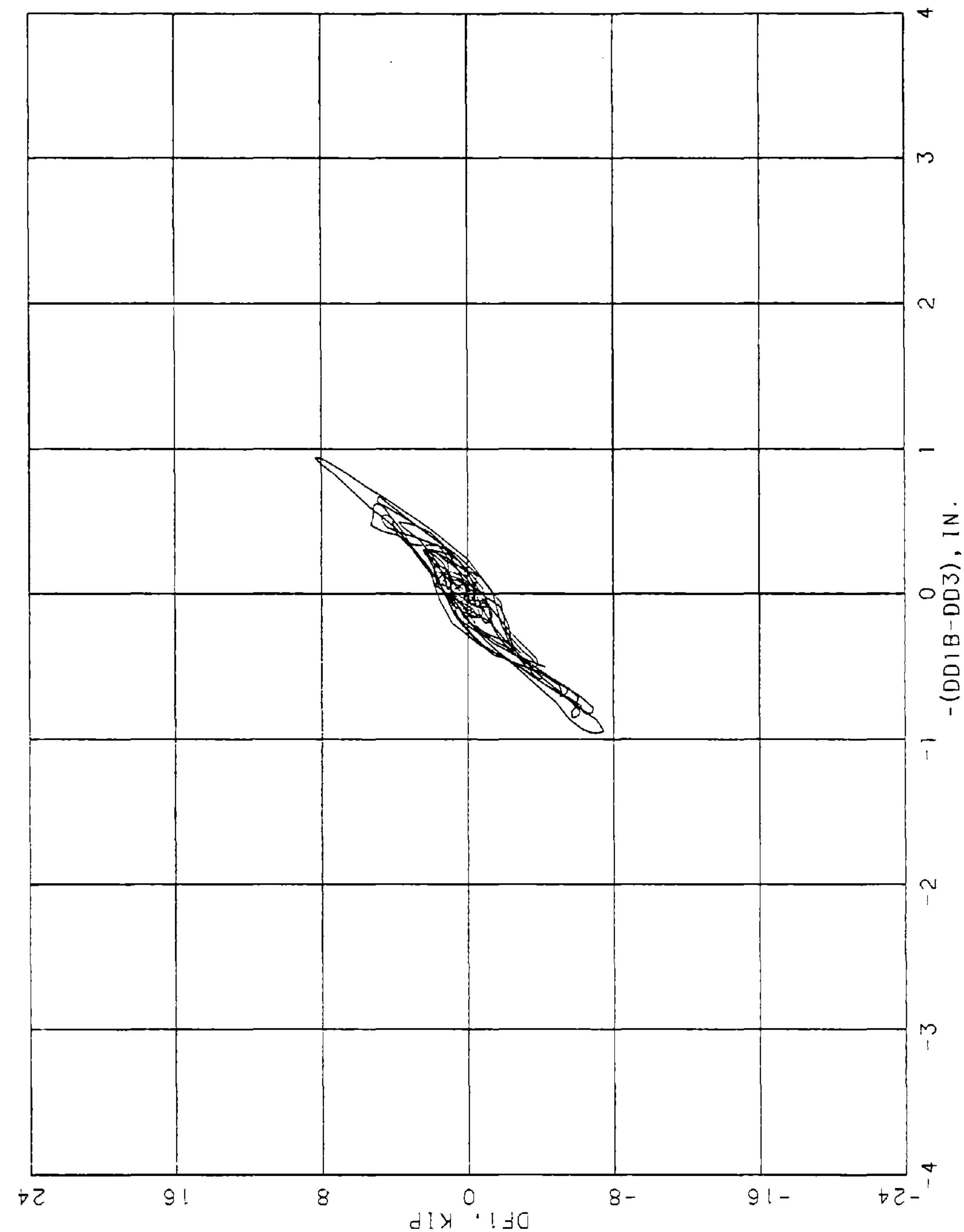


FIGURE D-9. DIAPHRAGM D. END 1. GM3.

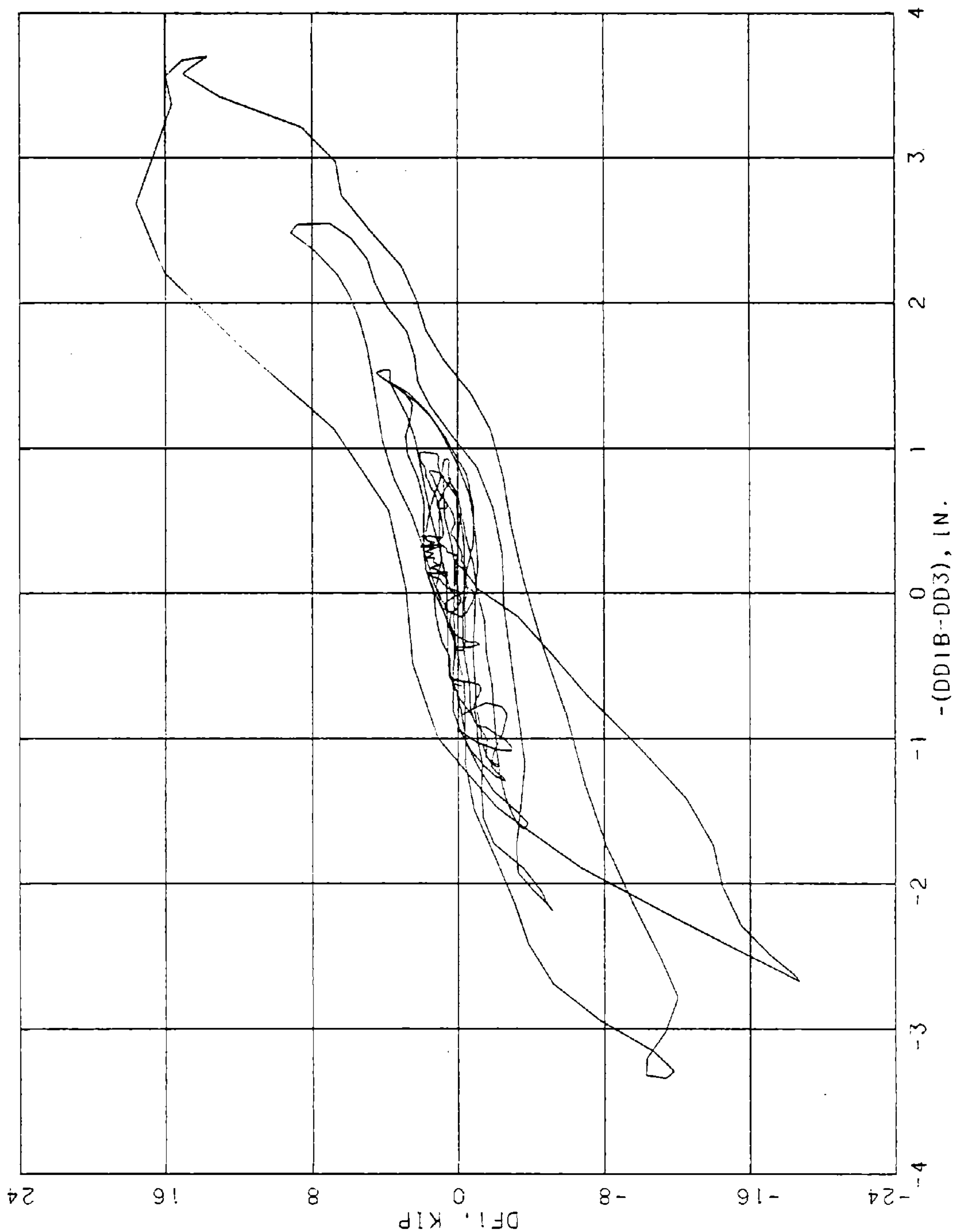


FIGURE D-10. DIAPHRAGM D. END 1. GM5.

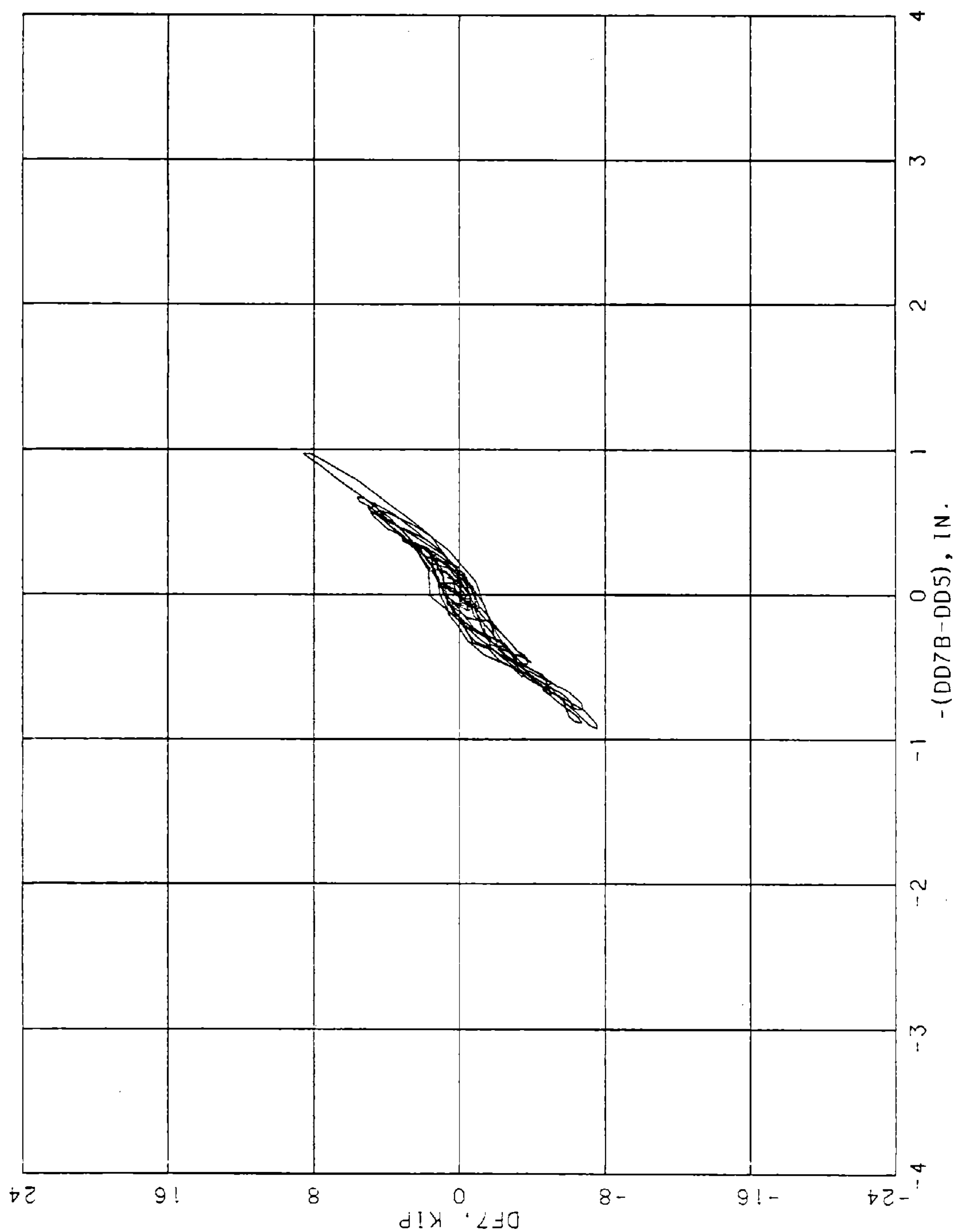


FIGURE D-11. DIAPHRAGM D. END 7. GM3.

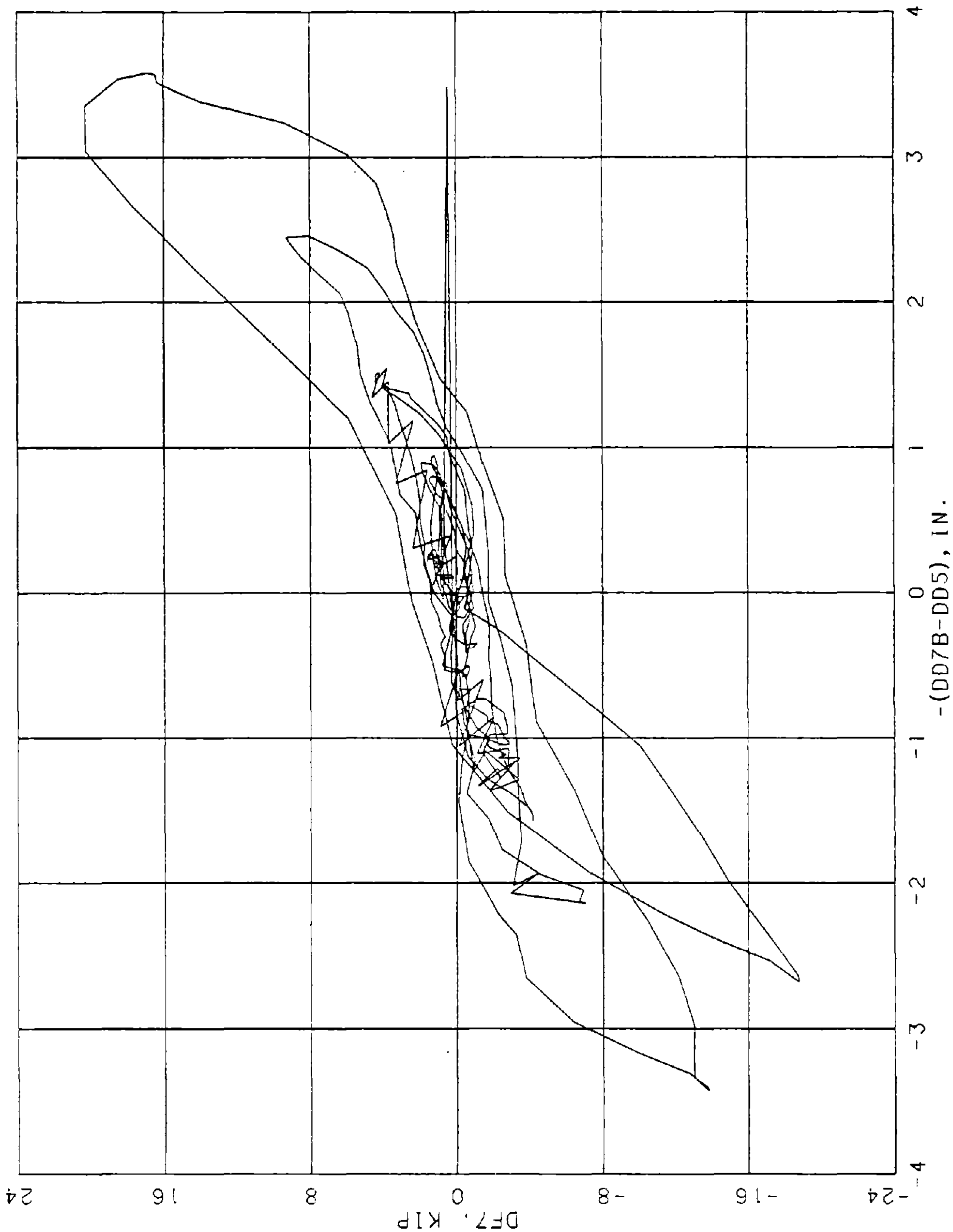


FIGURE D-12. DIAPHRAGM D. END 7. CMS.

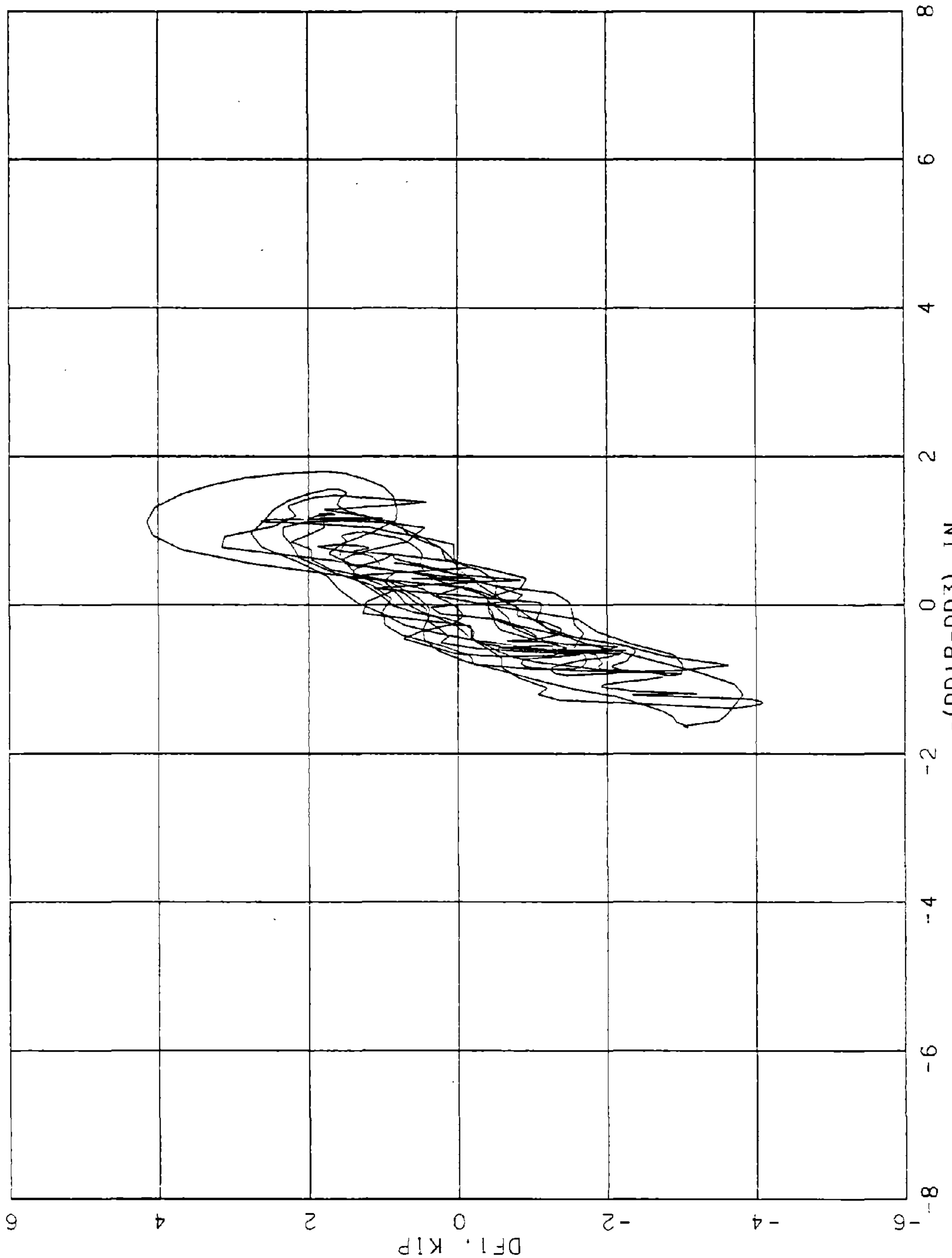


FIGURE D-13. DIAPHRAGM E. END 1. GM 3.

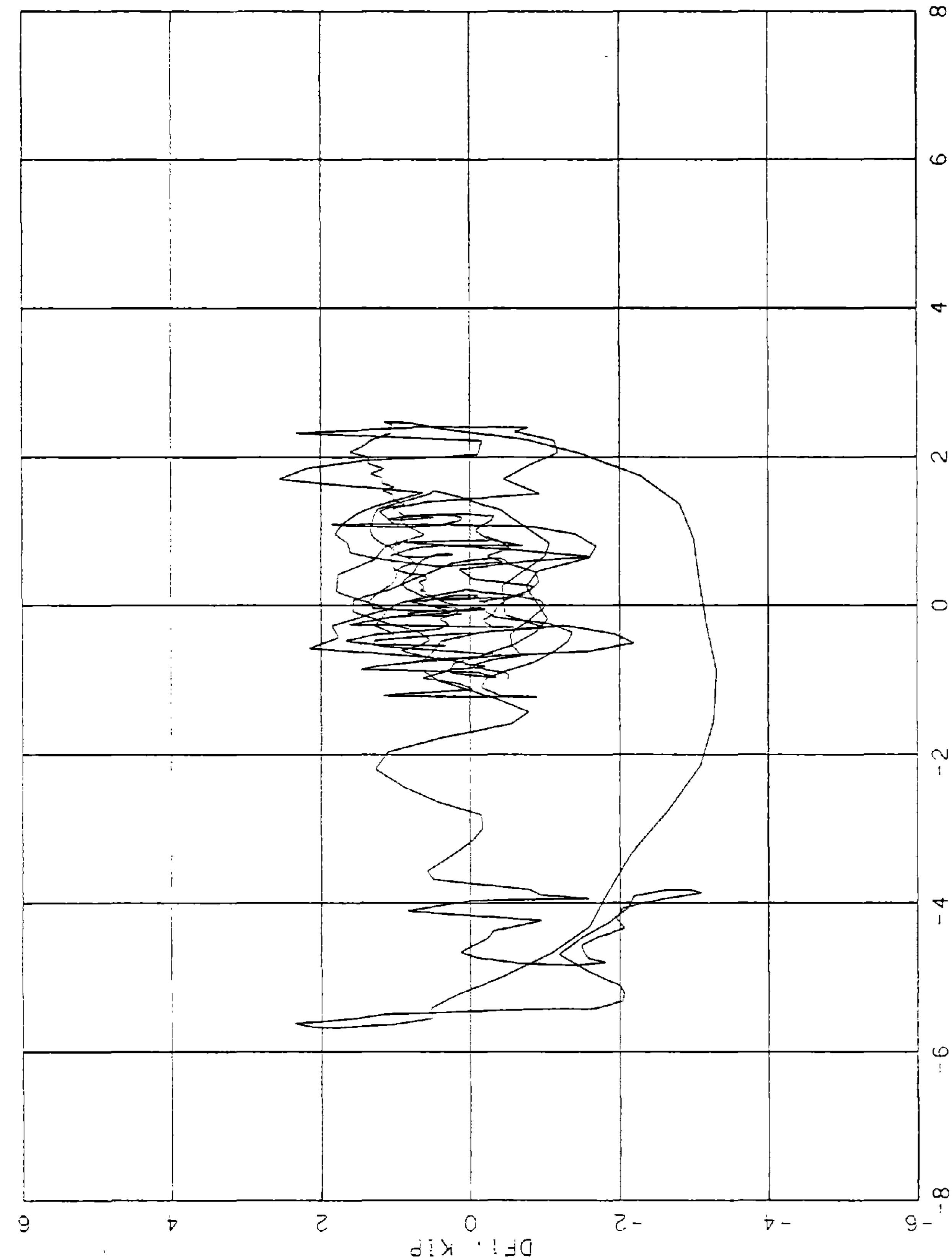


FIGURE D-14. DIAPHRAGM E. END 1. GM 5.

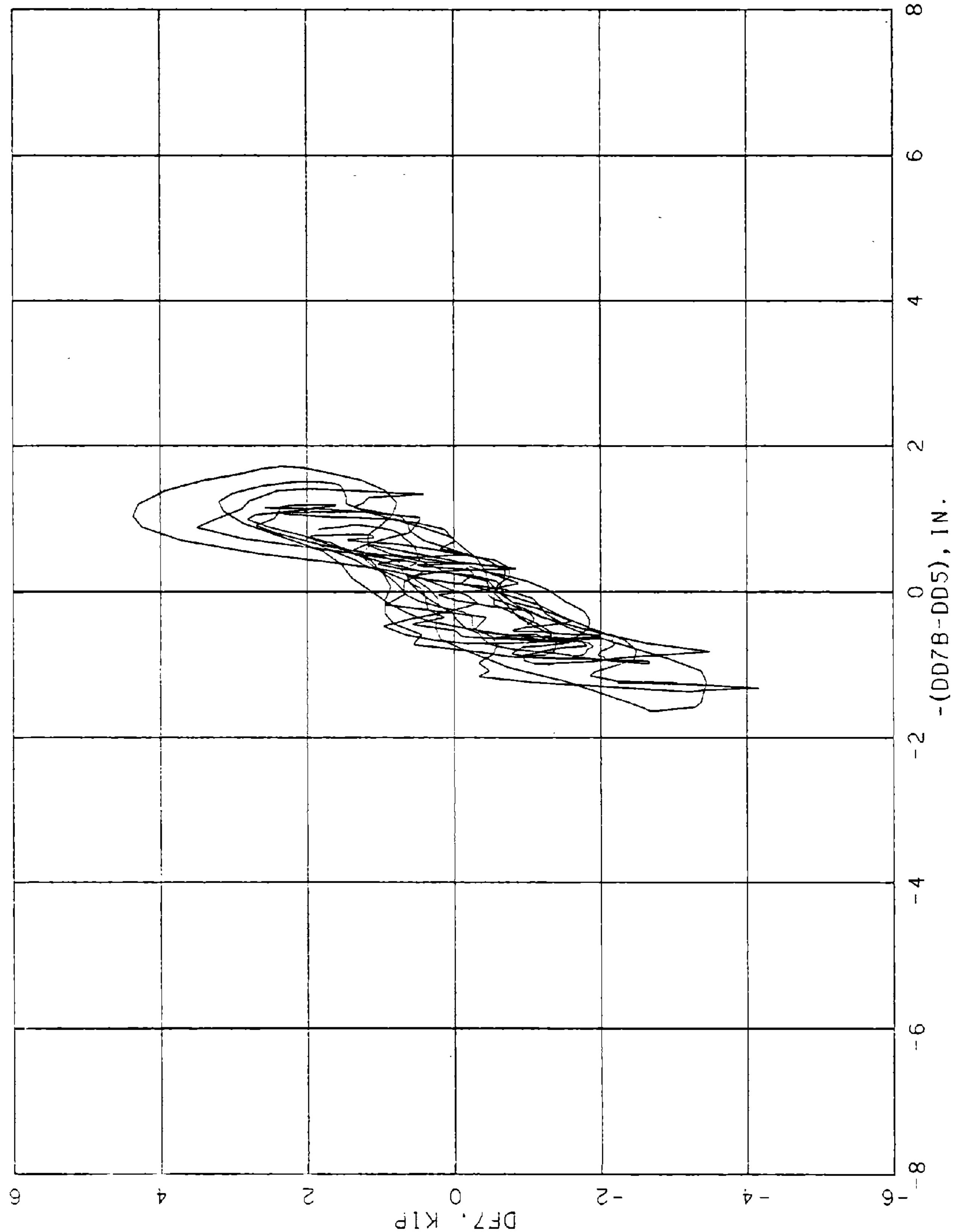


FIGURE D-15. DIAPHRAGM E. END 7. GM 3.

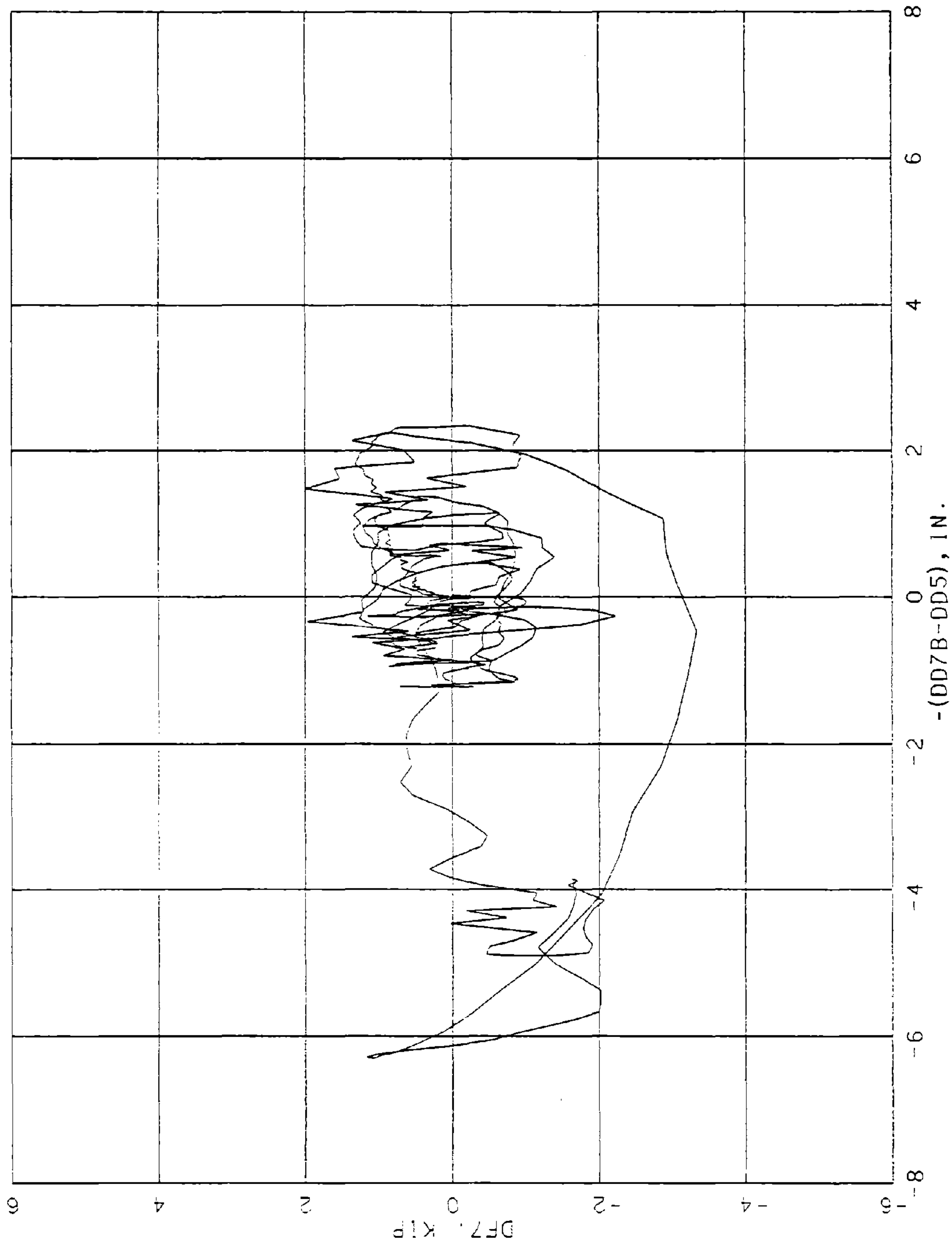


FIGURE D-16. DIAPHRAGM E. END 7. GM 5.

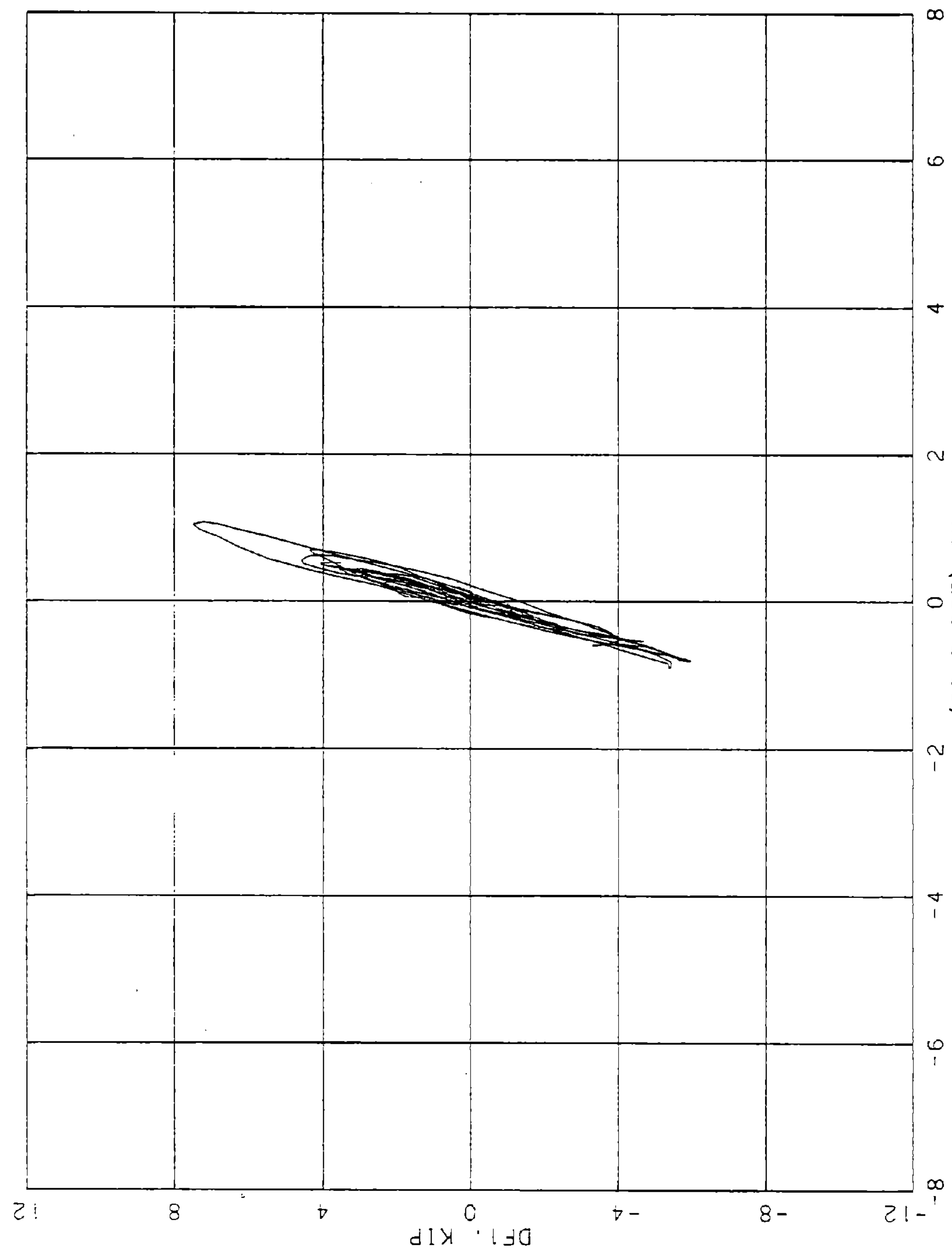


FIGURE D-17. DIAPHRAGM E1. END 1. GM 3.

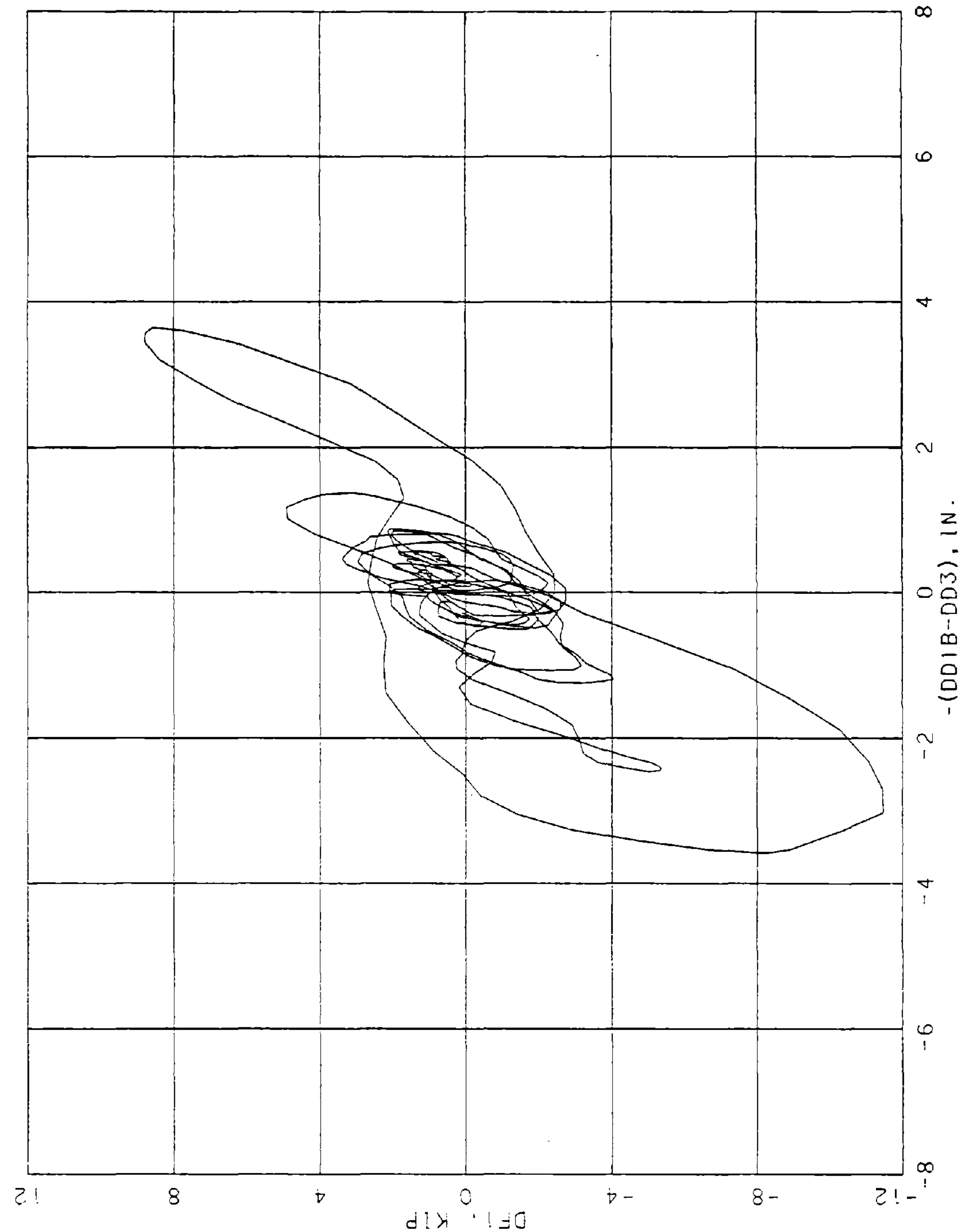


FIGURE D-18. DIAPHRAGM E1. END 1. CM 5.

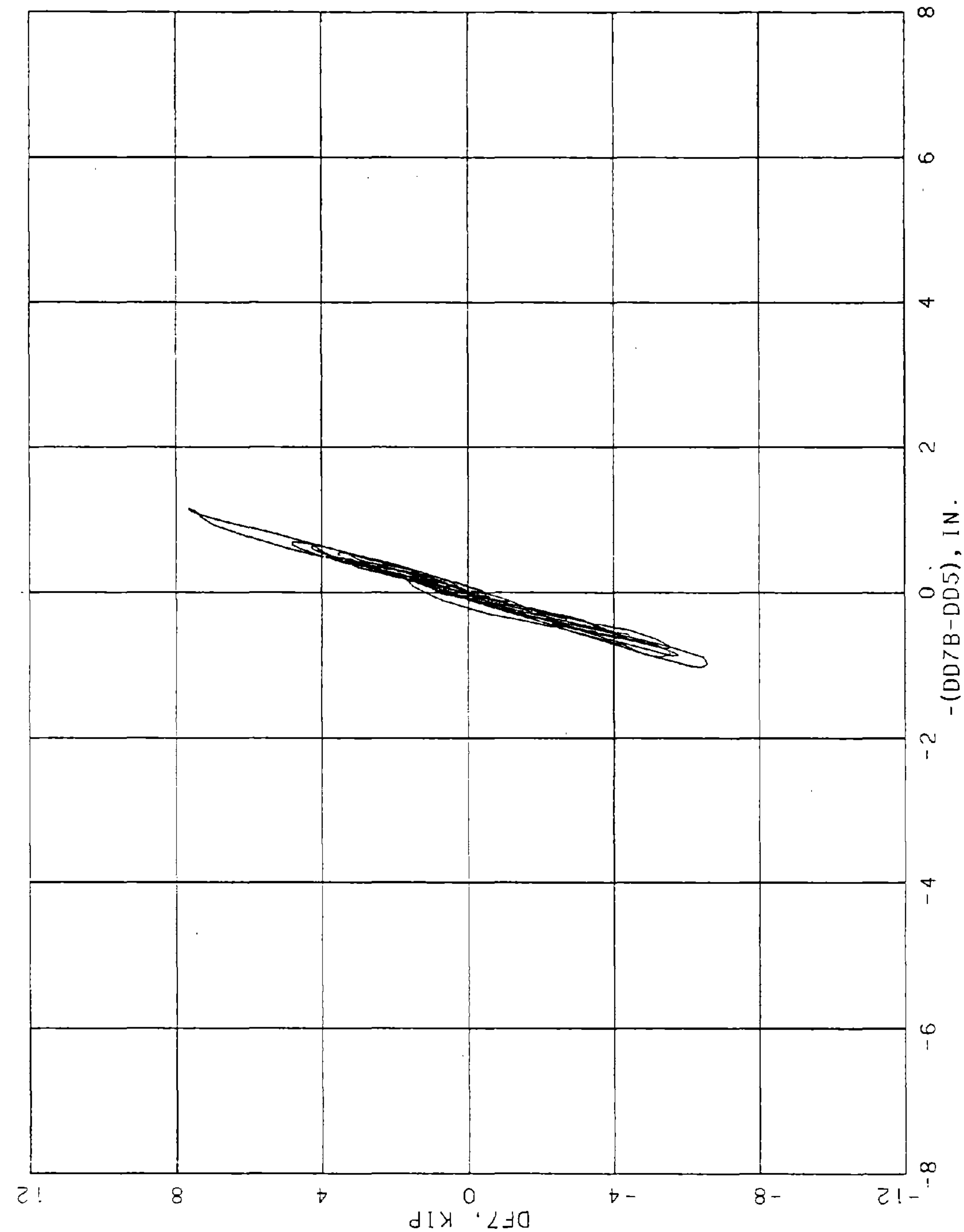


FIGURE D-19. DIAPHRAGM E1. END 7. GM 3.

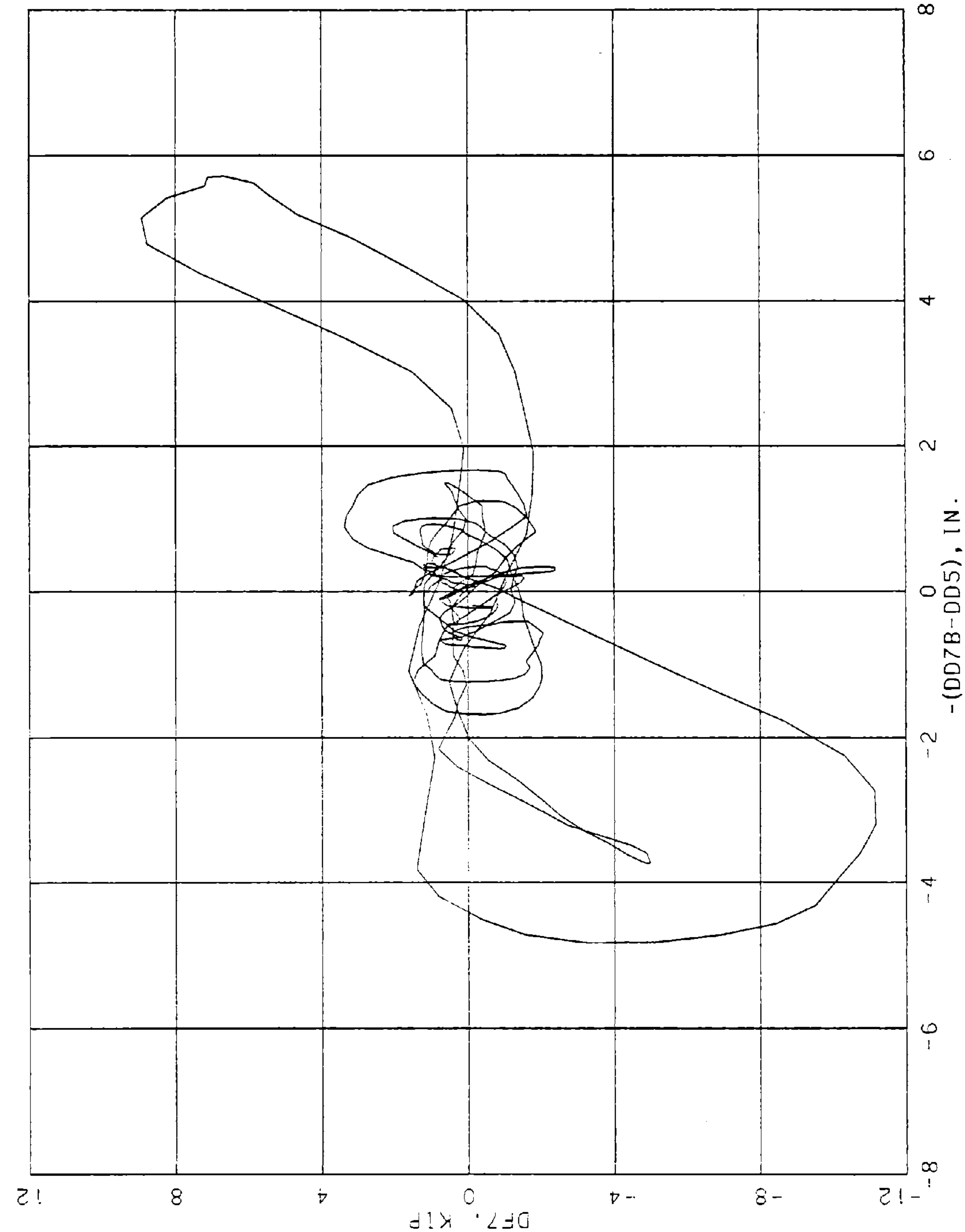


FIGURE D-20. DIAPHRAGM E1. END 7. GM 5.

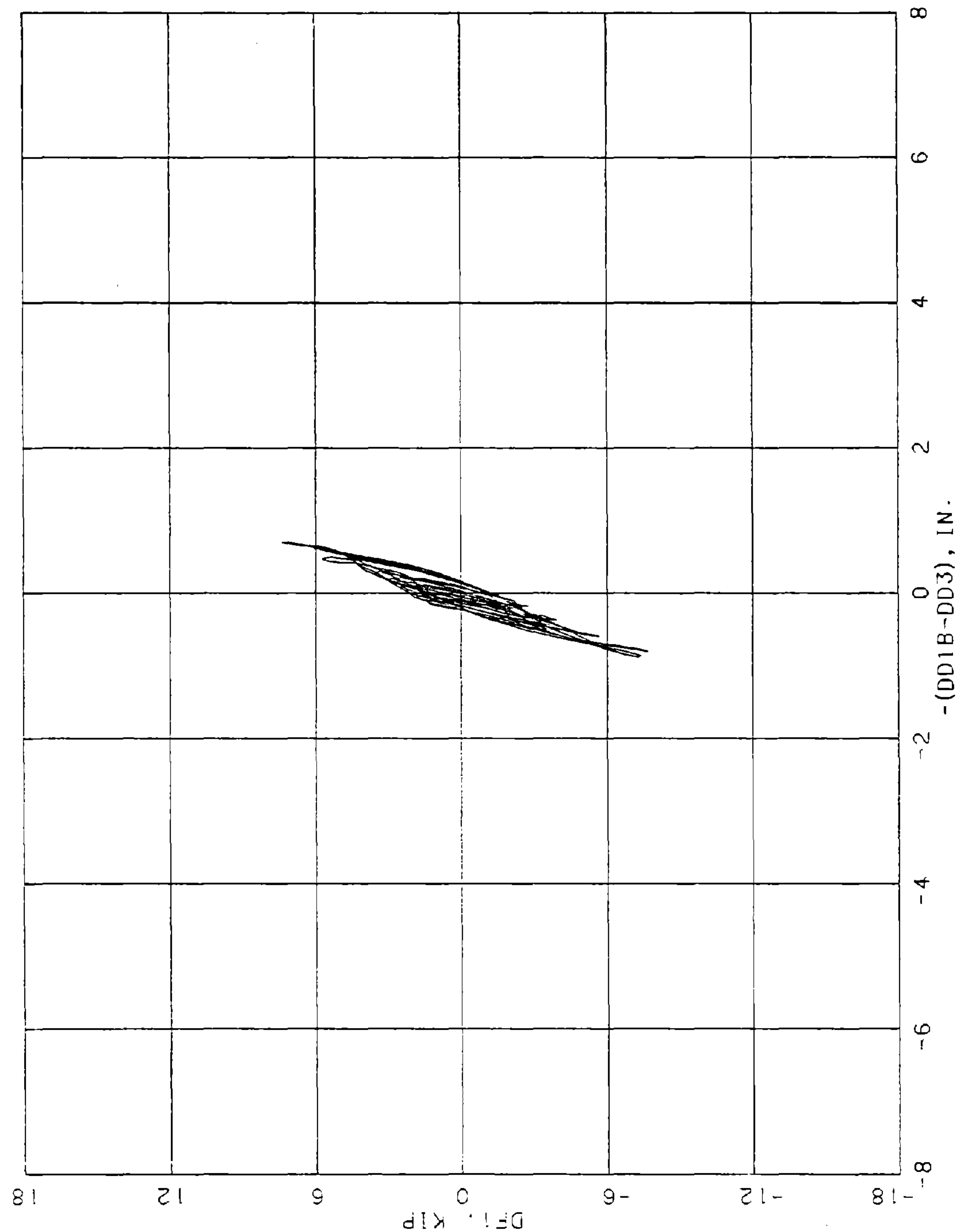


FIGURE D-21. DIAPHRAGM H. END 1. GM 3.

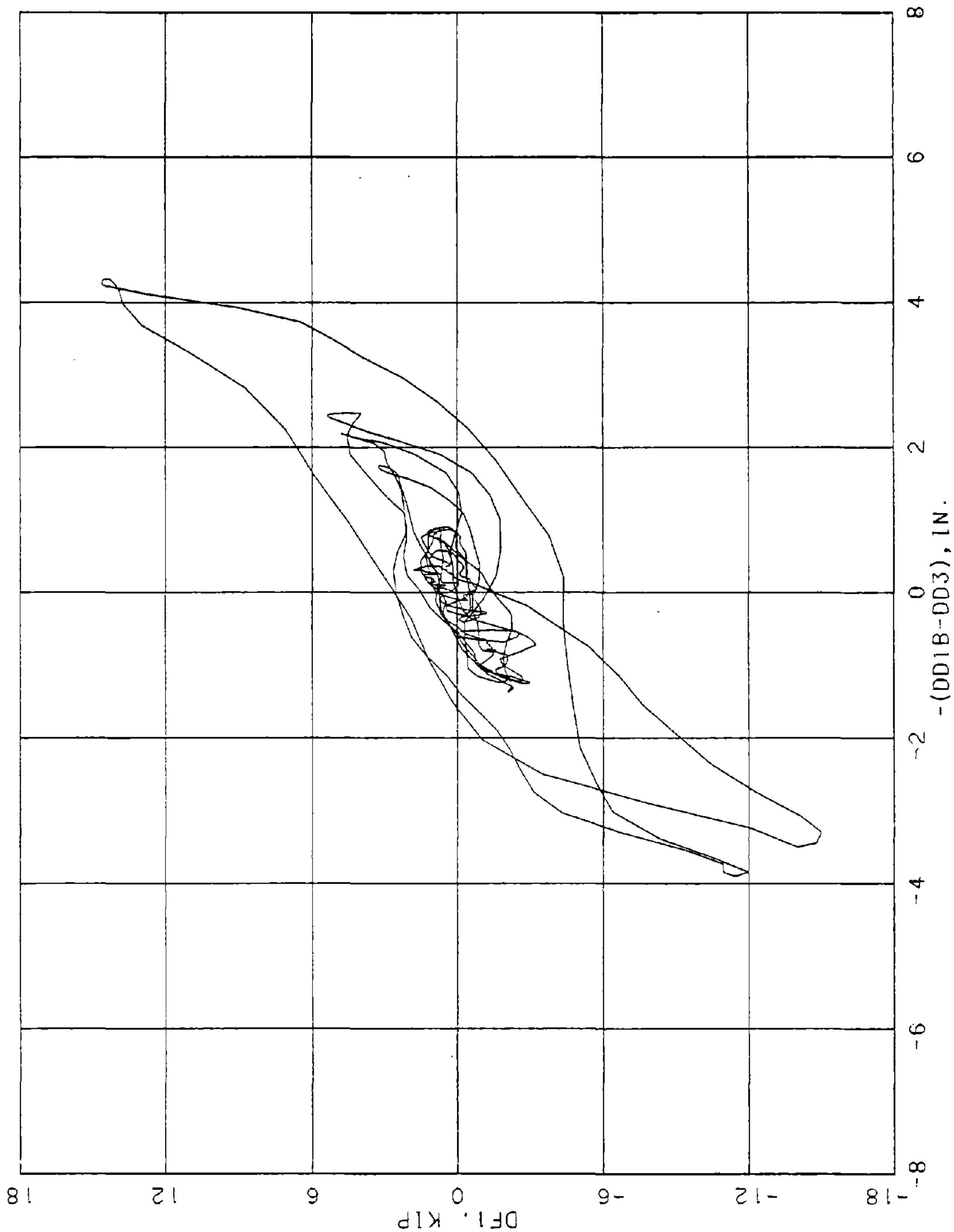


FIGURE D-22. DIAPHRAGM H. END 1. GM 5-1.

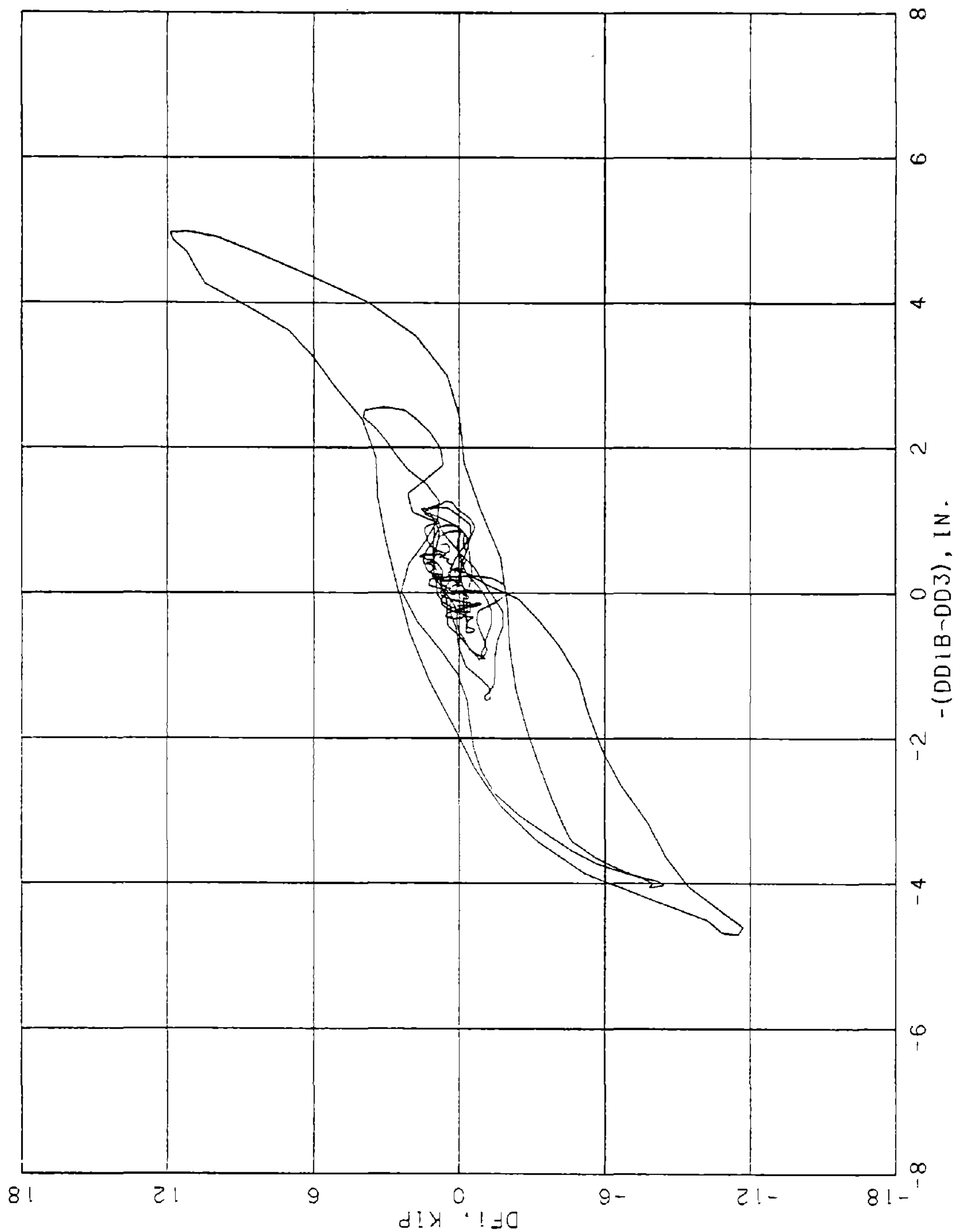


FIGURE D-23. DIAPHRAGM H. END 1. GM 5-2.

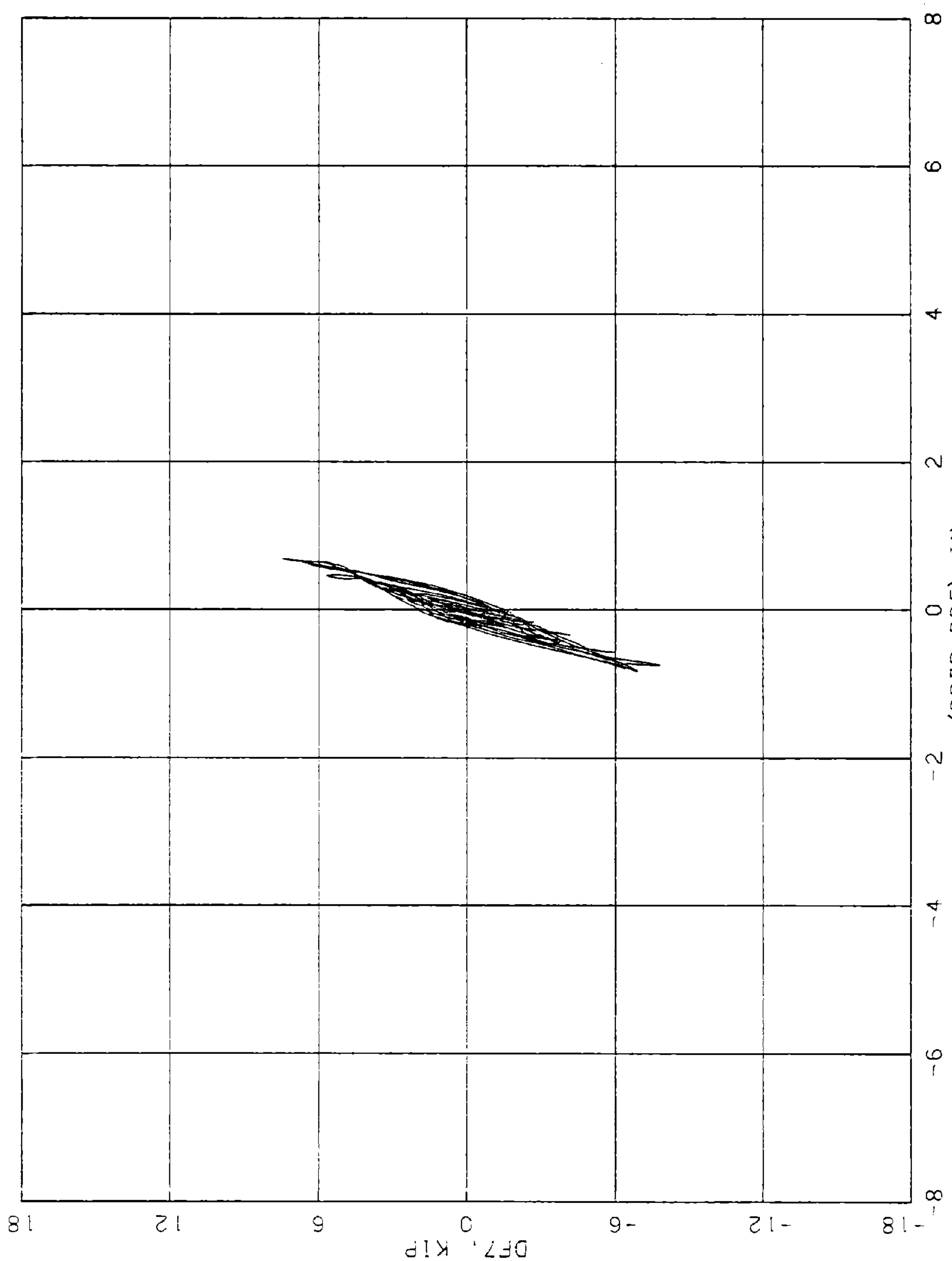


FIGURE D-24. DIAPHRAGM H. END 7. GM 3.

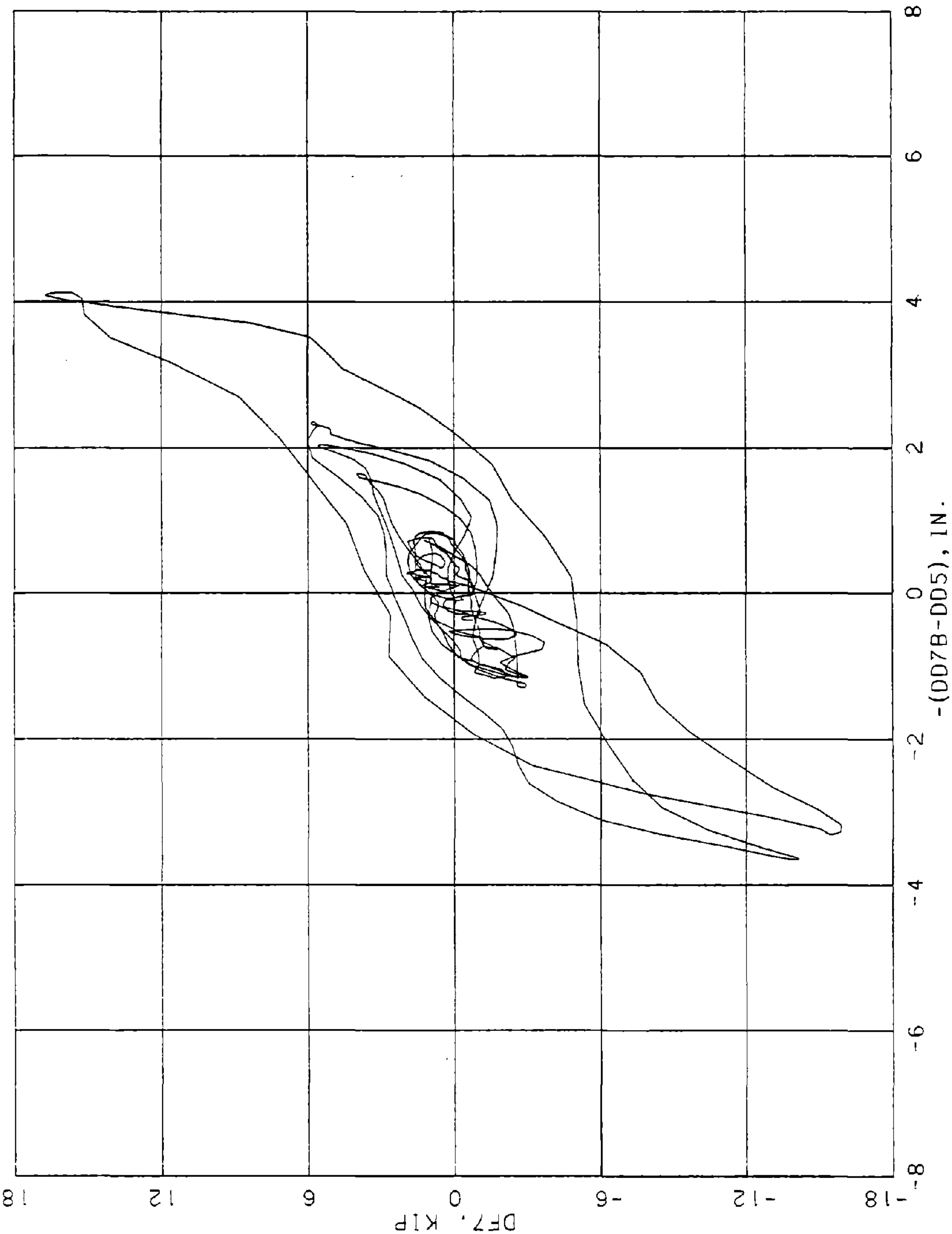


FIGURE D-25. DIAPHRAGM H. END 7. GM 5-1.

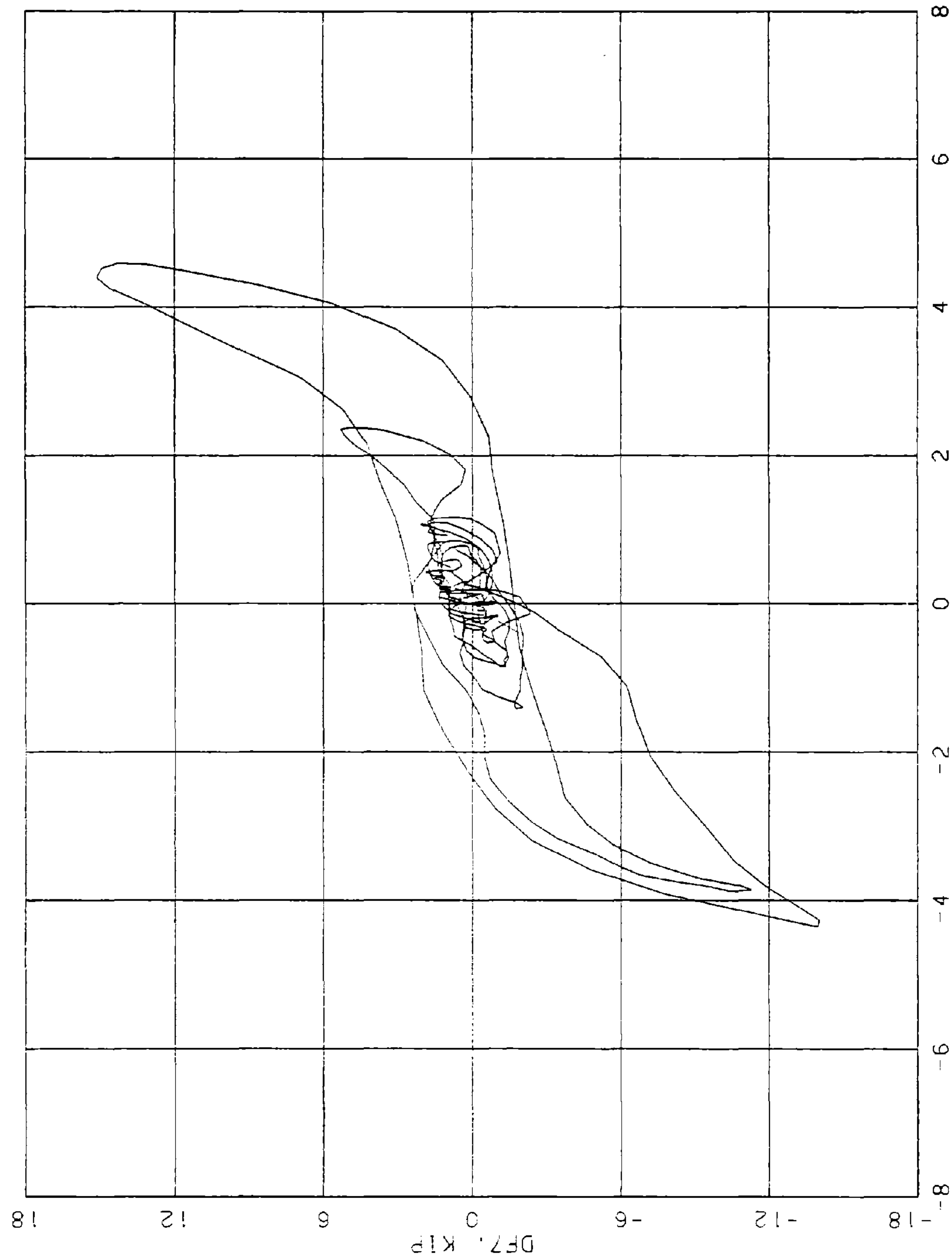


FIGURE D-26. DIAPHRAGM H. END 7. CM 5-2.

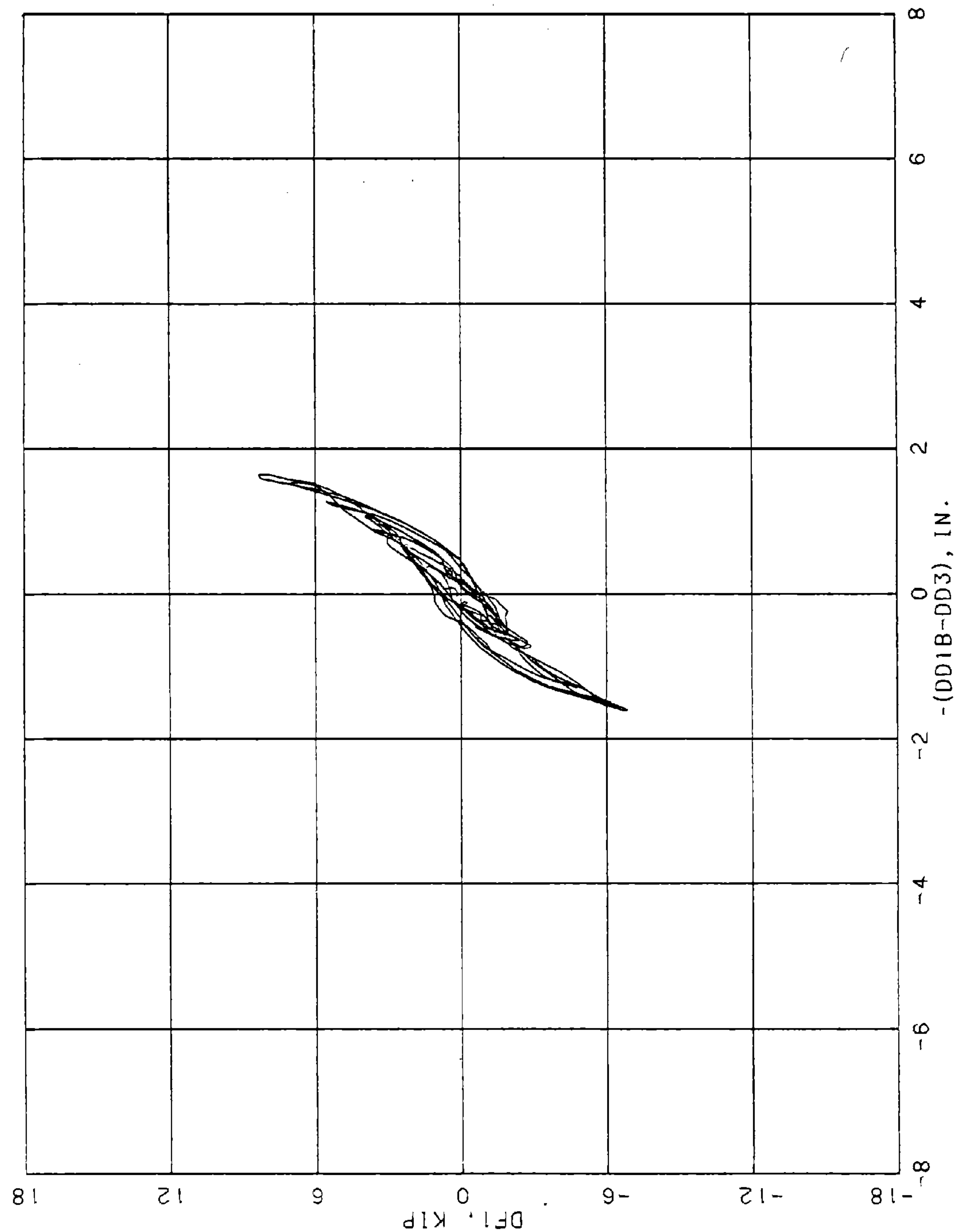


FIGURE D-27. DIAPHRAGM 1. END 1. GM3.

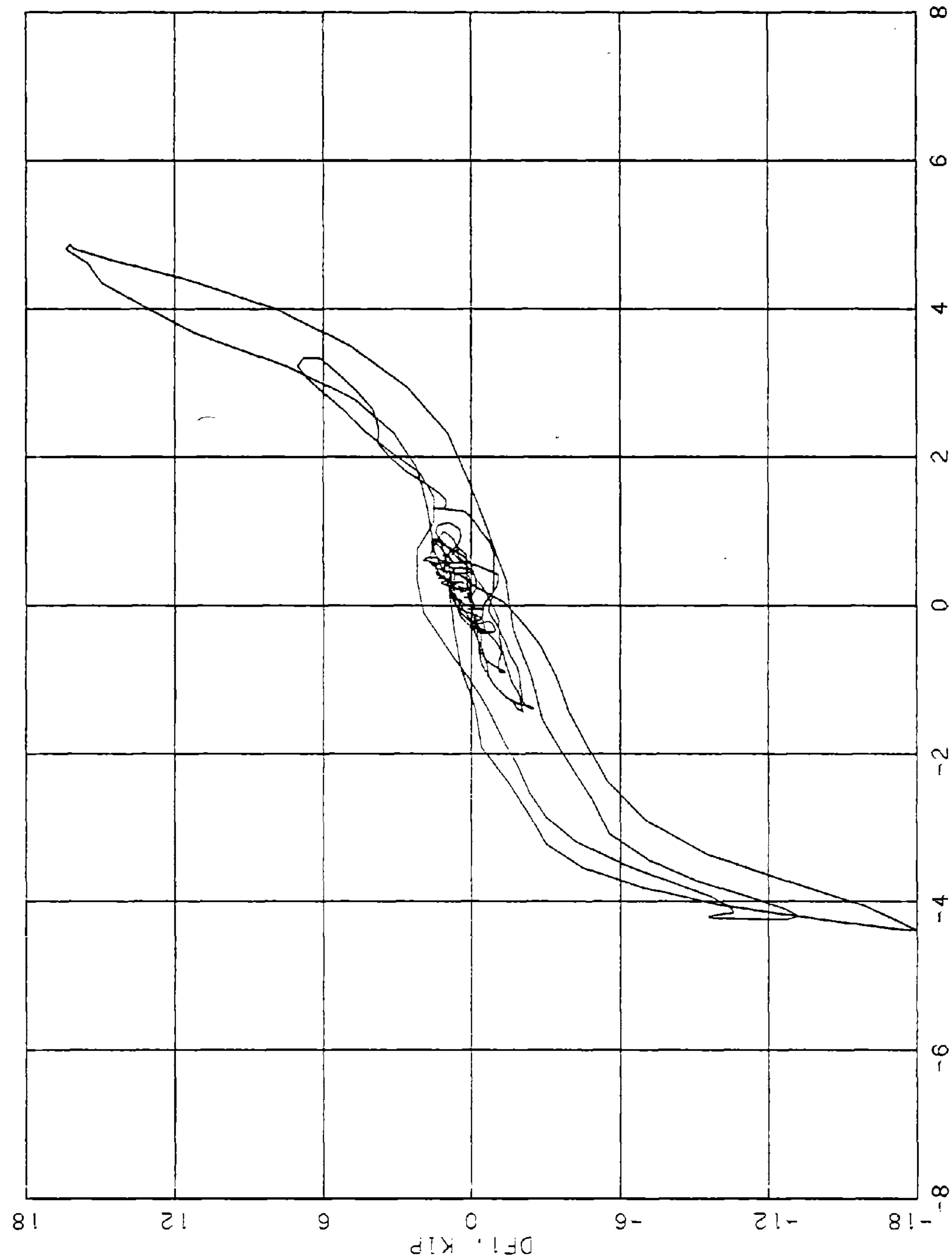


FIGURE D-28. DIAPHRAGM 1. END 1. GM5.

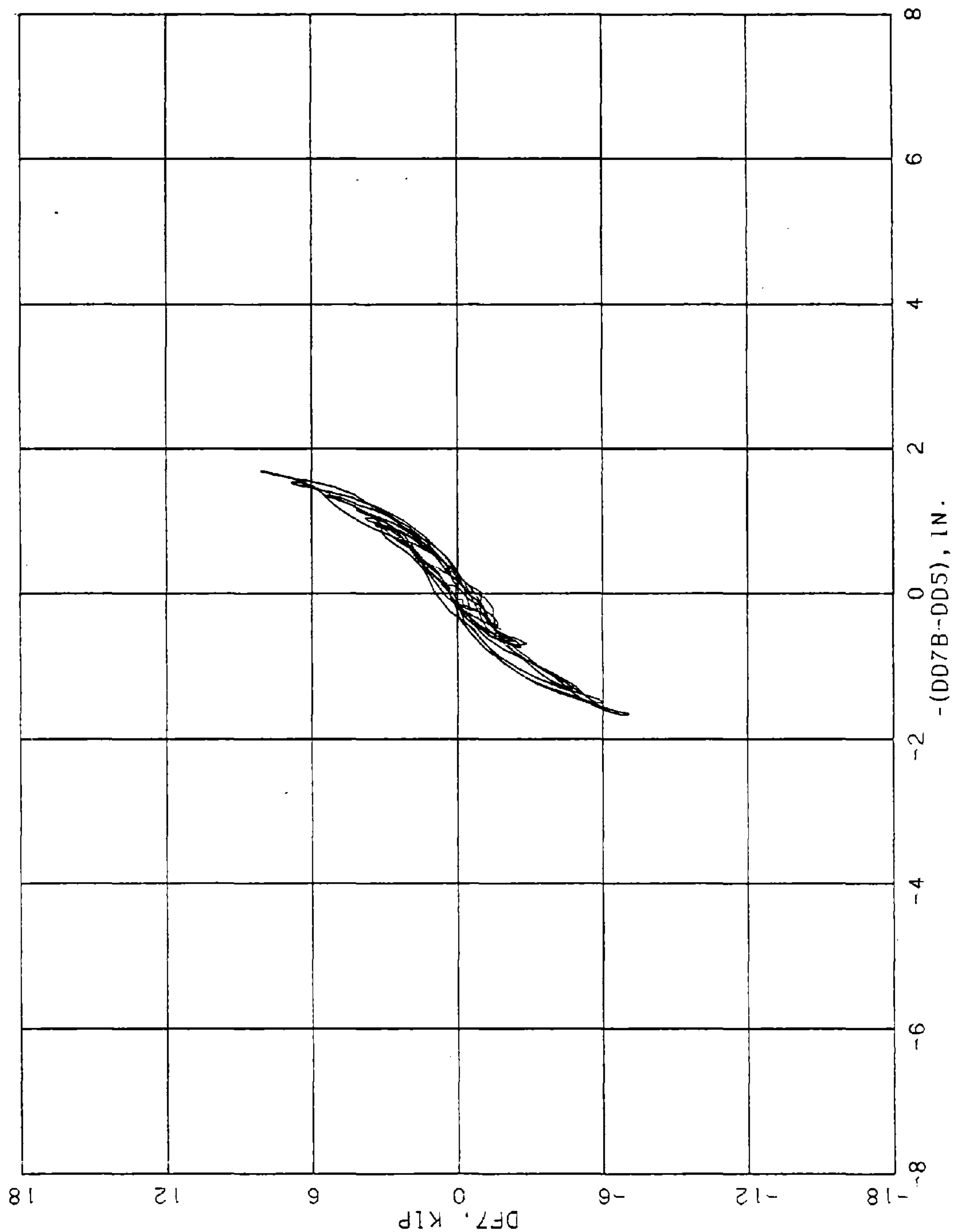


FIGURE D-29. DIAPHRAGM 1. END 7. GM3.

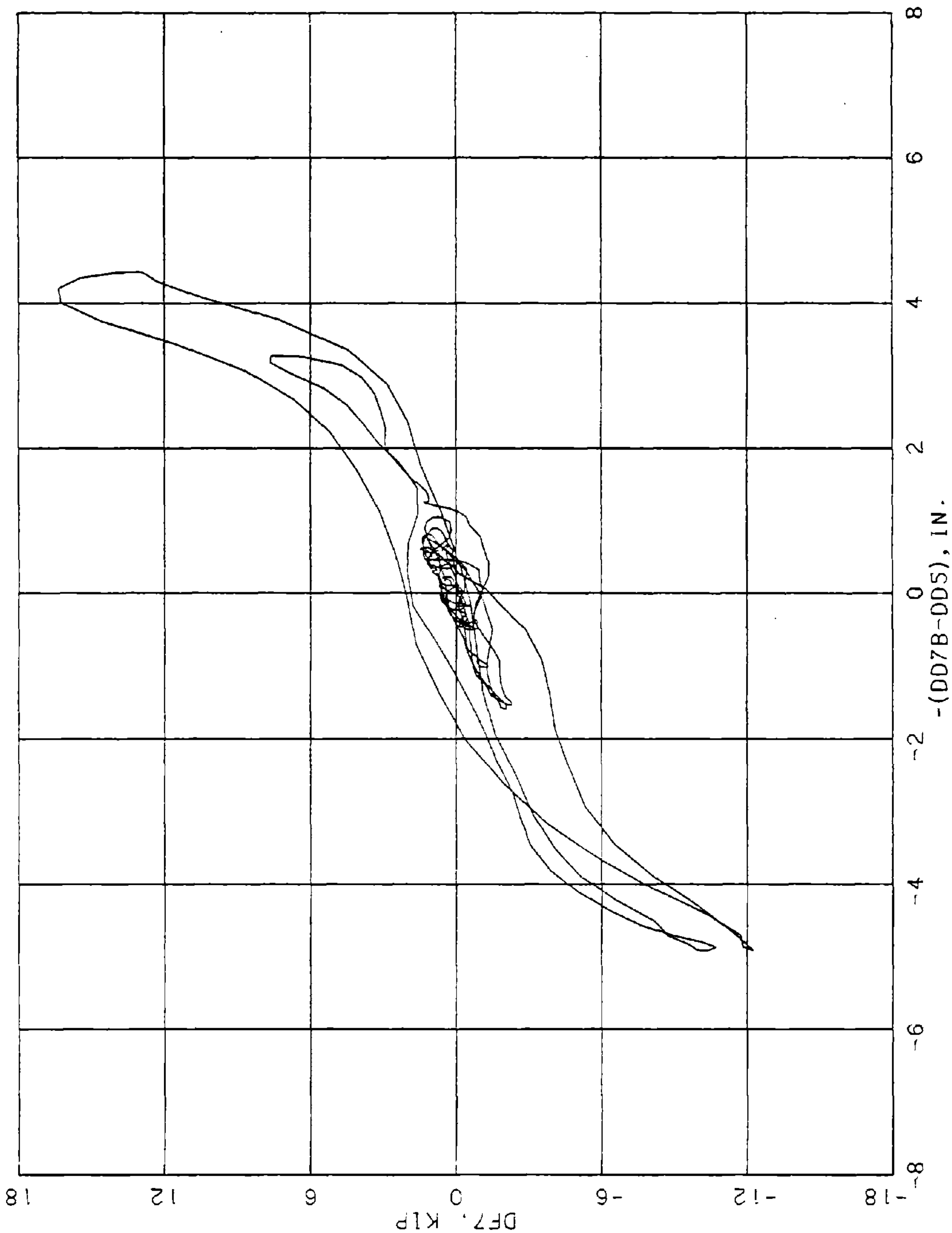


FIGURE D-30. DIAPHRAGM 1, END 7, GM5.

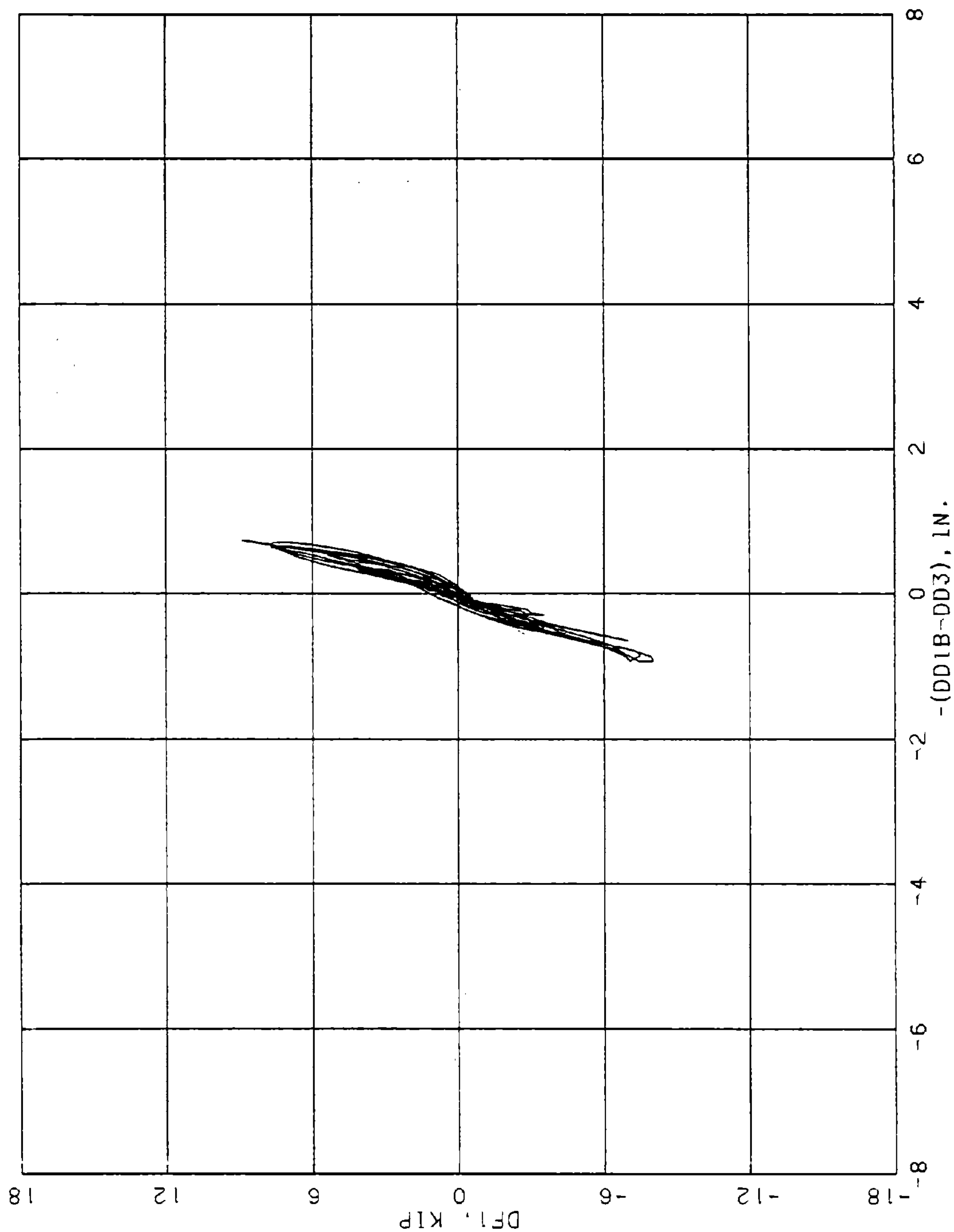


FIGURE D-31. DIAPHRAGM 11. END 1. GM 3.

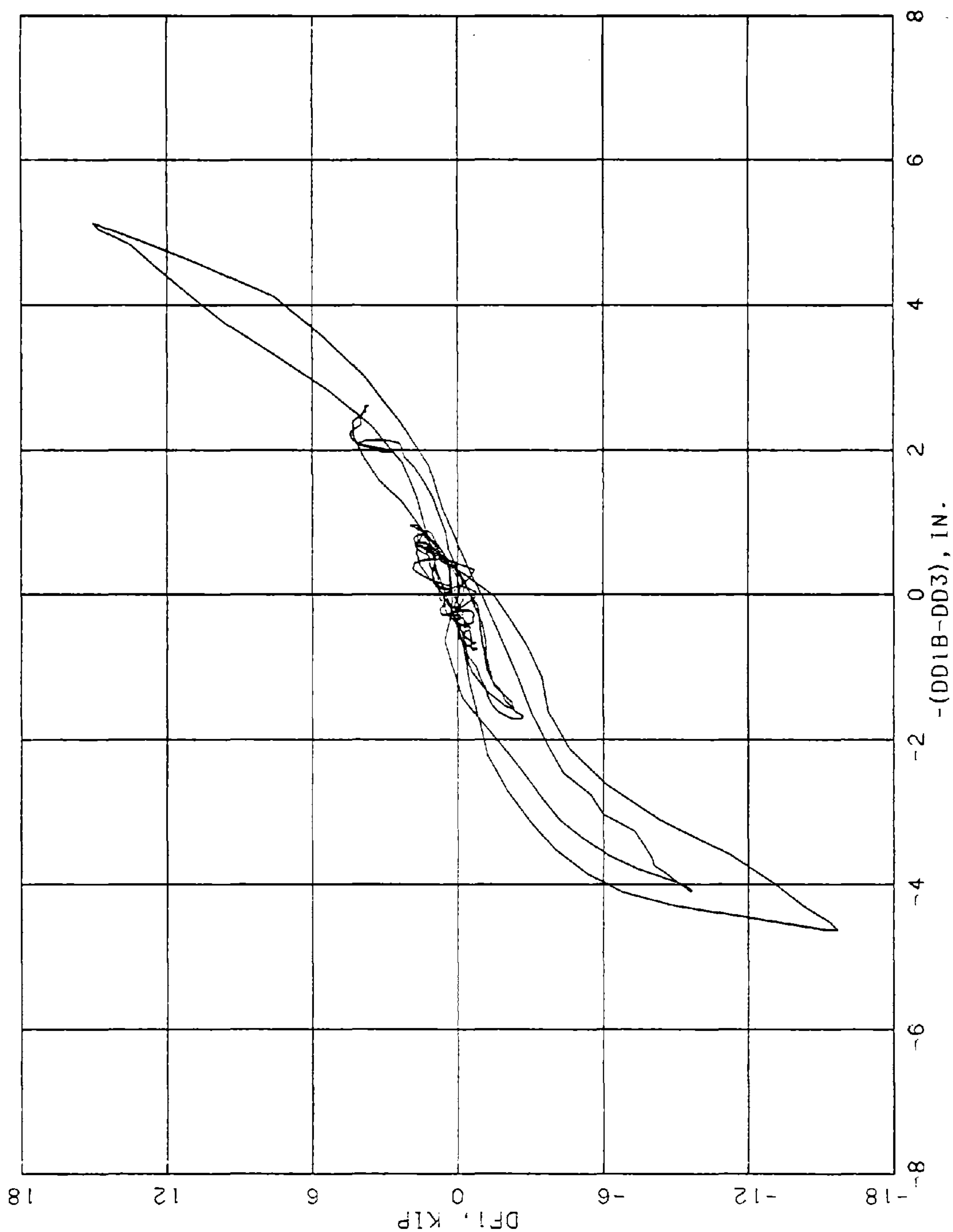


FIGURE D-32. DIAPHRAGM I1. END 1. GM 5.

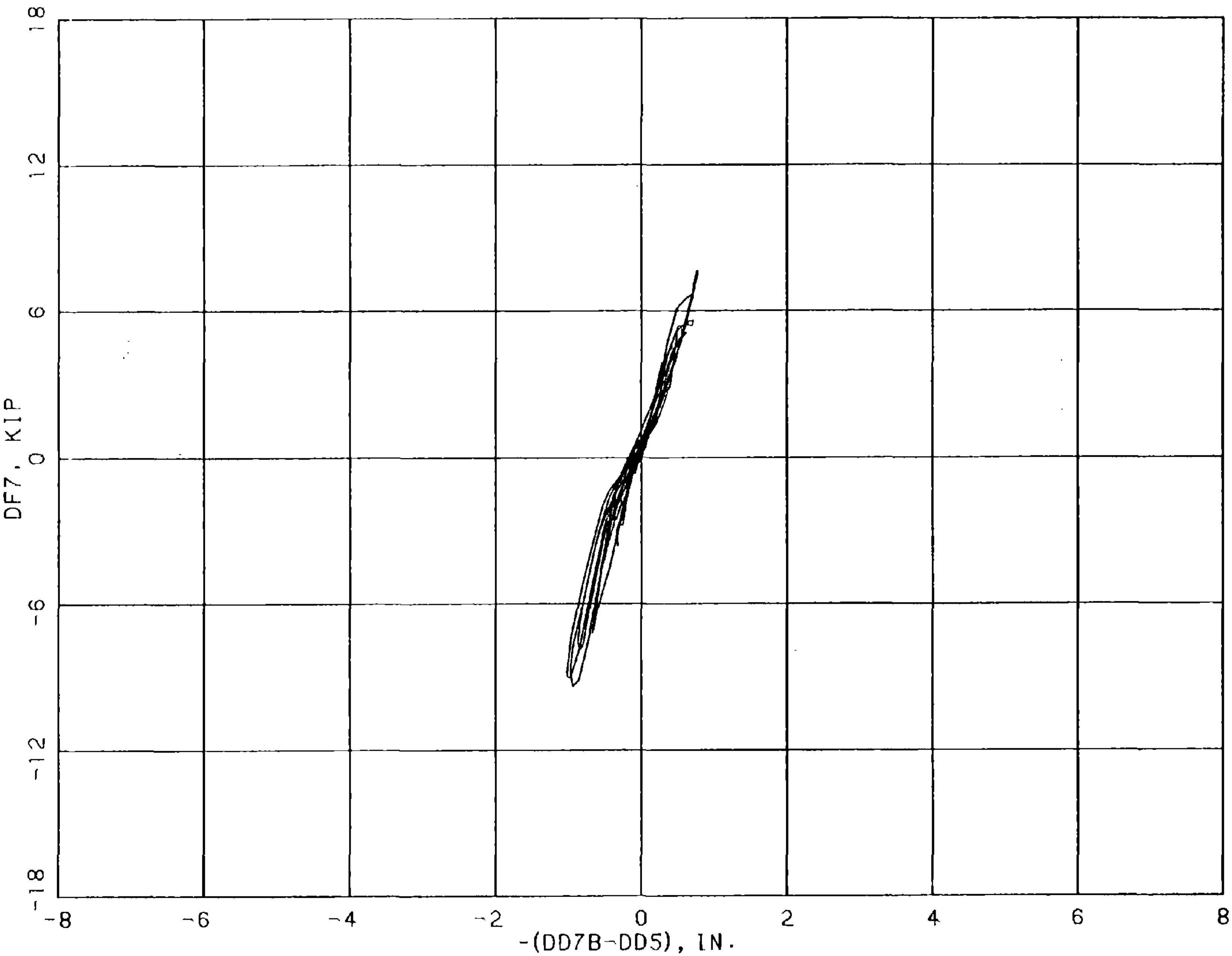


FIGURE D-33. DIAPHRAGM I1. END 7. CM 3.

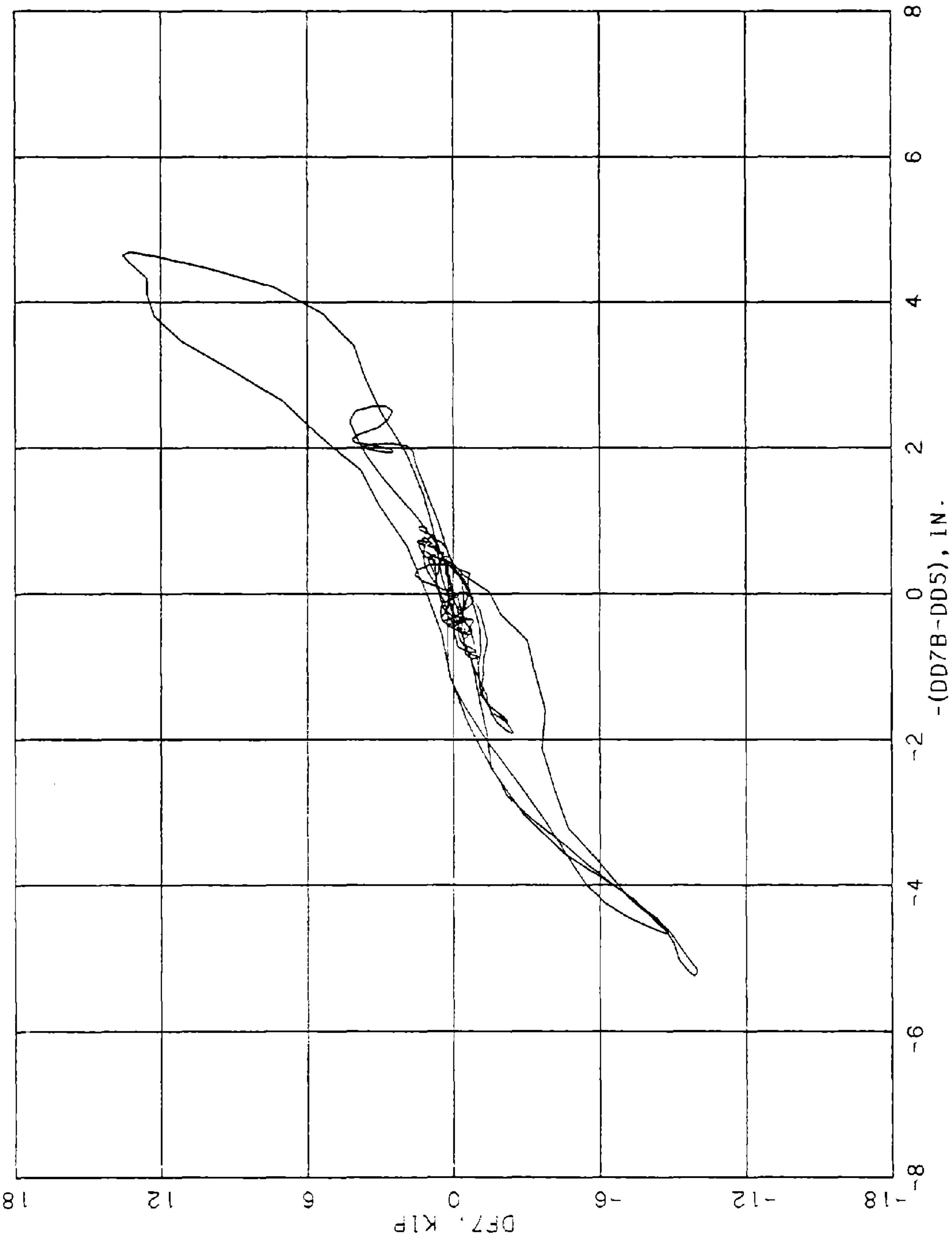


FIGURE D-34. DIAPHRAGM I1. END 7. GM 5.

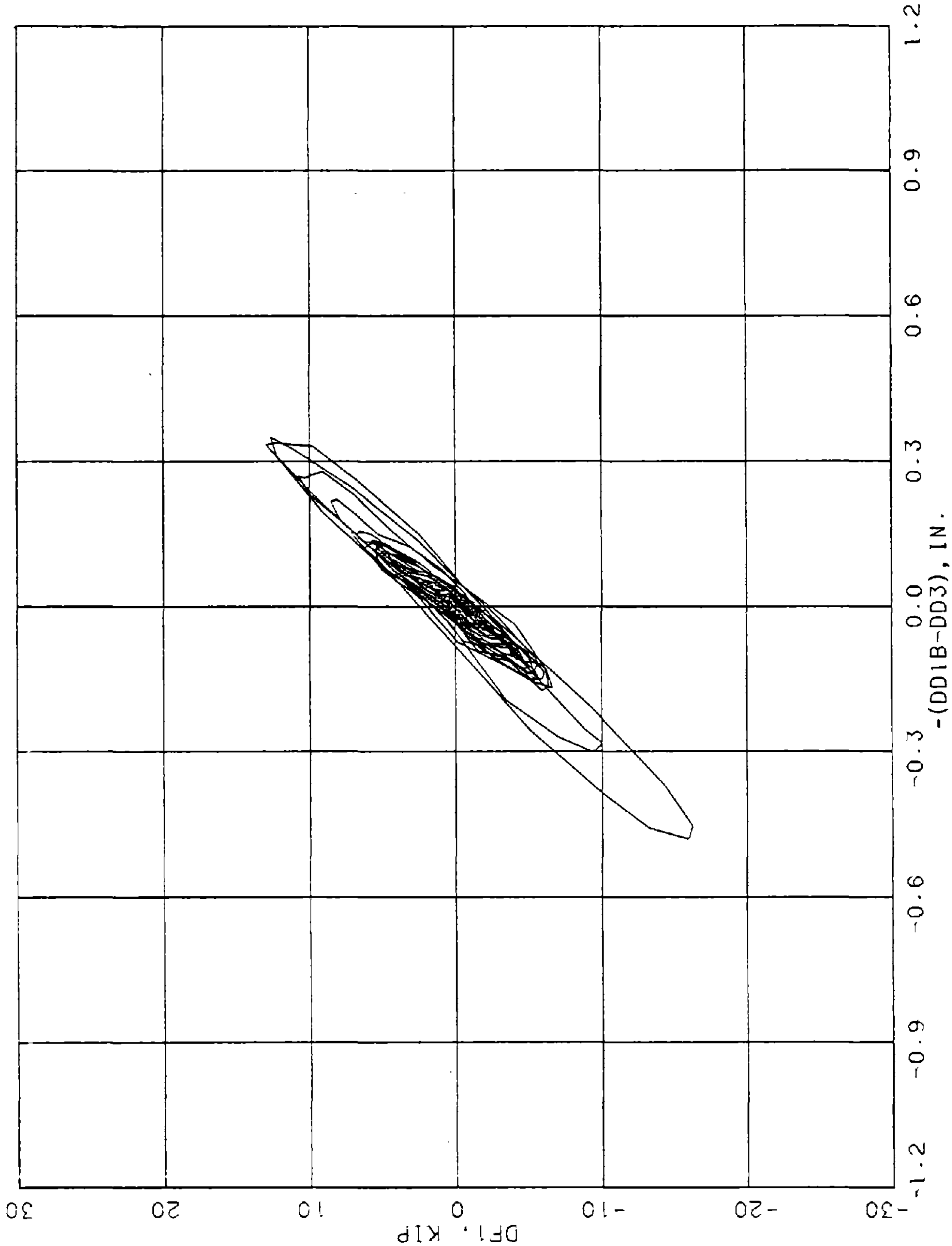


FIGURE D-35. DIAPHRAGM K. END 1. GM 3.

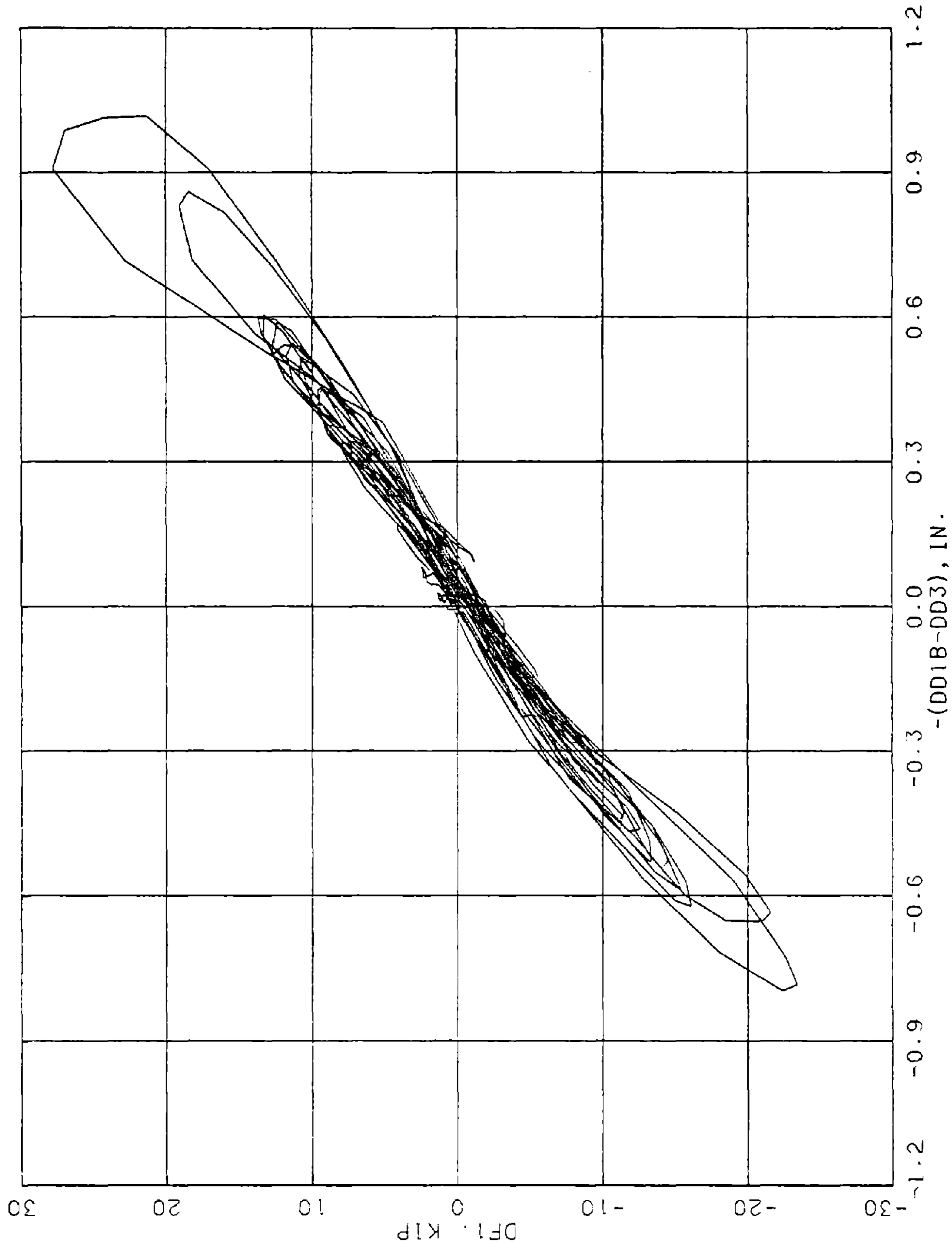


FIGURE D-36. DIAPHRAGM K. END 1. GM 5-1.

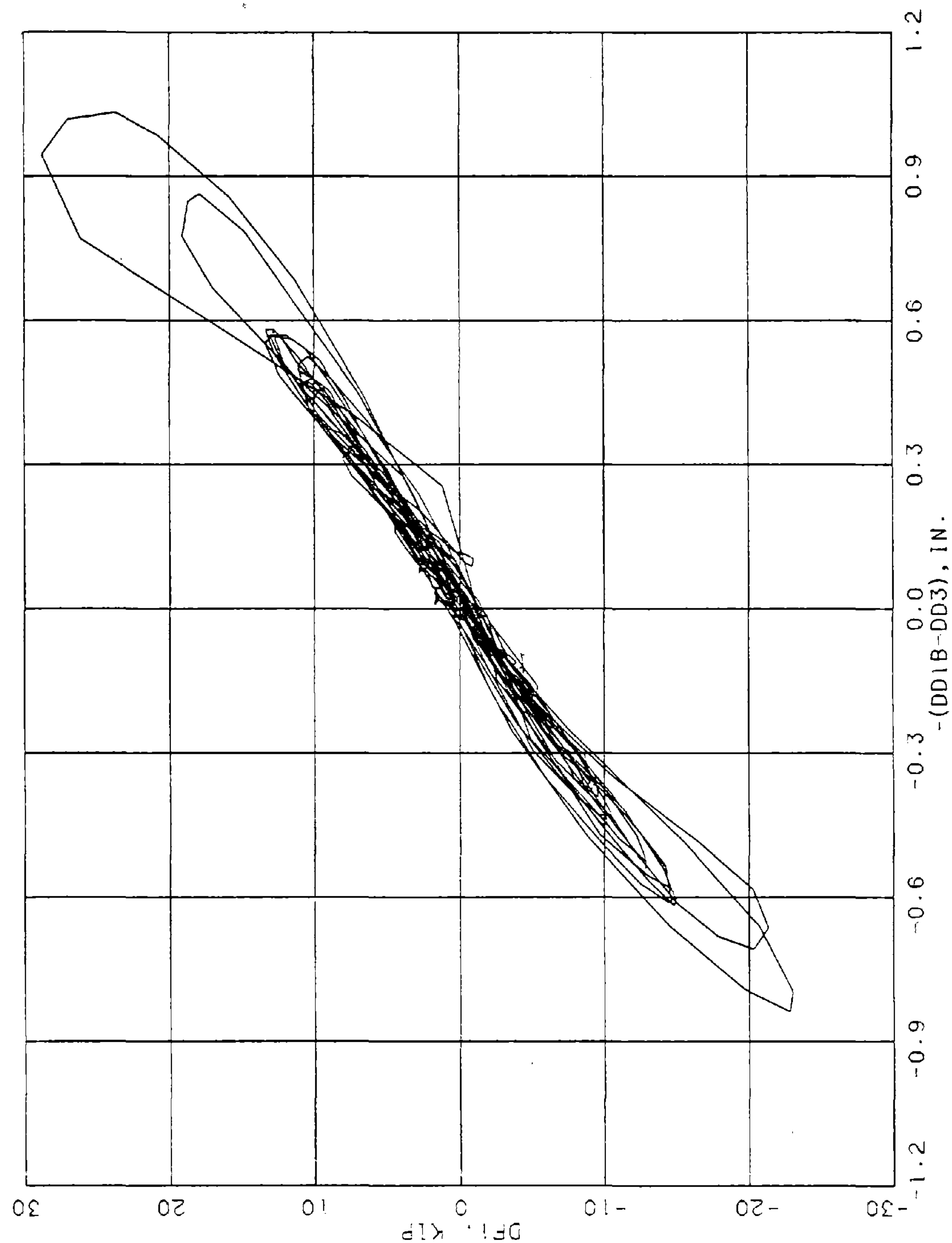


FIGURE D-37. DIAPHRAGM K, END 1, GM 5-2.

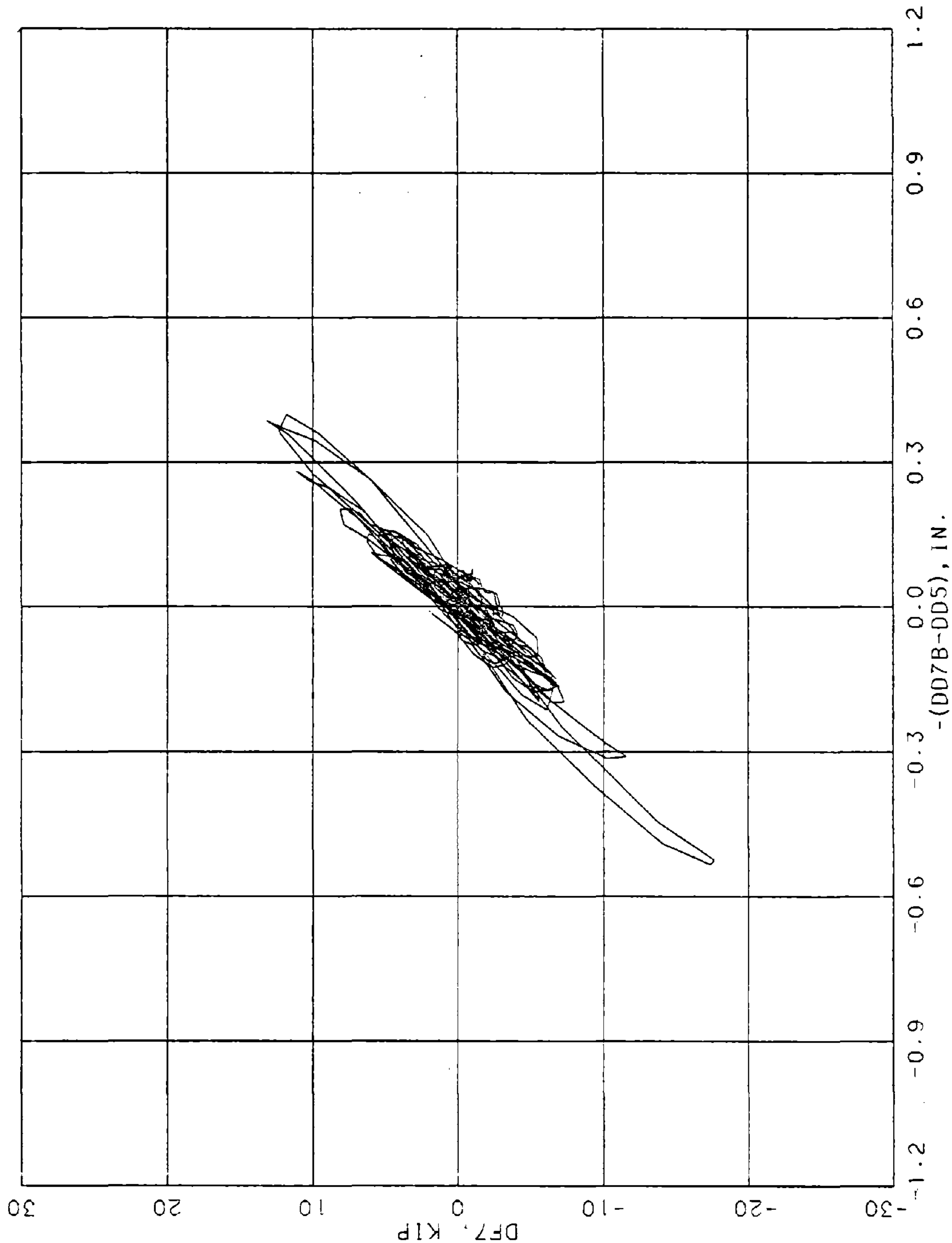


FIGURE D-38. DIAPHRAGM K. END 7. GM 3.

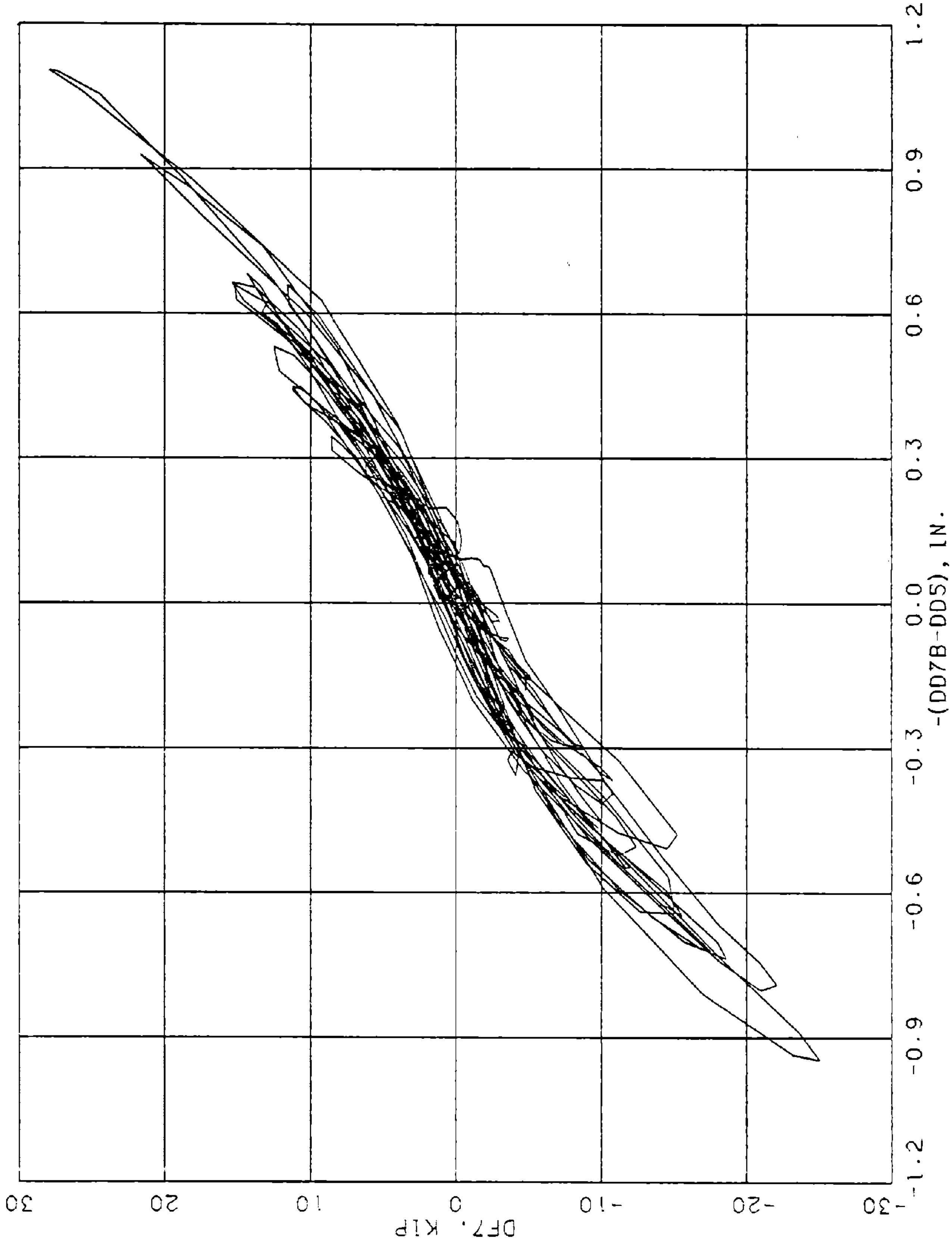


FIGURE D-39. DIAPHRAGM K. END 7. GM 5-1.

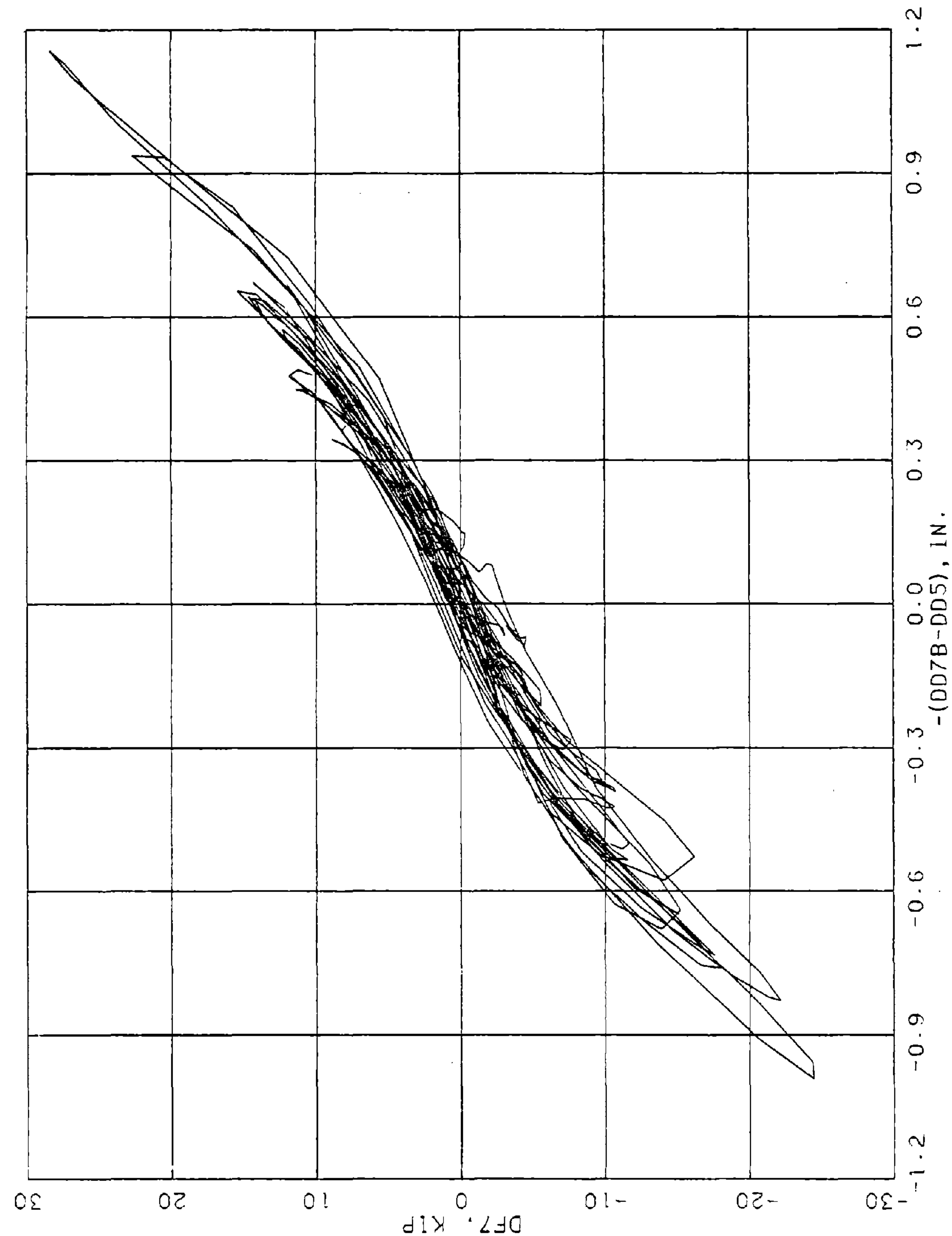


FIGURE D-40. DIAPHRAGM K. END 7. GM 5-2.

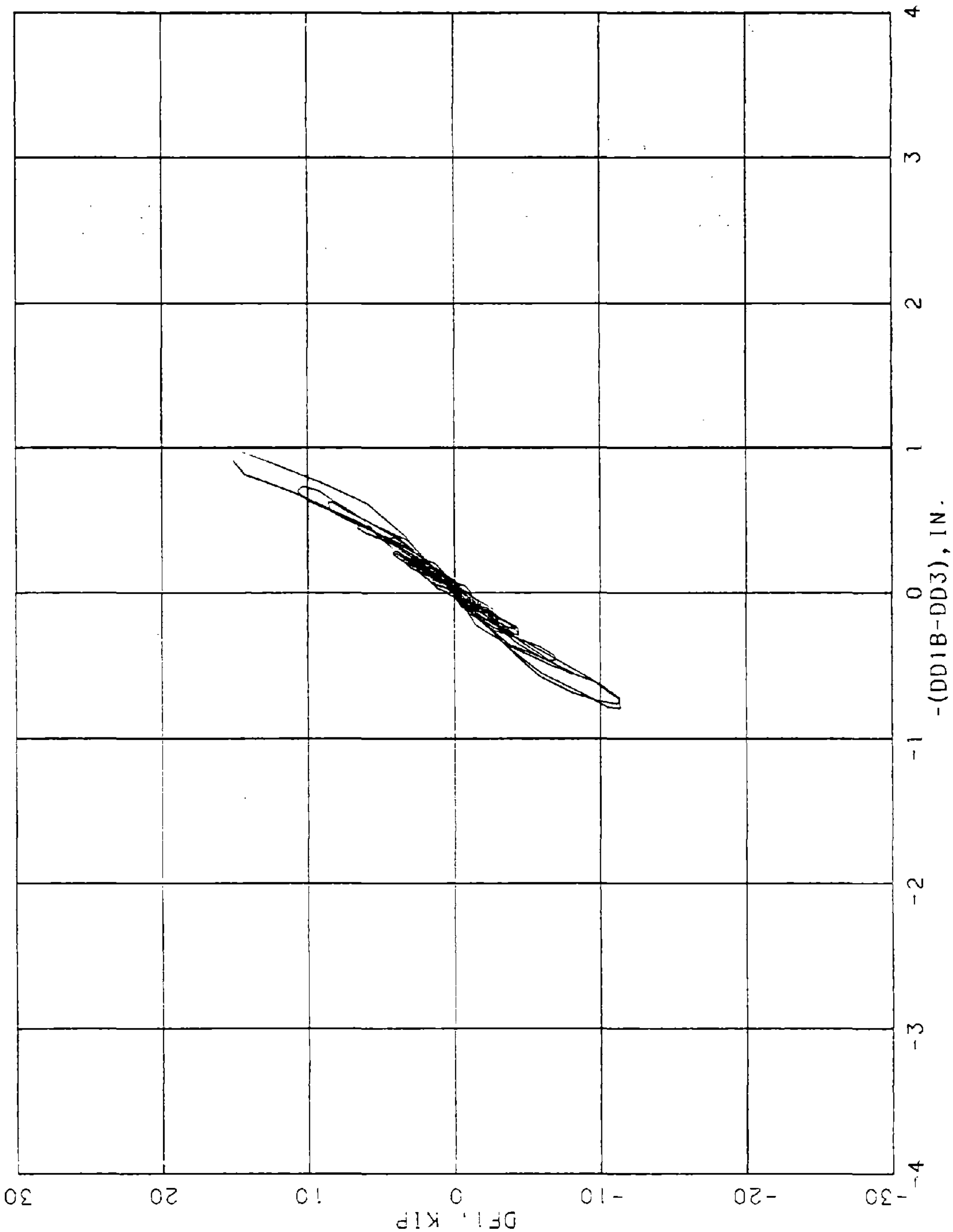


FIGURE D-41. DIAPHRAGM N. END 1. GM3-1.

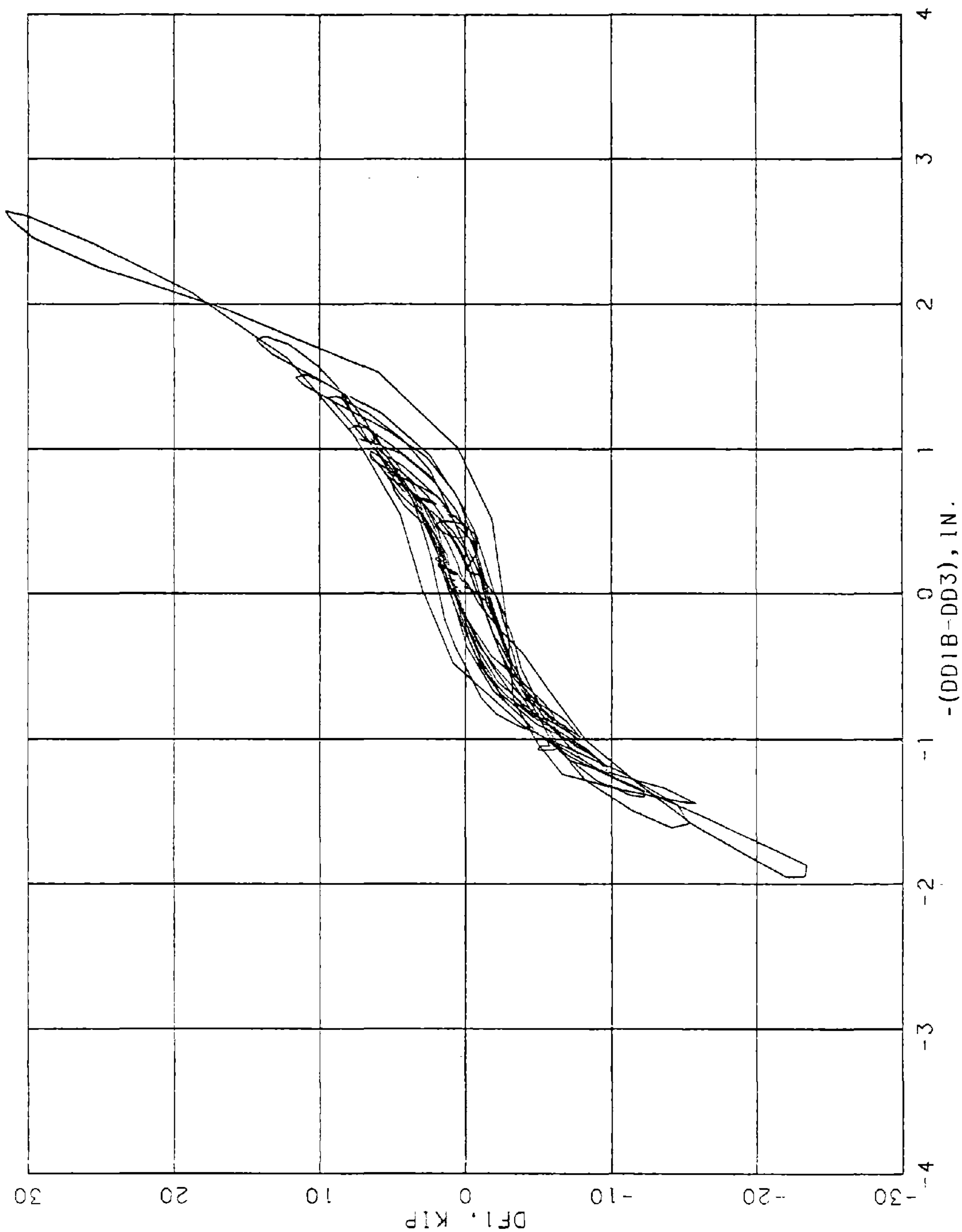


FIGURE D-42. DIAPHRAGM N. END 1. GM5-1.

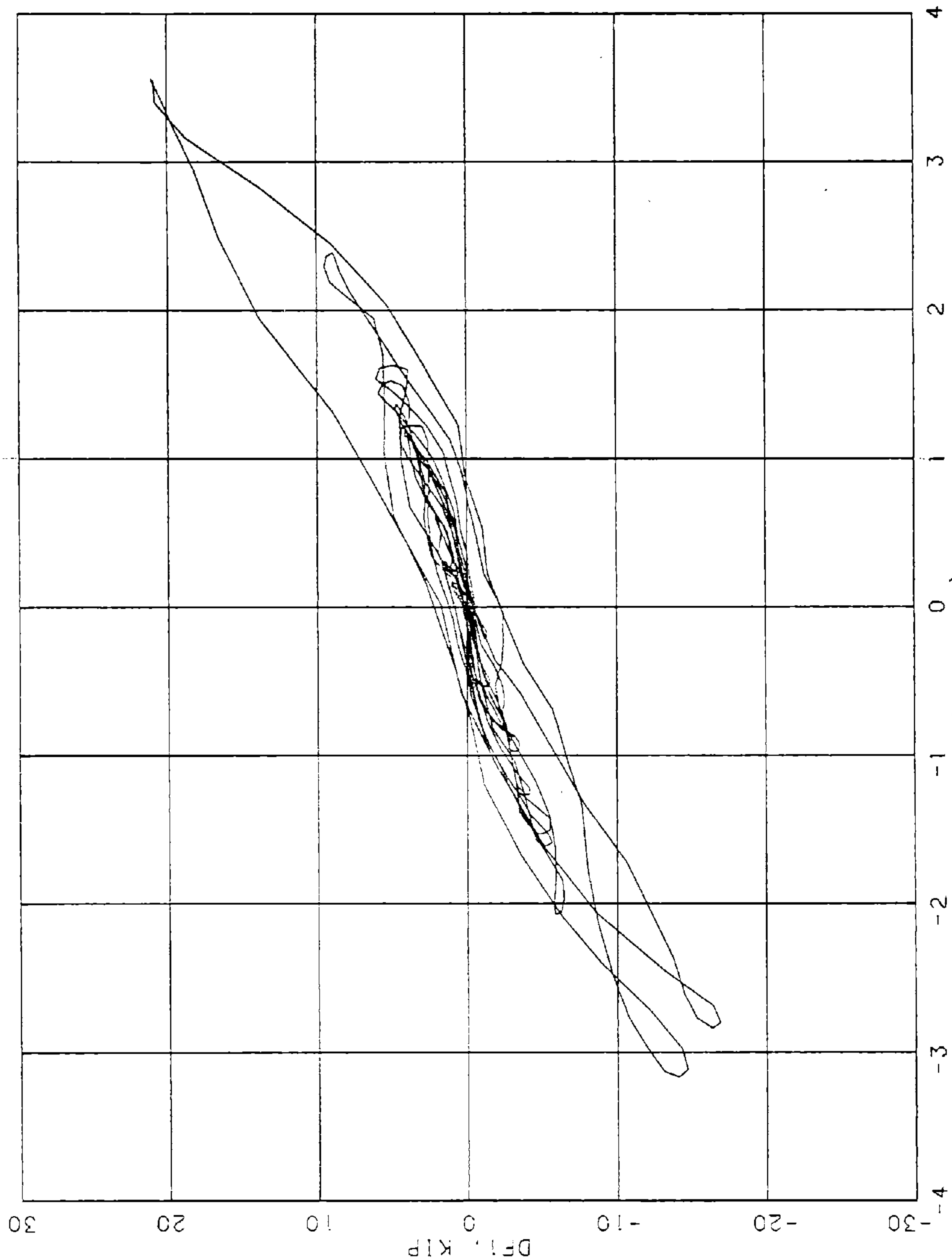


FIGURE D-43. DIAPHRAGM N. END 1. GM5-2.

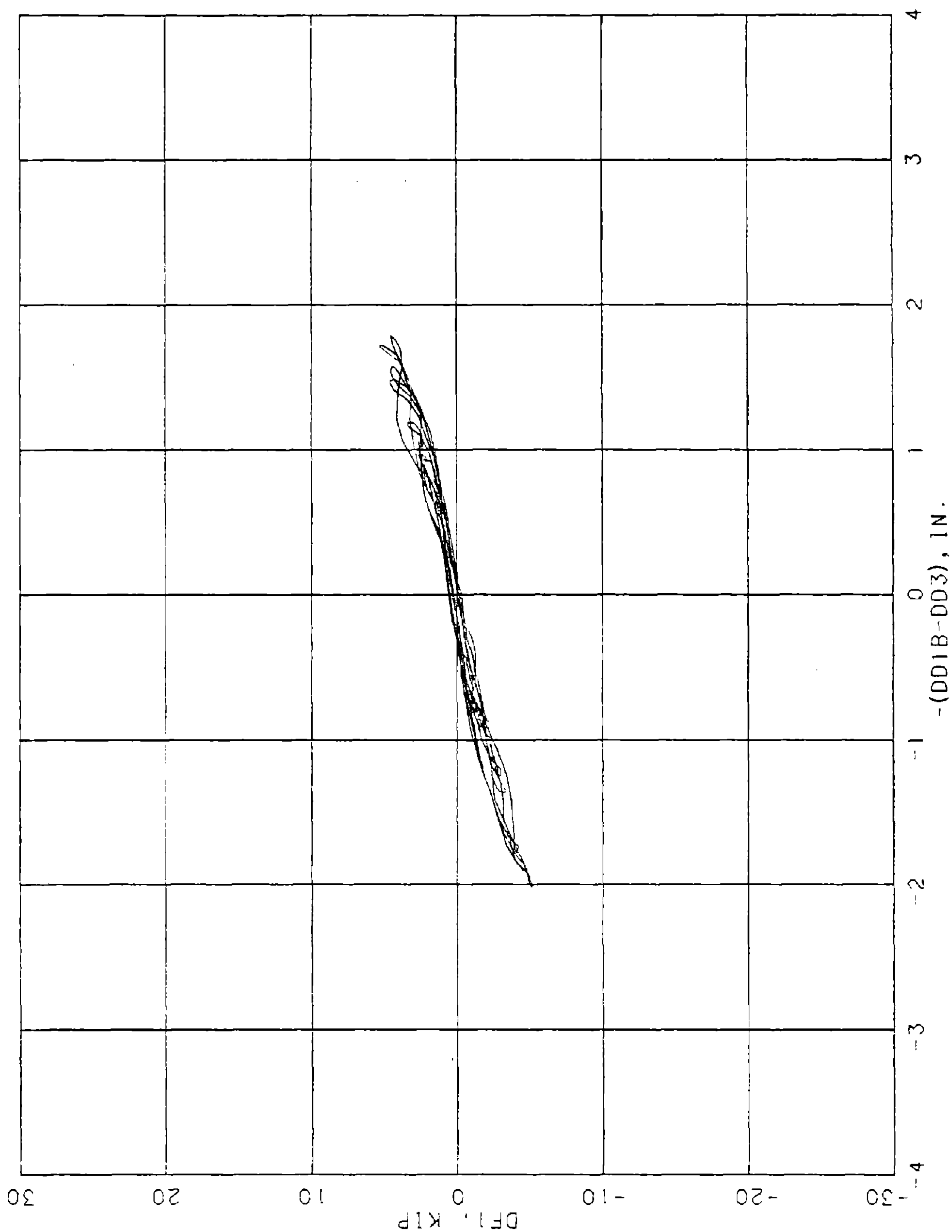


FIGURE D-44. DIAPHRAGM N. END 1. GM3-2.

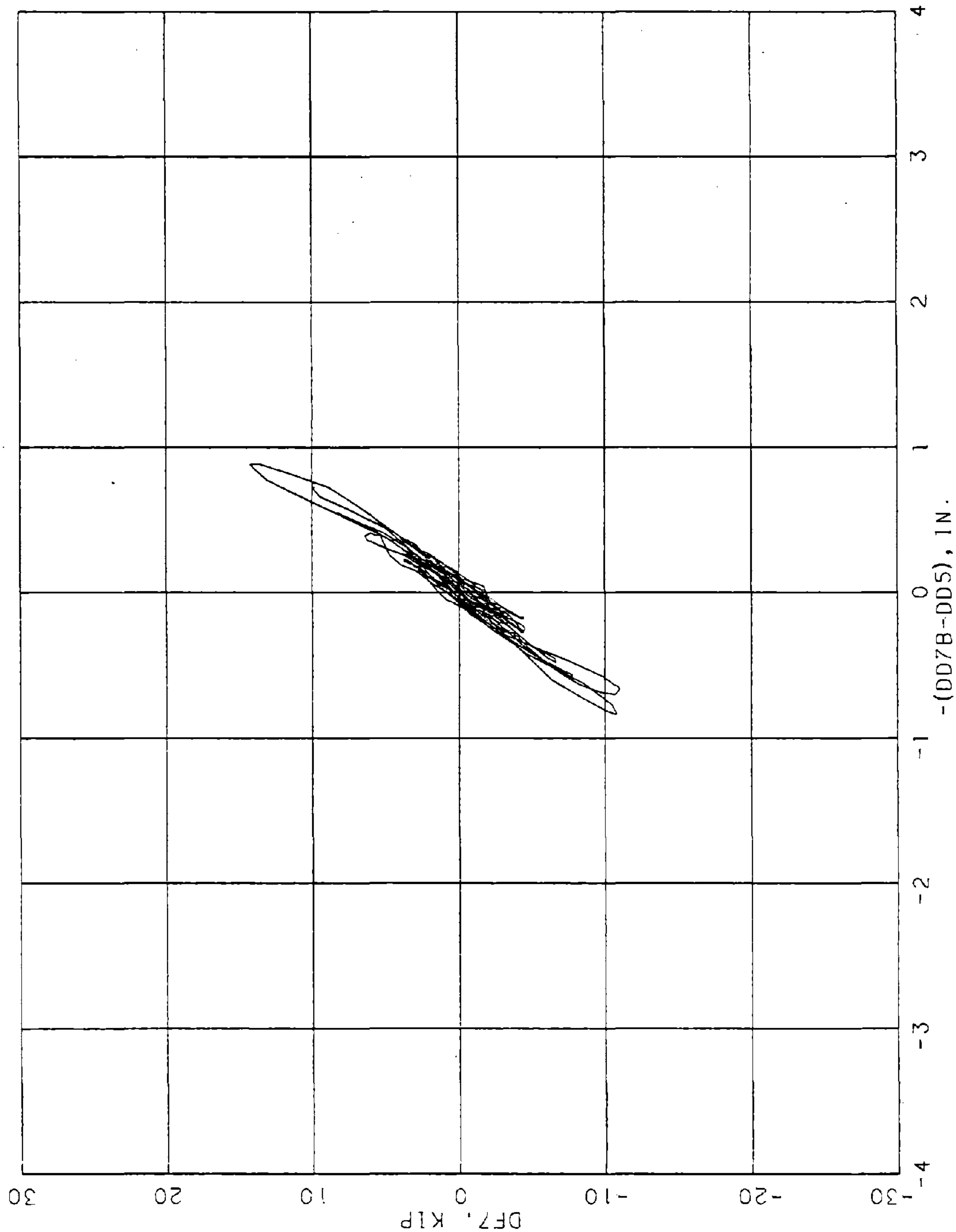


FIGURE D-45. DIAPHRAGM N. END 7. GM3-1.

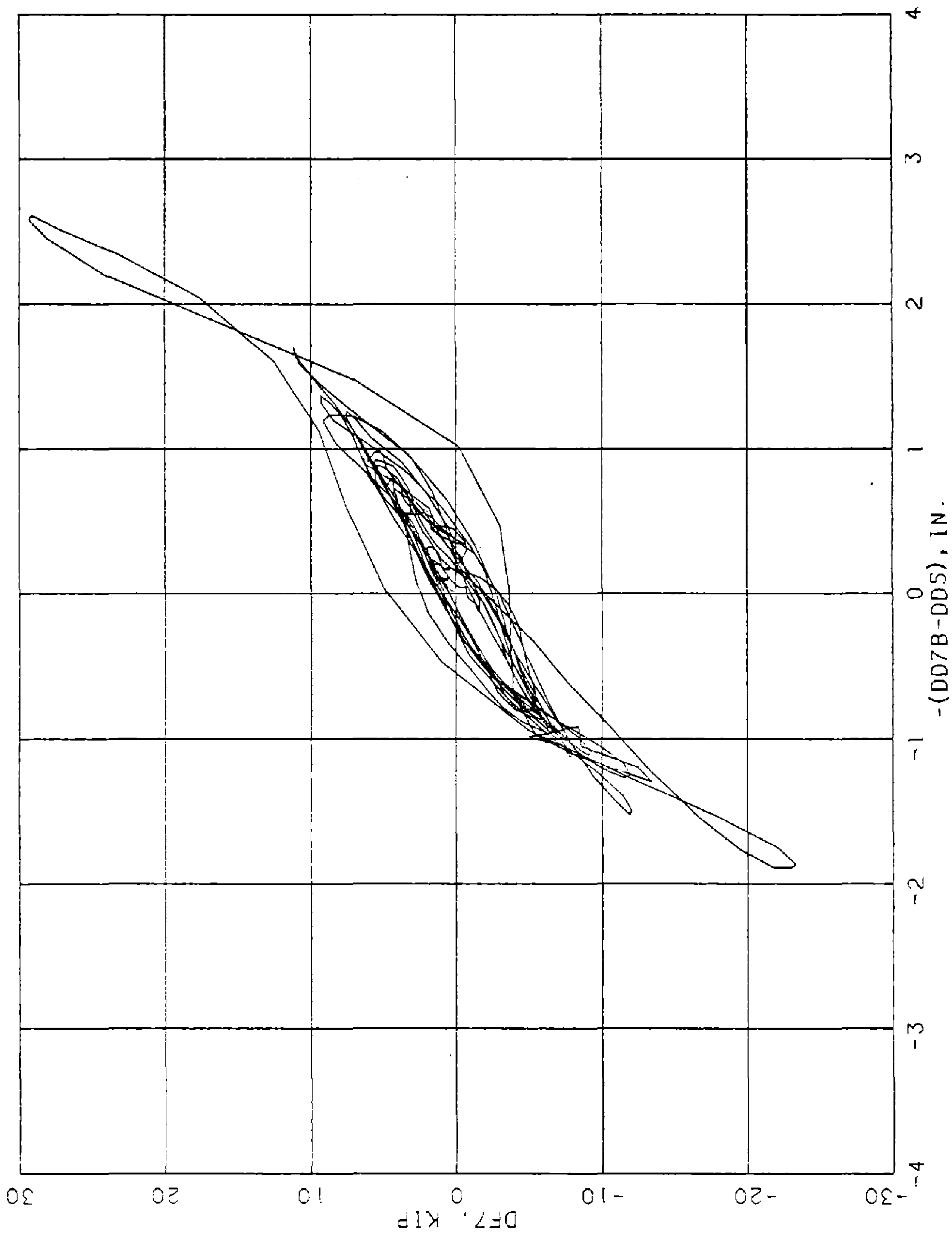


FIGURE D-46. DIAPHRAGM N. END 7. GM5-1.

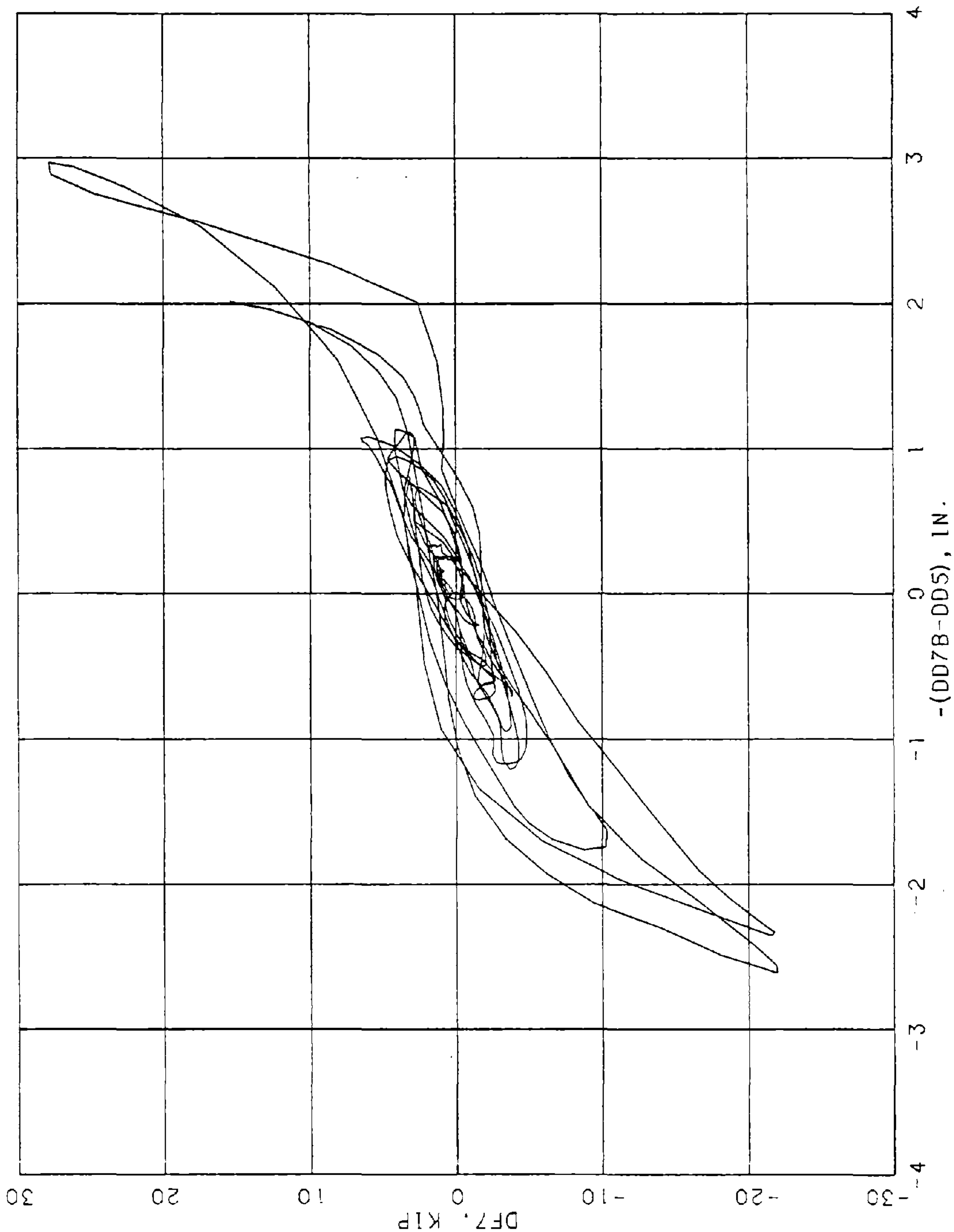


FIGURE D-47. DIAPHRAGM N. END 7. GM5-2.

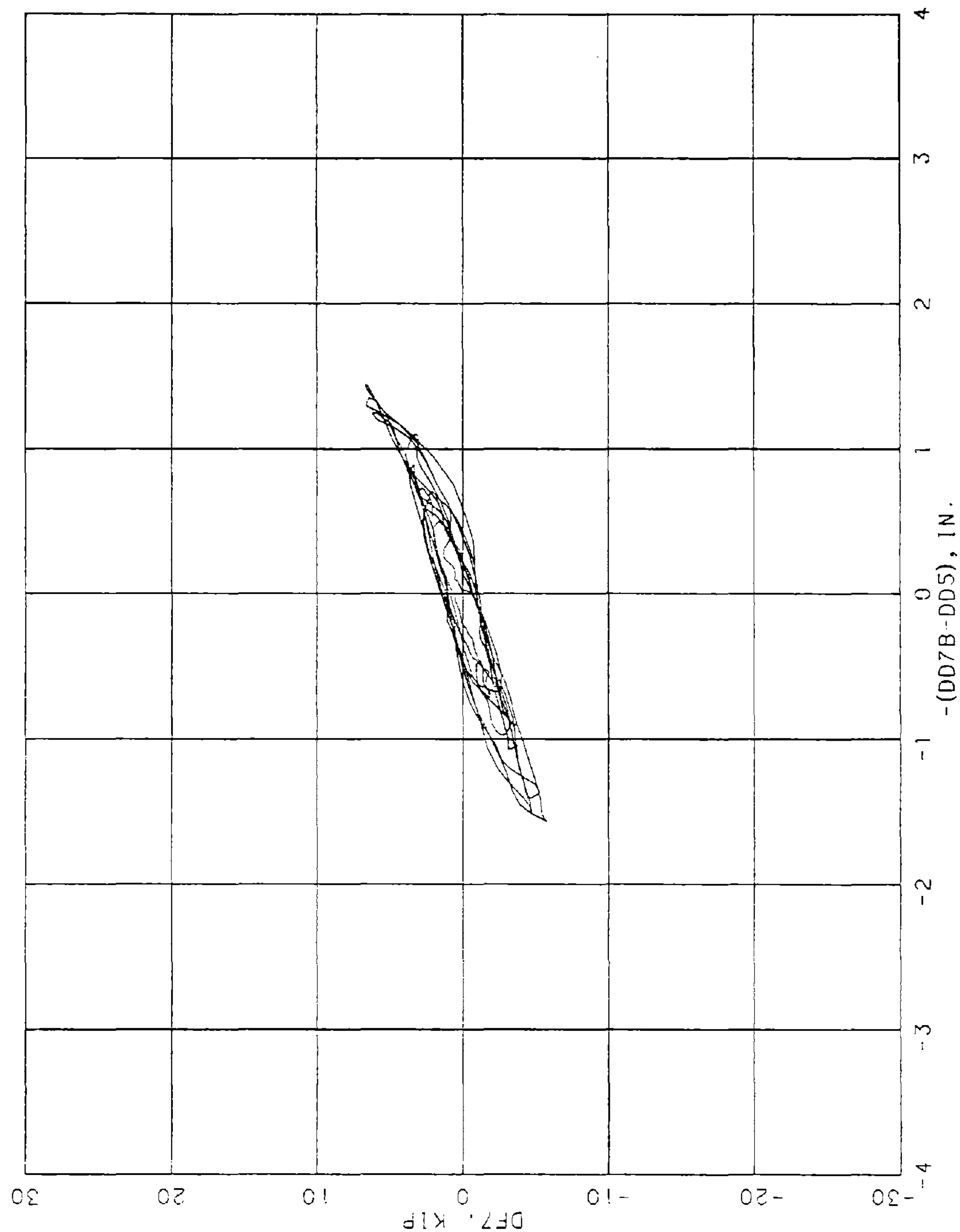


FIGURE D-48. DIAPHRAGM N. END 7. GM3-2.

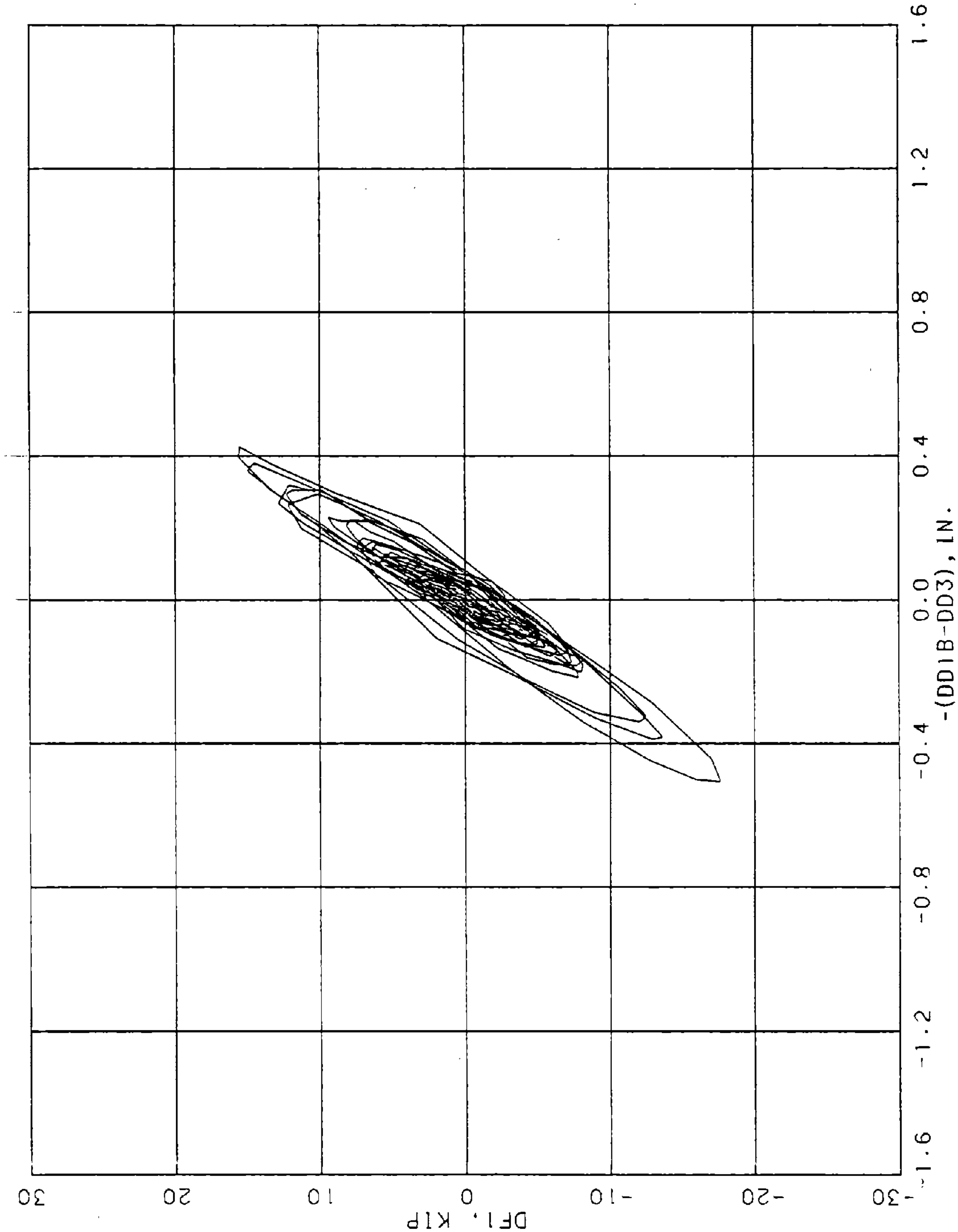


FIGURE D-49. DIAPHRAGM P. END 1. GM3.

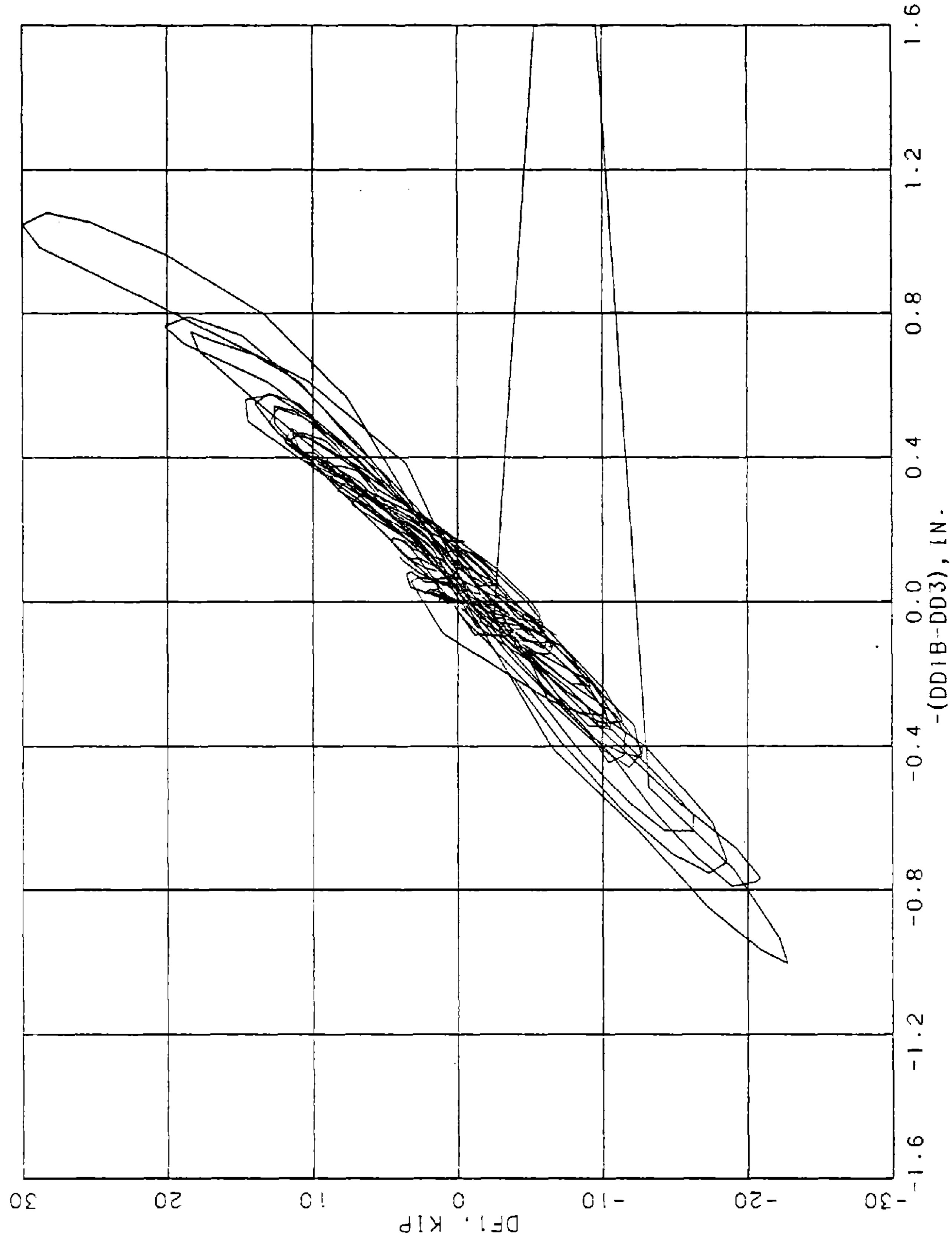


FIGURE D-50. DIAPHRAGM P. END 1. GM5.

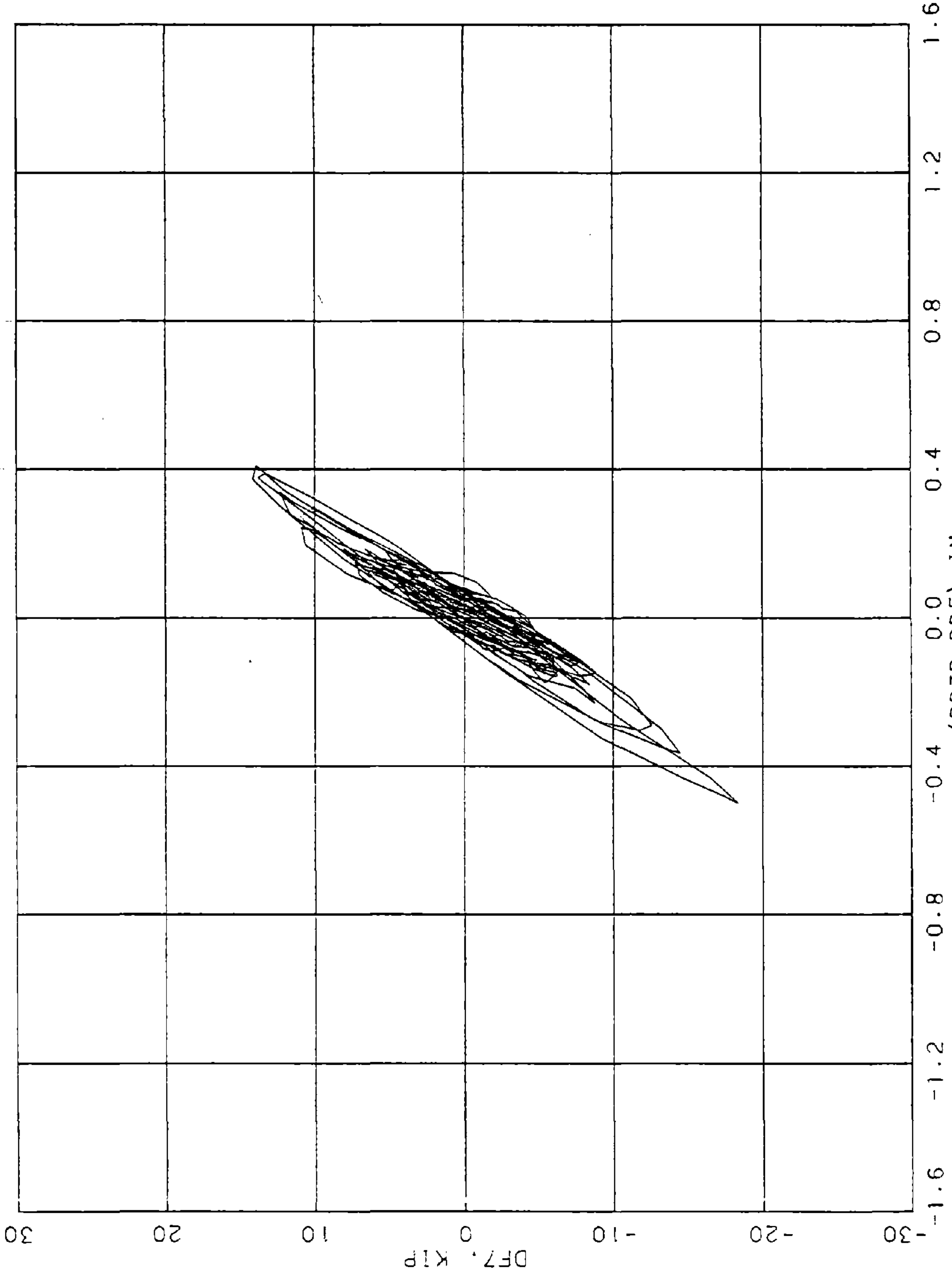


FIGURE D-51. DIAPHRAGM P. END 7. GM3.

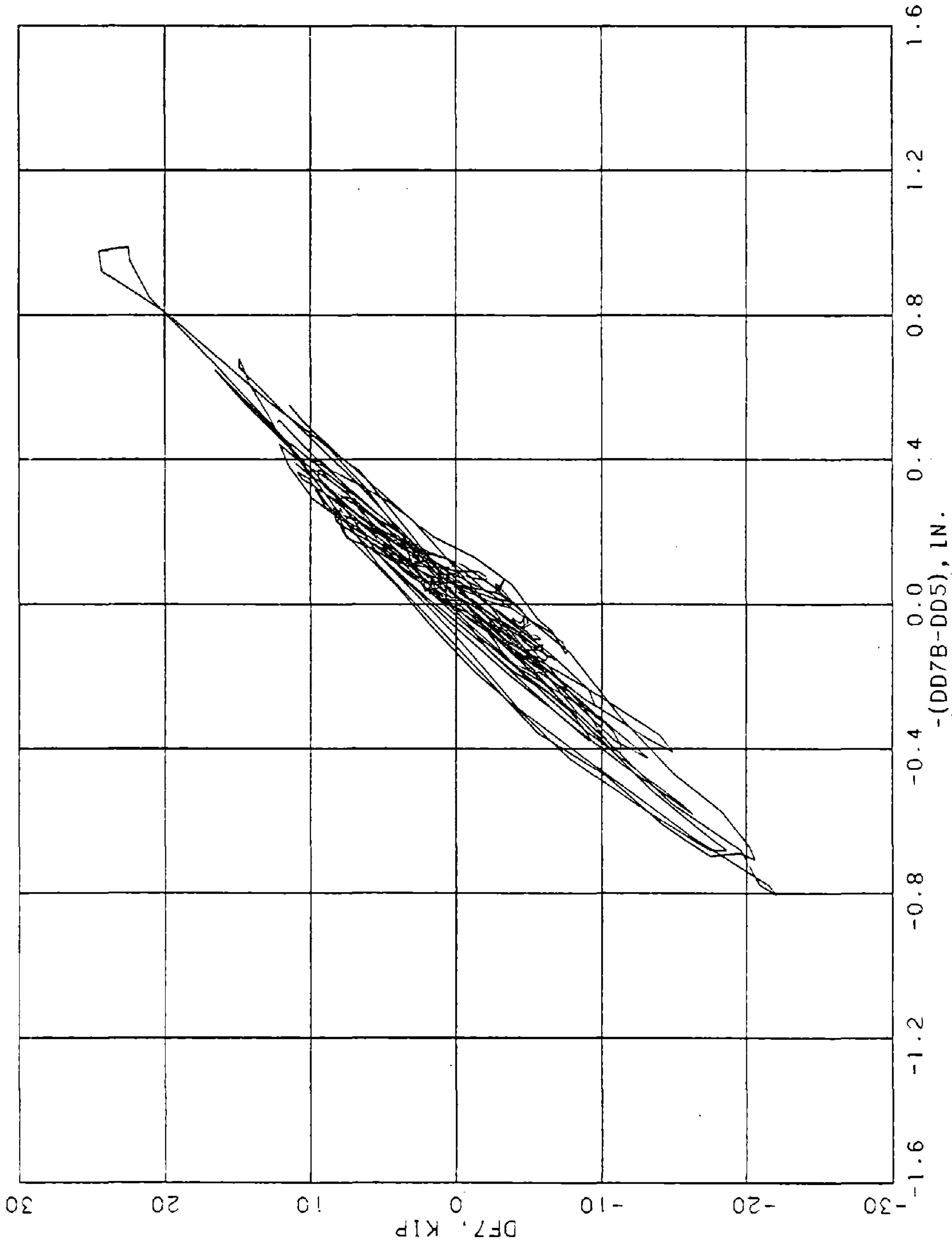


FIGURE D-52. DIAPHRAGM P. END 7. GM5.

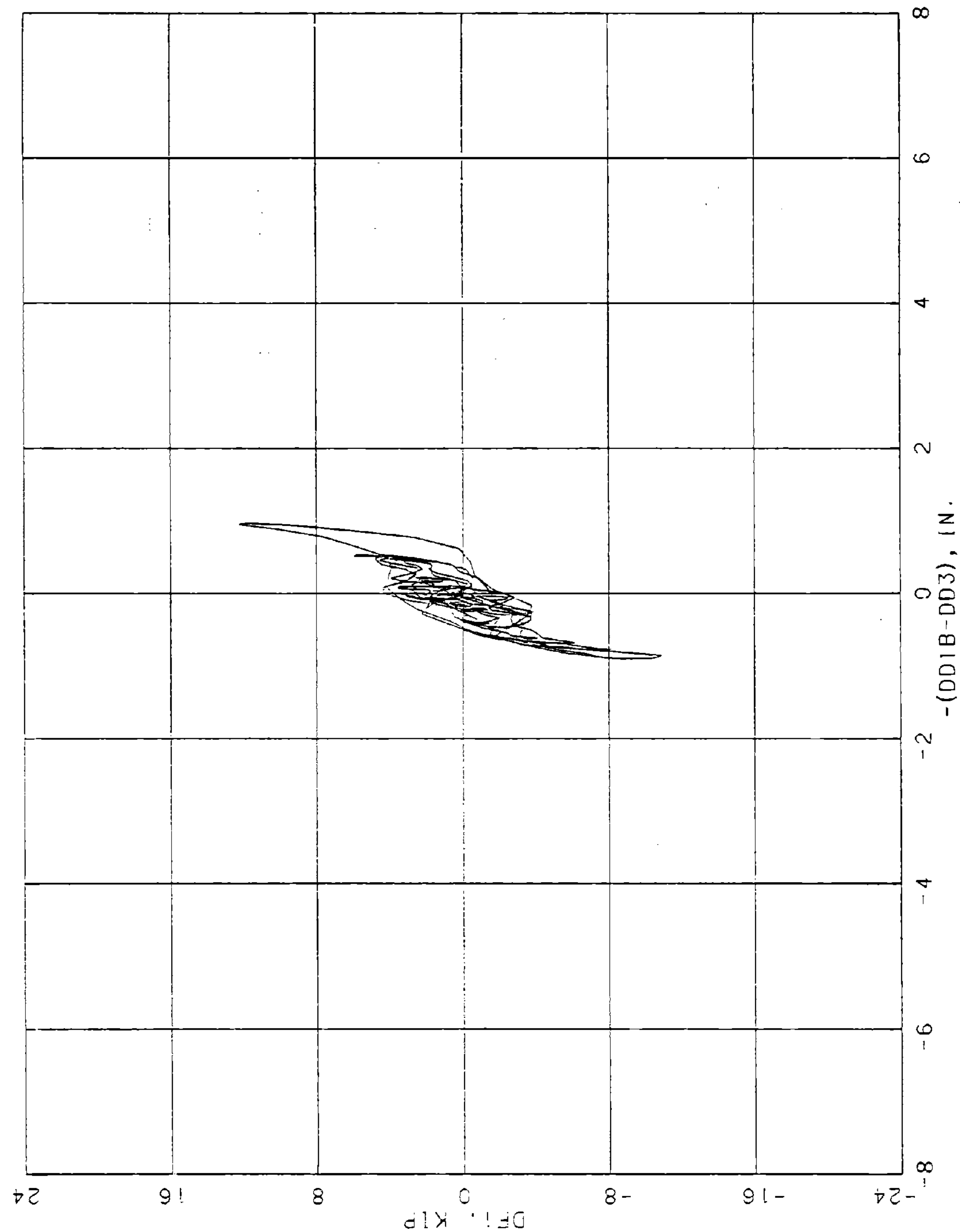


FIGURE D-53. DIAPHRAGM Q. END 1. CM 3.

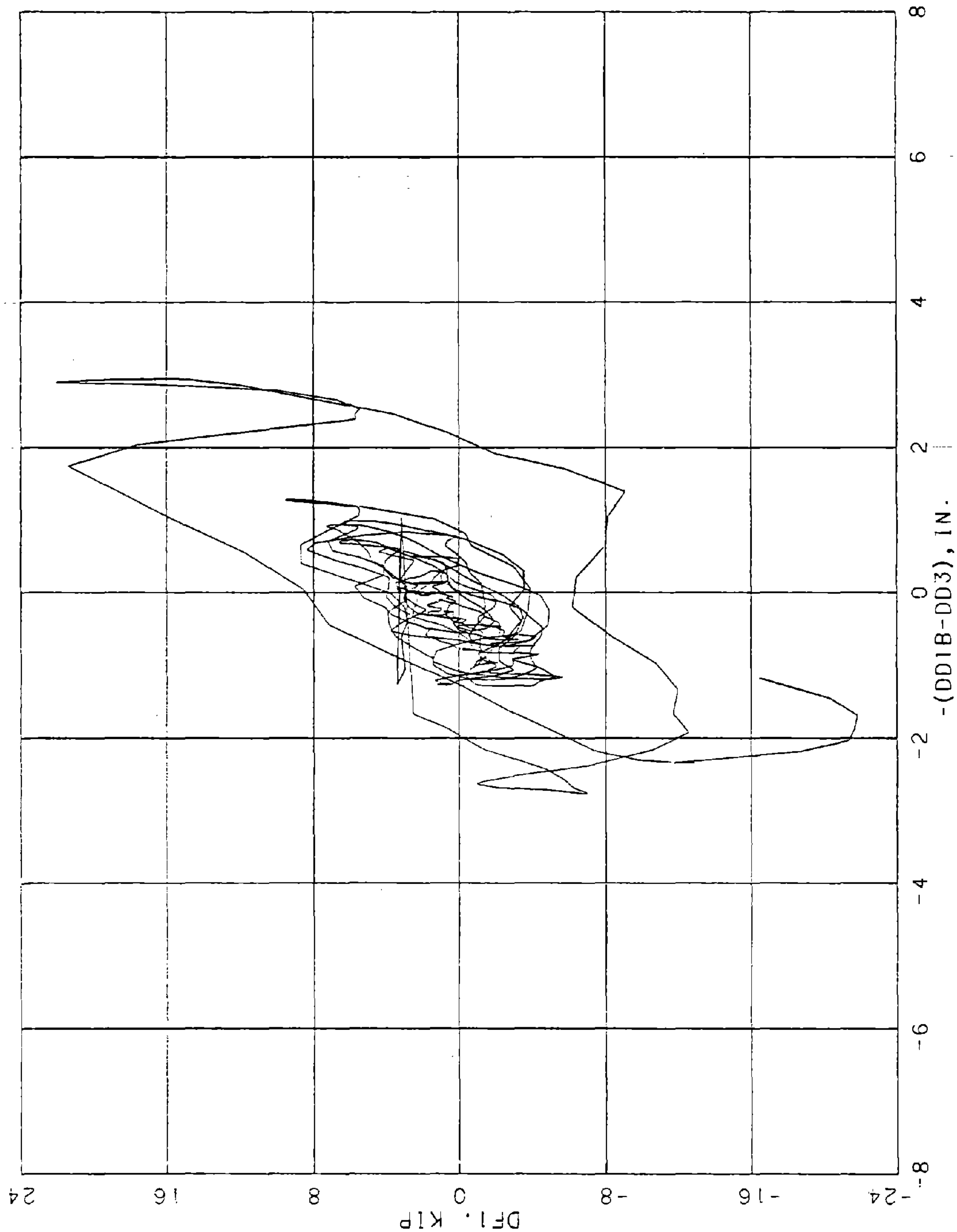


FIGURE D-54. DIAPHRAGM Q. END 1. CM 5.

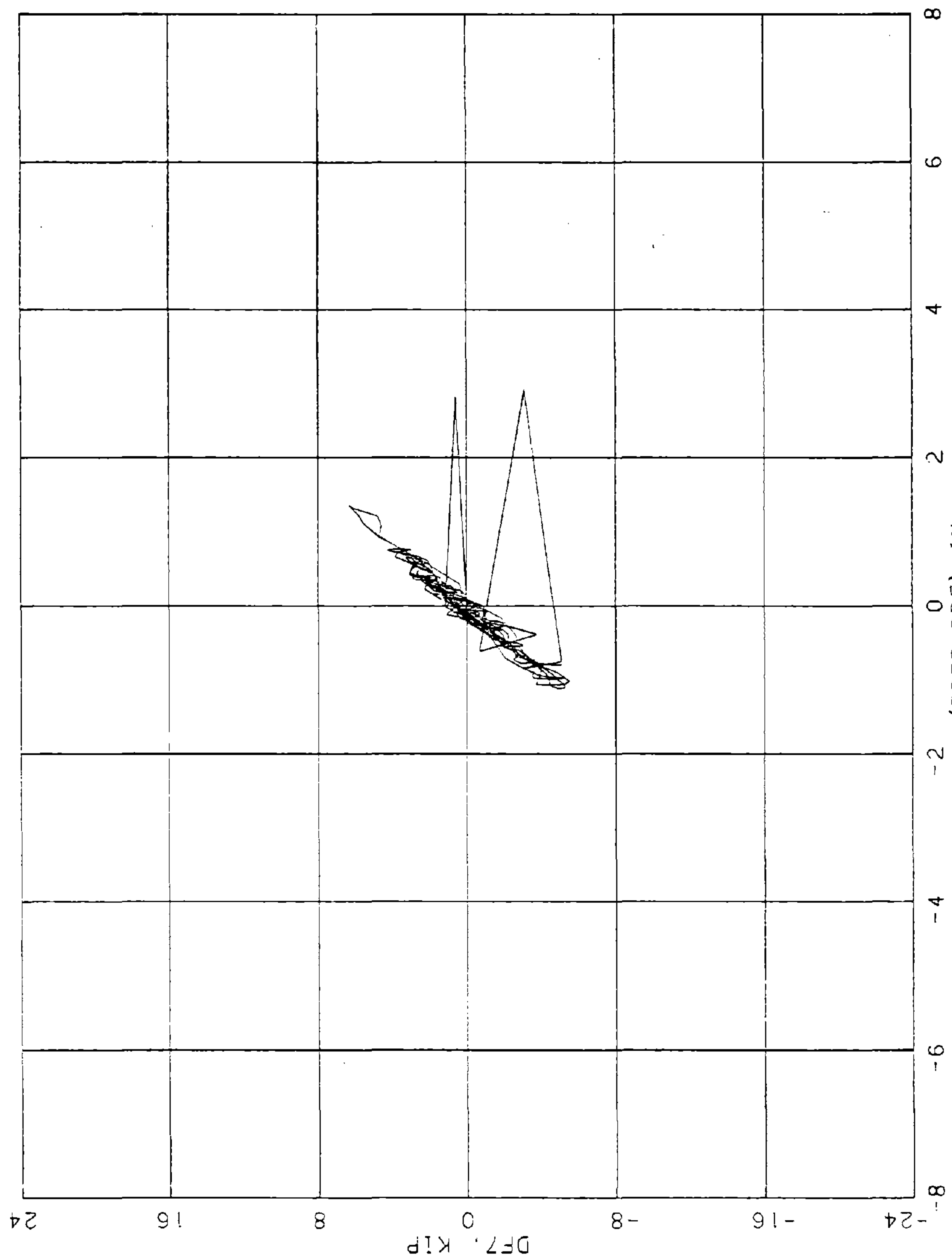


FIGURE D-55. DIAPHRAGM Q. END 7. GM 3.

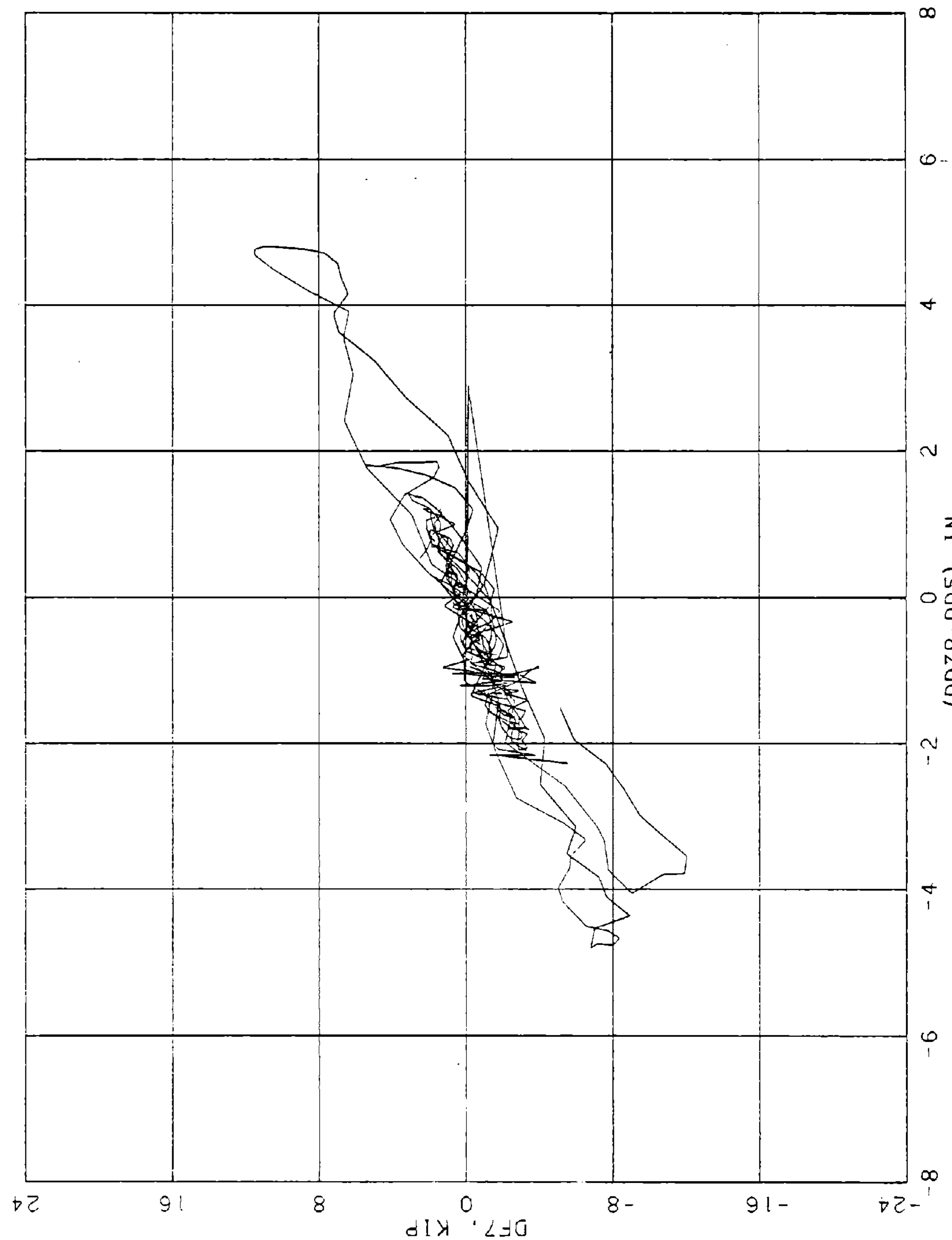


FIGURE D-56. DIAPHRAGM 0. END 7. GM 5.

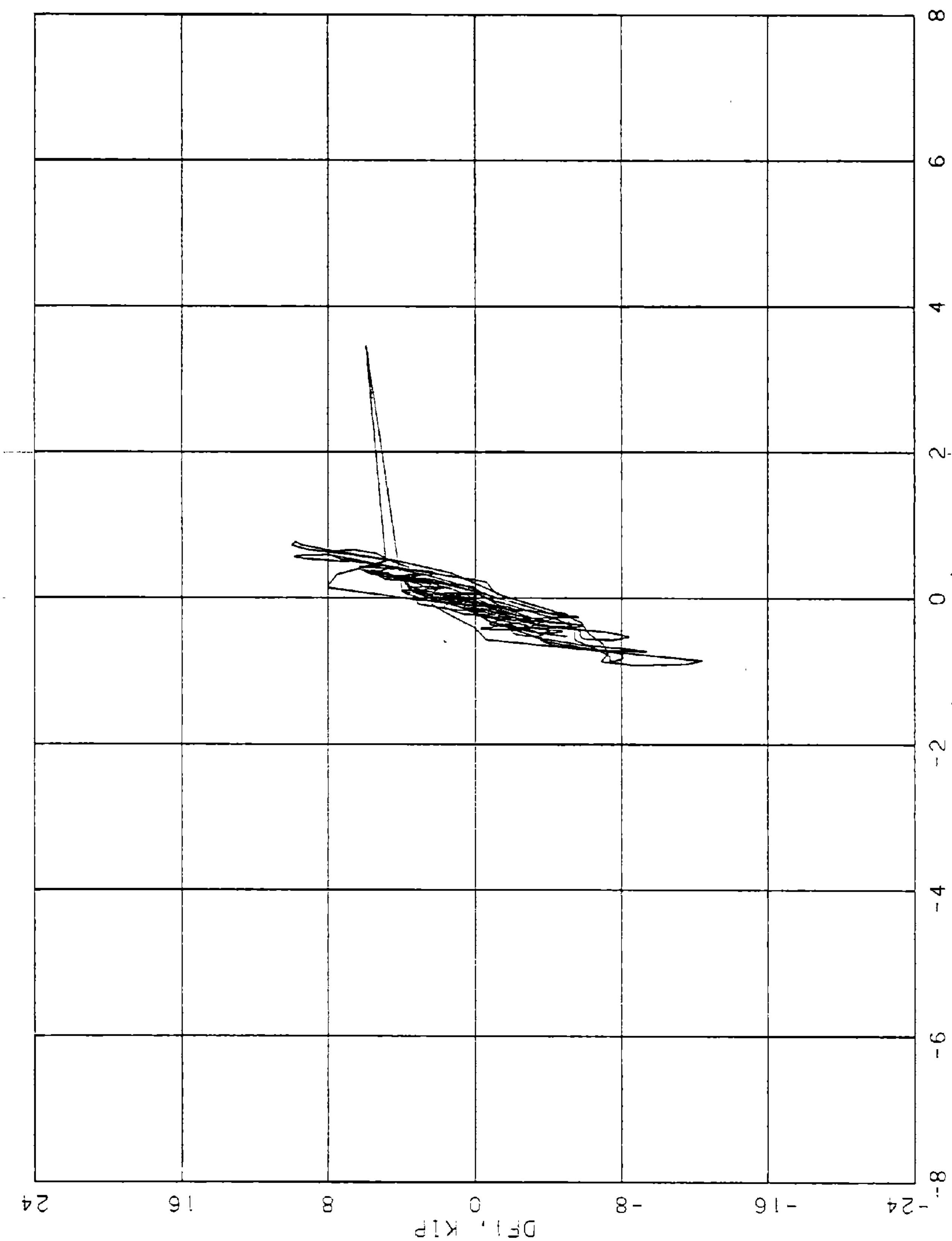


FIGURE D-57. DIAPHRAGM R. END 1. GM3.

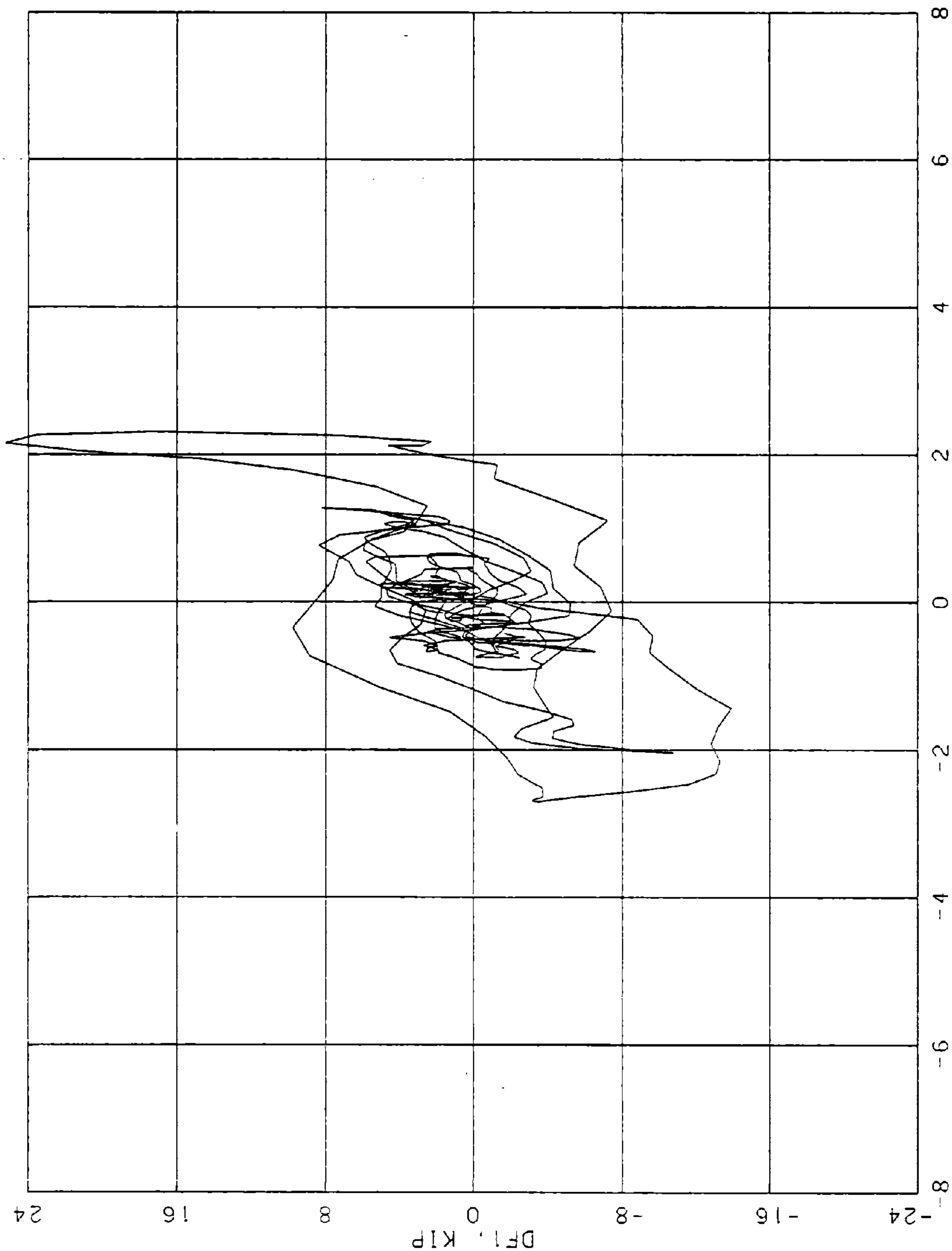


FIGURE D-58. DIAPHRAGM R. END 1. GM5.

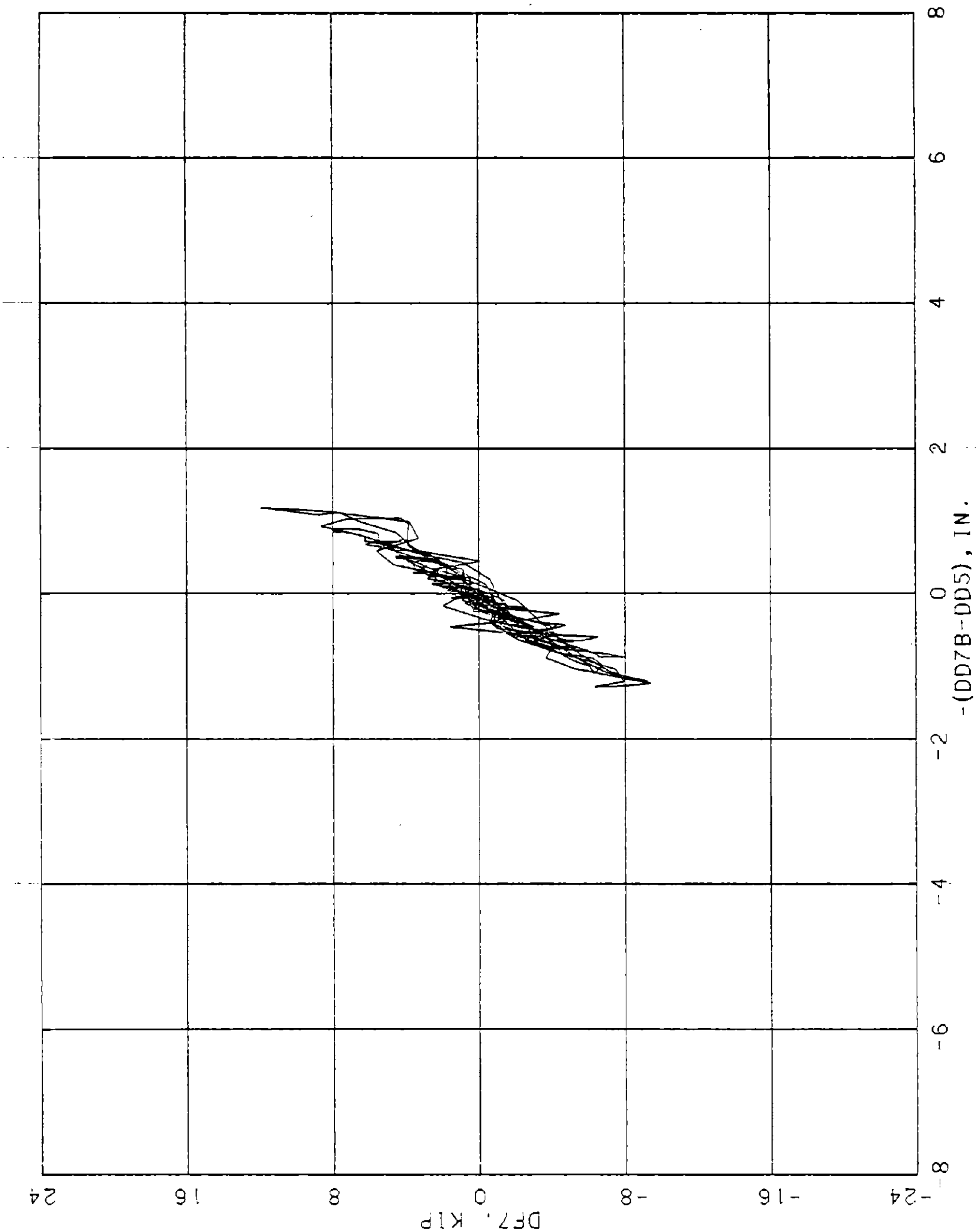


FIGURE D-59. DIAPHRAGM R. END 7. GM3.

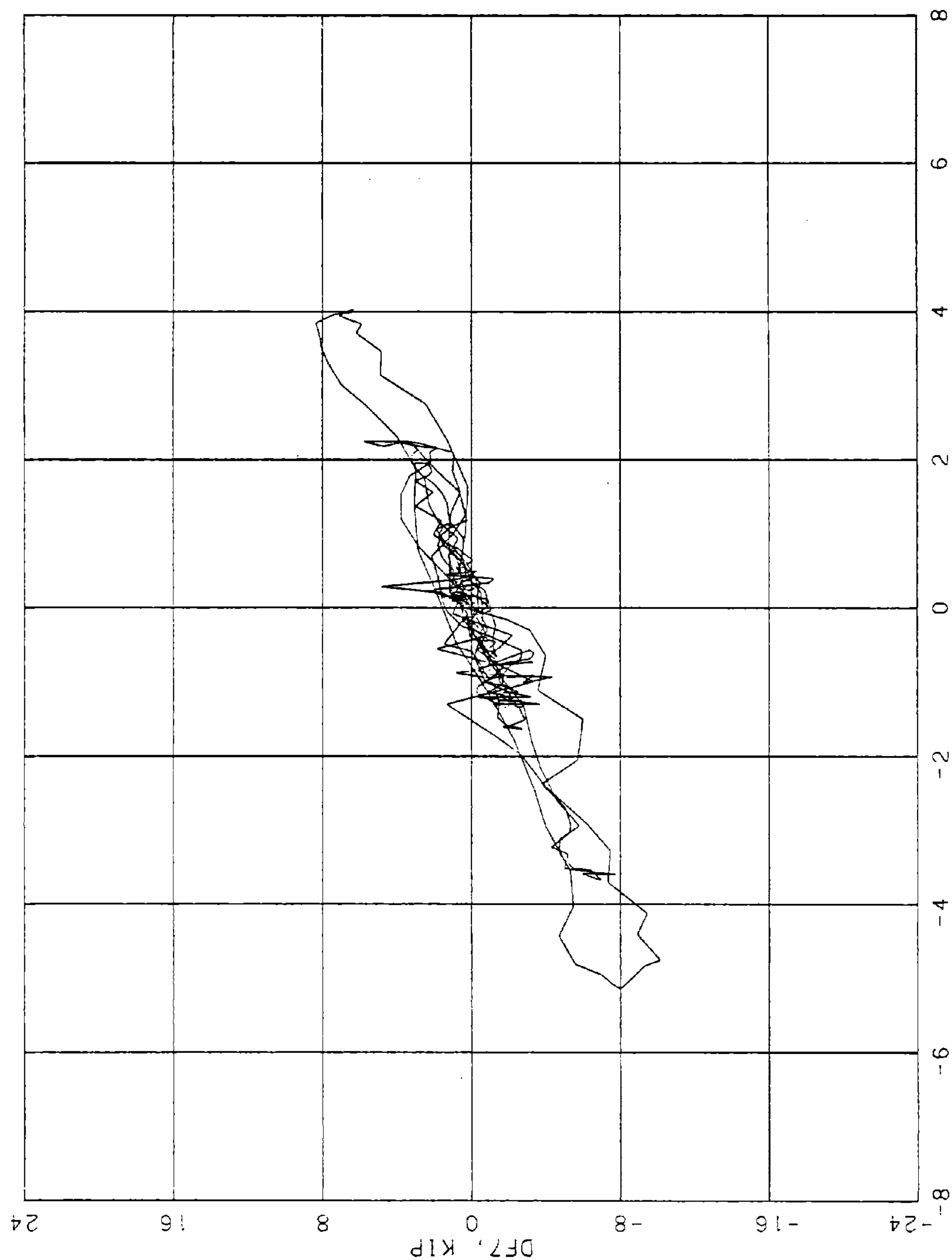


FIGURE D-60. DIAPHRAGM R. END 7. GM5.

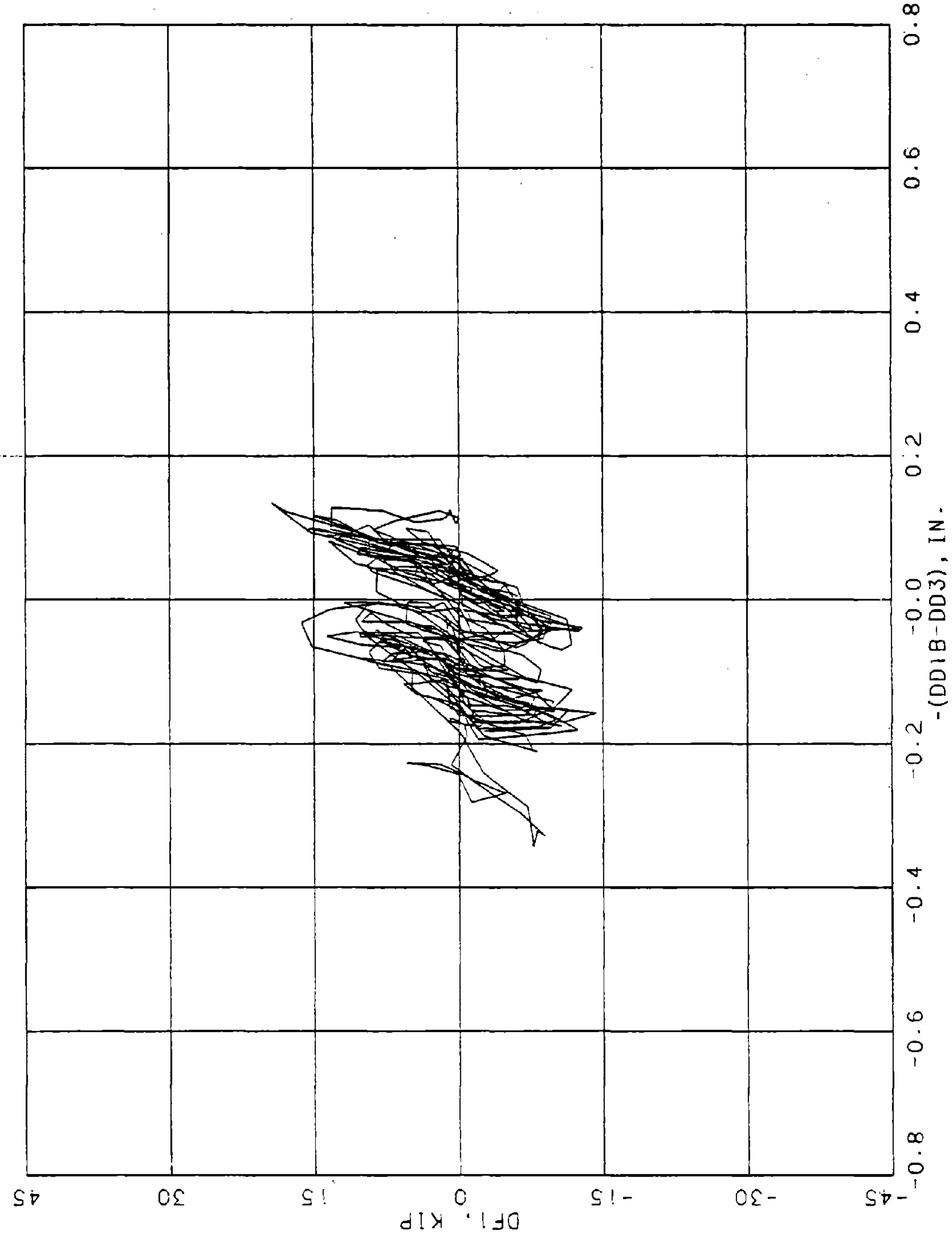


FIGURE D-61. DIAPHRAGM S. END 1. GM 3.

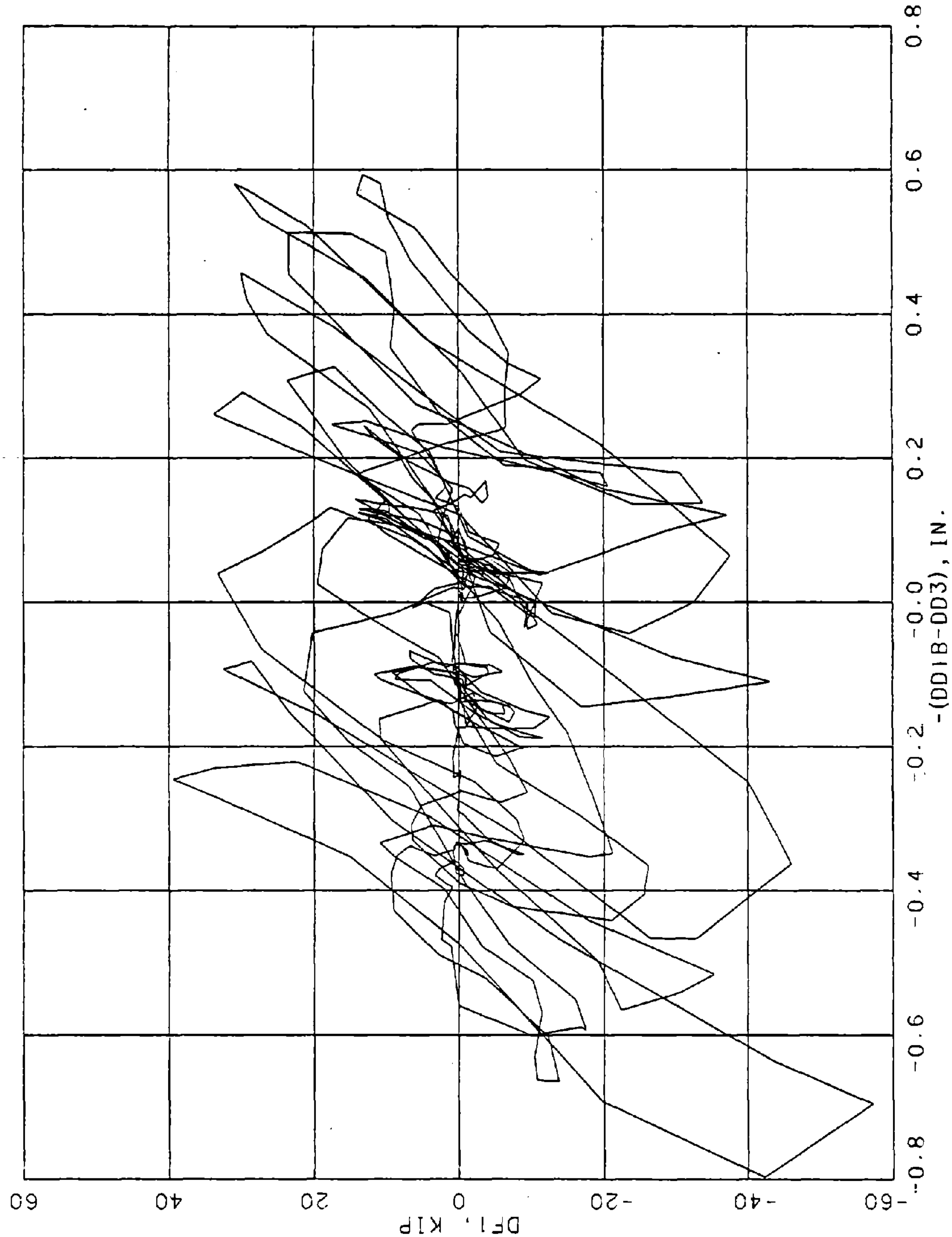


FIGURE D-62. DIAPHRAGM S, END 1. GM 6.

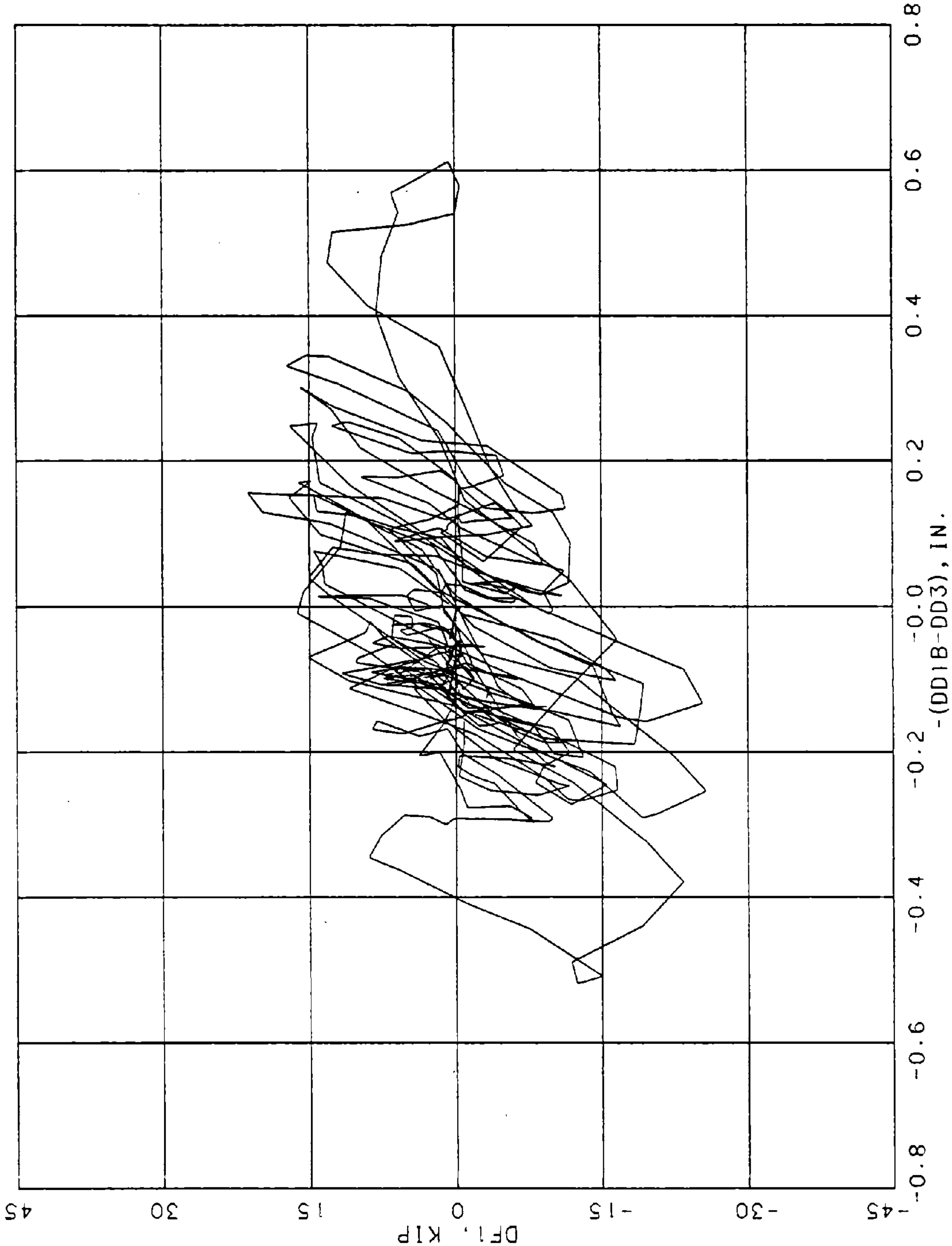


FIGURE D-63. DIAPHRAGM S. END 1. GM 5-1.

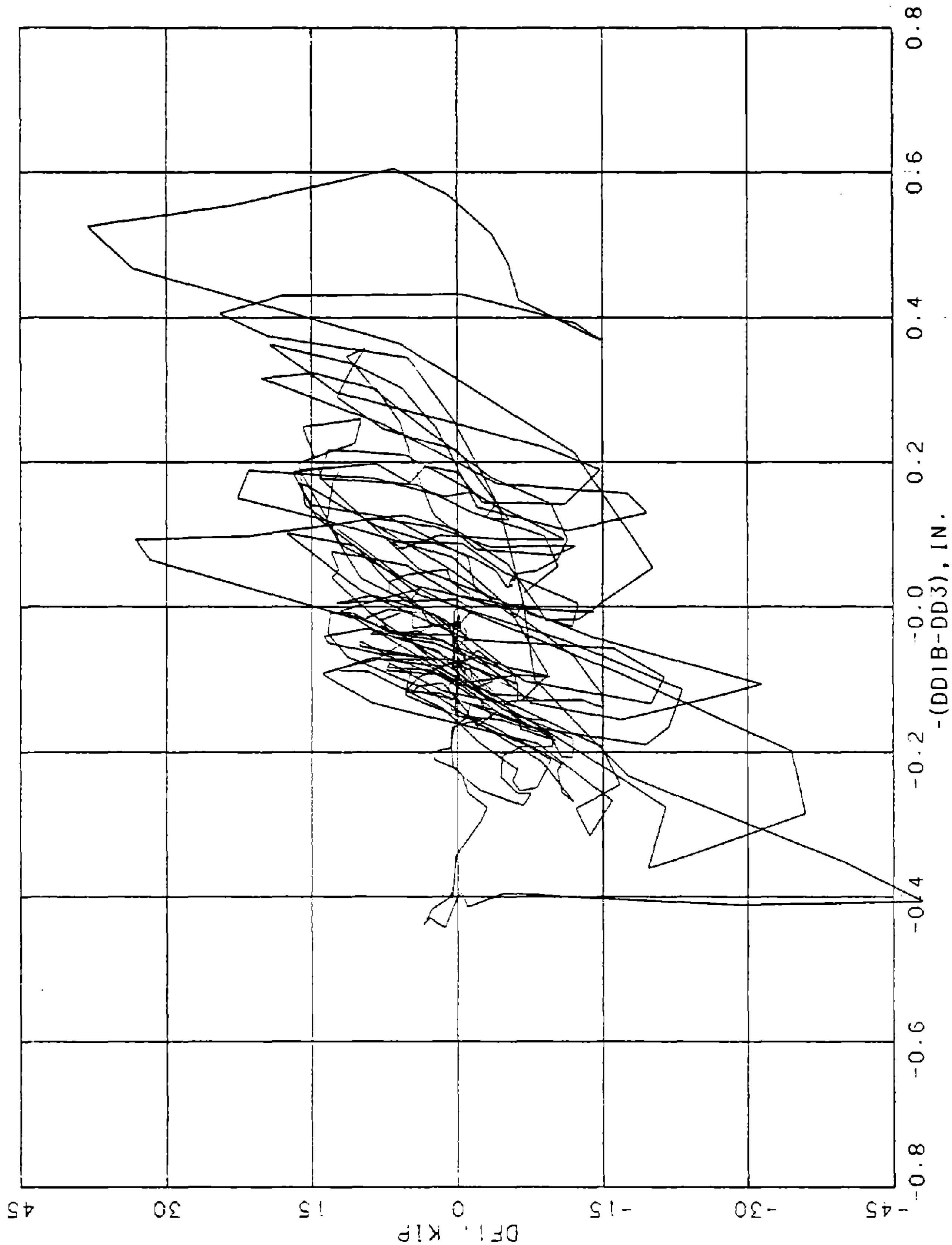


FIGURE D-64. DIAPHRAGM S. END 1. GM 5-2.

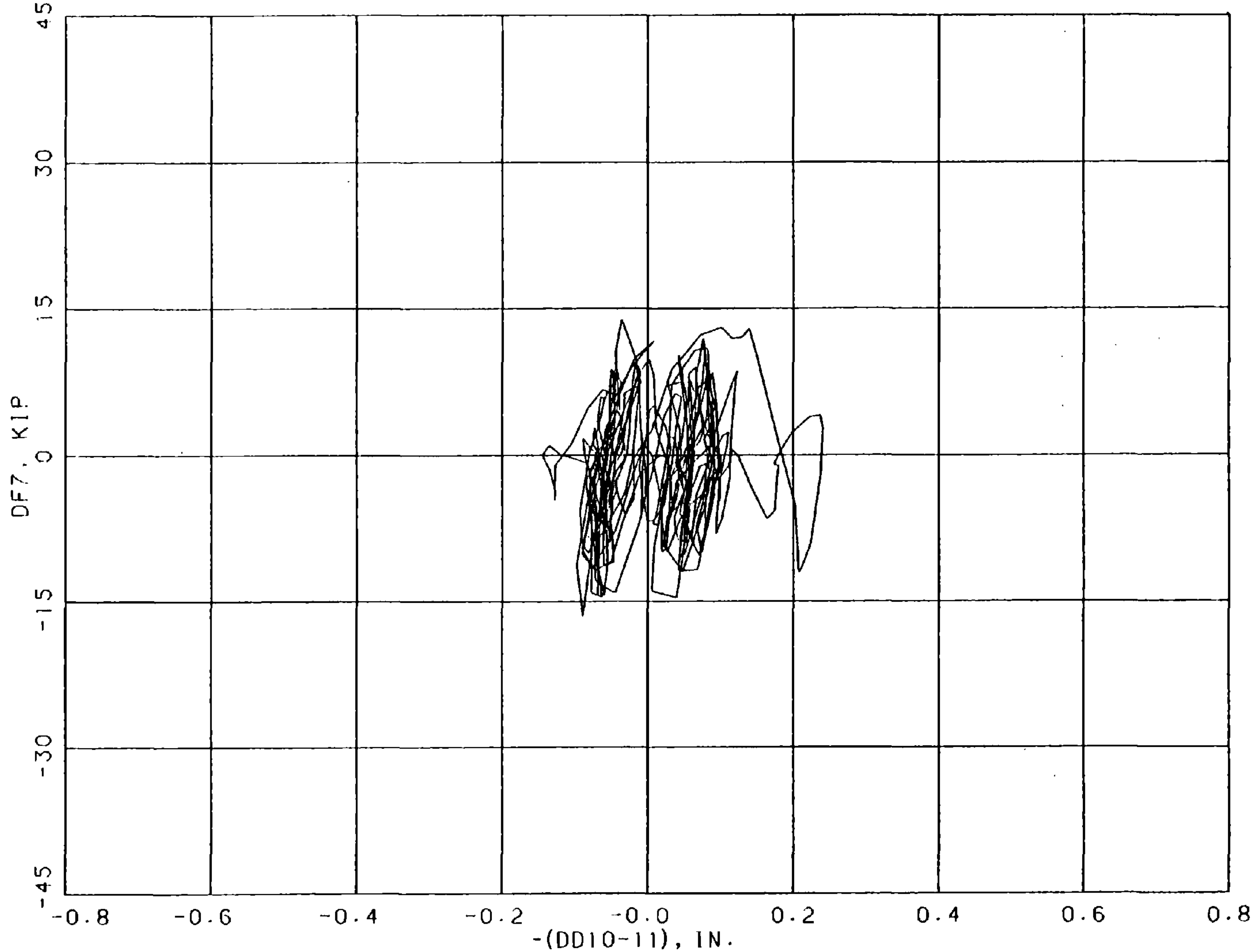


FIGURE D-65. DIAPHRAGM S. END 7. GM3.

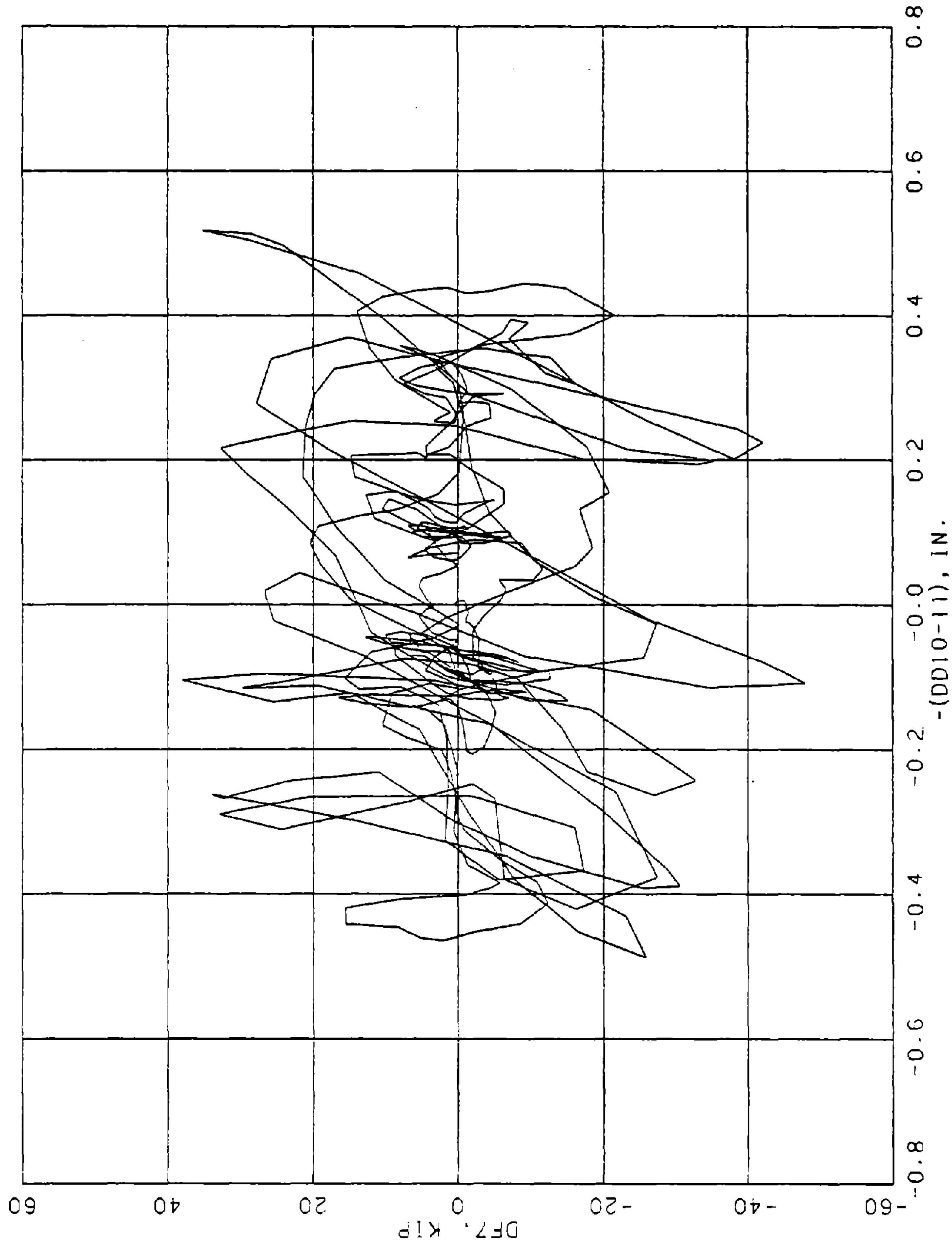


FIGURE D-66. DIAPHRAGM S, END 1, GM 6.

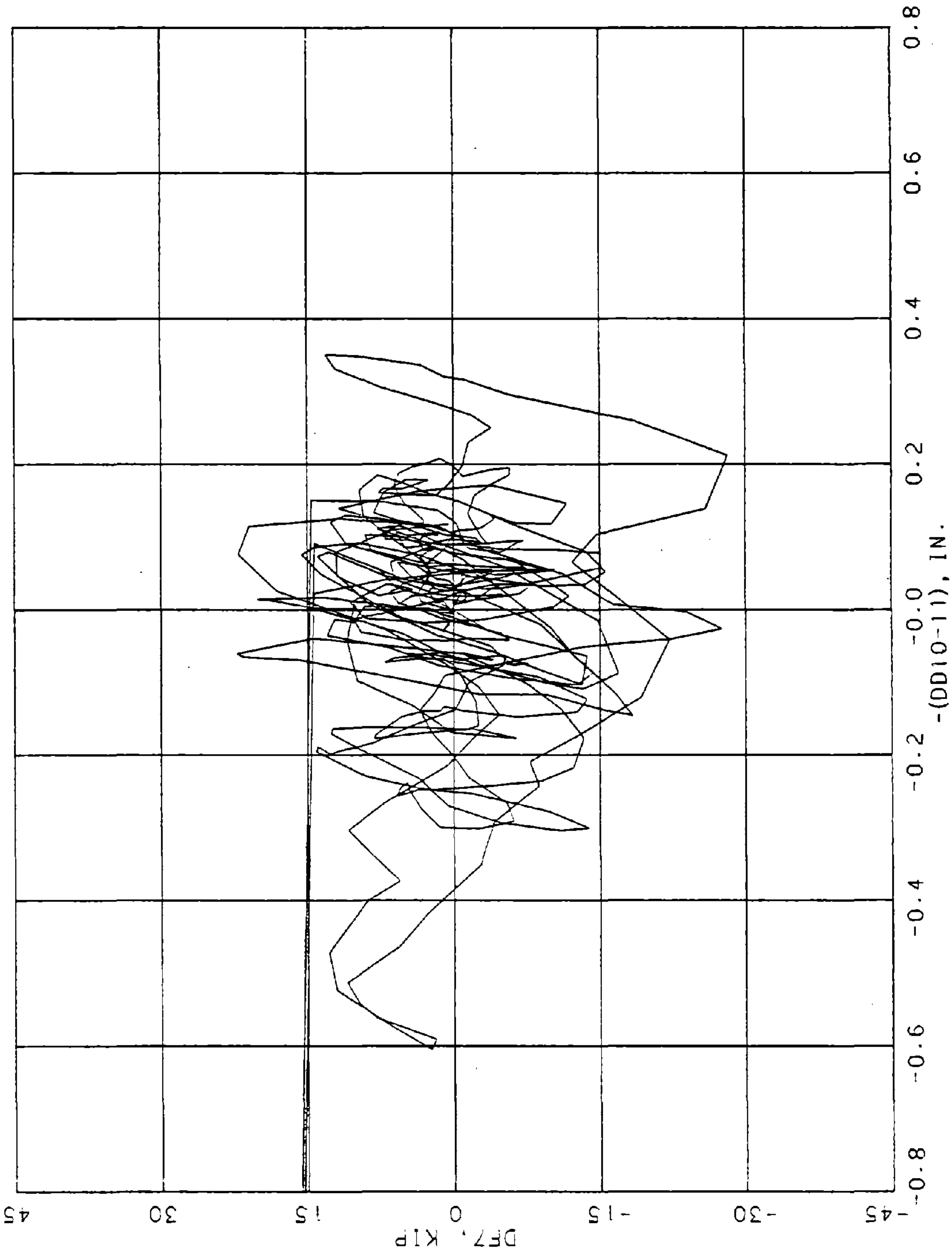


FIGURE D-67. DIAPHRAGM S, END 7, GM 5-1.

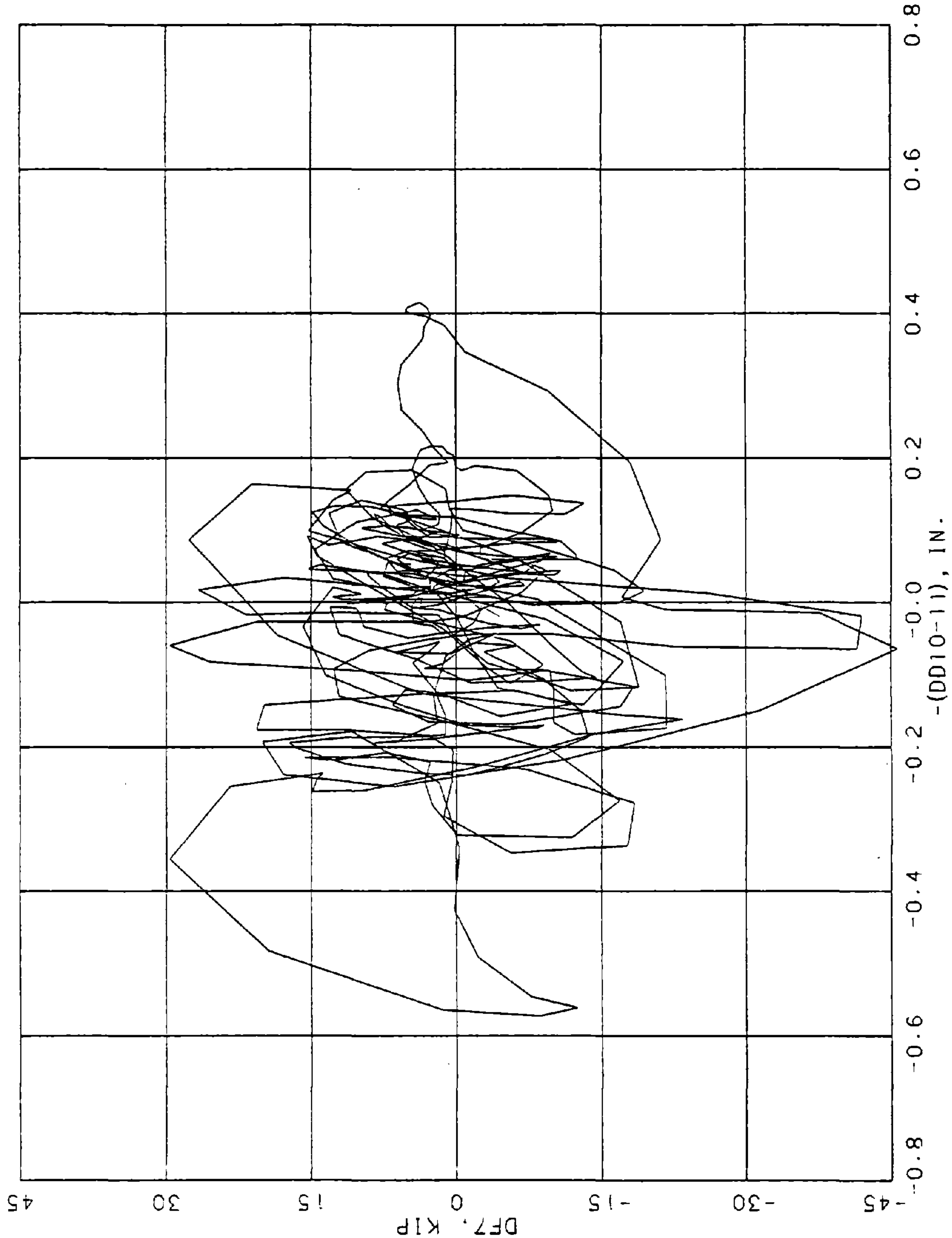


FIGURE D-68. DIAPHRAGM S. END 7. GM 5-2.

APPENDIX E

SELECTED DYNAMIC PLOTS FOR DIAPHRAGM N

This appendix gives dynamic force-deformation plots for selected time windows of all dynamic tests conducted for Diaphragm N. In addition it gives reponse time histories of the absolute diaplacements, relative deformations, end forces, and accelerations of two dynamic tests, GM 3 and GM 5 (Tables 2-2 and 2-4), for Diaphragm N.

For the dynamic force-deformation plots, two plots are given for each test, one for each end (Fig. 2-7) of the diaphragm (i.e., end 1 and end 7), where the end force is plotted as a function of the dynamic relative deflection between the end and the corresponding one-third point. In these plots, DF1 is plotted as a function of -(DD1B-DD3) for end 1, and DF7 is plotted as a function of -(DD7B-DD5) for end 7. The negative sign for the relative deflection in these plots is employed to preserve the same orientation as that for the quasi-static plots in Appendix C. The use of the complete time record of the test would result in a very busy plot, and more useful information is obtained by selecting a time window (approximately 10 sec) that includes the most significant dynamic excursions of the diaphragm. The plots are given in the order that the tests were conducted, where all the plots for end 1 are given first and are followed by those for end 7. The dynamic force-deformation plots for end 1 of Diaphragm N are given in Figures E-1 through E-10, while those for end 7 are given in Figures E-11 through E-20.

The response time-history plots for Diaphragm N for the first 30 sec of motion are given in Figures E-21 through E-28, where the responses for GM 3-1 are given in Figures E-21 through E-24 and those for GM 5-1 are given in Figures E-25 through E-28. For each of the dynamic tests the responses are plotted two per page with corresponding responses at each of the two ends on the same page. The absolute displacements are given in Figures E-21a through E-21g and E-25a through E-25g, the relative deformations are given in Figures E-22a through E-22f and E-26a through E-26f, the end forces are given in Figures E-23a, E-23b, E-27a, and E-27b, and the accelerations are given in Figures E-24a through E-24g and E-28a through E-28g.

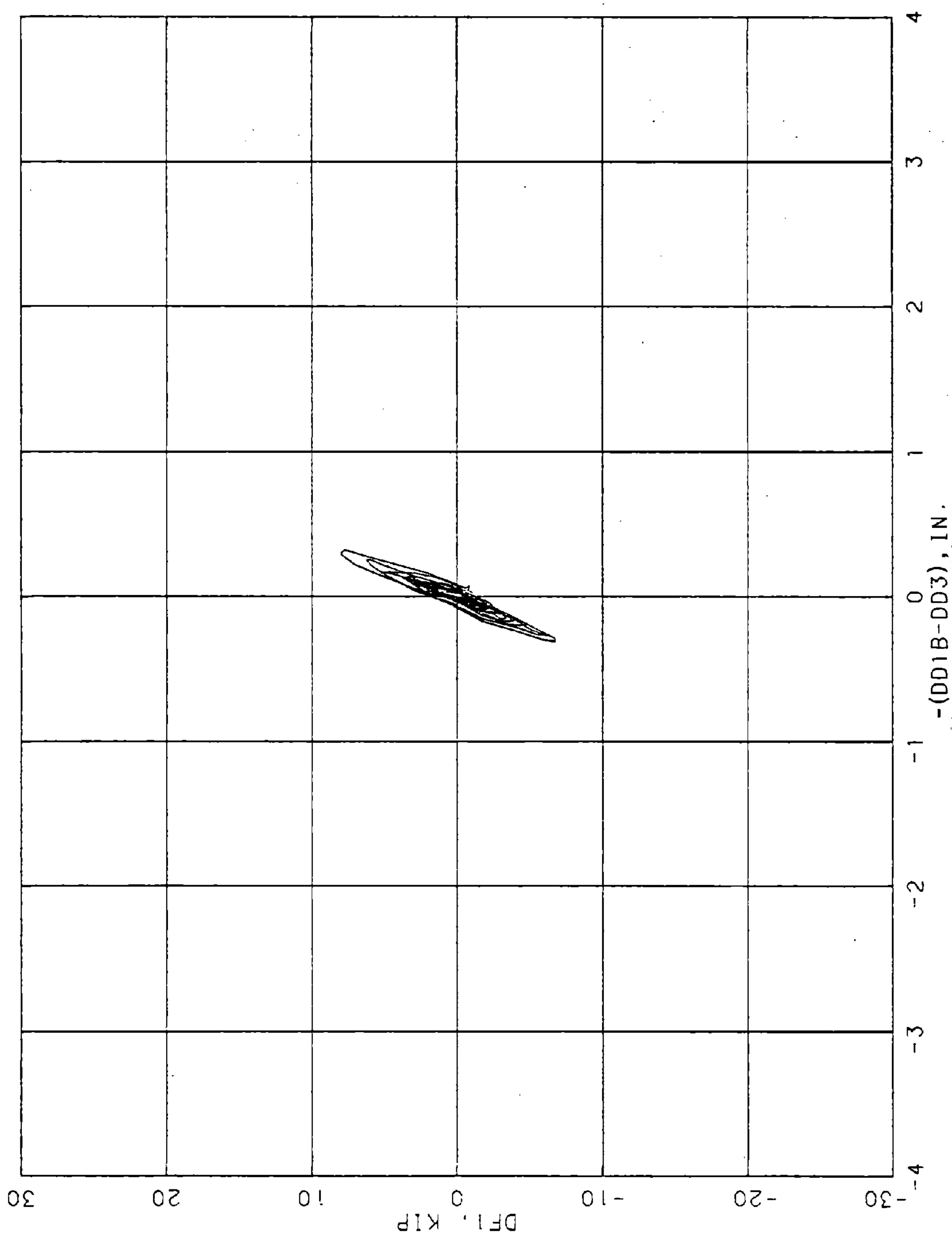


FIGURE E-1. DIAPHRAGM N. END 1. GM2.

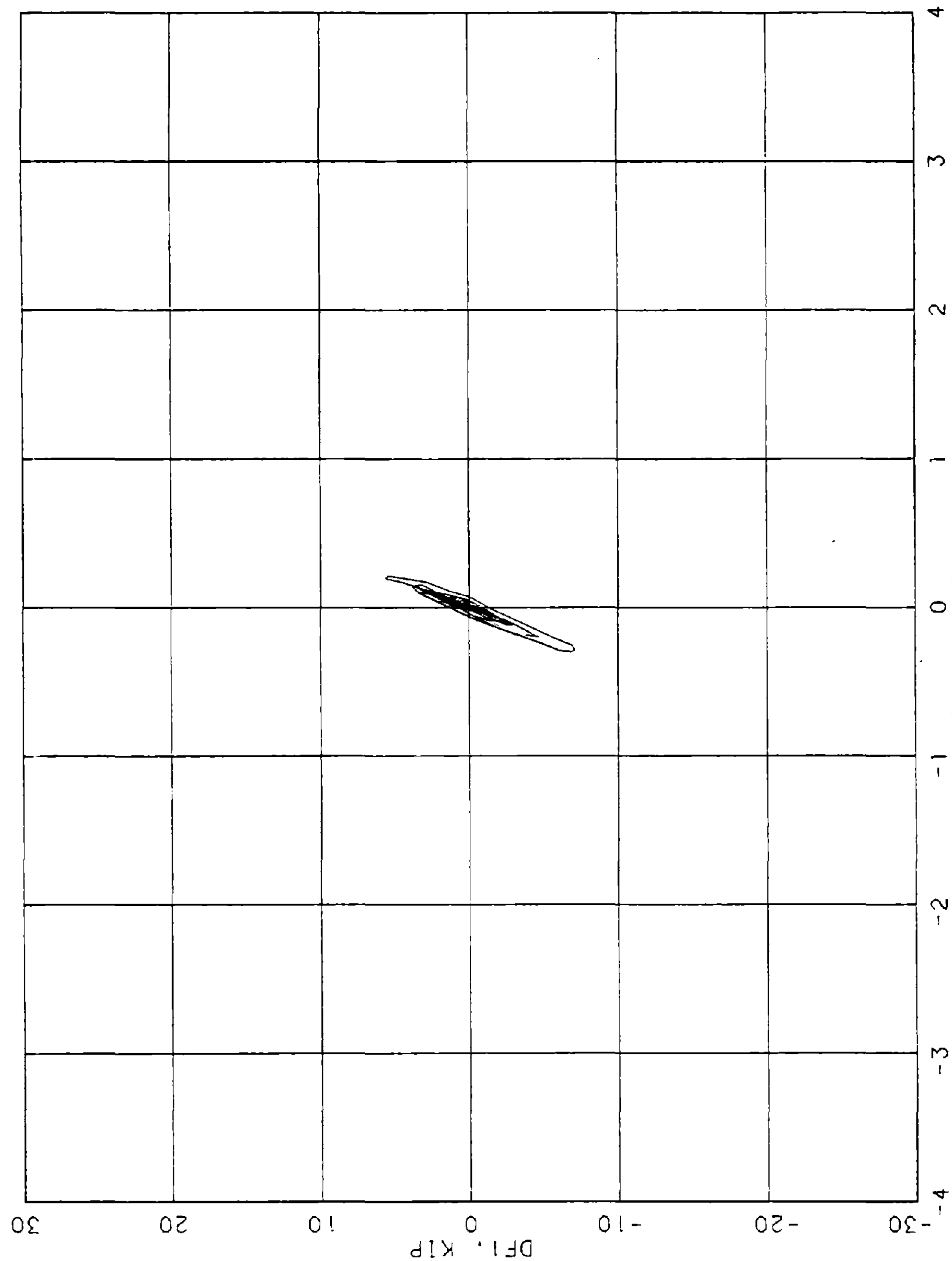


FIGURE E-2. DIAPHRAGM N. END 1. GM1.

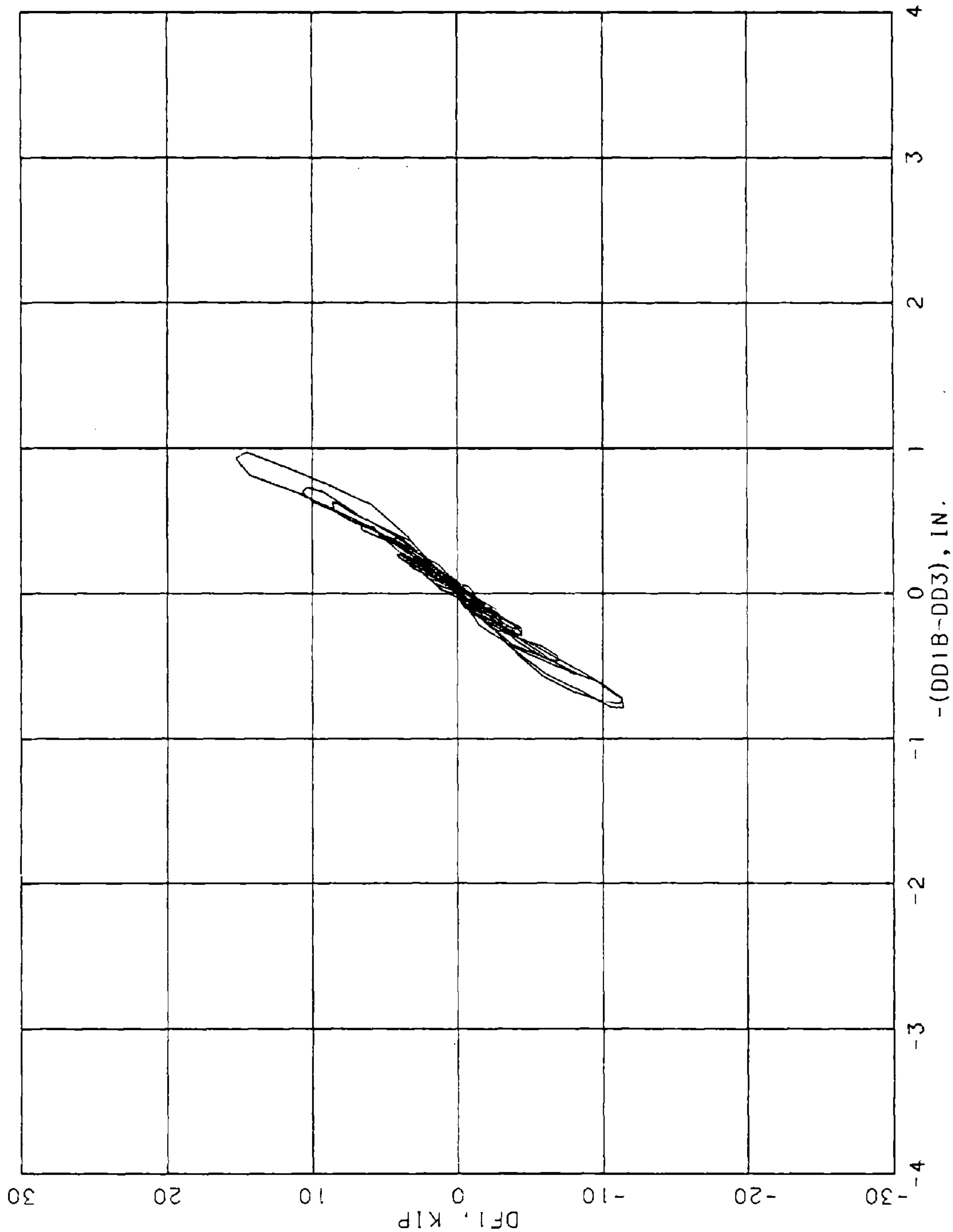


FIGURE E-3. DIAPHRAGM N. END 1. GM3-1.

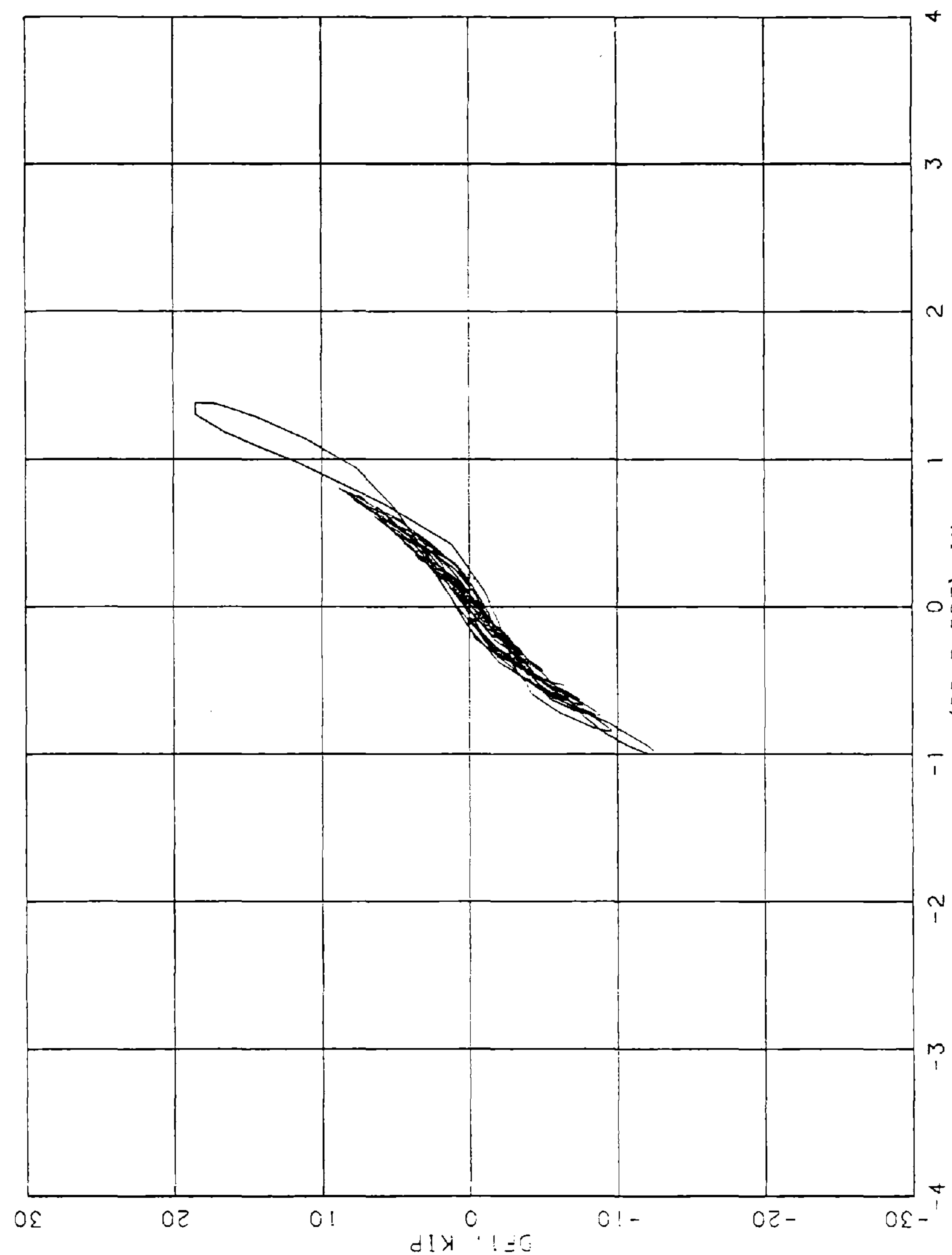


FIGURE E-4. DIAPHRAGM N. END 1. GM4-1.

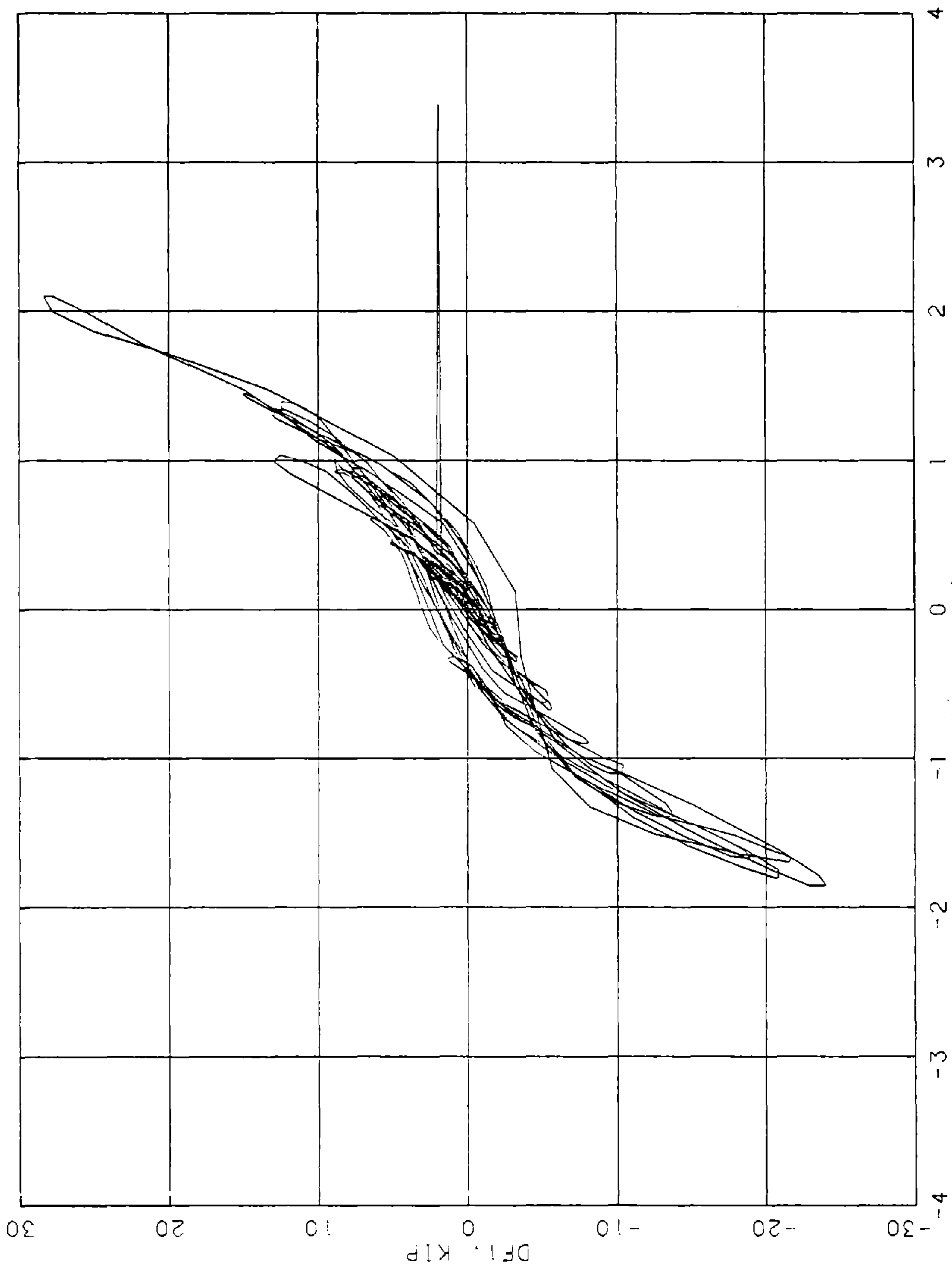


FIGURE E-5. DIAPHRAGM N. END 1. GM6-1.

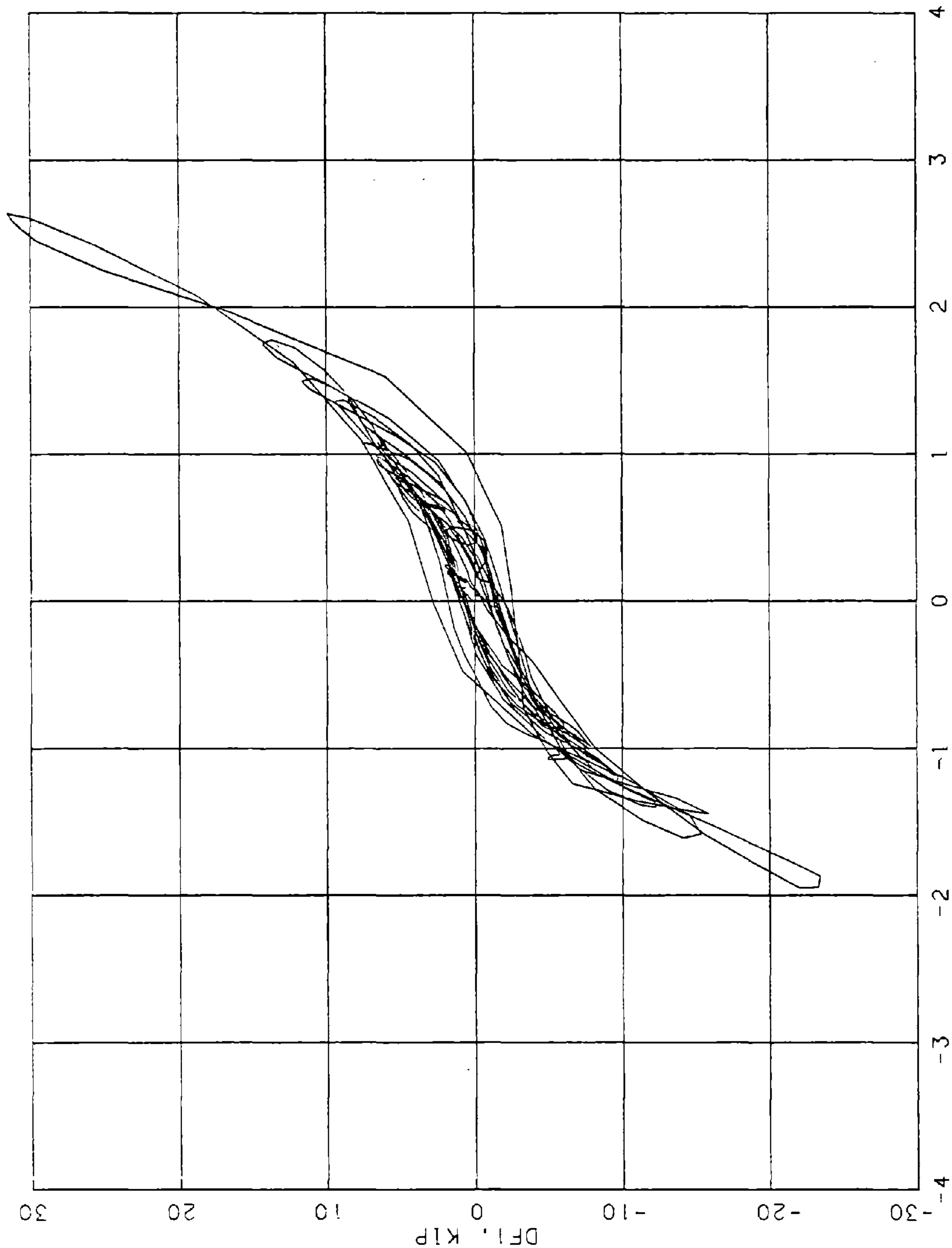


FIGURE E-6. DIAPHRAGM N. END 1. GM5-1.

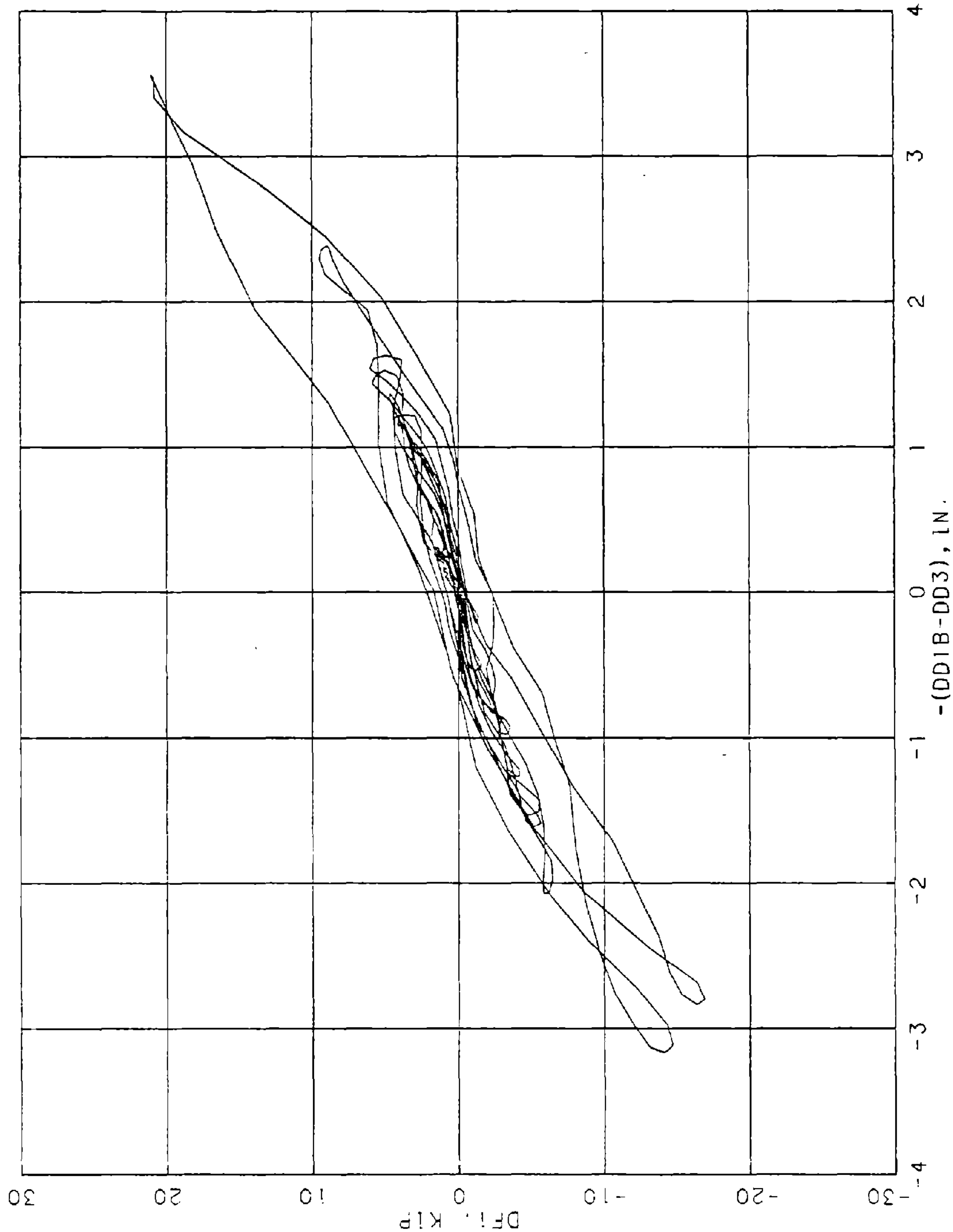


FIGURE E-7. DIAPHRAGM N. END 1. GM5-2.

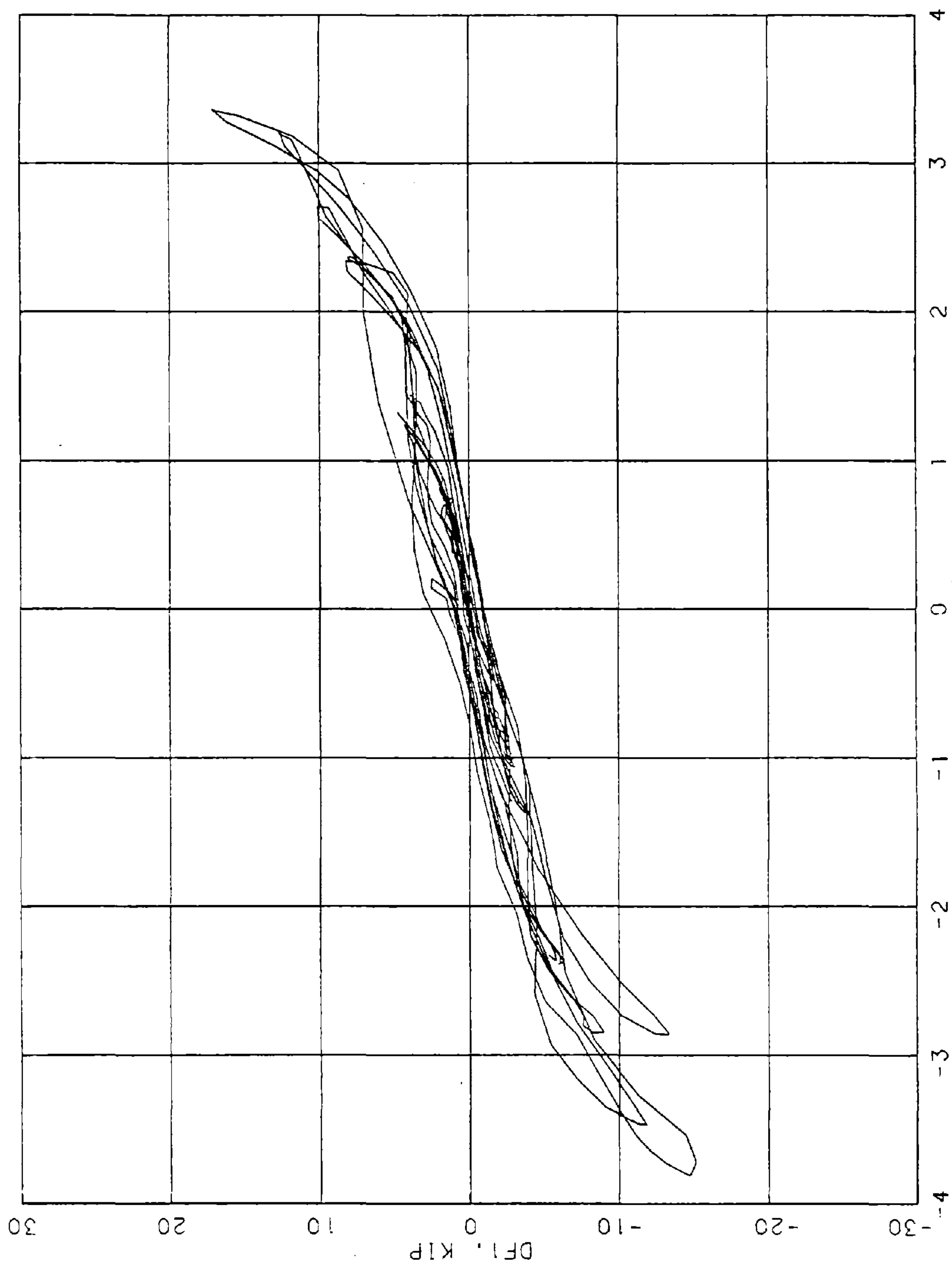


FIGURE E-8. DIAPHRAGM N. END 1. GM6-2.

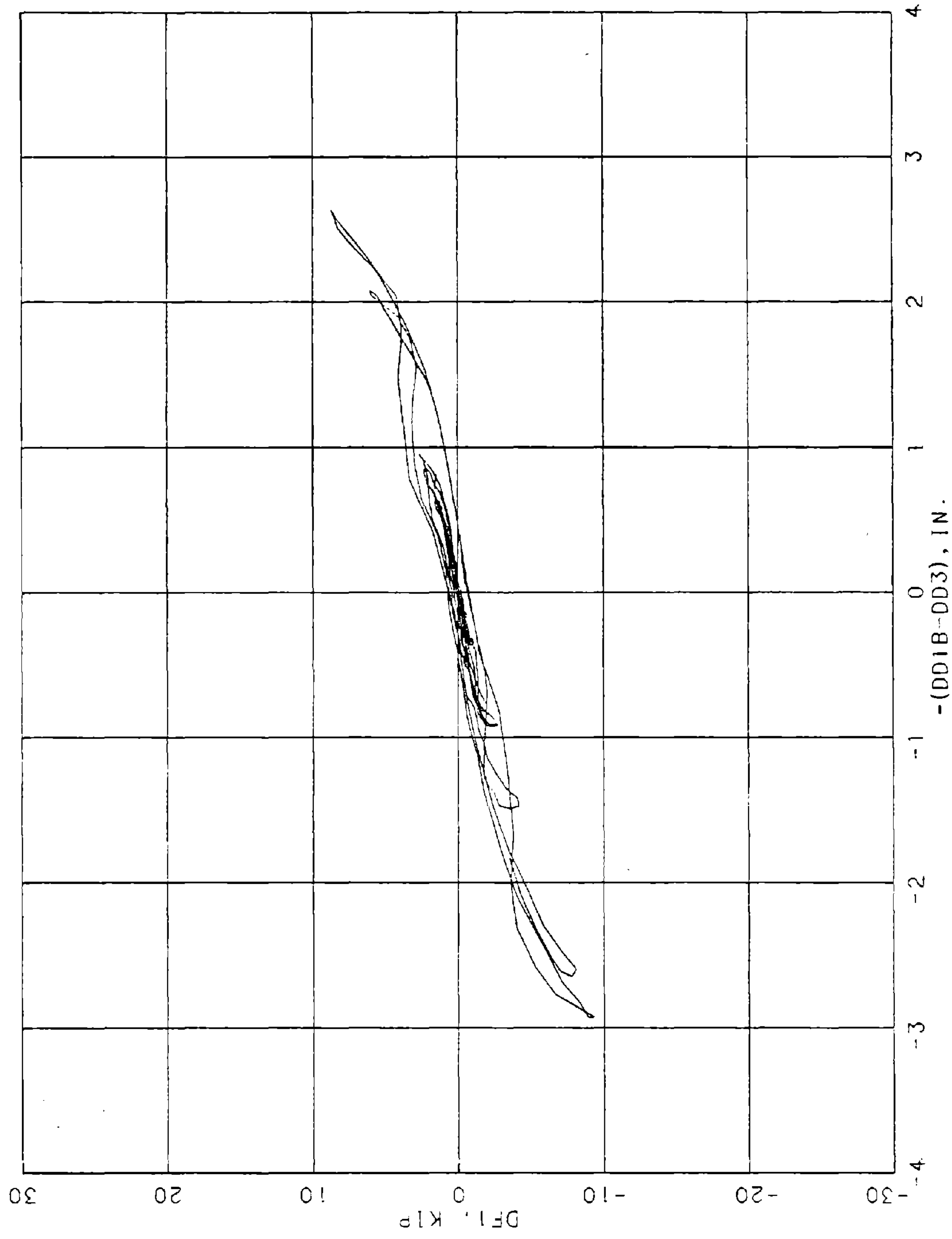


FIGURE E-9. DIAPHRAGM N. END 1. GM4-2.

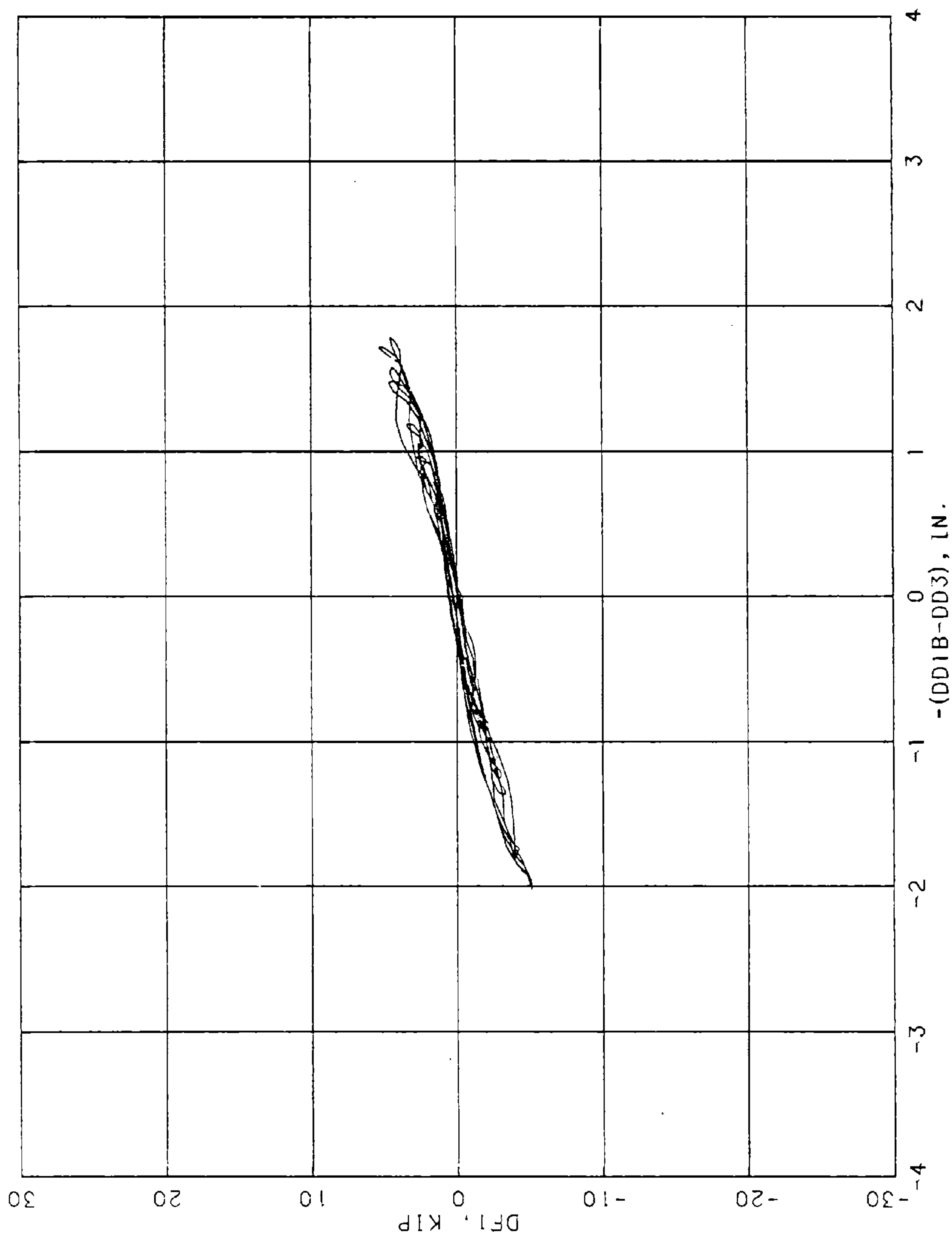


FIGURE E-10. DIAPHRAGM N. END 1. GM3-2.

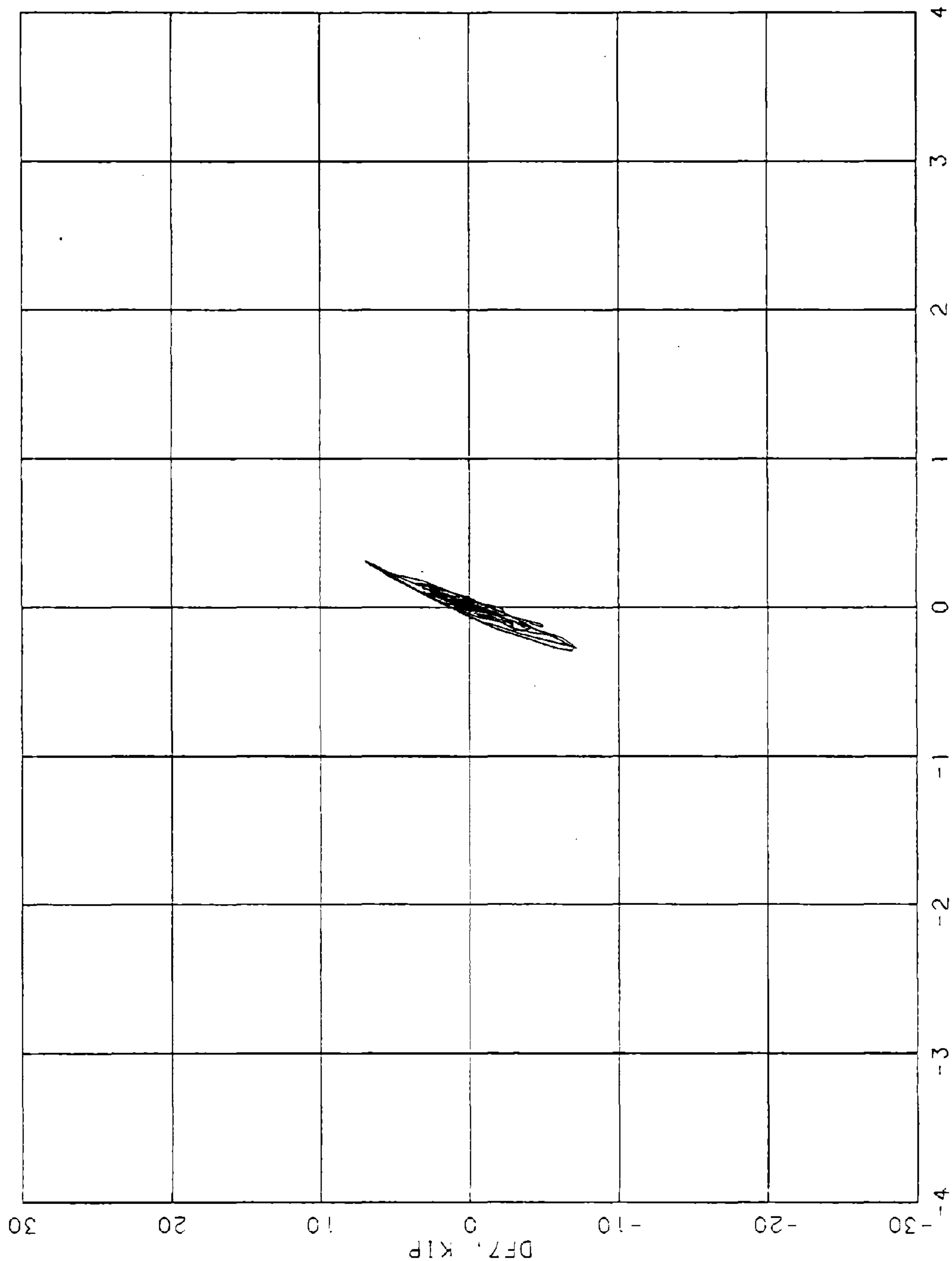


FIGURE E-11. DIAPHRAGM N. END 7. GM2.

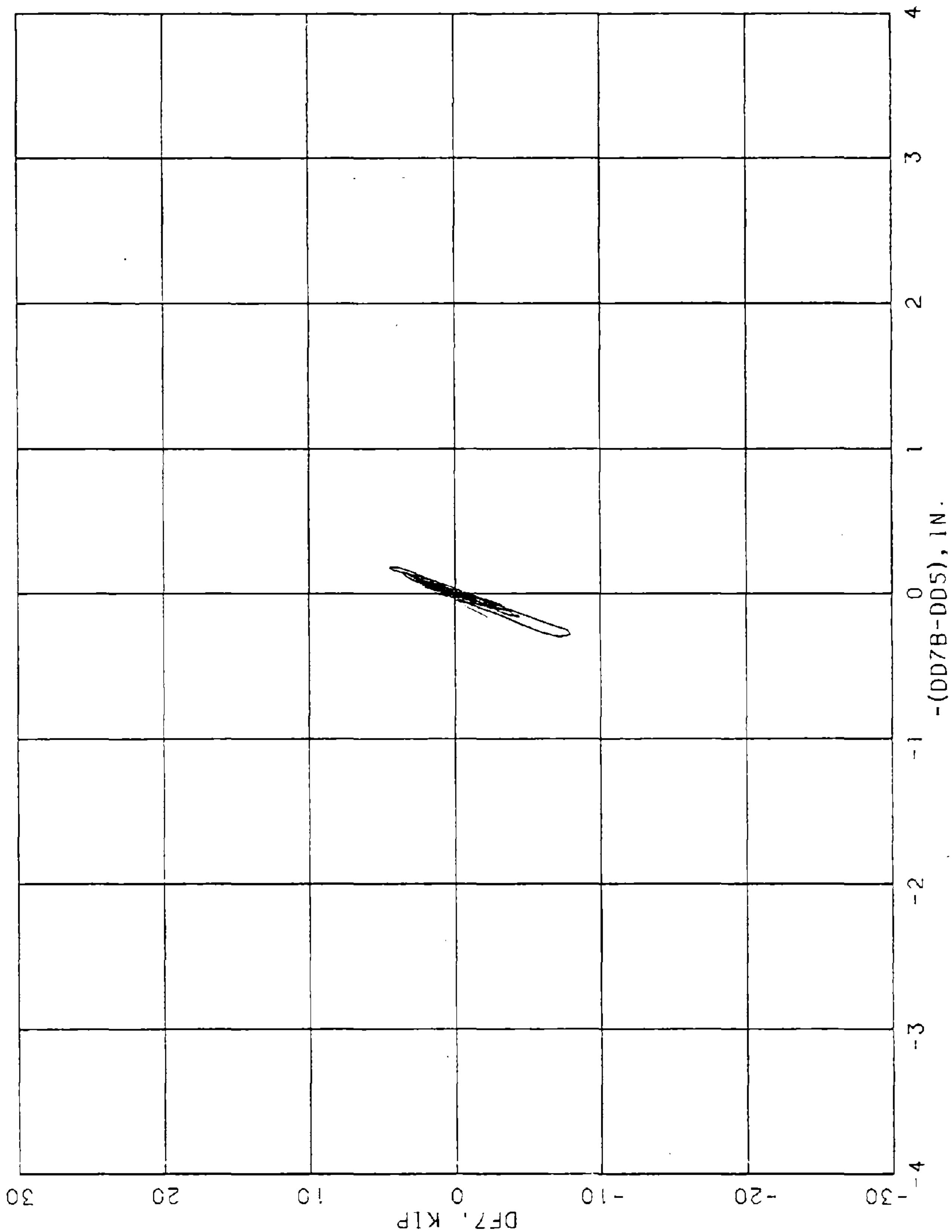


FIGURE E-12. DIAPHRAGM N. END 7. GMI.

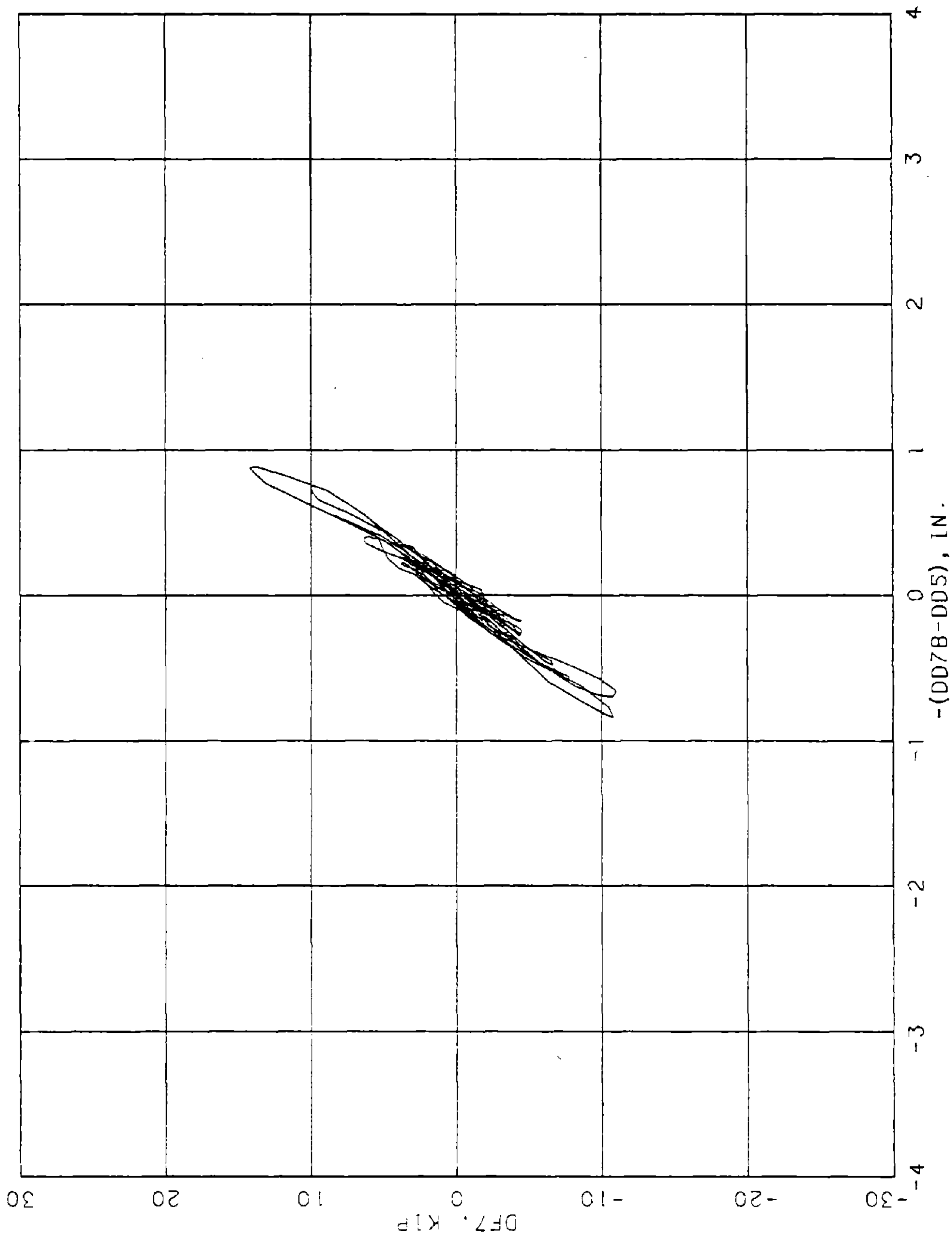


FIGURE E-13. DIAPHRAGM N. END 7. GM3-1.

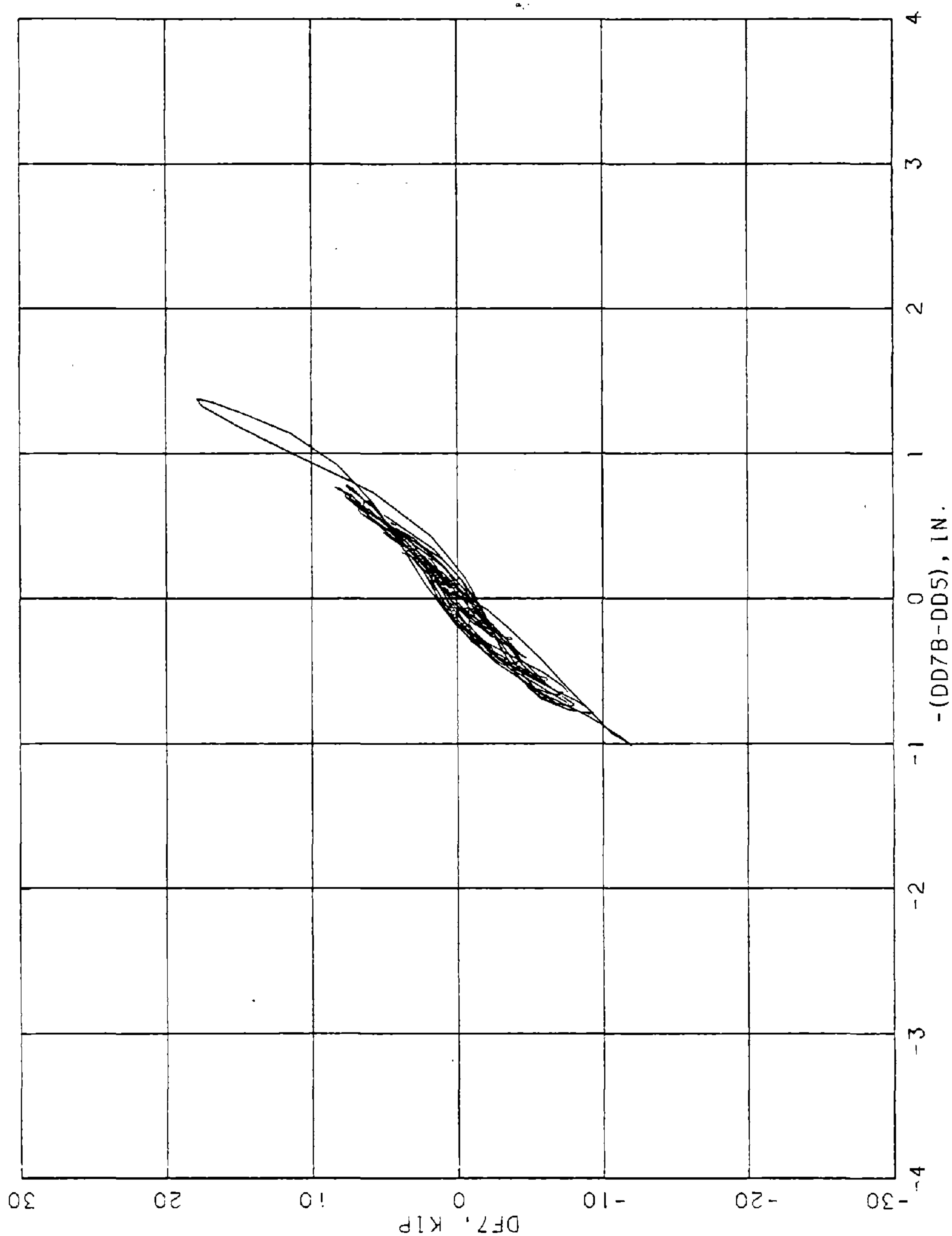


FIGURE E-14. DIAPHRAGM N. END 7, GM4-1.

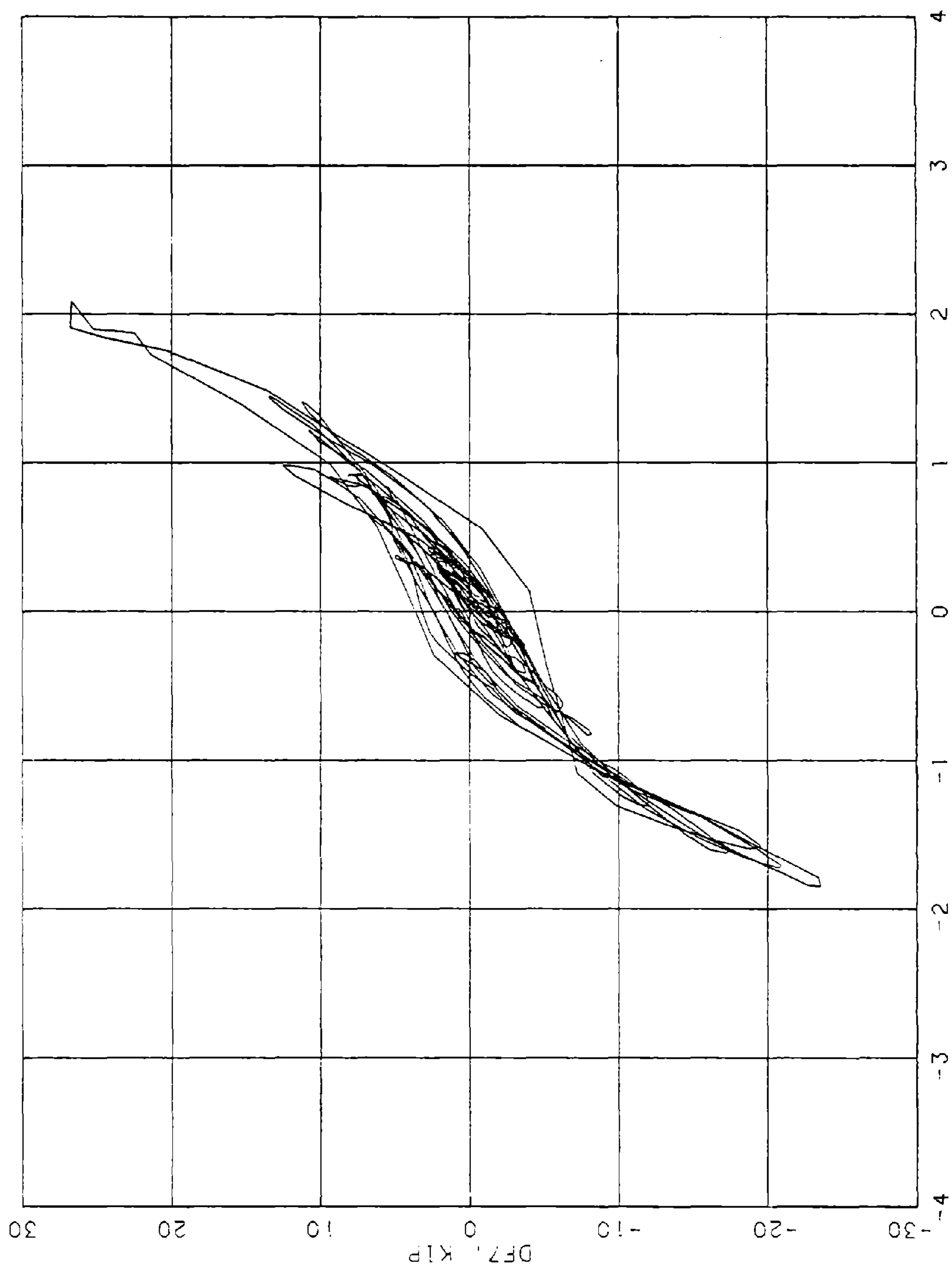


FIGURE E-15. DIAPHRAGM N. END 7. GM6-1.

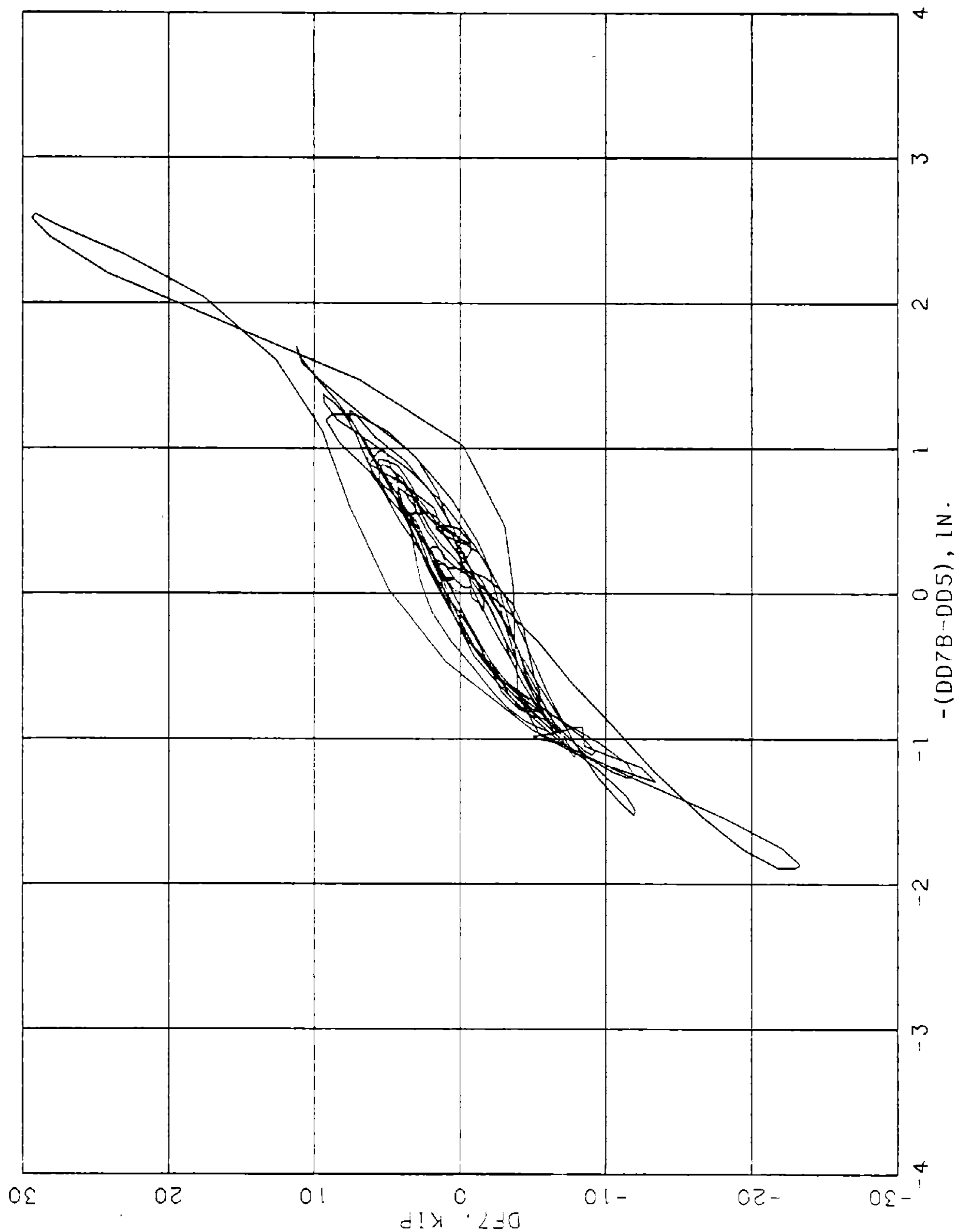


FIGURE E-16. DIAPHRAGM N. END 7. GM5-1.

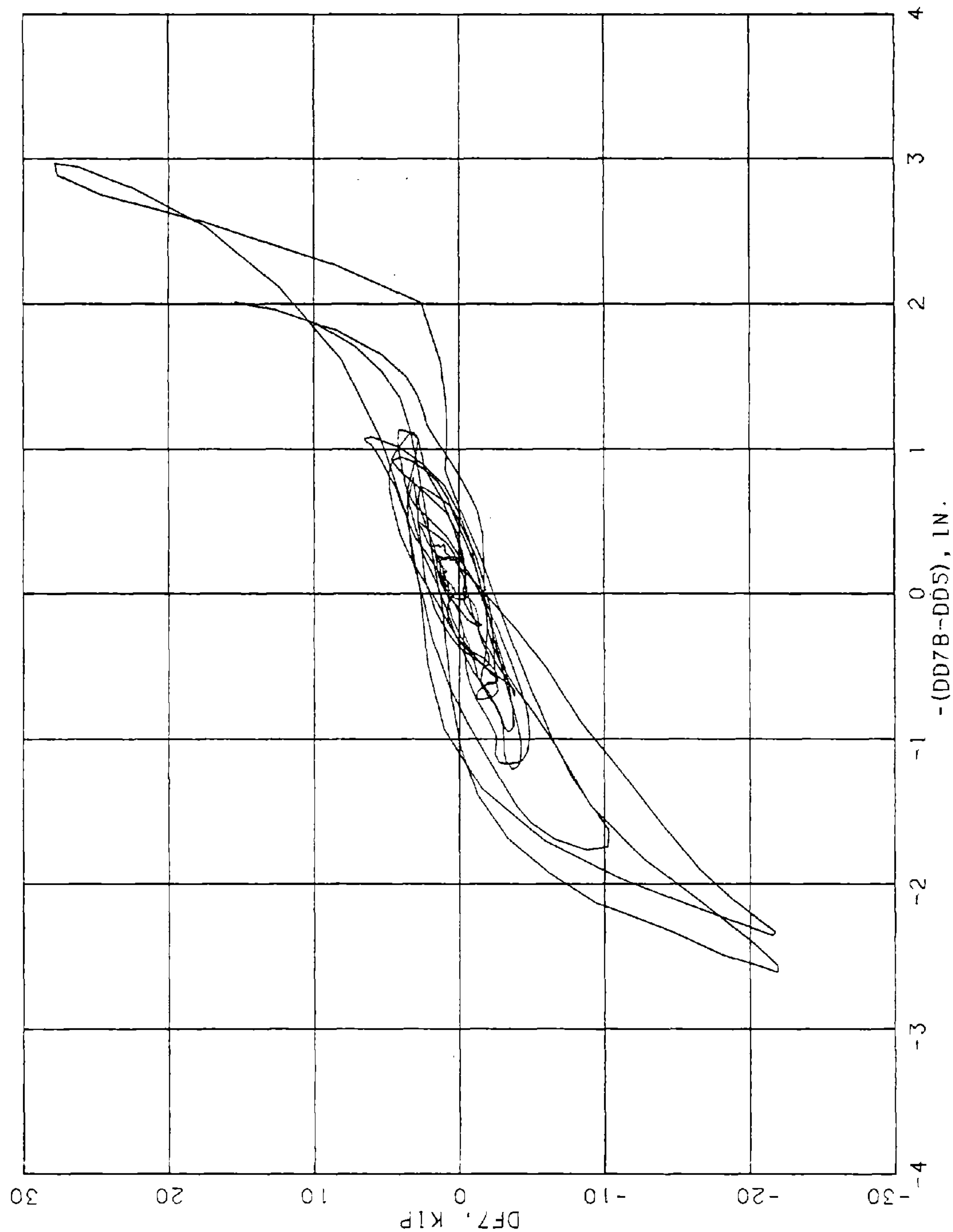


FIGURE E-17. DIAPHRAGM N. END 7. GM5-2.

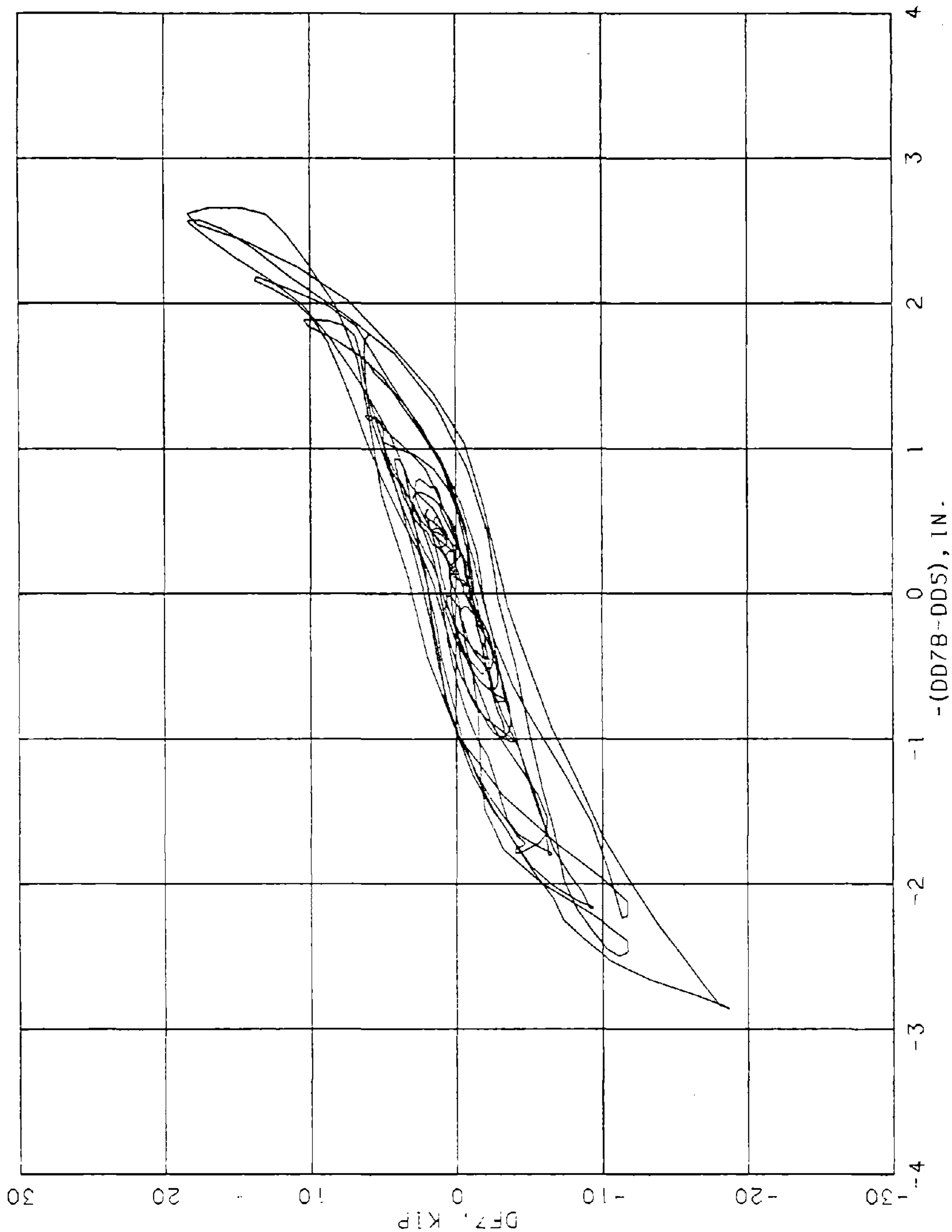


FIGURE E-18. DIAPHRAGM N. END 7. GM6-2.

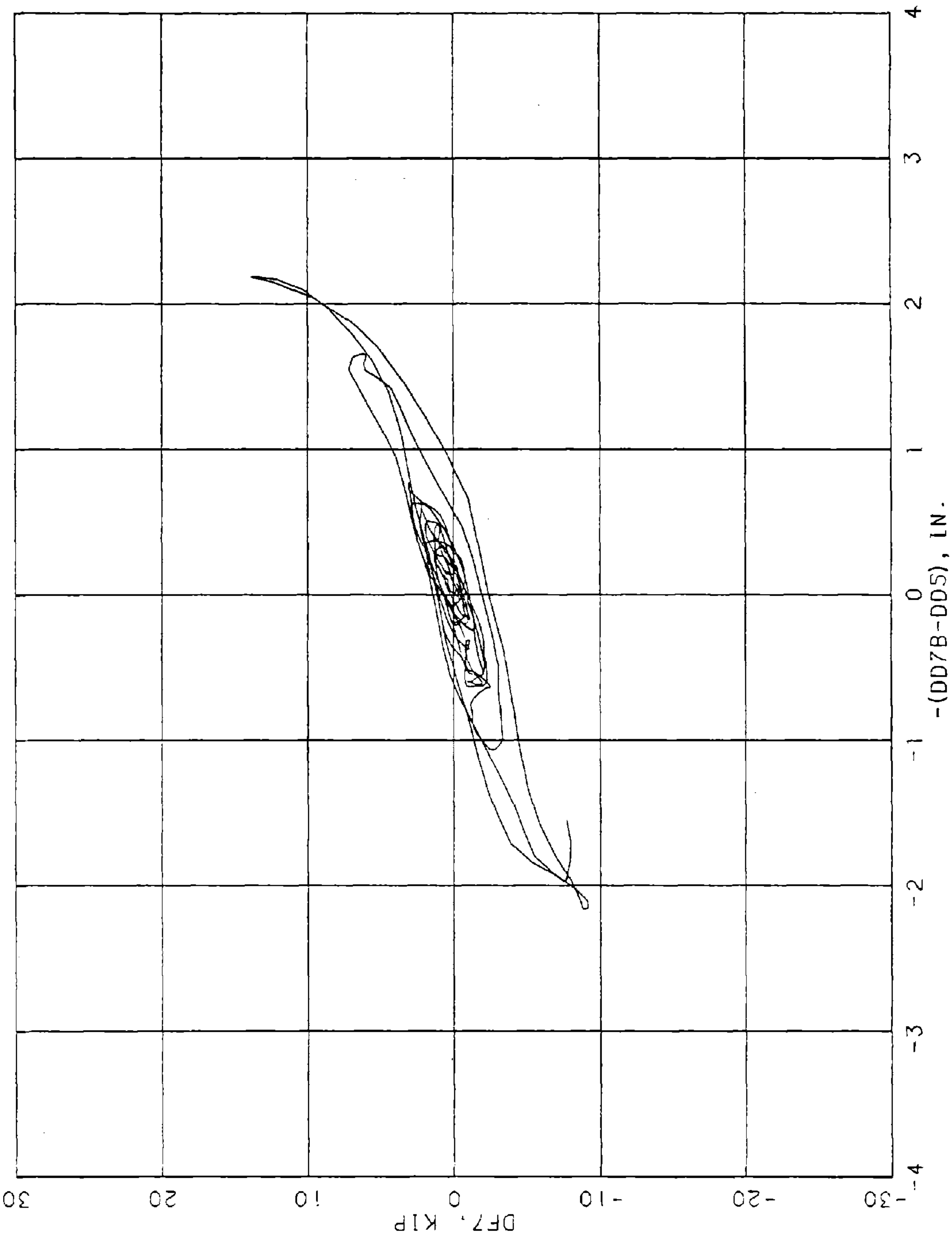


FIGURE E-19. DIAPHRAGM N. END 7. CM4-2.

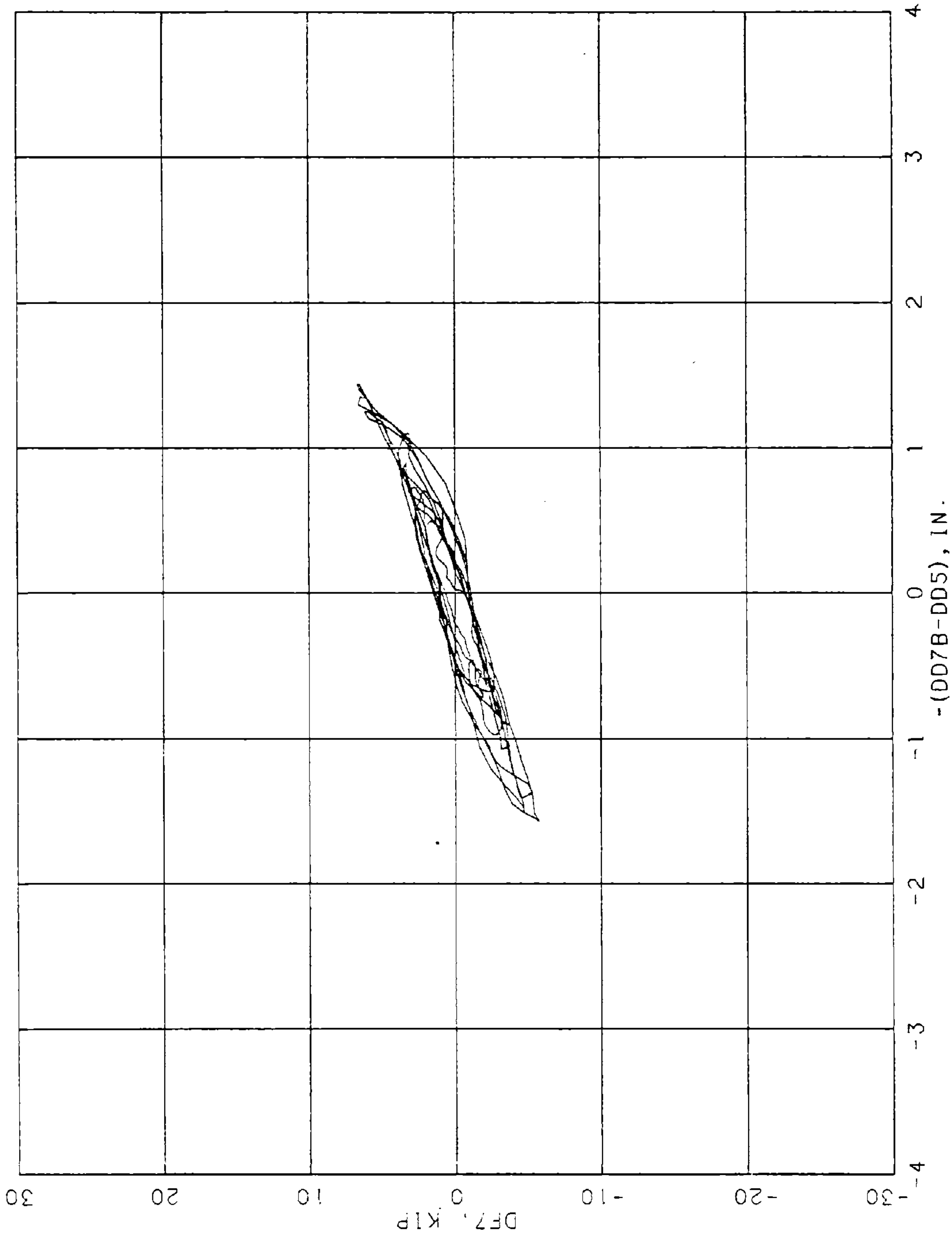
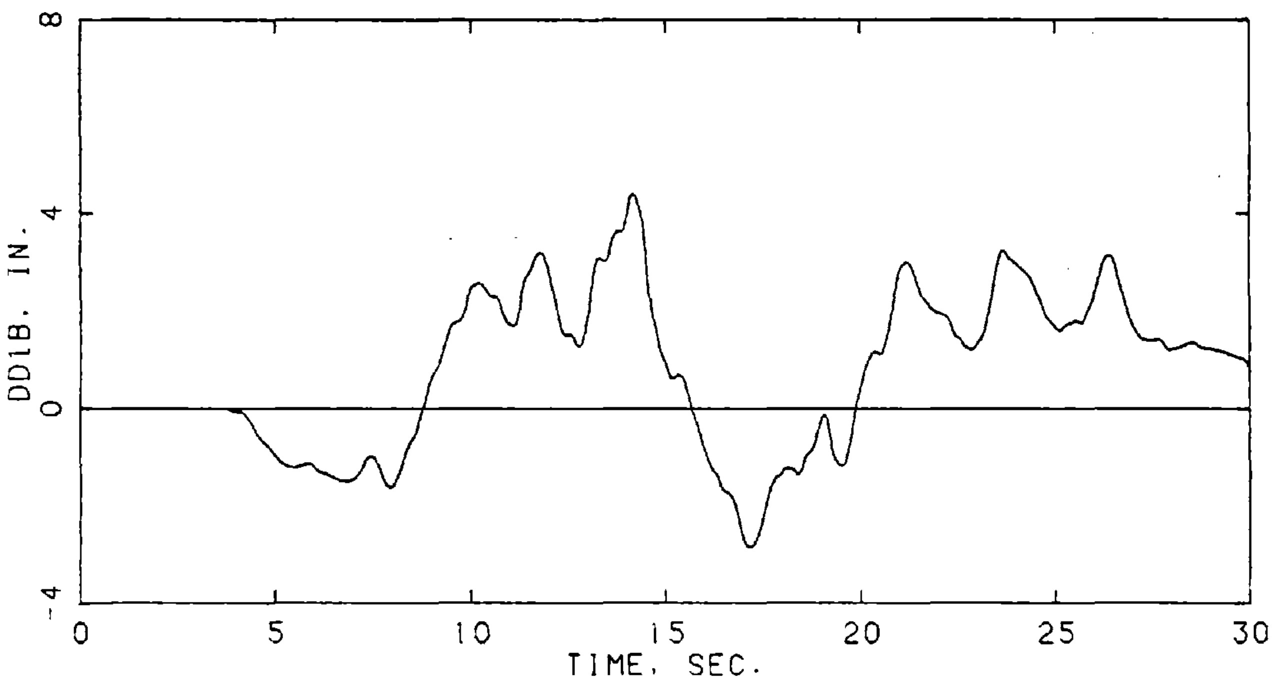
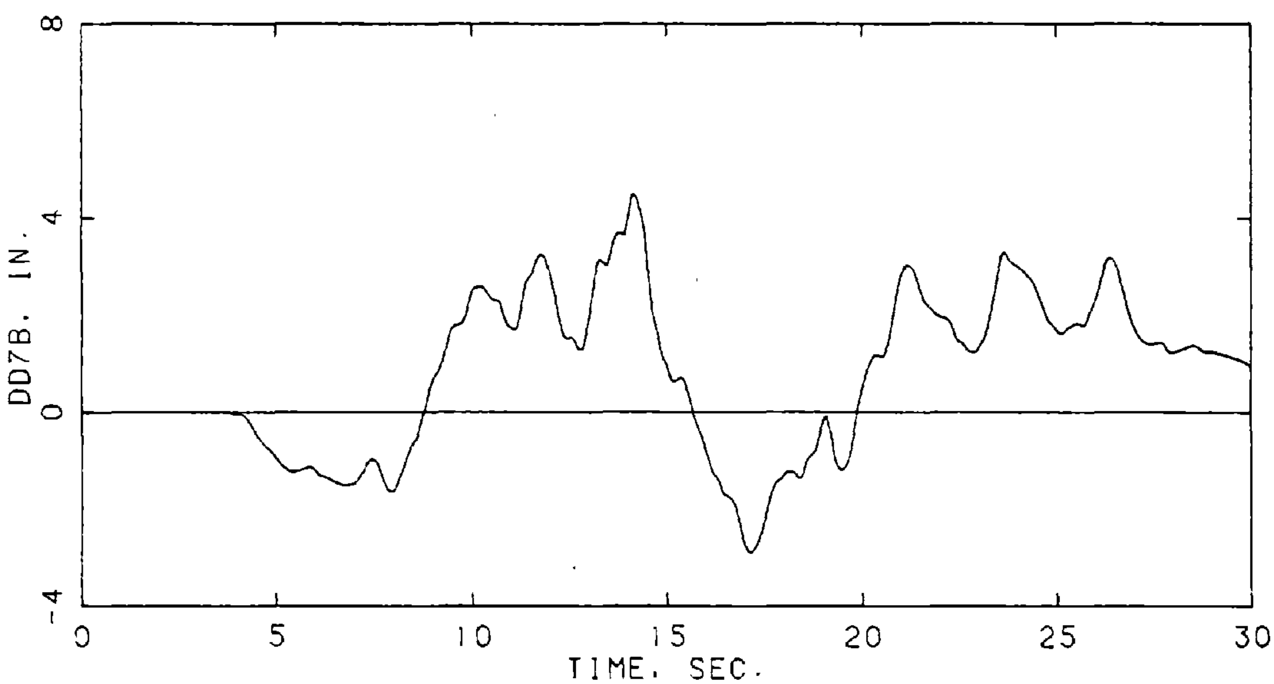


FIGURE E-20. DIAPHRAGM N. END 7. GM3-2.

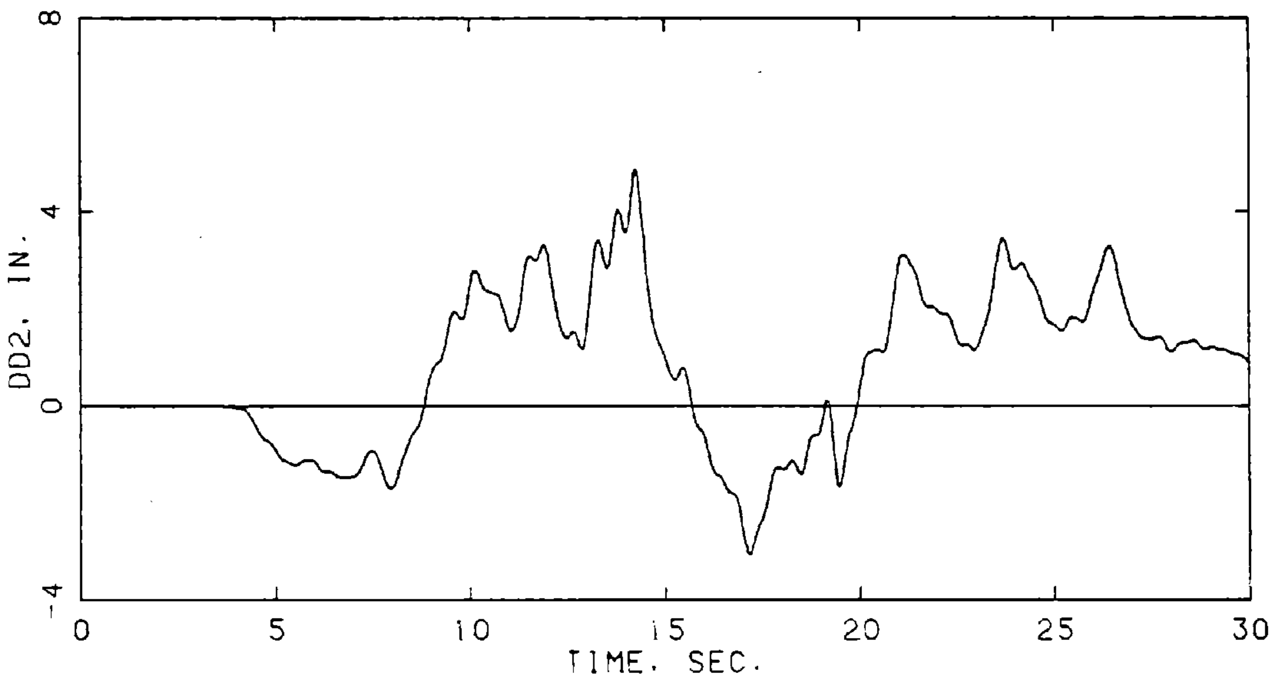


A) END 1.

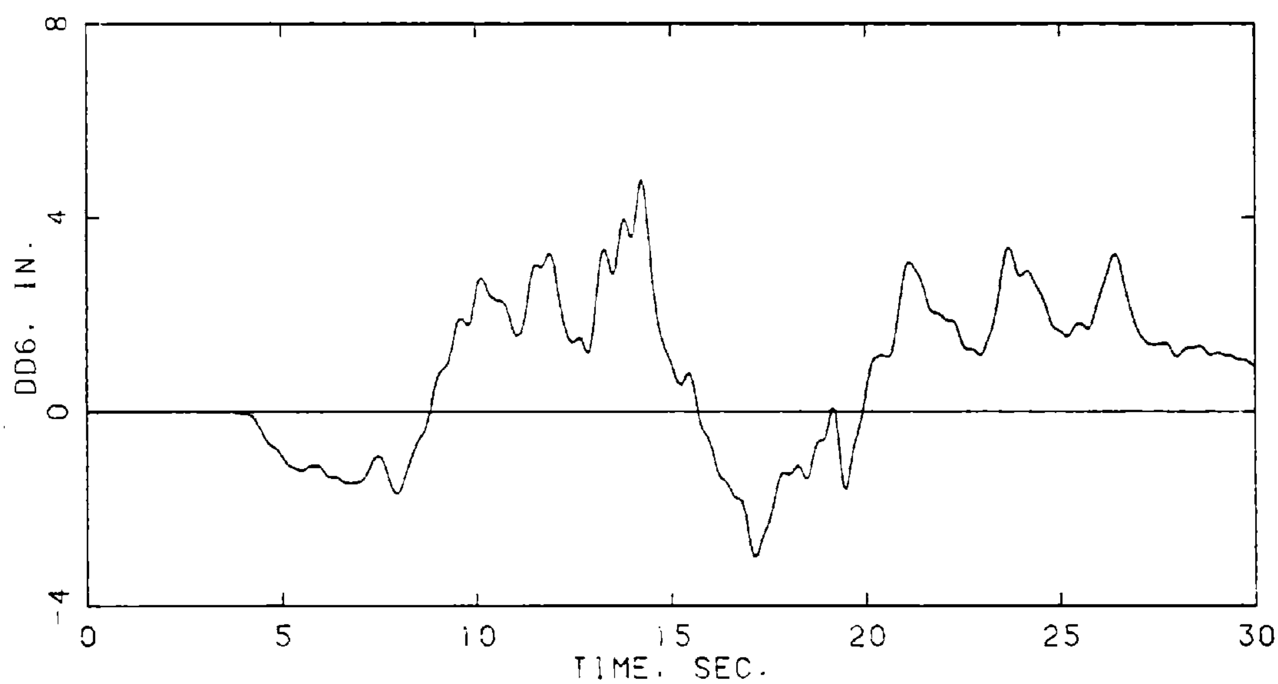


B) END 7.

FIGURE E-21. DISPLACEMENTS, DIAPHRAGM N, GM 3-1.

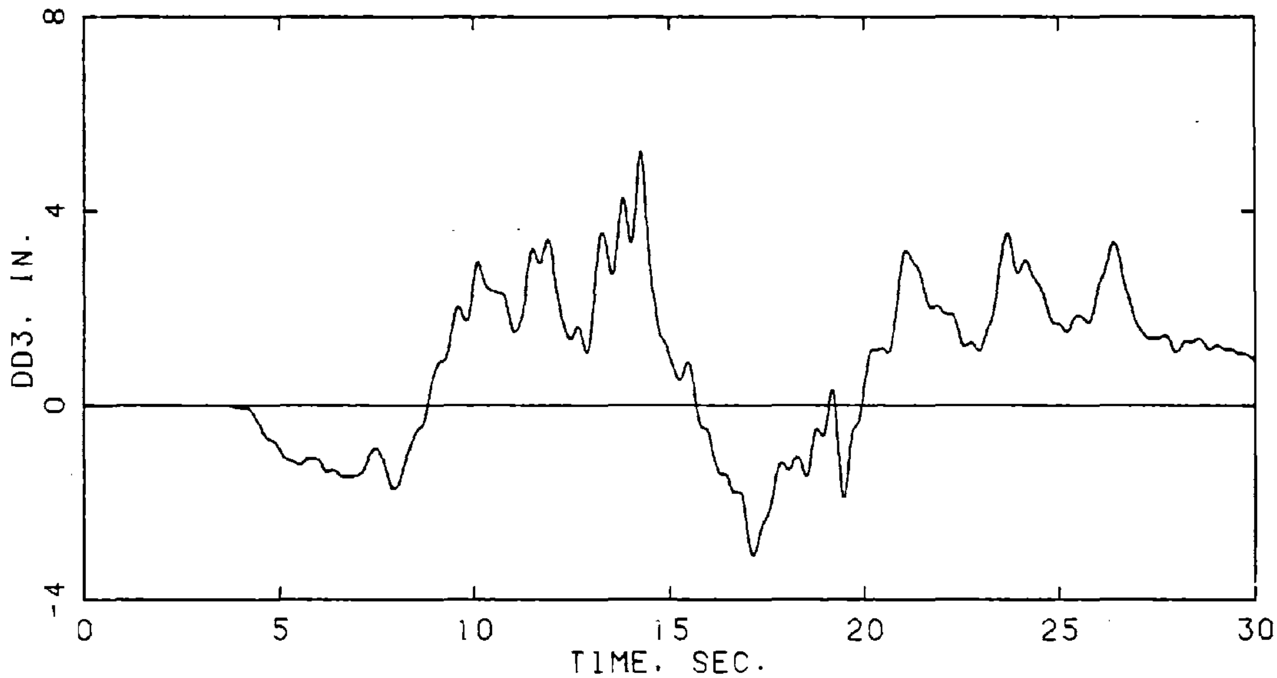


C) ONE-SIXTH POINT, END 1.

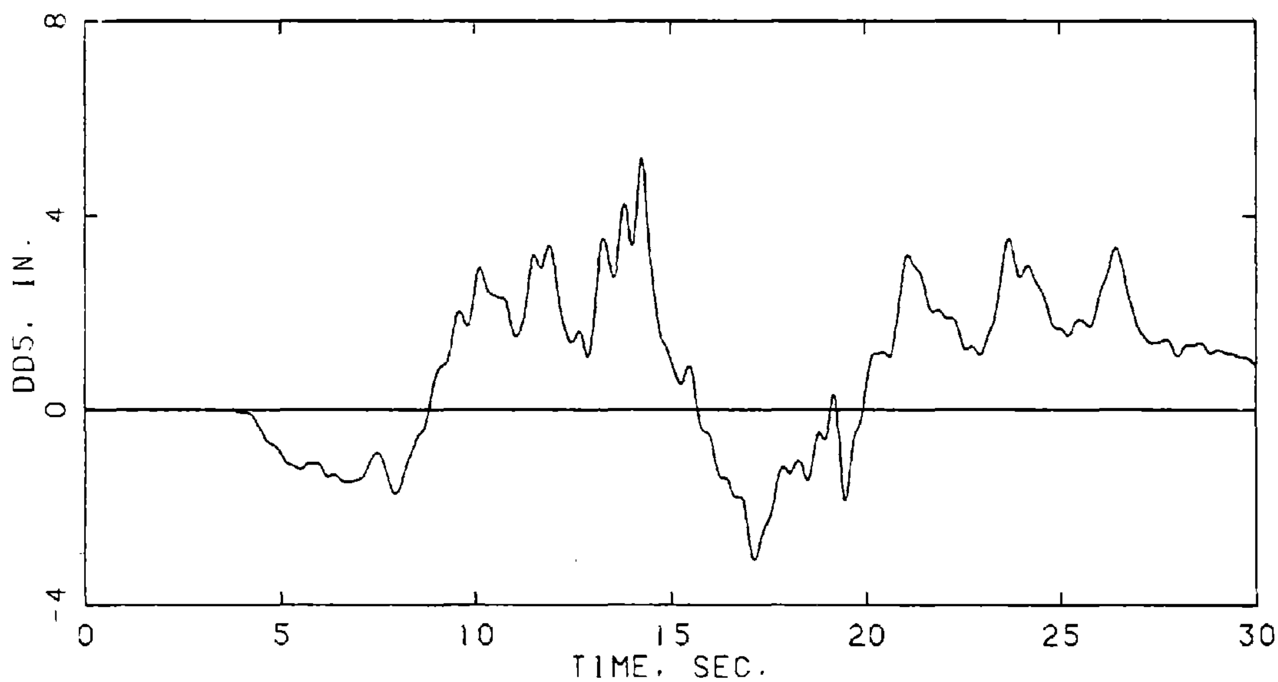


D) ONE-SIXTH POINT, END 7.

FIGURE E-21. (CONTINUED).

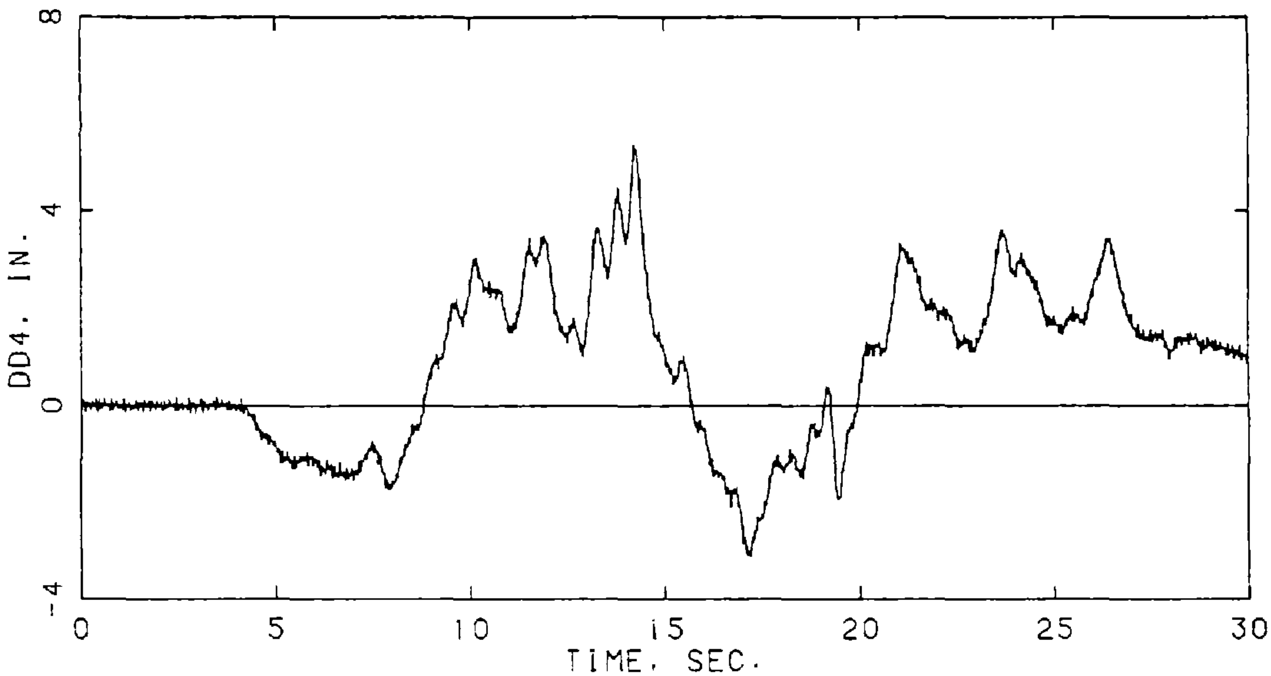


E) ONE-THIRD POINT, END 1.



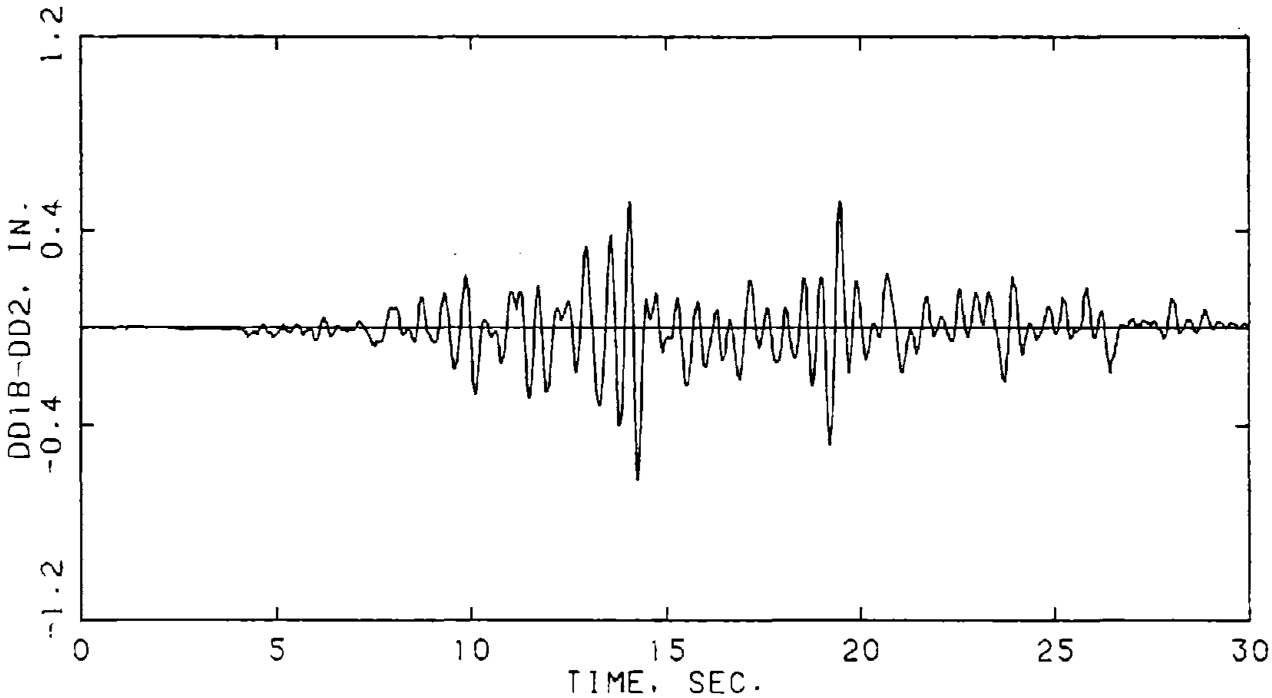
F) ONE-THIRD POINT, END 7.

FIGURE E-21. (CONTINUED).

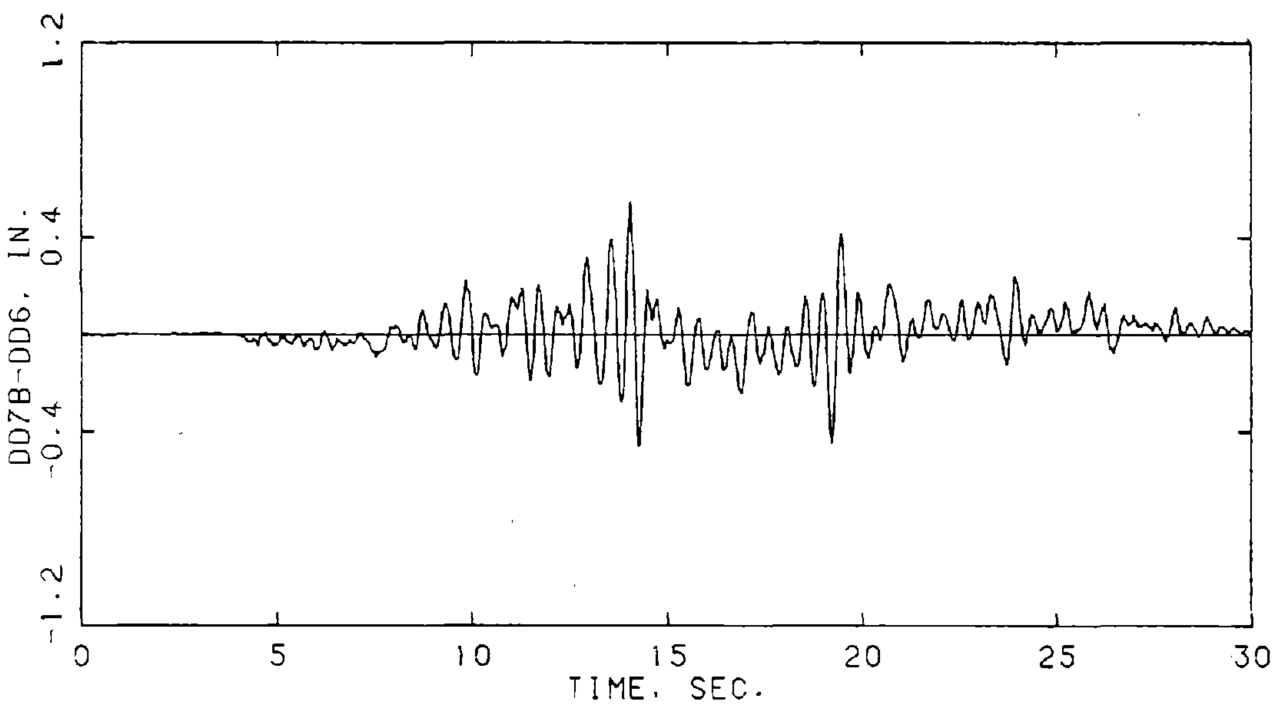


G) MID-POINT.

FIGURE E-21. (CONTINUED).

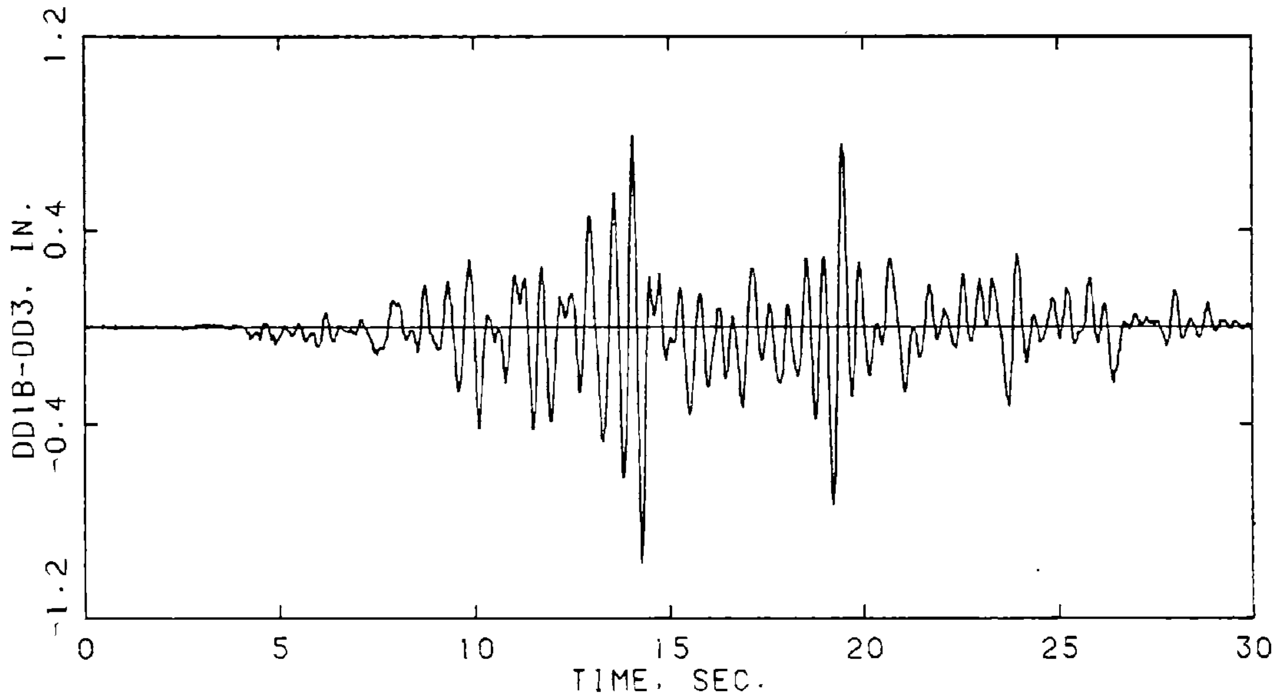


A) ONE-SIXTH POINT, END 1.

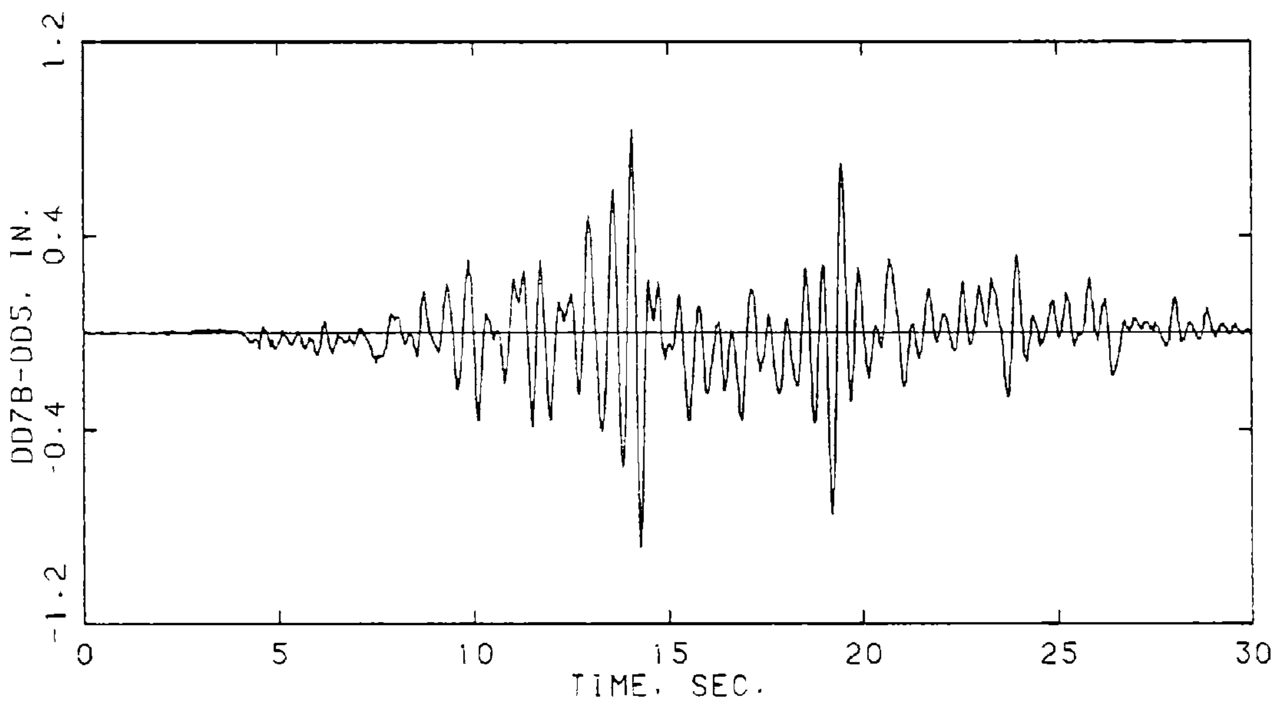


B) ONE-SIXTH POINT, END 7.

FIGURE E-22. RELATIVE DISPLACEMENTS, DIAPHRAGM N, GM 3-1.

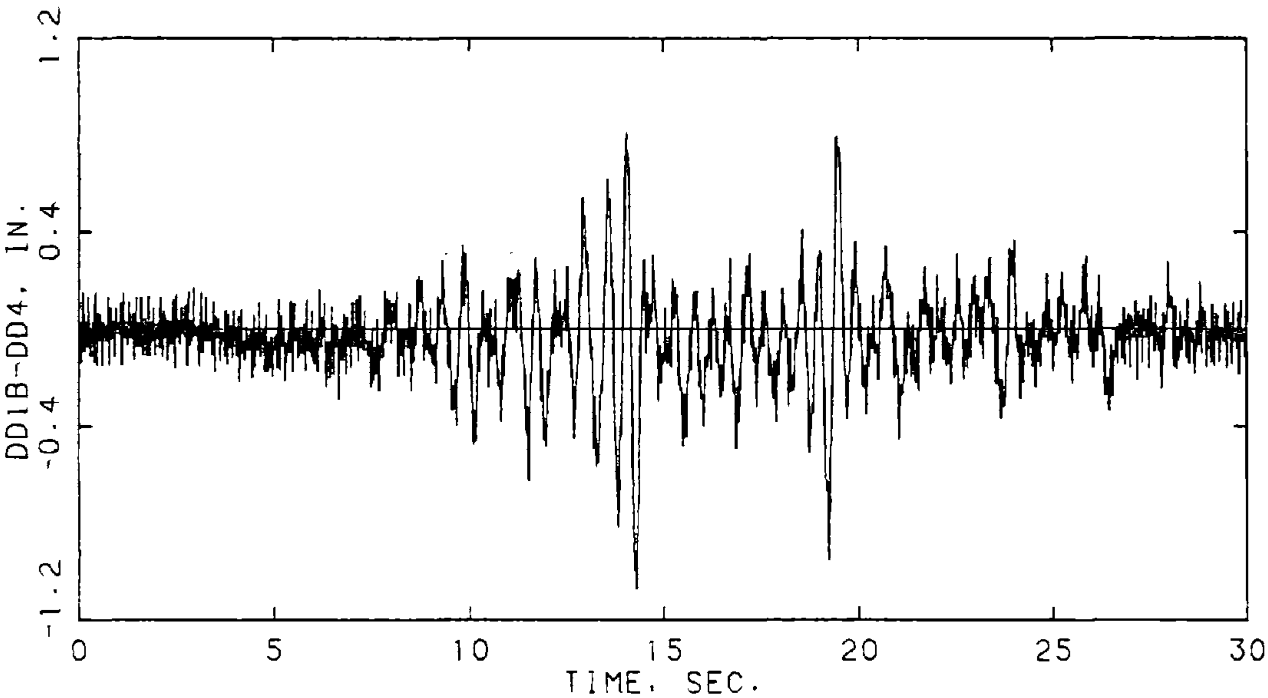


C) ONE-THIRD POINT, END 1.

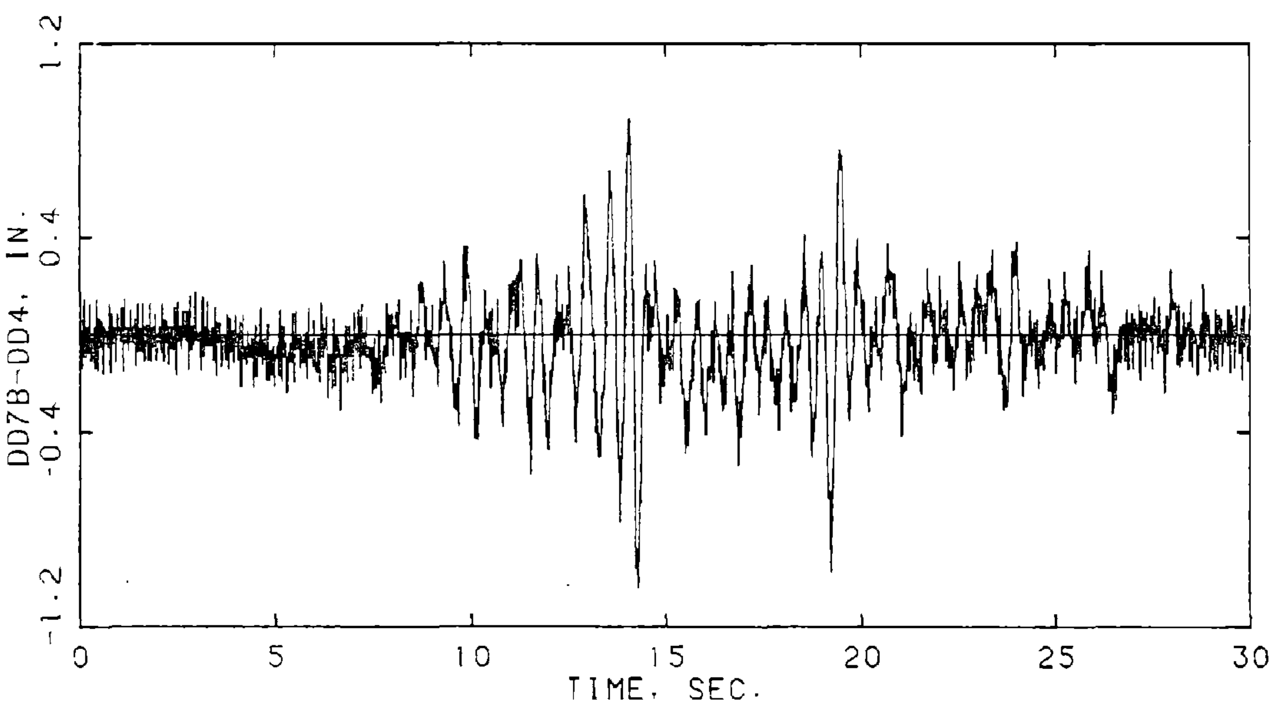


D) ONE-THIRD POINT, END 7.

FIGURE E-22. (CONTINUED).

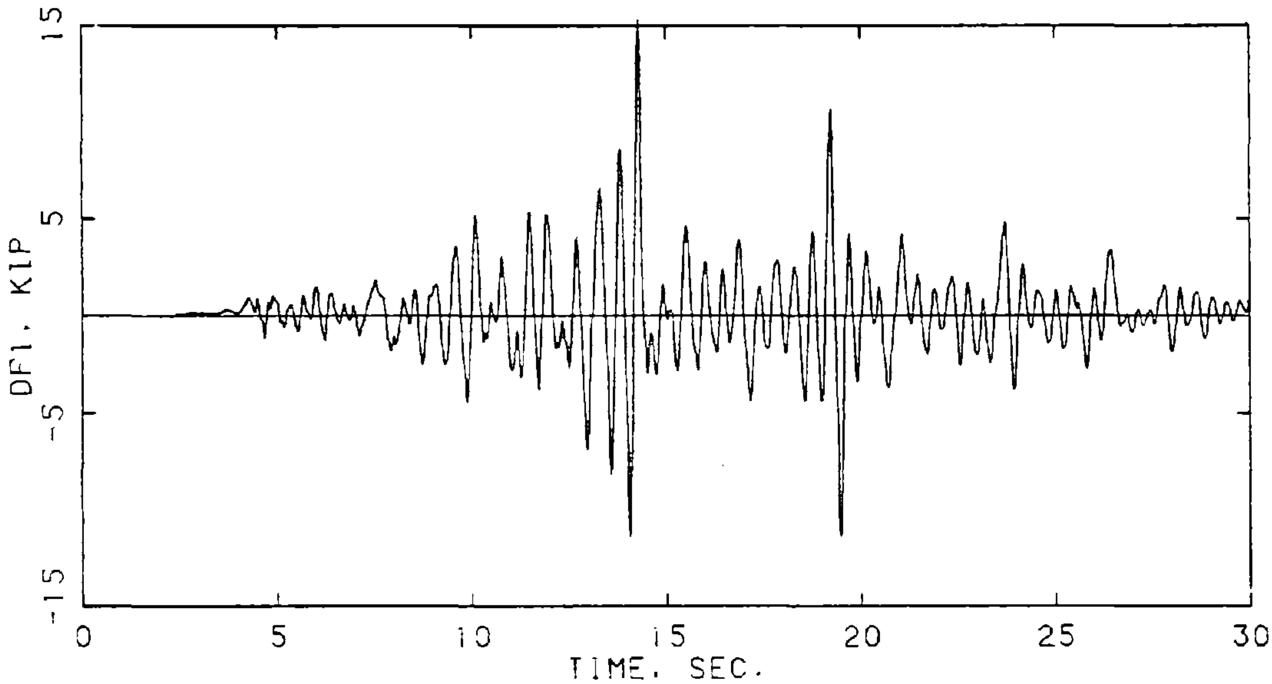


E) MID-POINT, END 1.

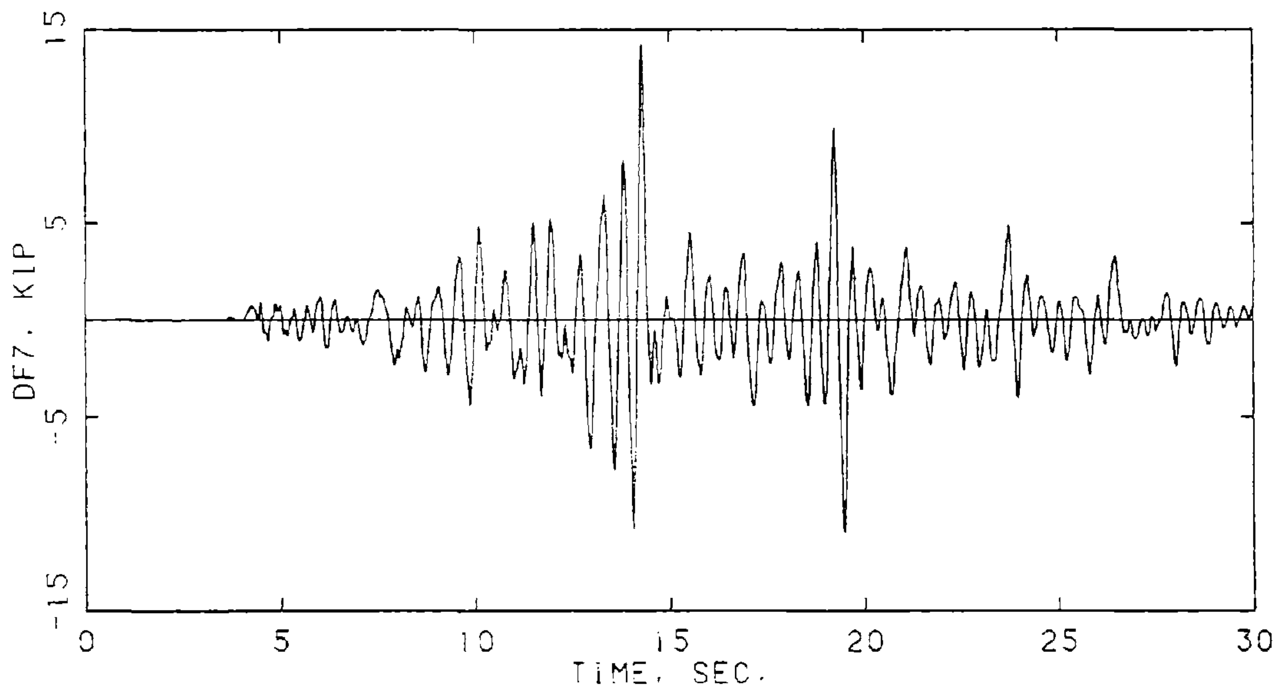


F) MID-POINT, END 7.

FIGURE E-22. (CONTINUED).

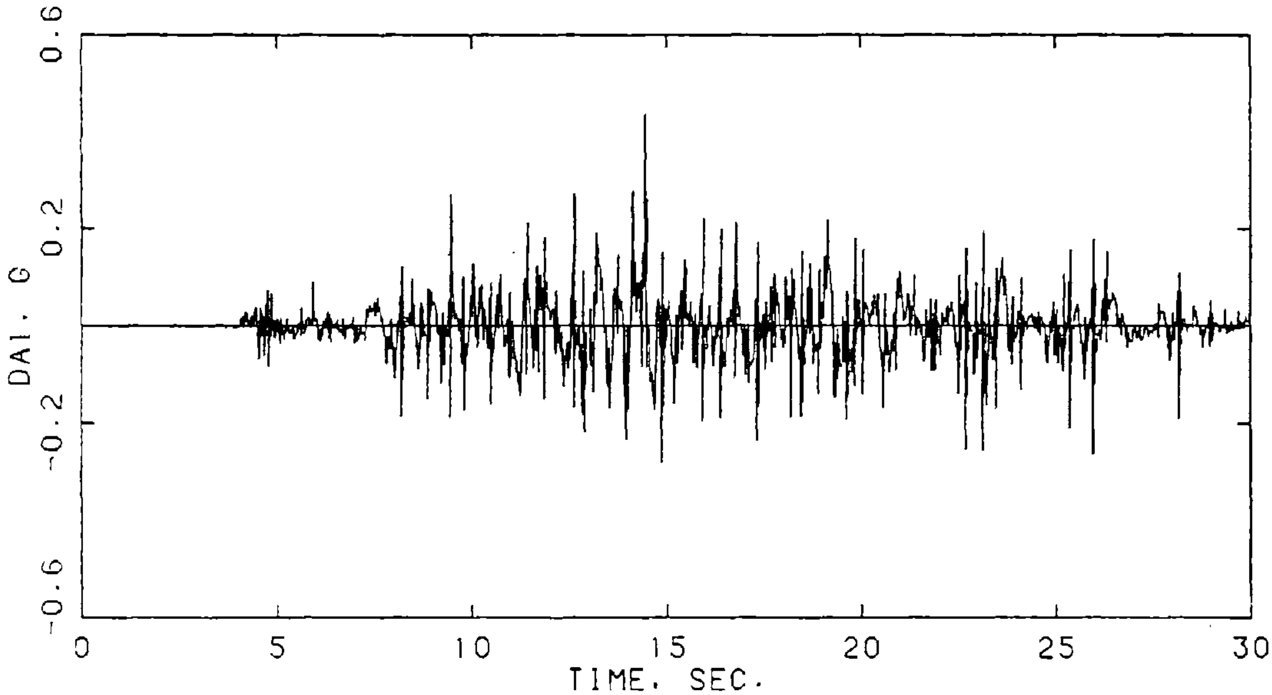


A) END 1.

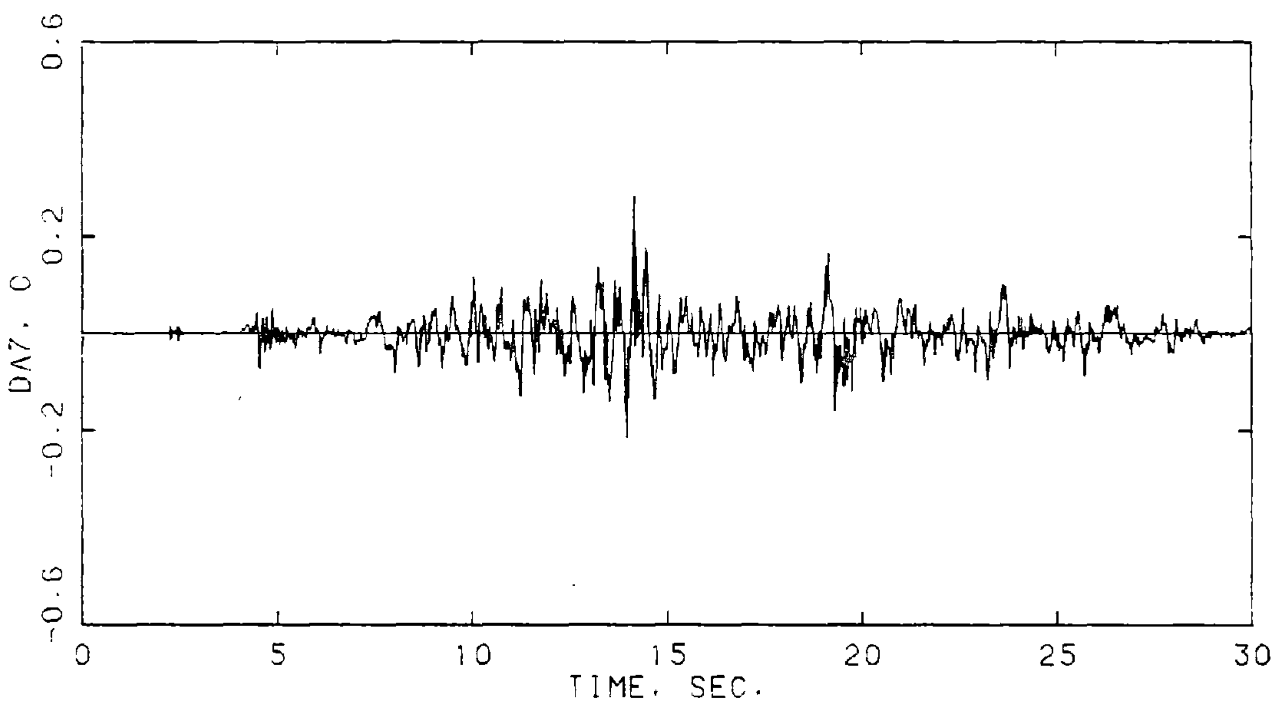


B) END 7.

FIGURE E-23. END FORCE, DIAPHRAGM N, GM 3-1.

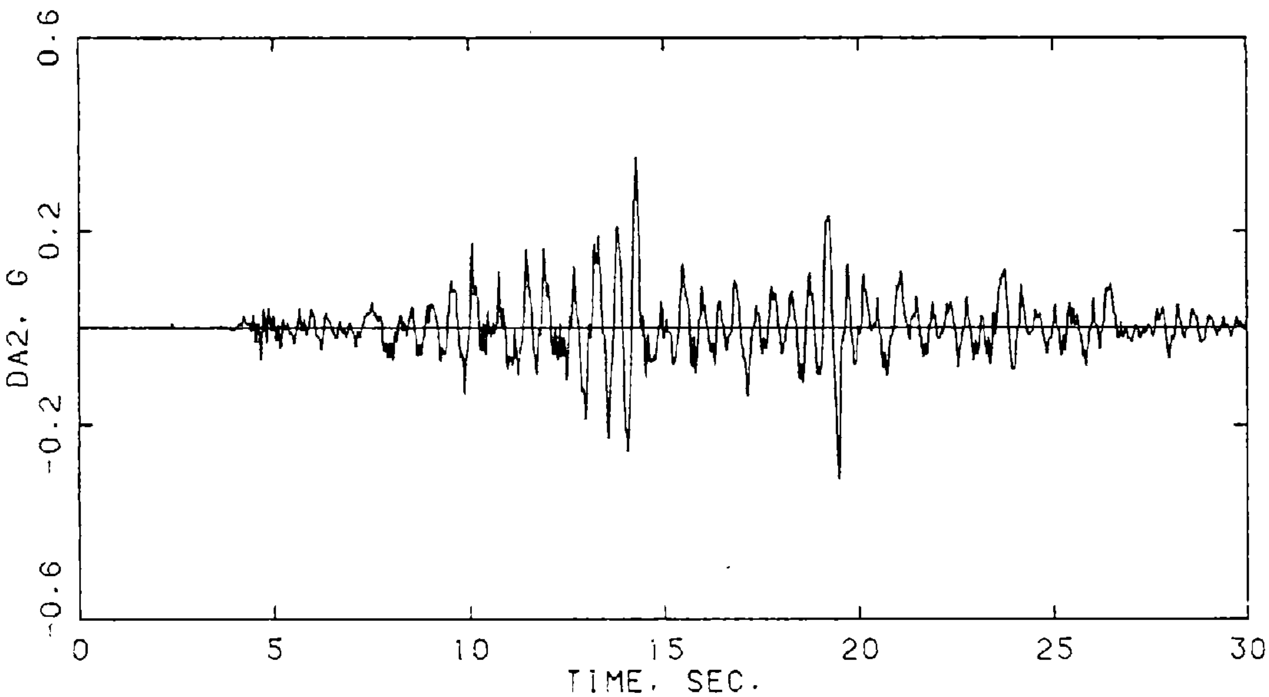


A) END 1.

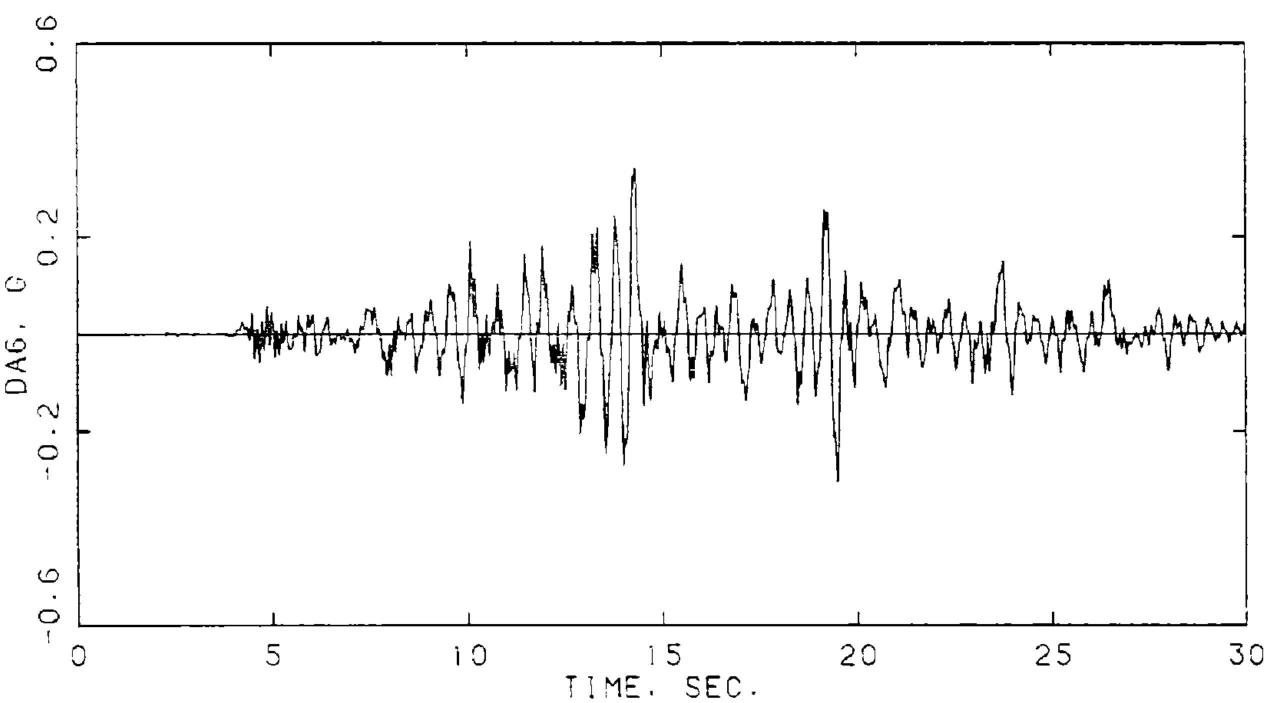


B) END 7.

FIGURE E-24. ACCELERATIONS. DIAPHRAGM N. GM 3-1.

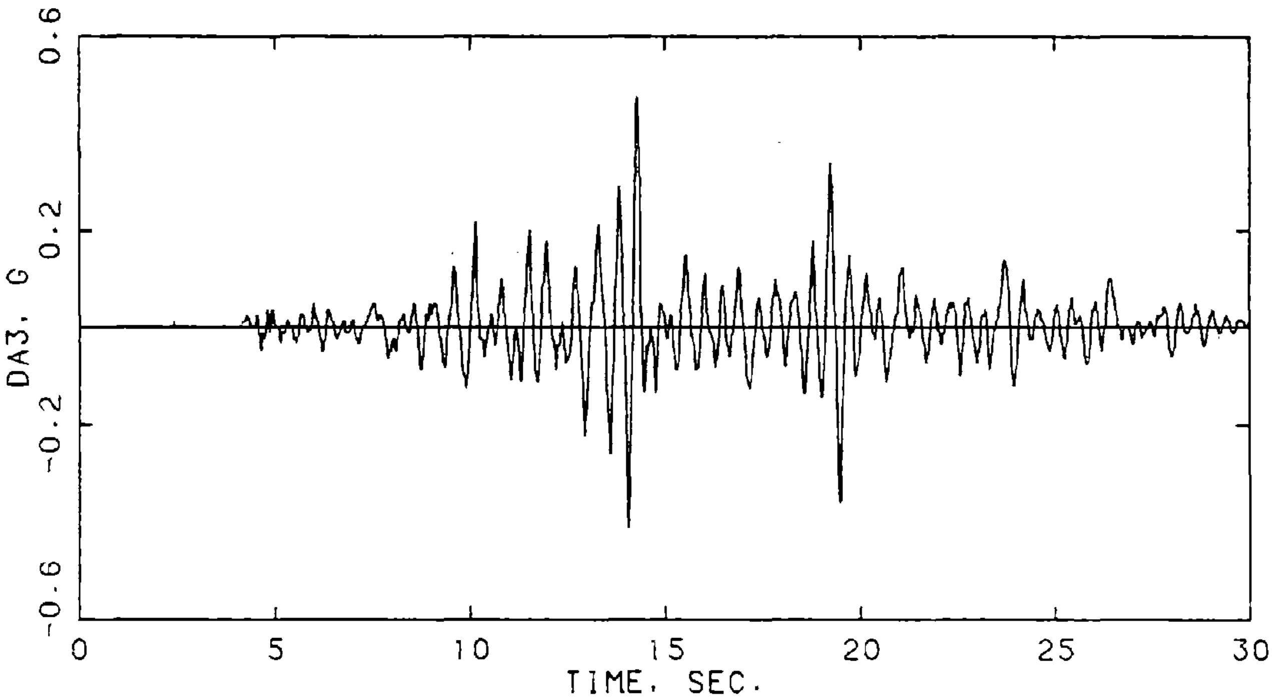


C) ONE-SIXTH POINT, END 1.

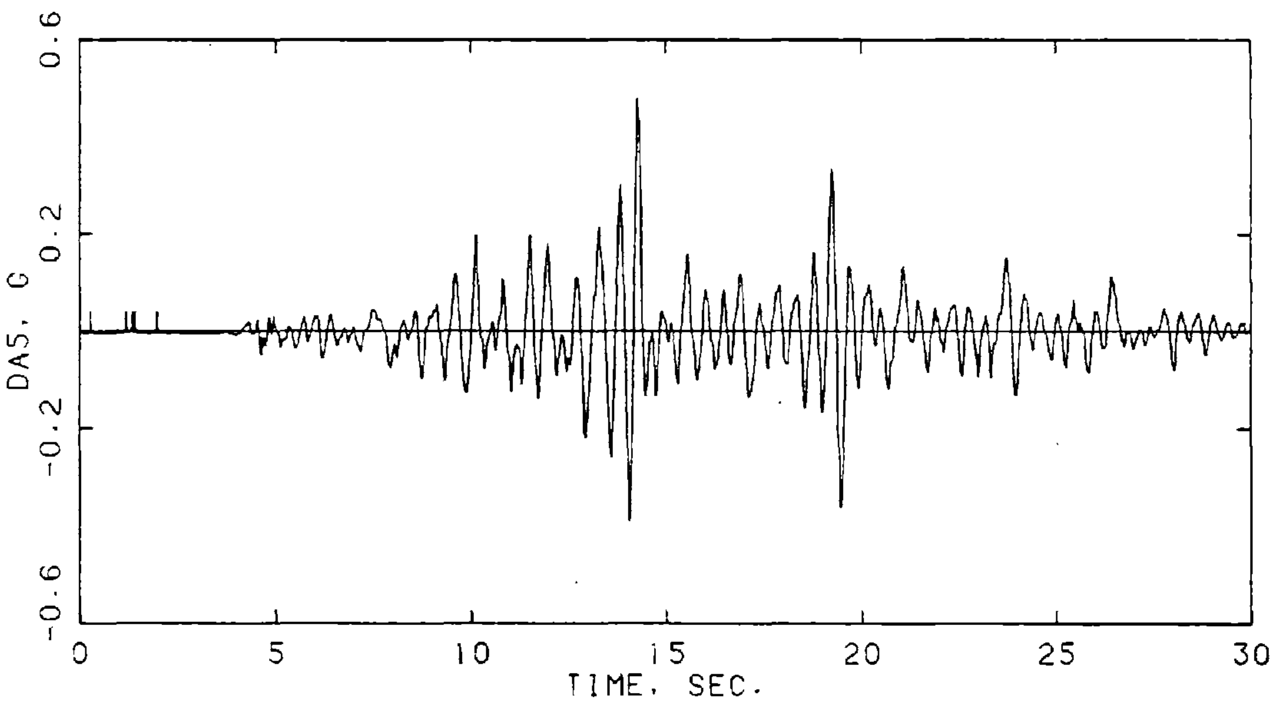


D) ONE-SIXTH POINT, END 7.

FIGURE E-24. (CONTINUED).

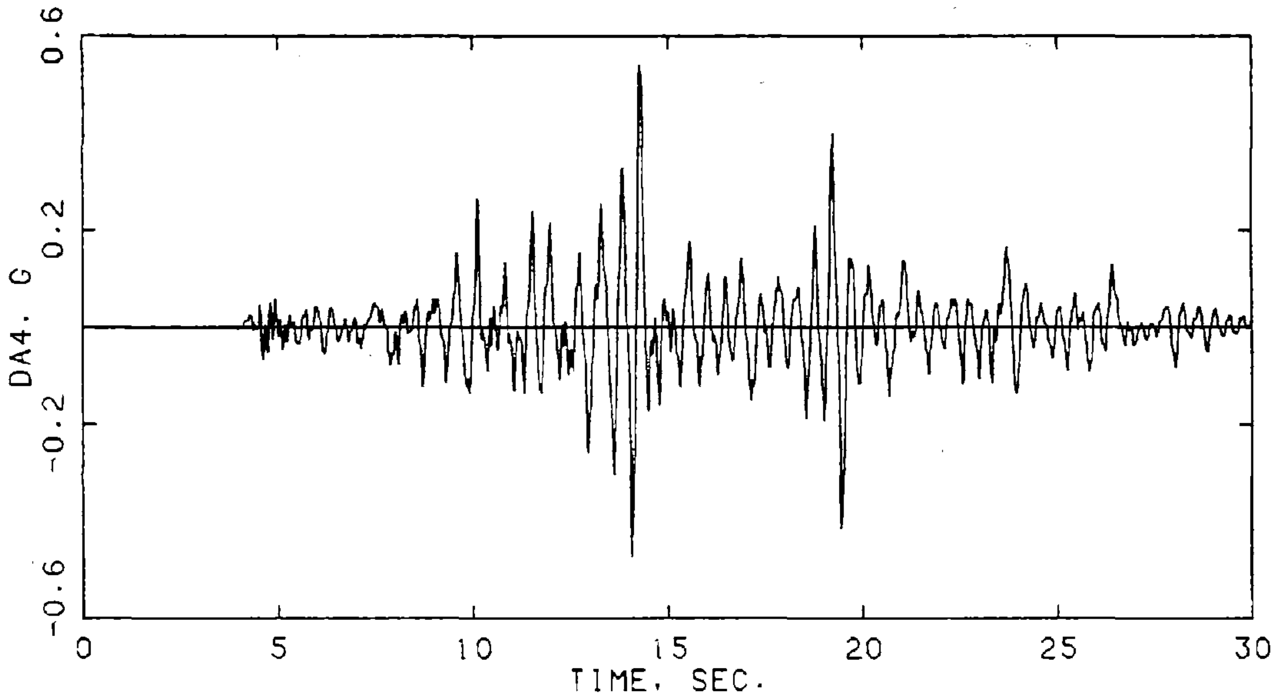


E) ONE-THIRD POINT, END 1.



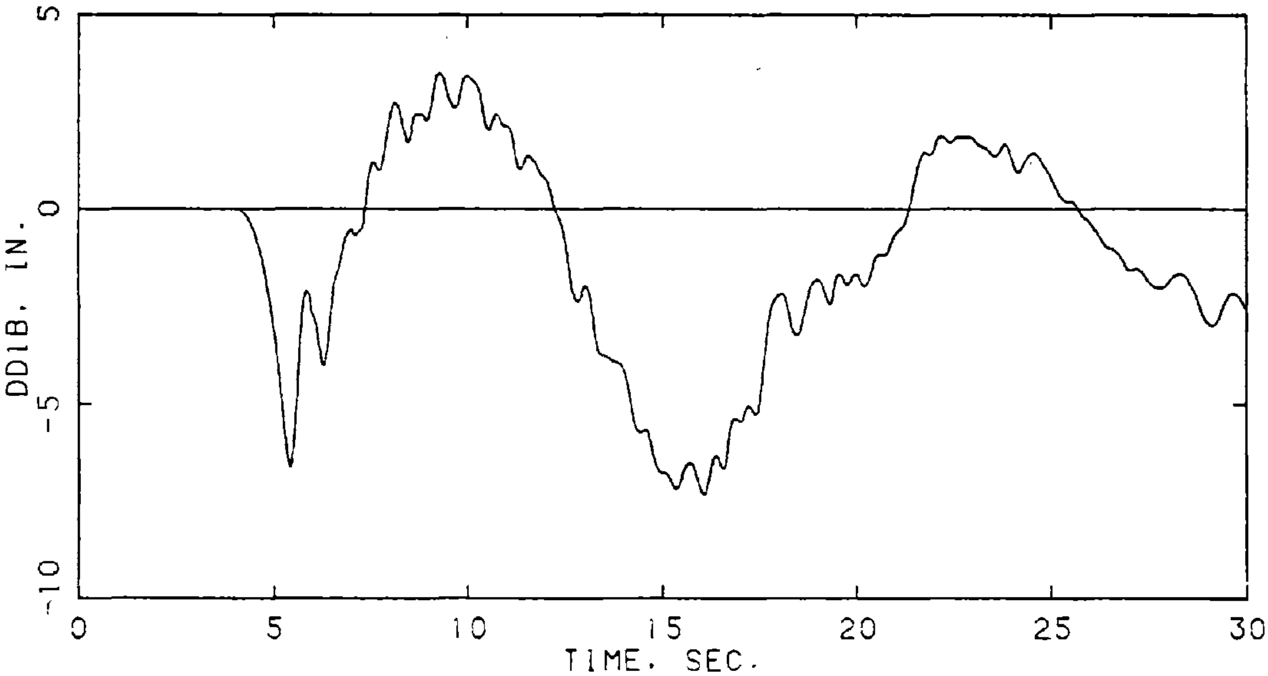
F) ONE-THIRD POINT, END 7.

FIGURE E-24. (CONTINUED).

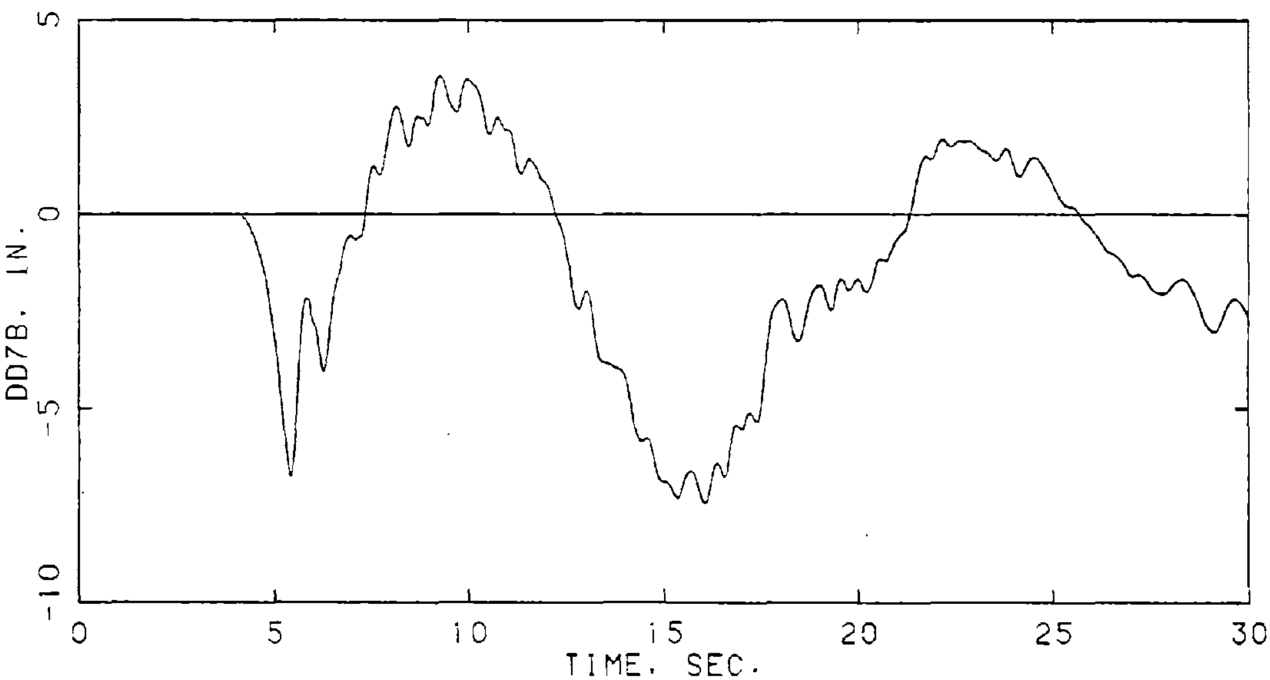


G) MID POINT.

FIGURE E-24. (CONTINUED).

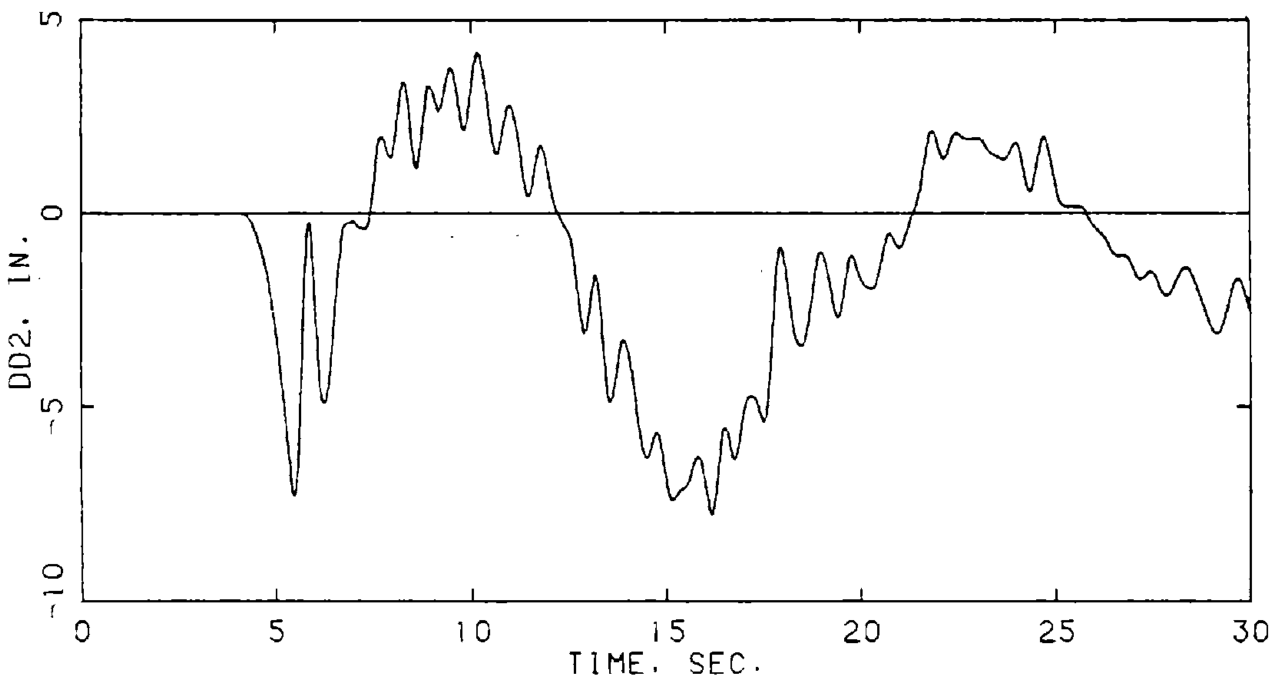


A) END 1.

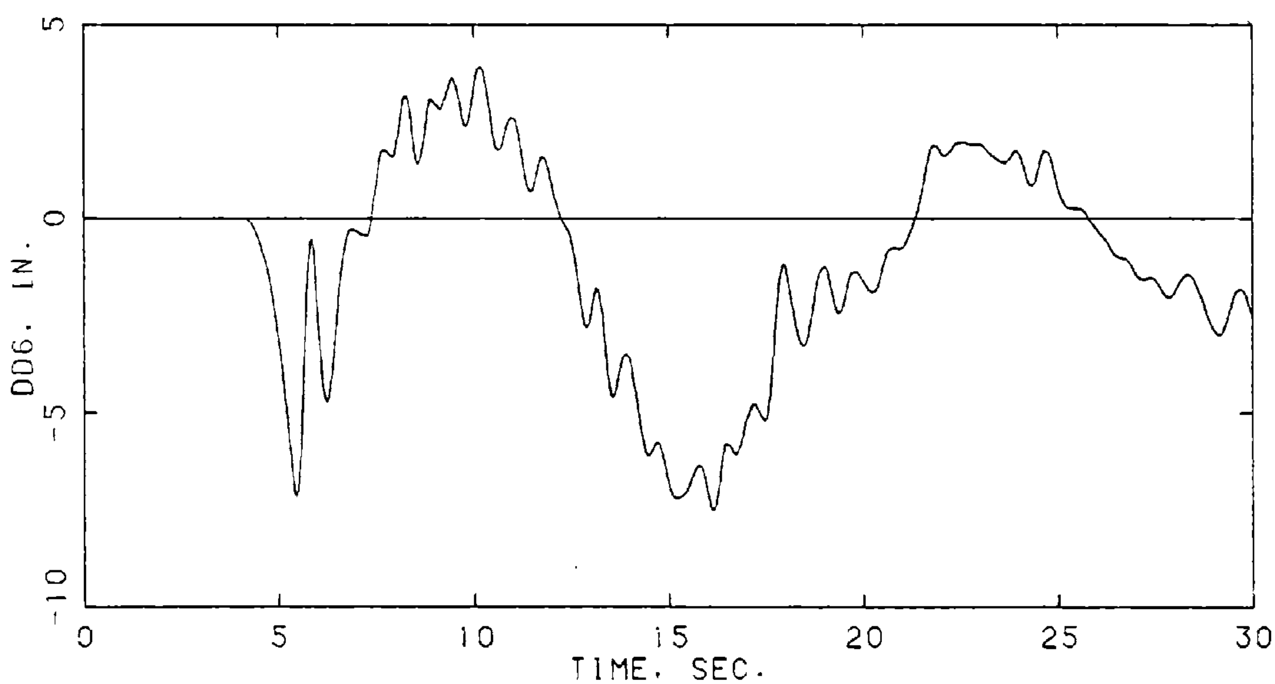


B) END 7.

FIGURE E-25. DISPLACEMENTS, DIAPHRAGM N, GM 5-1.

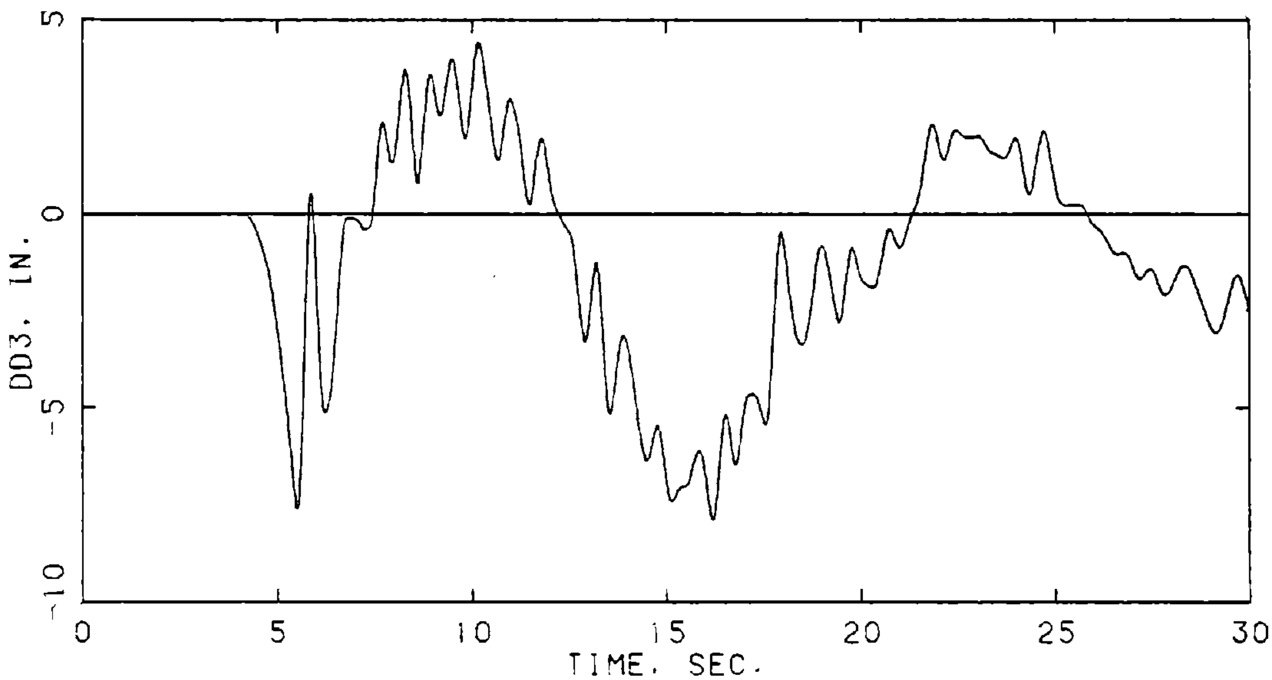


C) ONE-SIXTH POINT, END 1.

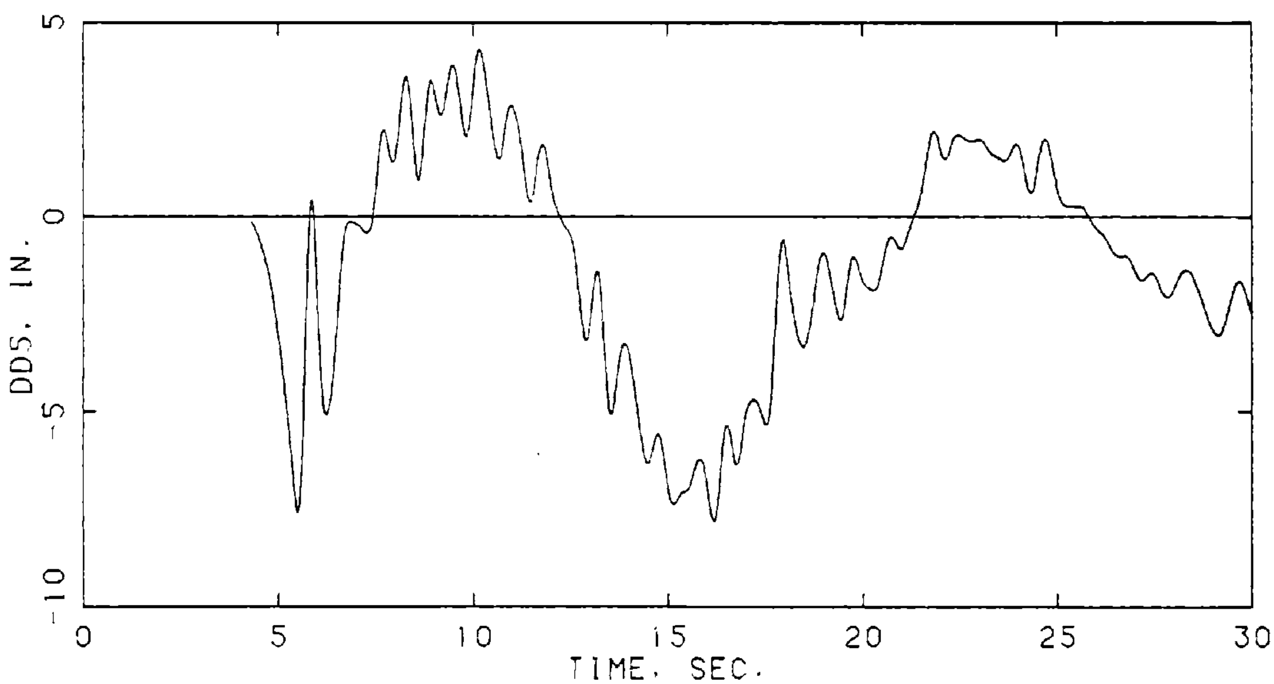


D) ONE-SIXTH POINT, END 7.

FIGURE E-25. (CONTINUED).

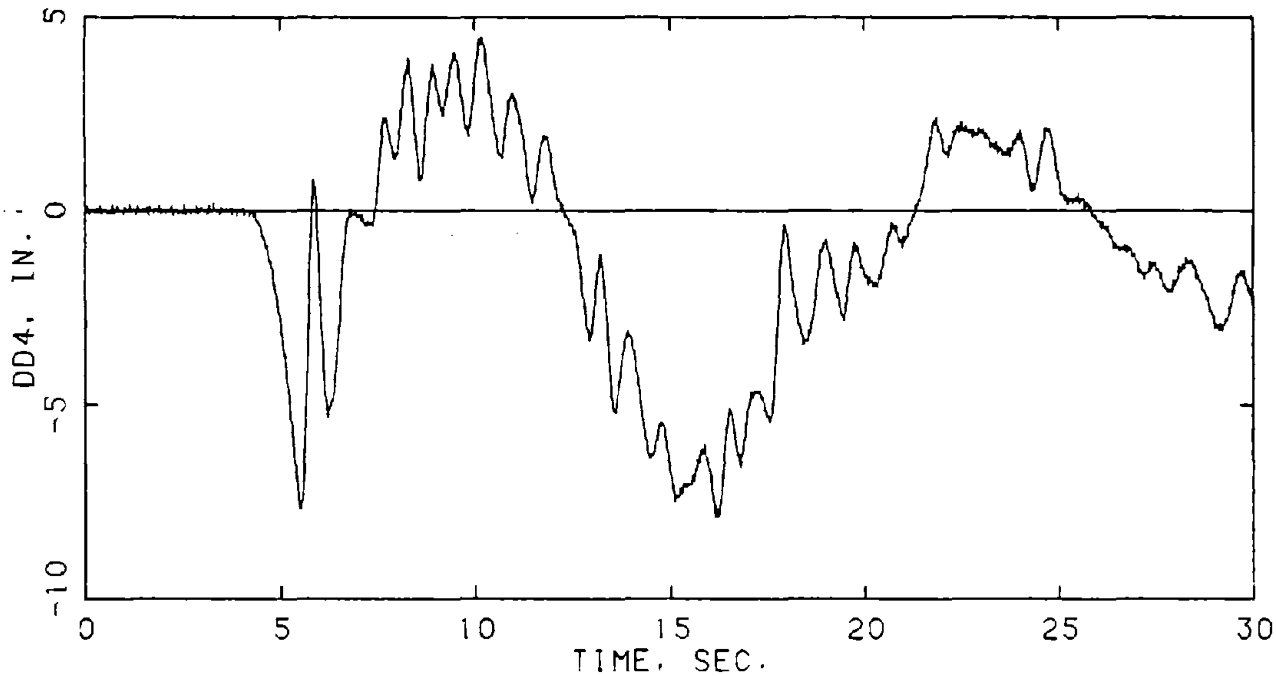


E) ONE-THIRD POINT, END 1.



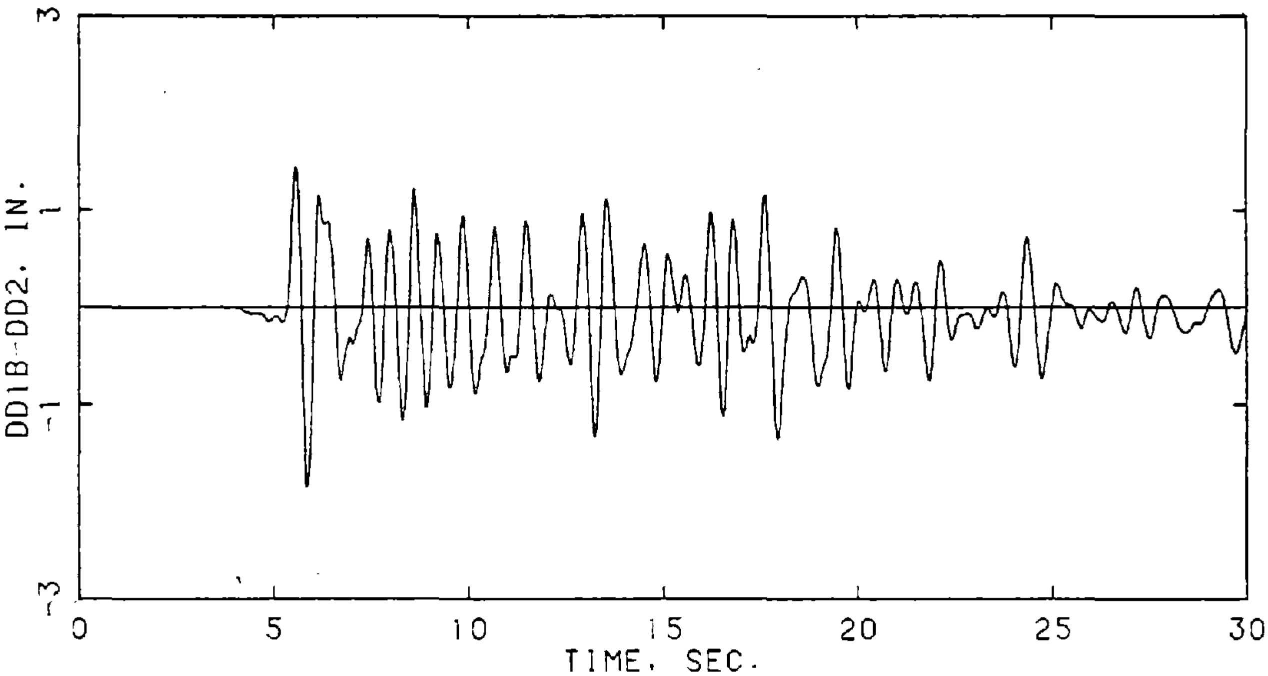
F) ONE-THIRD POINT, END 7.

FIGURE E-25. (CONTINUED).

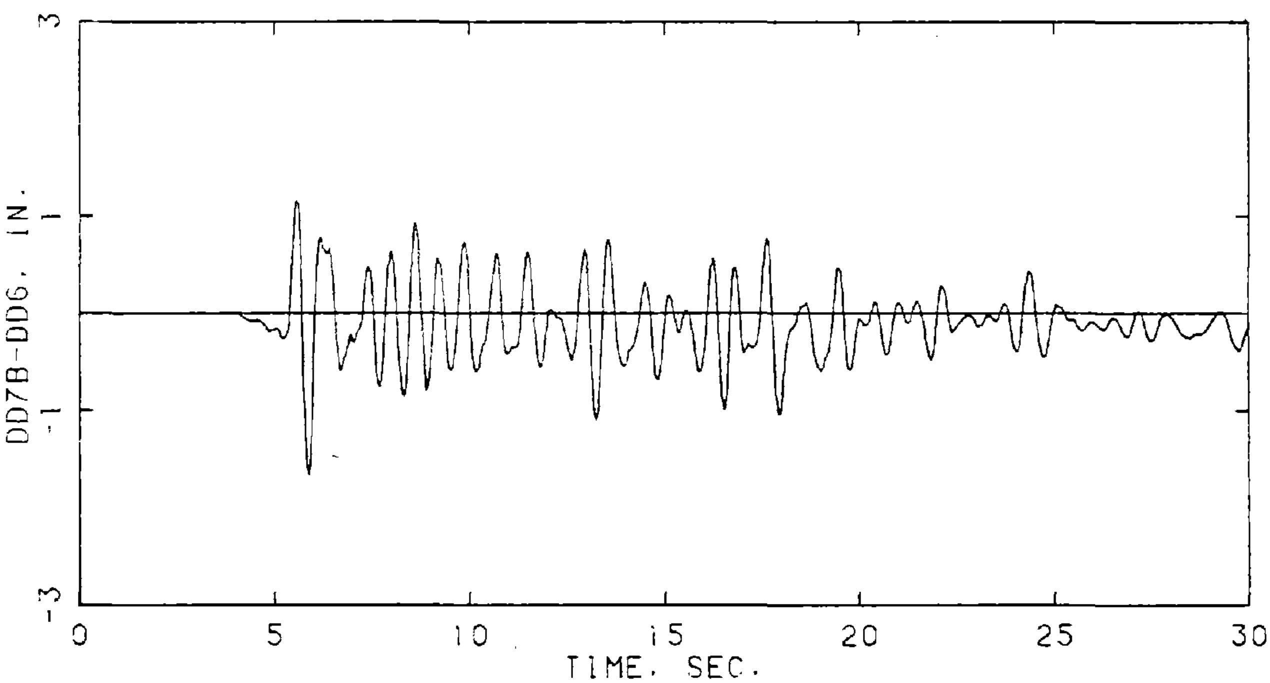


C) MID-POINT.

FIGURE E-25. (CONTINUED).

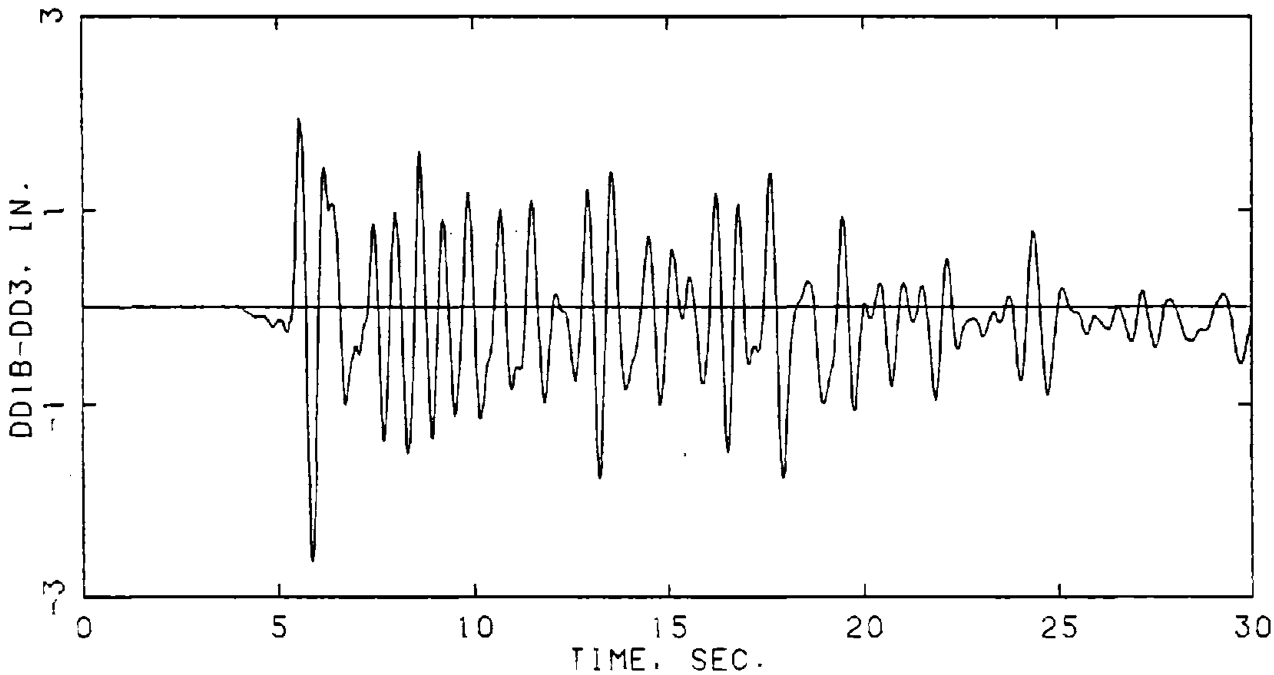


A) ONE-SIXTH POINT, END 1.

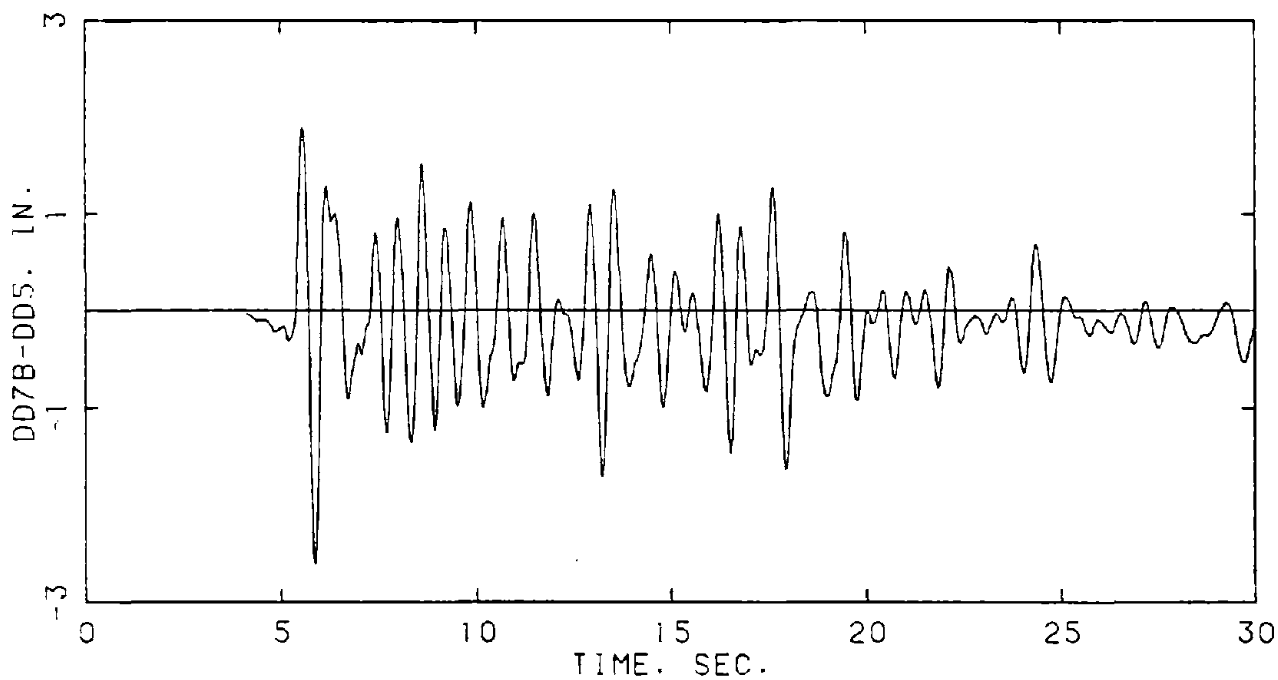


B) ONE-SIXTH POINT, END 7.

FIGURE E-26. RELATIVE DISPLACEMENTS, DIAPHRAGM N, GM 5-1.

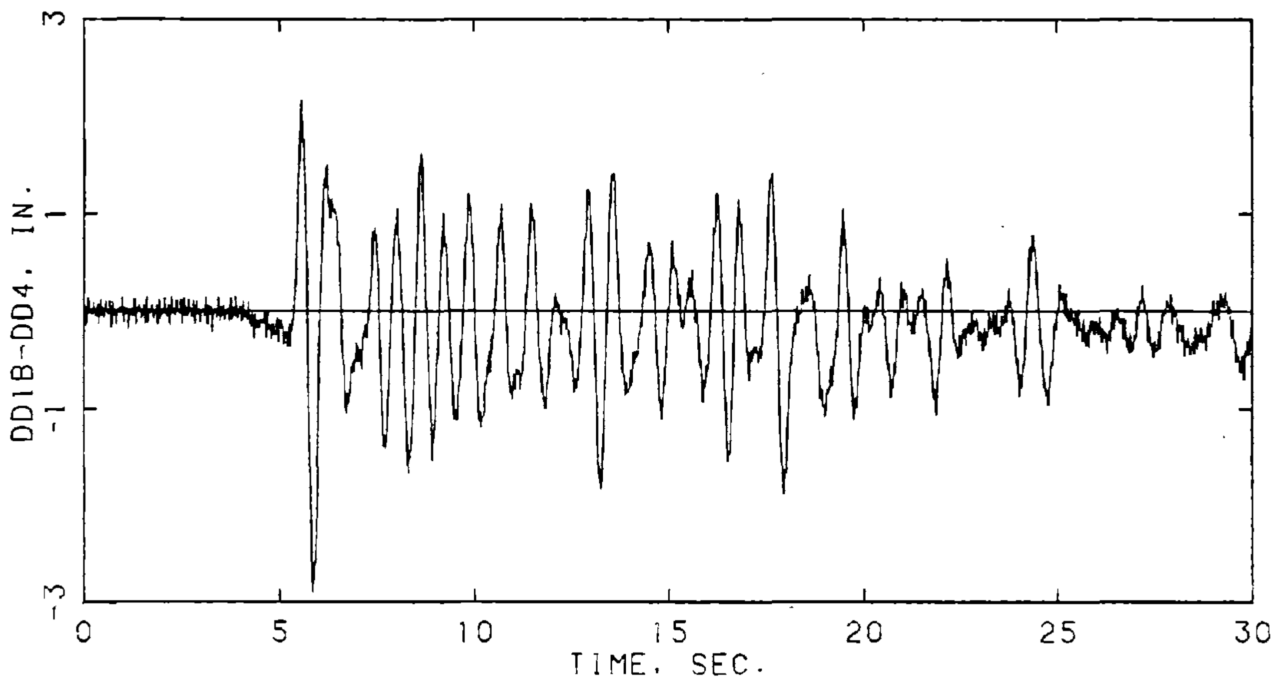


C) ONE-THIRD POINT, END 1.

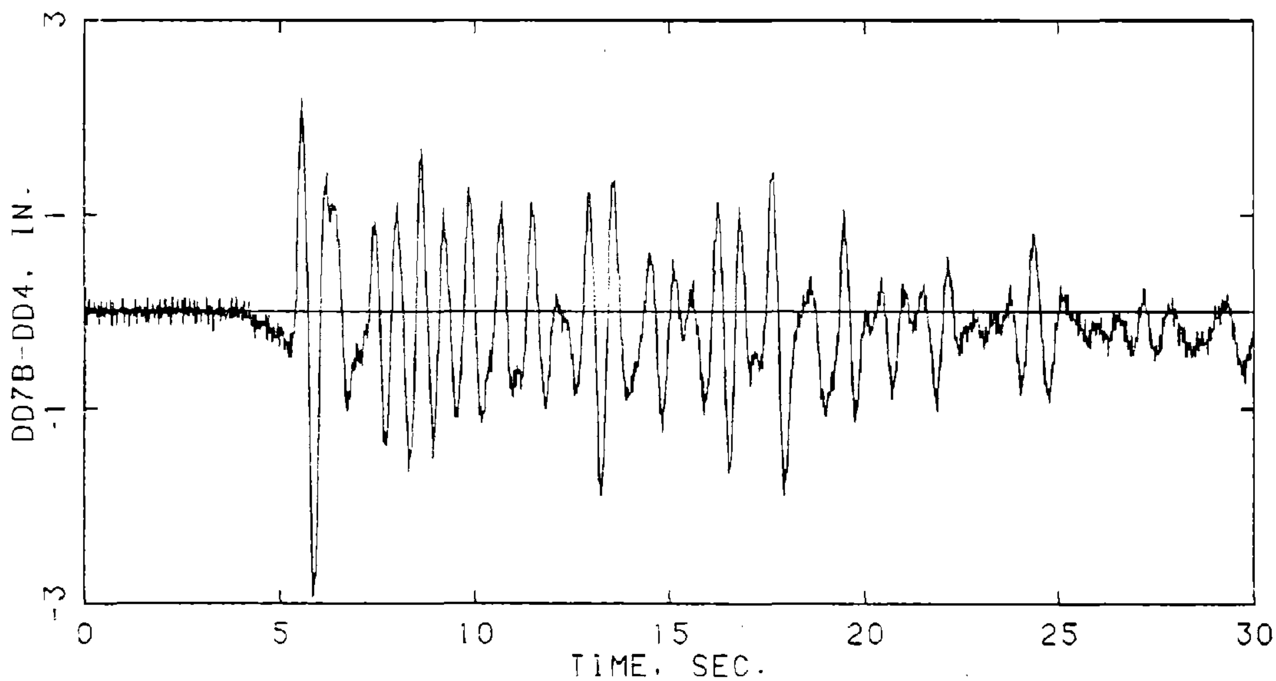


D) ONE-THIRD POINT, END 7.

FIGURE E-26. (CONTINUED).

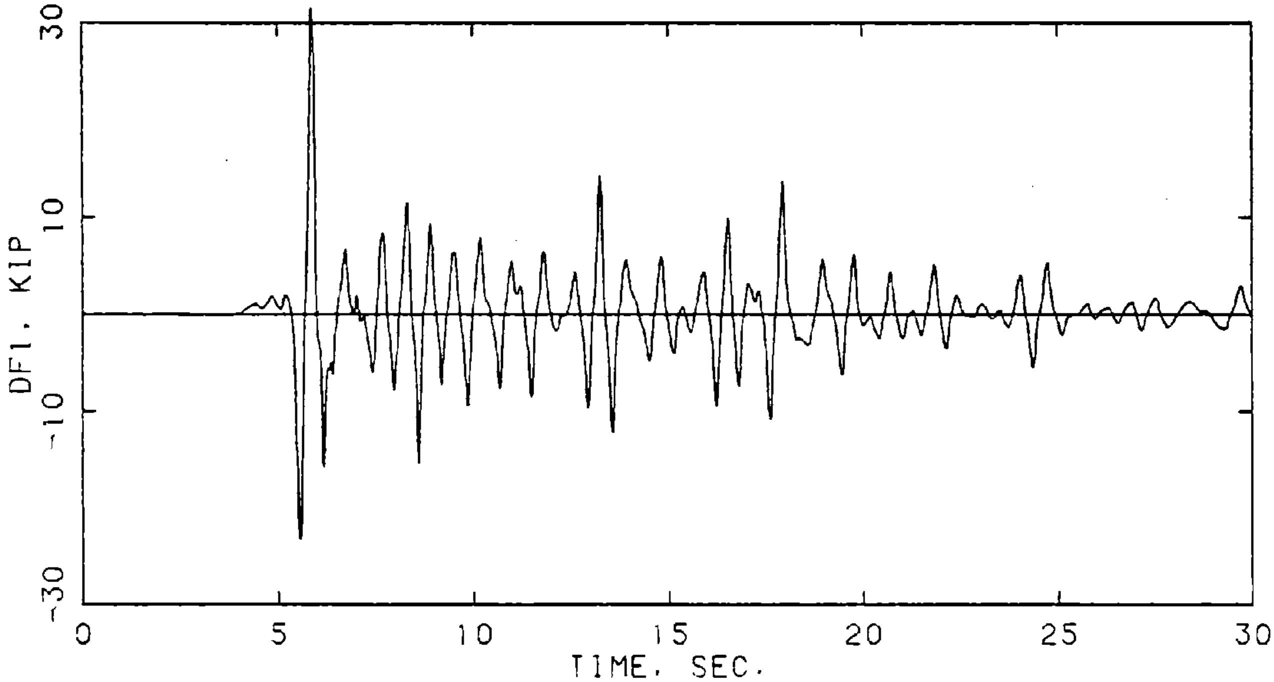


E) MID-POINT, END 1.

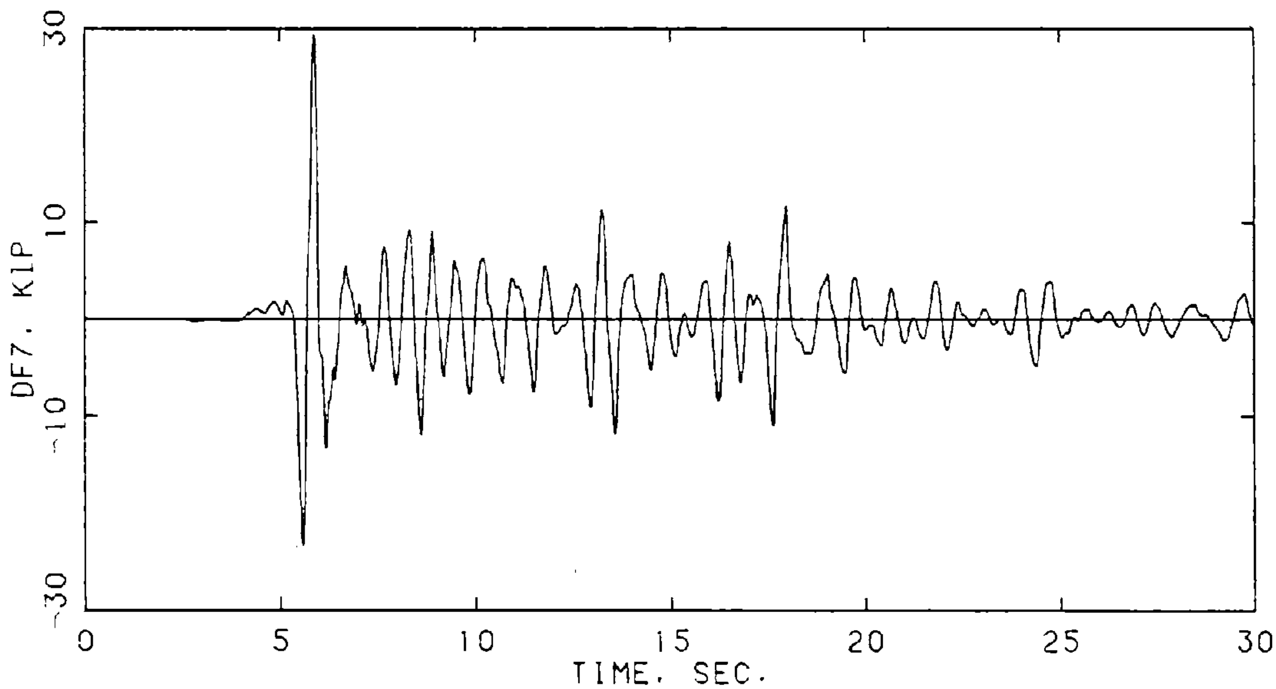


F) MID-POINT, END 7.

FIGURE E-26. (CONTINUED).

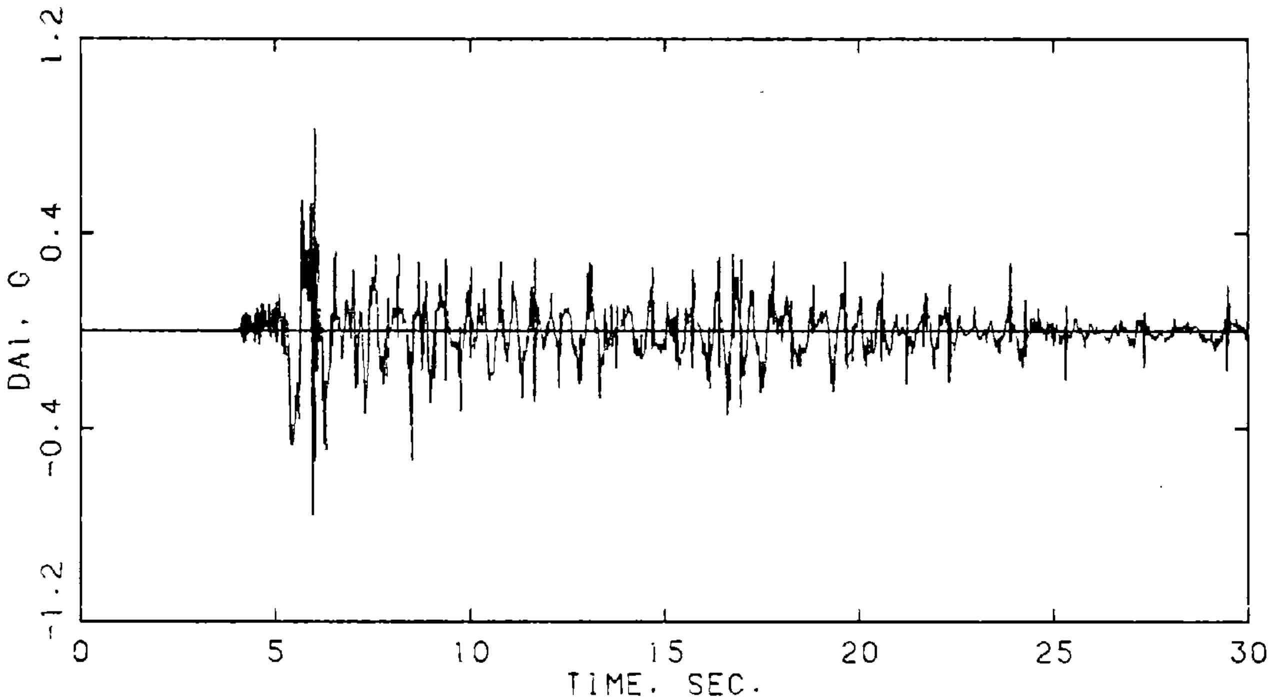


A) END 1.

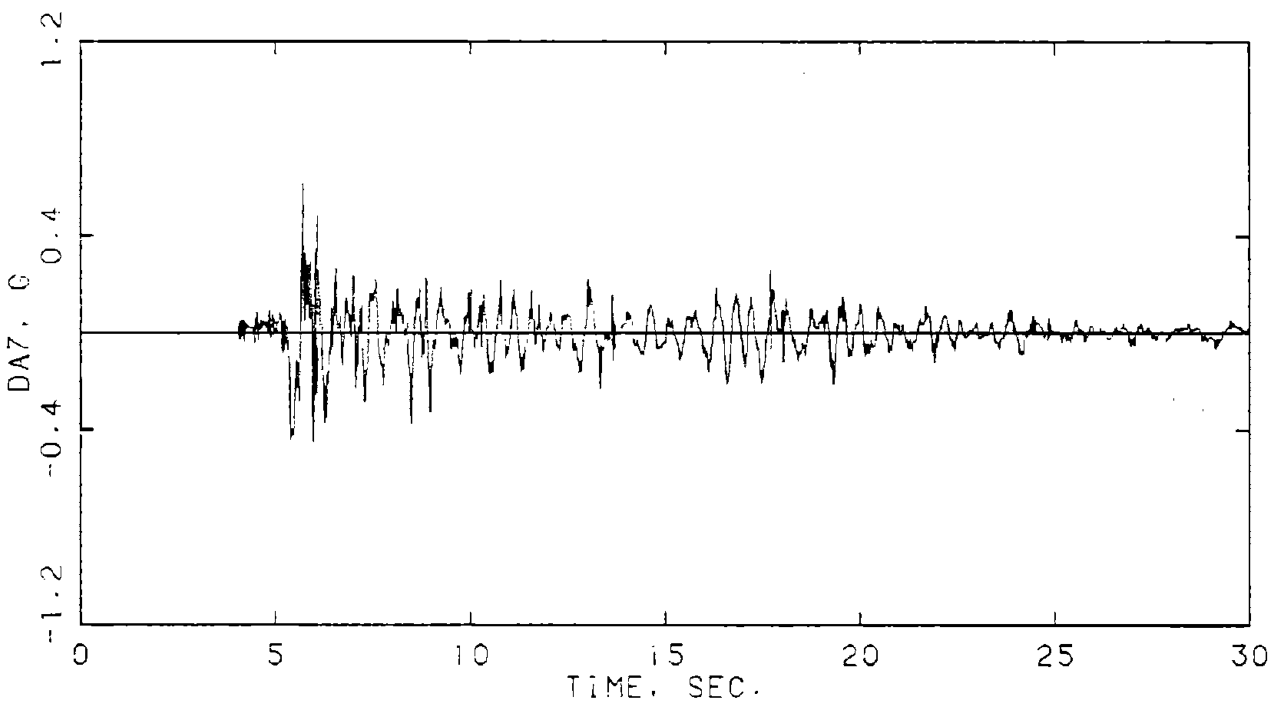


B) END 7.

FIGURE E-27. END FORCE. DIAPHRAGM N. GM 5-1.

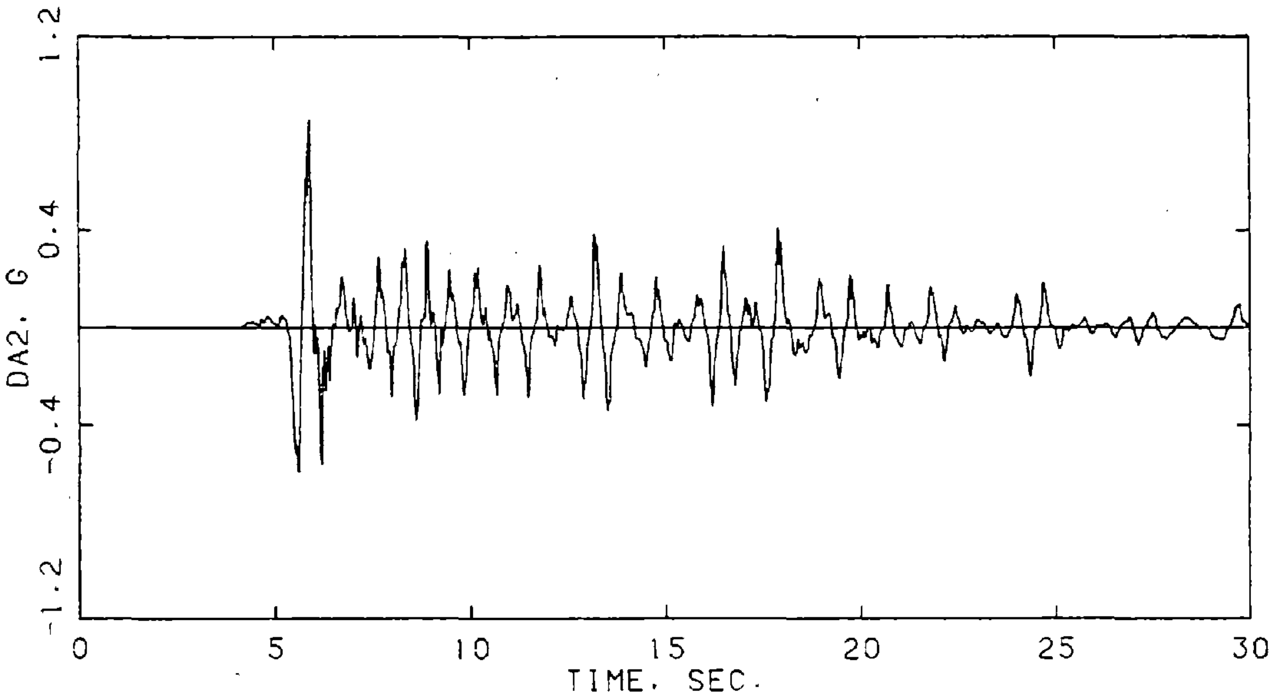


A) END 1.

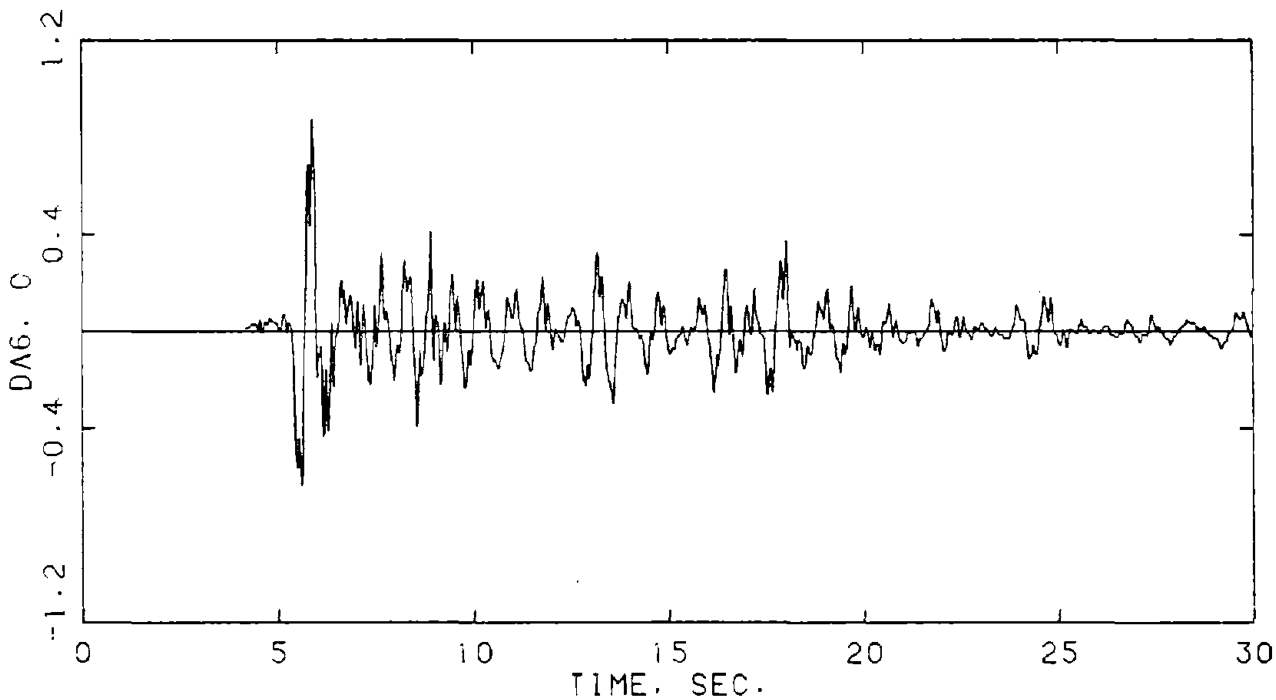


B) END 7.

FIGURE E-28. ACCELERATIONS, DIAPHRAGM N, GM 5-1.

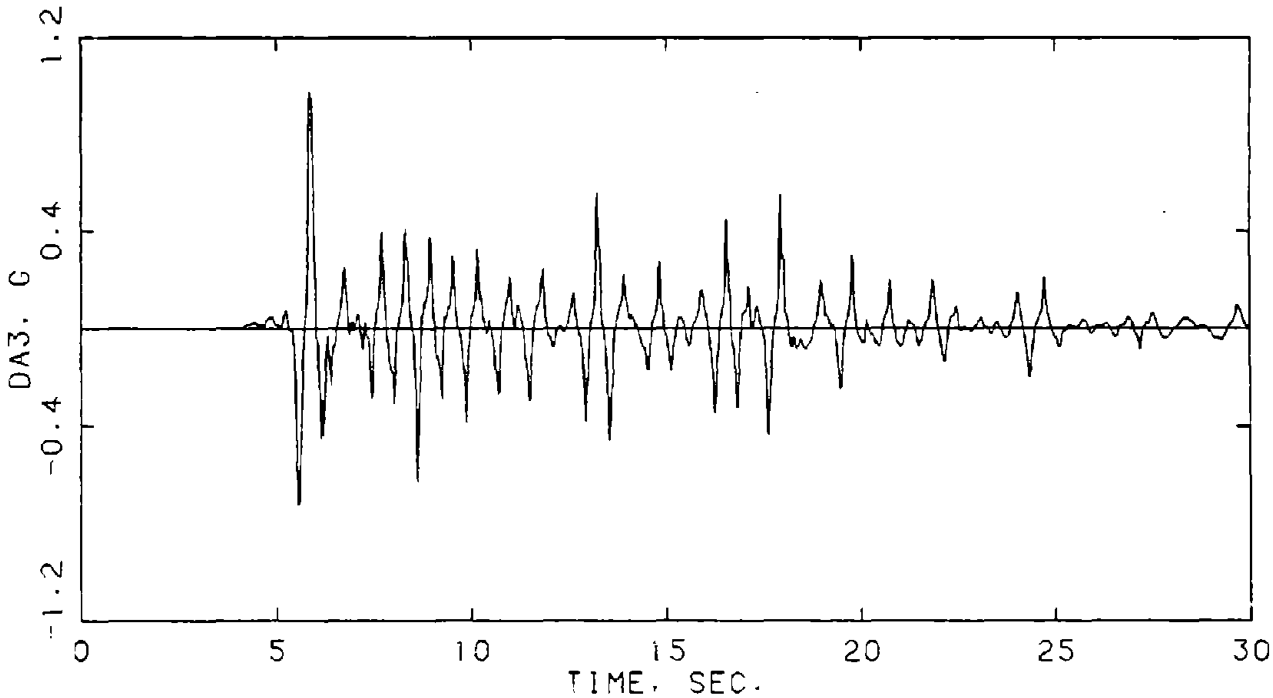


C) ONE-SIXTH POINT. END 1.

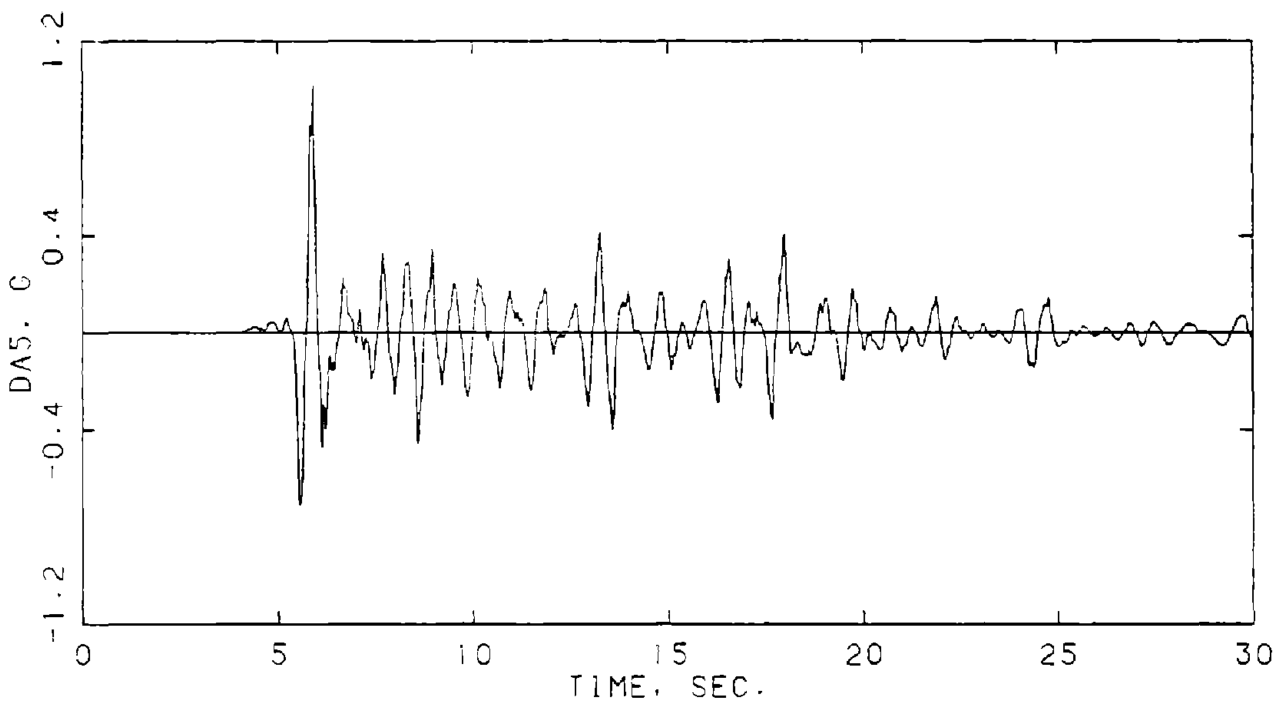


D) ONE-SIXTH POINT. END 7.

FIGURE E-28. (CONTINUED).

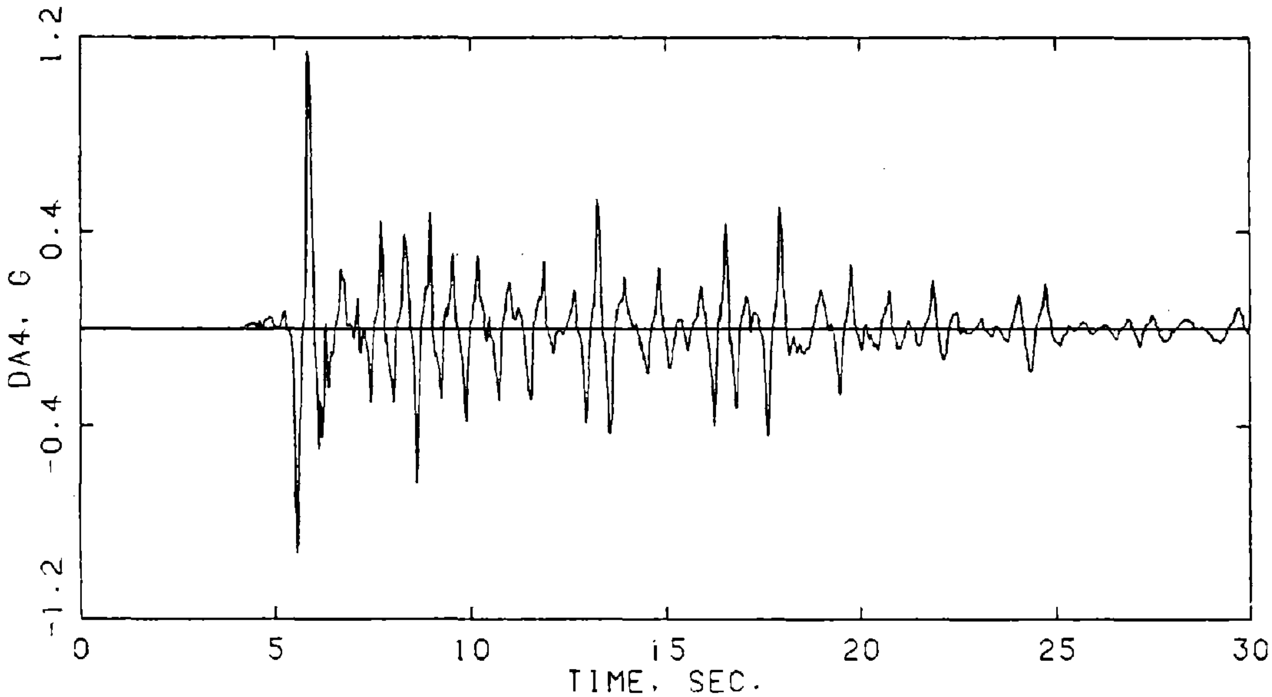


E) ONE-THIRD POINT, END 1.



F) ONE-THIRD POINT, END 7.

FIGURE E-28. (CONTINUED).



G) MID POINT.

FIGURE E-28. (CONTINUED).