UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Earthquake Data Archiving and Retrieval System: Archived Data Sets from the External Research Program

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Open-File Report 86-45

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This report summarizes data sets submitted to the U. S. Geological Survey by external investigators in the National Earthquake Hazards Reduction Program.

The data sets listed are archived in the U.S.G.S. Earthquake Data Archiving and Retrieval System. The design and implementation of the system are described in papers by Lee, Scharre, and Crane (1983) and Crane, Lee, and Newberry (1984). A User's Manual is available to readers who wish to query the system and retrieve earthquake data (Crane, Lee, and O'Neill, 1985).

What follows is a catalog of the external research data sets archived in the General Library (GL), that part of the database where data sets with arbitrary data structures and formats are stored. Each entry presents all of a data set's explanatory material and a short sample of the data. To save space, we have replaced large blocks of duplicate explanatory material with a reference to a previous data set.

Below are the major subdivisions of the data sets by topic and the corresponding data set names (DSN):

1. Water levels in wells along the San Andreas and San Jacinto fault zones: GLØØØ145, GLØØØ2Ø2, GLØØØ211.

2. Investigation of radon and helium as possible fluid-phase precursors to earthquakes: GLØØØ146, GLØØØ147, GLØØØ199, GLØØØ2ØØ.

3. Summary data for earthquakes located by the Adak seismic network: GLØØØ148, GLØØØ198, GLØØØ2Ø3.

4. Earthquake summary data for the Utah region: GLØØØ153, GLØØØ2Ø1, GLØØØ21Ø.

5. Seismicity of Southern California: Earthquakes of ML 3.Ø and greater, 1975 - 1983: GLØØØ2Ø4.

6. Phase data for Nevada and Eastern California earthquakes: GLØØØ2Ø5, GLØØØ2Ø6, GLØØØ2Ø7, GLØØØ2Ø8.

7. Stress levels determined from stressmeter readings along active faults in Southern California: GLØØØ2Ø9.

REFERENCES

Crane, G.R., Lee, W.H.K., and Newberry, J.T. (1984).
U.S.G.S. Earthquake Data Archiving and Retrieval System: Reference Manual. U.S. Geological Survey Open-File Report 84-84Ø, 159 pp.

Crane, G.R., Lee, W.H.K., and O'Neill, M.E. (1985).
U.S.G.S. Earthquake Data Archiving and Retrieval System: User's Manual. U.S Geological Survey Open-File Report 85-368, 26 pp.

Lee, W.H.K., Scharre, D.C., and Crane, G.R. (1983).
A Computer-Based System for Organizing Earthquake-Related Data. U.S. Geological Survey Open-File Report 83-518, 28 pp.

Table GL000145

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C#DSN=GL000145;SIZE=013052;DATE=041685;ARCH=TM;TAPE=SM9310;FILE=121;STRT=000001;
C*DATE: 19840625; 0; WATER;
C*CLASS: HYDROLOGIC; WATER LEVEL;
C*PERSN: D. L. LAMAR; P. M. MERIFIELD;  J. V. LAMAR;
C*ALPHA: 19761015; 19840429; 33.1 N; 34.5 N; 118.2 W; 116.0 W; 14-08-0001-21559;
C*       A012;
C*KEYWD: WATER LEVELS; SAN ANDREAS FAULT; SAN JACINTO FAULT;
C*TITLE: WATER LEVELS IN WELLS ALONG SAN ANDREAS AND SAN JACINTO FAULT ZONES,
C*       SOUTHERN CALIFORNIA
C*AUTHOR: D. L. LAMAR, P. M. MERIFIELD, AND J. V. LAMAR
C*INSTITUTION: LAMAR-MERIFIELD GEOLOGISTS, INC.
C*               1318 2ND ST. #25
C*               SANTA MONICA, CA  90401
C*ABSTRACT: WATER LEVELS FOR MORE THAN 50 WELLS ALONG THE SAN ANDREAS AND SAN
C*          JACINTO FAULT ZONES HAVE BEEN MONITORED DURING THE PERIOD OCTOBER
C*          1976 TO APRIL 1984.
C*REFERENCE: LAMAR, D. L. (1984). "HYDROLOGICAL/GEOCHEMICAL MONITORING ALONG SAN
C*               ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA, DURING
C*               FIRST HALF OF FISCAL YEAR 1984", IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME XVIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C*               PROGRAM, JUNE 1984, U. S. GEOLOGICAL SURVEY OPEN-FILE
C*               REPORT 84-628.
C*           MERIFIELD, P. M., AND D. L. LAMAR (1983). "HYDROLOGICAL/GEOCHEMICAL
C*               MONITORING ALONG SAN ANDREAS AND SAN JACINTO FAULTS,
C*               SOUTHERN CALIFORNIA, DURING FISCAL YEAR 1983", IN SUMMARIES
C*               OF TECHNICAL REPORTS, VOLUME XVII, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1983, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 83-918.
C*           LAMAR, D. L., AND P. M. MERIFIELD (1983). "HYDROLOGICAL/GEOCHEMICAL
C*               MONITORING ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN
C*               CALIFORNIA, DURING FIRST HALF OF FISCAL YEAR 1983", IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XVI, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, JUNE 1983, U. S. GEOLOGICAL SURVEY
C*               OPEN-FILE REPORT 83-525.
C*           MERIFIELD, P. M., AND D. L. LAMAR (1983). "HYDROLOGICAL/GEOCHEMICAL
C*               MONITORING ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN
C*               CALIFORNIA, DURING FISCAL YEAR 1982", IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME XV, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C*               PROGRAM, JANUARY 1983, U. S. GEOLOGICAL SURVEY OPEN-FILE
C*               REPORT 83-90.
C*           LAMAR, D. L., AND P. M. MERIFIELD, (1982). "WATER-LEVEL MONITORING
C*               ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C*               DURING FIRST HALF OF FISCAL YEAR 1982," IN SUMMARIES OF
C*               TECHNICAL REPORTS, VOLUME XIV, NATIONAL EARTHQUAKE HAZARDS
C*               REDUCTION PROGRAM, JULY 1982, U. S. GEOLOGICAL SURVEY OPEN-FILE
C*               REPORT 82-840.
C*           LAMAR, D. L., AND P. M. MERIFIELD (1982) ."WATER-LEVEL MONITORING
C*               ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C*               DURING FISCAL YEAR 1981", IN SUMMARIES OF TECHNICAL REPORTS,
C*               VOLUME XIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C*               DECEMBER 1981, U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 82-65.
C*           LAMAR, D. L., AND P. M. MERIFIELD (1981). "WATER-LEVEL MONITORING
C*               ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
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C* DURING FIRST HALF OF FISCAL YEAR 1981", IN SUMMARIES OF
C* TECHNICAL REPORTS, VOLUME XII, NATIONAL EARTHQUAKE HAZARDS
C* REDUCTION PROGRAM, JUNE 1981, U. S. GEOLOGICAL SURVEY OPEN-FILE
C* REPORT 81-833.
C* MERIFIELD, P. M., AND D. L. LAMAR (1981). "WATER-LEVEL MONITORING
C* ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C* DURING SECOND HALF OF FISCAL YEAR 1980", IN SUMMARIES OF
C* TECHNICAL REPORTS, VOLUME XI, NATIONAL EARTHQUAKE HAZARDS
C* REDUCTION PROGRAM, JANUARY 1981, U. S. GEOLOGICAL SURVEY
C* OPEN-FILE REPORT 81-167.
C* LAMAR, D. L., AND P. M. MERIFIELD (1980). "WATER-LEVEL MONITORING
C* ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C* DURING FIRST HALF OF FISCAL YEAR 1980", IN SUMMARIES OF
C* TECHNICAL REPORTS, VOLUME X, NATIONAL EARTHQUAKE HAZARDS
C* REDUCTION PROGRAM, JUNE 1980, U. S. GEOLOGICAL SURVEY OPEN-FILE
C* REPORT 80-842.
C* MERIFIELD, P. M. AND D. L. LAMAR (1980). "WATER LEVEL MONITORING
C* ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C* DURING FISCAL YEAR 1979", IN SUMMARIES OF TECHNICAL REPORTS,
C* VOLUME IX, NATIONAL EARTHQUAKE REDUCTION PROGRAM, DECEMBER
C* 1979, U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 80-6.
C* MERIFIELD, P. M., AND D. L. LAMAR (1979). "PROGRESS REPORT ON WATER
C* LEVEL MONITORING ALONG SAN ANDREAS AND SAN JACINTO FAULTS,
C* SOUTHERN CALIFORNIA", IN SUMMARIES OF TECHNICAL REPORTS, VOLUME
C* VIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM, JUNE 1979,
C* U. S. GEOLOGICAL SURVEY.
C* MERIFIELD, P. M., AND D. L. LAMAR (1978). "REPORT ON TWO YEARS OF
C* WATER LEVEL MONITORING ALONG SAN ANDREAS AND SAN JACINTO
C* FAULTS, SOUTHERN CALIFORNIA", IN SUMMARIES OF TECHNICAL
C* REPORTS, VOLUME VII, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C* PROGRAM, DECEMBER 1978, U. S. GEOLOGICAL SURVEY.
C* LAMAR, D. L., AND P. M. MERIFIELD (1978). "PROGRESS REPORT ON WATER
C* LEVEL MONITORING ALONG SAN ANDREAS AND SAN JACINTO FAULTS,
C* SOUTHERN CALIFORNIA," IN SUMMARIES OF TECHNICAL REPORTS,
C* VOLUME VI, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C* JUNE 1978, U. S. GEOLOGICAL SURVEY.
C* LAMAR, D. L., AND P. M. MERIFIELD (1978). "REPORT OF FIRST YEAR OF
C* WATER LEVEL MONITORING IN AREA OF PALMDALE UPLIFT, SOUTHERN
C* CALIFORNIA", IN SUMMARIES OF TECHNICAL REPORTS, VOLUME V,
C* NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM, JANUARY 1978,
C* U. S. GEOLOGICAL SURVEY.
C* LAMAR, D. L., AND P. M. MERIFIELD (1977). "PRELIMINARY REPORT OF
C* WATER LEVEL MONITORING IN AREA OF PALMDALE UPLIFT, SOUTHERN
C* CALIFORNIA", IN SUMMARIES OF TECHNICAL REPORTS, VOLUME IV,
C* NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM, JULY 1977,
C* U. S. GEOLOGICAL SURVEY.
C* LAMAR, D. L. AND P. M. MERIFIELD (1984). "DATA REPORT: SUMMARY OF
C* WATER LEVEL DATA 01 OCT THROUGH 31 MAR 84". A COPY OF THIS
C* UNPUBLISHED REPORT IS AVAILABLE FROM WILLIE LEE, OFFICE OF
C* EARTHQUAKES, VOLCANOES, AND ENGINEERING, MAIL STOP 977,
C* U. S. GEOLOGICAL SURVEY, 345 MIDDLEFIELD ROAD, MENLO PARK,
C* CA 94025.
C*FORMAT:
C*END----------

WELL NUMBER: 04N/09W-18N01 VALYERMO QUAD(VY18N01)
HEIGHT REFERENCE POINT ABOVE LAND SURFACE: 0.600 FT

LAND SURFACE ELEVATION: FT
TOTAL DEPTH OF WELL:200.00 FT
YMAX= - YMIN= -
LATITUDE: 34-35.61 N LONGITUDE: 117-60.92 W
PRECIP STATIONS:

DATE	TIME (PST)	TEMP (F)	O B	PROBE DEPTH	WATER DEPTH	NOTES

********** 12934 data cards not shown here **********
C#FINIS DSN=GL000145

Table GL000146

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C$DSN=GL000146;SIZE=000130;DATE=041685;ARCH=TM;TAPE=SM9310;FILE=122;STRT=000001;
C*DATE: 19840705; 0; CHUNG1;
C*CLASS: GEOCHEMICAL; RADON; HELIUM; CONDUCTIVITY; TEMPERATURE;
C*PERSN: Y. CHUNG;
C*ALPHA: 19820818; 19840412; 32.9N; 34.2N; 117.3W; 115.4W; 14-08-0001-21186;
C*       A014;
C*KEYWD: RADON; HELIUM; CONDUCTIVITY;
C*TITLE: INVESTIGATION OF RADON AND HELIUM AS POSSIBLE FLUID-PHASE
C*       PRECURSORS TO EARTHQUAKES
C*AUTHOR: Y. CHUNG
C*INSTITUTION: UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA.
C*             GEOLOGICAL RESEARCH DIVISION, A-020
C*             SCRIPPS INSTITUTION OF OCEANOGRAPHY
C*             LA JOLLA, CA  92093
C*ABSTRACT: RADON, HELIUM, CONDUCTIVITY, AND TEMPERATURE OF GROUNDWATERS
C*          HAVE BEEN MONITORED ALONG THE SAN ANDREAS, SAN JACINTO, AND ELSINORE
C*          FAULTS IN SOUTHERN CALIFORINA. DISCRETE SAMPLES OF GROUNDWATER
C*          WERE TAKEN AT MONTHLY INTERVALS FOR DISSOLVED GAS MONITORING.
C*REFERENCE:  CHUNG, Y.  (1984).  "INVESTIGATION OF RADON AND HELIUM AS
C*               POSSIBLE FLUID-PHASE PRECURSORS TO EARTHQUAKES" IN SUMMARIES
C*               OF TECHNICAL REPORTS, VOLUME XVIII, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, JUNE 1984, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 84-628.
C*             CHUNG, Y.  (1984).  "DATA REPORT:  DATA SUMMARY FOR RADON AND
C*               HELIUM MONITORING IN SOUTHERN CALIFORNIA FROM AUGUST 83
C*               TO APRIL 84."  A COPY OF THIS UNPUBLISHED REPORT IS AVAILABLE
C*               FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES, AND
C*               ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*        COLUMN     FORMAT   ITEM      EXPLANATION
C*        1-2         (I2)    CODE      SITE CODE.
C*                                      MURRIETA HOT SPRINGS (2), WARNER HOT
C*                                      SPRINGS (4), AGUA CALIENTE (5),
C*                                      INDIAN CANYON (8), ROBISON'S WELL
C*                                      (9), ARROWHEAD HOT SPRINGS (10), HOT
C*                                      MINERAL WELL (15), NILAND SLAB WELL
C*                                      (21).
C*        4-9         (I6)    DATE      DATE OF SAMPLE COLLECTION: 2 DIGITS
C*                                      FOR THE MONTH; 2 DIGITS FOR THE DAY;
C*                                      2 DIGITS FOR THE YEAR.
C*        11          (I1)    SUBSITE   1=FIRST SAMPLING SUBSITE;
C*                                      2=SECOND SAMPLING SUBSITE.
C*        12          (A1)    SITETYPE  P=POOL, S=SPRING, W=WELL.
C*        14          (I1)    DUP       DUPLICATE SAMPLE TAKEN.
C*        16-19       (F4.1)  TEMP      TEMPERATURE OF WATER, CENTIGRADE.
C*        24-27       (I4)    COND      CONDUCTIVITY IN MICRO MHO.
C*        31-36       (F6.3)  RN        RADON IN DPM/G.
C*        37-38       (A2)    RN NOTE   A1 AND A2 ARE FOR DUPLICATE SAMPLES.
C*                                      A AND B ARE FOR DIFFERENT TYPES OF
C*                                      SAMPLING BOTTLES.
C*        40-45       (F6.3)  HE        HELIUM IN MICRO CC/G.
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C*         46-47        (A2)    HE NOTE   F=CORNING 1720 FLASK. F1 AND F2 ARE
C*                                         DUPLICATE SAMPLES.
C*END-------------------------------------------------------------------------
 2  81083 2P    55.5     1220    .450      3.84  F
 2  92083 2P    53.2     1242    .413      4.32  F
 2 110883 2P    51.0     1245    .485  A   4.34  F
 2 110883 2P    51.0     1245    .478  B   4.25  F
 2 113083 2P    49.0     1270    .520      5.04  F
 2 121683 2P    49.0     1250    .407      2.33  F
 2  11384 2P    51.0     1220    .528      2.81  F
 2  21084 2P    53.0     1220    .432      3.90  F
 2  31584 2P    52.0     1300    .487      4.87  F
 2  41284 2P    53.2     1250    .608      5.89  F
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Table GL000147

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C*CLASS: GEOCHEMICAL; RADON; HELIUM; CONDUCTIVITY; TEMPERATURE;
C*PERSN: Y. CHUNG;
C*ALPHA: 19830101; 19840412; 32.9N; 34.2N; 117.3W; 115.4W; 14-08-0001-21186;
C*       A014;
C*KEYWD: RADON; HELIUM; CONDUCTIVITY;
C*TITLE: INVESTIGATION OF RADON AND HELIUM AS POSSIBLE FLUID-PHASE
C*       PRECURSORS TO EARTHQUAKES
C*AUTHOR: Y. CHUNG
C*INSTITUTION: UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA.
C*              GEOLOGICAL RESEARCH DIVISION, A-020
C*              SCRIPPS INSTITUTION OF OCEANOGRAPHY
C*              LA JOLLA, CA  92093
C*ABSTRACT: CONTINUOUS RADON MONITORS HAVE BEEN INSTALLED AT MURRIETA HOT
C*          SPRINGS, ARROWHEAD HOT SPRINGS, AND PINON FLAT. THEY MONITOR
C*          THE GAS-PHASE RADON AT ARROWHEAD AND MURRIETA HOT SPRINGS,
C*          AND THE DISSOLVED-PHASE RADON AT PINON FLAT.
C*REFERENCE:  CHUNG, Y.  (1984).  "INVESTIGATION OF RADON AND HELIUM AS
C*               POSSIBLE FLUID-PHASE PRECURSORS TO EARTHQUAKES" IN SUMMARIES
C*               OF TECHNICAL REPORTS, VOLUME XVIII, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, JUNE 1984, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 84-628.
C*             CHUNG, Y.  (1984).  "DATA REPORT:  DATA SUMMARY FOR RADON AND
C*               HELIUM MONITORING IN SOUTHERN CALIFORNIA FROM AUGUST 83
C*               TO APRIL 84."  A COPY OF THIS UNPUBLISHED REPORT IS AVAILABLE
C*               FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES, AND
C*               ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*        COLUMN      FORMAT   ITEM     EXPLANATION
C*        1-2         (I2)     CODE     SITE CODE
C*                                      MURRIETA HOT SPRING (2), ARROWHEAD
C*                                      HOT SPRINGS (10), PINON FLAT (12).
C*        4-7         (I4)     YEAR     YEAR THE DATA WAS COLLECTED.
C*        13-15       (I3)     JULIAN   DATE THE DATA WAS COLLECTED.
C*                             DATE
C*        22-27       (I6)     RN       ACTIVITY OF RADON AND TWO ALPHA
C*                                      DAUGHTERS IN COUNTS PER 20 MIN.
C*                                      (10) OR 40 MIN. (2 AND 12).
C*                                      DAILY AVERAGE OF 24 RECORDS.
C*END----------------------------------------------------------------------------
 2 1983     82       117869
 2 1983     83       107862
 2 1983     84       98828
 2 1983     85       99143
 2 1983     86       102149
 2 1983     87       92037
 2 1983     88       87352
 2 1983     89       83694
 2 1983     90       91553
 2 1983     91       95079
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****************** 894 data cards not shown here ******************
C$FINIS DSN=GL000147
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Table GL000148

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C#DSN=GL000148;SIZE=000373;DATE=041685;ARCH=TM;TAPE=SM9310;FILE=122;STRT=001079;
C*DATE: 19840618; 0; ADAK1;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: CARL KISSLINGER; SELENA BILLINGTON;
C*ALPHA: 19831001; 19840331; 50.5N; 52.5N; 179.0W; 175.0W;
C*       14-08-0001-21896; A013;
C*KEYWD: ALEUTIANS; 14-08-0001-21230;
C*TITLE: SUMMARY DATA FOR EARTHQUAKES LOCATED BY THE ADAK SEISMIC NETWORK FOR
C*       OCTOBER 1, 1983 THROUGHT MARCH 31, 1984
C*AUTHOR: CARL KISSLINGER AND SELENA BILLINGTON
C*INSTITUTION: UNIVERSITY OF COLORADO
C*             CIRES
C*             CAMPUS BOX 449
C*             BOULDER, CO 80309
C*ABSTRACT:
C*REFERENCE: KISSLINGER, CARL, AND SELENA BILLINGTON (1984). "CENTRAL ALEUTIAN
C*               ISLANDS SEISMIC NETWORK" IN SUMMARIES OF TECHNICAL REPORTS,
C*               VOLUME XVIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C*               JUNE 1984, U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 84-628.
C*           KISSLINGER, CARL (1984). "A FIELD STUDY OF EARTHQUAKE PREDICTION
C*               METHODS IN THE CENTRAL ALEUTIAN ISLANDS" IN SUMMARIES OF
C*               TECHNICAL REPORTS, VOLUME XVIII, NATIONAL EARTHQUAKE HAZARDS
C*               REDUCTION PROGRAM, JUNE 1984, U. S. GEOLOGICAL SURVEY
C*               OPEN-FILE REPORT 84-682.
C*           KISSLINGER, CARL, AND SELENA BILLINGTON (1984). "PREDICTION
C*               METHODOLOGY FOR SUBDUCTION ZONE EARTHQUAKES, CENTRAL ALEUTIAN
C*               ISLANDS" IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XVIII,
C*               NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM, JUNE 1984,
C*               U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 84-628.
C*           KISSLINGER, CARL, AND SELENA BILLINGTON (1984). "DATA SUMMARY:
C*               CENTRAL ALEUTIAN ISLANDS SEISMIC NETWORK, OCTOBER 1, 1983 -
C*               MARCH 31, 1984". A COPY OF THIS UNPUBLISHED REPORT IS
C*               AVAILABLE FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES,
C*               AND ENGINEERING, MAIL STOP 977, U.S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA 94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*
C*        COLUMN        EXPLANATION
C*
C*        1-3           DEQ = FREE DEPTH SOLUTION; LEQ = FIXED DEPTH SOLUTION
C*        6-26          DATE AND TIME (YR/MO/DAY HR/MIN/SEC)
C*        29-34         NORTH LATITUDE
C*        36-43         WEST LONGITUDE
C*        45-49         DEPTH
C*        50-52         DURATION MAGNITUDE
C*        53-69         P FIRST-MOTION POLARITY AT THE STATIONS (WILL SEND
C*                      SEQUENCE OF STATIONS IF ANYONE CARES)
C*        70-72         IDENTIFIER OF THE SUB-REGION OF THE ADAK SEISMIC ZONE
C*        73-80         EVENT FLAGS AND NEIS TELESEISMIC MAGNITUDE
C*         73           MAGNITUDE OUT OF RANGE FOR DETERMINING DURATION
C*                      MAGNITUDES:
C*                        S = EVENT TOO SMALL FOR DURATION MAGNITUDE
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C*                          L = EVENT TOO LARGE FOR DURATION MAGNITUDE
C*          74             SPECIAL STUDIES: USED FOR IDENTIFYING EVENTS
C*                         USED IN INDIVIDUAL PROJECTS
C*          75             INTERESTING EVENTS
C*                           A = AFTERSHOCK (ONLY WHEN CLEARLY ASSOCIATED
C*                               WITH MAINSHOCK)
C*                           B = BLAST
C*                           C = CONVERTED PHASE
C*                           F = FELT ON ADAK
C*                           H = HARMONIC TREMOR
C*                           I = INTERNATIONAL DATA EXCHANGE EVENT
C*                           L = LOCATED BY OBS'S
C*                           M = FOCAL MECHANISM HAS BEEN DETERMINED
C*                           O = OBSERVED BY OBS'S
C*                           T = TSUNAMIGENIC
C*                           U = UNIDENTIFIED NON-SEISMIC EVENT
C*                           V = ASSOCIATED WITH SURFACE VOLCANISM
C*          76             WARNING FLAGS ARE ASSIGNED AUTOMATICALLY BY
C*                         THE HYPOCENTER LOCATION PROGRAM
C*                           X = DID NOT CONVERGE AND SE GREATER THAN
C*                               0.30 SEC
C*                           Z = DEPTH ABOVE SURFACE OR DEPTH GREATER
C*                               THAN 300 KM
C*          77             STANDARD ERROR CODE IS ASSIGNED AUTOMATICALLY
C*                           1 = SE LESS THAN OR EQUAL TO 0.30
C*                           2 = SE IS GREATER THAN 0.30 BUT LESS THAN OR
C*                               EQUAL TO 0.50
C*                           3 = SE IS GREATER THAN 0.50 BUT LESS THAN OR
C*                               EQUAL TO 0.75
C*                           4 = SE IS GREATER THAN 0.75 BUT LESS THAN OR
C*                               EQUAL TO 1.0
C*                           W = SE IS GREATER THAN 1.0
C*          78-80          TELESEISMIC MAGNITUDES FROM THE PDE ARE GIVEN
C*                         FOR ANY EVENTS WITH DURATION MAGNITUDES
C*                         GREATER THAN 3.5
C*END-----------------------------------------------------------------------
deq  83 10  2  21 50  7.86  51.426 -176.615  37.71.6..cc.dddd....d...SW2    1
deq  83 10  3   7 57 59.39  51.873 -176.102 142.82.5..d....d.....c...D      1
deq  83 10  3  13 28   .67  51.417 -175.975  21.31.3d.dd...d.....d...SE2    1
deq  83 10  4   0 59  7.50  51.879 -176.747 121.12.2..d..ddd.....d...D      1
deq  83 10  5   1 26 59.91  51.745 -176.288  77.41.5..c.............D      1
deq  83 10  6   7 41  4.33  51.369 -177.463  38.51.1...d.d.......c...AC3    1
deq  83 10  6  12 25 48.28  51.676 -176.568  80.21.5.............c...D      1
leq  83 10  8  12  0  9.70  51.297 -176.085  10.31.5d..............SE      1
deq  83 10  9   4 13 19.72  51.109 -177.708   8.32.5n....d.cnd...d...W      1
deq  83 10 10   0 46 12.75  51.950 -176.621   6.2 .5..d....cc....c...V      1
***************** 273 data cards not shown here *****************
C*FINIS DSN=GL000148
```

Table GL000153

```
C#DSN=GL000153;SIZE=000378;DATE=041685;ARCH=TM;TAPE=SM9310;FILE=125;STRT=000001;
C*DATE: 19840801; 0; UTAH1;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: W. D. RICHINS; WALTER J. ARABASZ; ROBERT B. SMITH;
C*ALPHA: 19831001; 19840331; 36.75 N; 42.50 N; 114.25 W; 108.75 W;
C*       14-08-0001-21857; A015;
C*KEYWD: WASATCH FAULT;
C*TITLE: EARTHQUAKE SUMMARY DATA FOR THE UTAH REGION, OCTOBER 1, 1983 -
C*       MARCH 31,1984
C*AUTHOR: W. D. RICHINS
C*INSTITUTION: UNIVERSITY OF UTAH, SEISMOGRAPH STATIONS
C*             ROOM 704 W. C. BROWNING BLDG
C*             SALT LAKE CITY, UT  84112-1183
C*ABSTRACT:
C*REFERENCE: ARABASZ, WALTER J., AND ROBERT B. SMITH (1984).  "REGIONAL SEISMIS
C*               MONITORING ALONG THE WASATCH FRONT URBAN CORRIDOR AND ADJACENT
C*               INTERMOUNTAIN SEISMIS BELT" IN SUMMARIES OF TECHNICAL REPORTS,
C*               VOLUME XVIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C*               JUNE 1984, U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 84-628.
C*           UNIVERSITY OF UTAH (1984).  "UTAH PRELIMINARY EPICENTERS:
C*               DECEMBER 1983."  A COPY OF THIS UNPUBLISHED REPORT IS
C*               AVAILABLE FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES,
C*               AND ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*           UNIVERSITY OF UTAH (1984).  "UTAH PRELIMINARY EPICENTERS:
C*               JANUARY 1, 1984 TO MARCH 31, 1984."  A COPY OF THIS UNPUBLISHED
C*               REPORT IS AVAILABLE FROM WILLIE LEE, OFFICE OF EARTHQUAKES,
C*               VOLCANOES, AND ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL
C*               SURVEY, 345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*FORMAT: SUMMARY FORMAT DEFINED AS FOLLOWS:
C*
C*  COLUMN  FORMAT    EXPLANATION
C*
C*  1-2     I2        YEAR
C*  3-6     I4        DATE
C*  7       1X        BLANK
C*  8-11    I4        ORIGIN TIME, HOUR AND MINUTE (UTC)
C*  12      1X        BLANK
C*  13-17   F5.2      ORIGIN TIME, SECONDS
C*  18      1X        BLANK
C*  19-20   I2        NORTH LATITUDE, DEGREES
C*  21      1X        BLANK
C*  22-26   F5.2      NORTH LATITUDE, MINUTES
C*  27      1X        BLANK
C*  28-30   I3        WEST LONGITUDE, DEGREES
C*  31      1X        BLANK
C*  32-36   F5.2      WEST LONGITUDE, MINUTES
C*  37-38   2X        BLANK
C*  39-43   F5.2      DEPTH, KM
C*  44      A1        '*' IMPLIES FIXED DEPTH
C*  45      A1        'W' IMPLIES WOOD-ANDERSON MAGNITUDE
C*  46-50   F5.2      LOCAL MAGNITUDE
C*  51      1X        BLANK
```

```
C*  52-53    I2         NUMBER OF ARRIVAL TIMES USED FOR SOLUTION
C*  54       1X         BLANK
C*  55-57    I3         MAXIMUM STATION GAP, DEGREES
C*  58-62    F5.1       MINIMUM STATION DISTANCE, KM
C*  63-67    F5.2       RMS RESIDUAL, SECONDS
C*  68-72    F5.2       ESTIMATE OF HORIZONTAL ERROR, KM
C*  73-77    F5.2       ESTIMATE OF VERTICAL ERROR, KM
C*END-------------------------------------------------------------------------
831001  123 23.40 41 47.14 112 23.26   1.37   1.05 18 103 16.7  .22  0.6  1.1
831001  127 56.95 41 47.87 112 23.42   7.65    .80 17 113 15.5  .22  0.6  3.7
831001  232 21.07 41 47.18 112 23.54   2.05    .70 12 110 16.8  .21  0.6 21.3
831001  625 38.16 39 32.04 111 22.62   3.61   1.56 10 123 45.2  .32  1.3  3.5
831001  725  9.27 41 46.91 112 23.04   1.39    .68 17 102 17.1  .29  0.7  1.2
831001 1152  7.46 41  5.16 110 39.83    .23   1.73 17 277 85.2  .27  3.2  2.0
831001 2156 28.28 40  1.46 111 31.62   4.17   1.97 18 117 26.7  .47  1.3  2.3
831002 1333 29.36 39 59.19 111 47.53   1.09   1.10 12 142 10.6  .30  1.2  3.3
831002 2317 10.68 41 53.16 111 44.26   7.75   1.10 19  87  9.3  .24  0.5  2.2
831003  531  8.95 39 19.71 111  6.90    .03   2.03 16 100 46.1  .25  1.0  2.8
****************** 306 data cards not shown here ******************
C*FINIS DSN=GL000153
```

Table GL000198

```
C#DSN=GL000198;SIZE=000289;DATE=091985;ARCH=TM;TAPE=SM9310;FILE=132;STRT=000001;
C*DATE: 19841203; 0; ADAK2;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: CARL KISSLINGER; SELENA BILLINGTON;
C*ALPHA: 19840401; 19840731; 50.5 N; 52.5 N; 179.0 W; 175.0 W;
C*       14-08-0001-21896; A018;
C*KEYWD: ALEUTIANS; 14-08-0001-21230;
C*TITLE: SUMMARY DATA FOR EARTHQUAKES LOCATED BY THE ADAK SEISMIC NETWORK FOR
C*       APRIL 1, 1984 THROUGH JULY 31, 1984
C*AUTHOR: CARL KISSLINGER AND SELENA BILLINGTON
C*INSTITUTION: UNIVERSITY OF COLORADO
C*             CIRES
C*             CAMPUS BOX 449
C*             BOULDER, CO 80309
C*ABSTRACT:
C*REFERENCE: KISSLINGER, CARL, AND SELENA BILLINGTON (1984).  "CENTRAL ALEUTIAN
C*               ISLANDS SEISMIC NETWORK AND PREDICTION METHODOLOGY FOR
C*               SUBDUCTION ZONE EARTHQUAKES, CENTRAL ALEUTIAN ISLANDS", IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 85-22.
C*           KISSLINGER, CARL, AND SELENA BILLINGTON (1984).  "DATA SUMMARY:
C*               CENTRAL ALEUTIAN ISLANDS SEISMIC NETWORK, APRIL 1, 1984-
C*               JULY 31, 1984."  A COPY OF THIS UNPUBLISHED REPORT IS AVAILABLE
C*               FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES, AND
C*               ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*
C*        COLUMN        EXPLANATION
C*
C*        01-03         DEQ = FREE DEPTH SOLUTION; LEQ = FIXED DEPTH SOLUTION
C*        04-05         BLANK
C*        06-26         DATE AND TIME (YR/MO/DAY HR/MIN/SEC)
C*        27-28         BLANK
C*        29-34         NORTH LATITUDE
C*        35            BLANK
C*        36-43         WEST LONGITUDE
C*        44            BLANK
C*        45-49         DEPTH
C*        50-52         DURATION MAGNITUDE
C*        53-69         P FIRST-MOTION POLARITY AT THE STATIONS (WILL SEND
C*                      SEQUENCE OF STATIONS IF ANYONE CARES)
C*        70-72         IDENTIFIER OF THE SUB-REGION OF THE ADAK SEISMIC ZONE
C*        73-80         EVENT FLAGS AND NEIS TELESEISMIC MAGNITUDE
C*         73           MAGNITUDE OUT OF RANGE FOR DETERMINING DURATION
C*                      MAGNITUDES:
C*                        S = EVENT TOO SMALL FOR DURATION MAGNITUDE
C*                        L = EVENT TOO LARGE FOR DURATION MAGNITUDE
C*         74           SPECIAL STUDIES: USED FOR IDENTIFYING EVENTS
C*                      USED IN INDIVIDUAL PROJECTS
C*         75           INTERESTING EVENTS
```

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C*                          A = AFTERSHOCK (ONLY WHEN CLEARLY ASSOCIATED
C*                              WITH MAINSHOCK)
C*                          B = BLAST
C*                          C = CONVERTED PHASE
C*                          F = FELT ON ADAK
C*                          H = HARMONIC TREMOR
C*                          I = INTERNATIONAL DATA EXCHANGE EVENT
C*                          L = LOCATED BY OBS'S
C*                          M = FOCAL MECHANISM HAS BEEN DETERMINED
C*                          O = OBSERVED BY OBS'S
C*                          T = TSUNAMIGENIC
C*                          U = UNIDENTIFIED NON-SEISMIC EVENT
C*                          V = ASSOCIATED WITH SURFACE VOLCANISM
C*          76             WARNING FLAGS ARE ASSIGNED AUTOMATICALLY BY
C*                         THE HYPOCENTER LOCATION PROGRAM
C*                          X = DID NOT CONVERGE AND SE GREATER THAN
C*                              0.30 SEC
C*                          Z = DEPTH ABOVE SURFACE OR DEPTH GREATER
C*                              THAN 300 KM
C*          77             STANDARD ERROR CODE IS ASSIGNED AUTOMATICALLY
C*                          1 = SE LESS THAN OR EQUAL TO 0.30
C*                          2 = SE IS GREATER THAN 0.30 BUT LESS THAN OR
C*                              EQUAL TO 0.50
C*                          3 = SE IS GREATER THAN 0.50 BUT LESS THAN OR
C*                              EQUAL TO 0.75
C*                          4 = SE IS GREATER THAN 0.75 BUT LESS THAN OR
C*                              EQUAL TO 1.0
C*                          W = SE IS GREATER THAN 1.0
C*          78-80          TELESEISMIC MAGNITUDES FROM THE PDE ARE GIVEN
C*                         FOR ANY EVENTS WITH DURATION MAGNITUDES
C*                         GREATER THAN 3.5
C*END----------------------------------------------------------------------------
deq  84  4  1  14 49 38.75  52.075 -175.990 203.73.3.................D       1
leq  84  4  3  15 27  1.20  51.167 -175.083   2.52.5.................E       1
deq  84  4  4  12  2 33.74  51.390 -176.097  21.13.4c....dd.dd...d...SE1   f 14.6
deq  84  4  4  12 26 22.63  51.366 -176.094  21.71.7d.......d........SE3     1
deq  84  4  6  21 24 30.78  51.395 -175.952  21.51.1d.dd...d.....d...SE2     1
deq  84  4  8   3 42 25.63  51.254 -176.094  17.3 .0.......d.....d...SE s   1
deq  84  4  8  11 34 41.73  51.515 -175.750  22.61.8d.d..d.dd........SE5     1
leq  84  4  9   6 39 33.60  51.082 -178.052   4.01.7.......dn........W     c 1
leq  84  4 10   1 23  1.10  51.194 -178.203   4.01.8.................W     c 1
deq  84  4 10  14 30  1.70  51.049 -176.275  15.01.5.......d.........SW      1
****************** 193 data cards not shown here ******************
C*FINIS DSN=GL000198
```

Table GL000199

```
C#DSN=GL000199;SIZE=000139;DATE=091985;ARCH=TM;TAPE=SM9310;FILE=132;STRT=000290;
C*DATE: 19841203; 0; CHUNG3;
C*CLASS: GEOCHEMICAL; RADON; HELIUM; CONDUCTIVITY; TEMPERATURE;
C*PERSN: Y. CHUNG;
C*ALPHA: 19840101; 19840930; 32.9 N; 34.2 N; 117.3 W; 115.4 W;
C*       14-08-0001-21186; A020;
C*KEYWD: RADON; HELIUM; CONDUCTIVITY;
C*TITLE: INVESTIGATION OF RADON AND HELIUM AS POSSIBLE FLUID-PHASE
C*       PRECURSORS TO EARTHQUAKES
C*AUTHOR: Y. CHUNG
C*INSTITUTION: UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA.
C*             GEOLOGICAL RESEARCH DIVISION, A-020
C*             SCRIPPS INSTITUTION OF OCEANOGRAPHY
C*             LA JOLLA, CA  92093
C*ABSTRACT:  THIS DATA SET CONTAINS DISCRETE RADON AND HELIUM DATA COLLECTED
C*           FROM NETWORK SITES AT MONTHLY INTERVALS IN 1984 UNTIL SEPTEMBER..
C*           THE DATA COLLECTED BEFORE APRIL, 1984 WAS SUBMITTED TO THE
C*           USGS IN MAY AND ARCHIVED AS CHUNG1.
C*REFERENCE:  CHUNG, Y.  (1984).  "INVESTIGATION OF RADON AND HELIUM AS
C*               POSSIBLE FLUID-PHASE PRECURSORS TO EARTHQUAKES" IN SUMMARIES
C*               OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 85-22.
C*            CHUNG, Y.  (1984).  "DATA REPORT:  DATA SUMMARY FOR RADON AND
C*               HELIUM MONITORING IN S. CALIFORNIA FROM JAN TO SEP 84."
C*               A COPY OF THIS UNPUBLISHED REPORT IS AVAILABLE FROM WILLIE
C*               LEE, OFFICE OF EARTHQUAKES, VOLCANOES, AND ENGINEERING, MAIL
C*               STOP 977, U. S. GEOLOGICAL SURVEY, 345 MIDDLEFIELD ROAD, MENLO
C*               PARK, CA  94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*
C*  COLUMN  FORMAT  ITEM      EXPLANATION
C*
C*  01-02   I2      CODE      SITE CODE.
C*                            MURRIETA HOT SPRINGS (2), WARNER HOT
C*                            SPRINGS (4), AGUA CALIENTE (5),
C*                            INDIAN CANYON (8), ROBISON'S WELL
C*                            (9), ARROWHEAD HOT SPRINGS (10), HOT
C*                            MINERAL WELL (15), NILAND SLAB WELL
C*                            (21).
C*  03       IX               BLANK
C*  04-09    I6      DATE      DATE OF SAMPLE COLLECTION: 2 DIGITS
C*                            FOR THE MONTH; 2 DIGITS FOR THE DAY;
C*                            2 DIGITS FOR THE YEAR.
C*  10       1X               BLANK
C*  11       I1      SUBSITE   1=FIRST SAMPLING SUBSITE;
C*                            2=SECOND SAMPLING SUBSITE.
C*  12       A1      SITETYPE  P=POOL, S=SPRING, W=WELL.
C*  13       1X               BLANK
C*  14       I1      DUP       DUPLICATE SAMPLE TAKEN.
C*  15       1X               BLANK
C*  16-19    F4.1    TEMP      TEMPERATURE OF WATER, CENTIGRADE.
```

```
C*  20-23    4X                BLANK
C*  24-27    I4      COND      CONDUCTIVITY IN MICRO MHO.
C*  28-30    3X                BLANK
C*  31-36    F6.3    RN        RADON IN DPM/G.
C*  37-38    A2      RN NOTE   A1 AND A2 ARE FOR DUPLICATE SAMPLES.
C*                             A AND B ARE FOR DIFFERENT TYPES OF
C*                             SAMPLING BOTTLES.
C*  39       1X                BLANK
C*  40-45    F6.3    HE        HELIUM IN MICRO CC/G.
C*  46-47    A2      HE NOTE   F=CORNING 1720 FLASK. F1 AND F2 ARE
C*                             DUPLICATE SAMPLES.
C*  48-80    33X               BLANK
C*END-------------------------------------------------------------------------
 2  11384 2P   51.0     1220   .528      2.81  F
 2  21084 2P   53.0     1220   .432      3.90  F
 2  31584 2P   52.0     1300   .487      4.87  F
 2  41284 2P   53.2     1250   .608      5.89  F
 2  51084 2P   54.0     1280   .592      5.60  F
 2  61584 2P   53.0     1250   .452      3.91  F
 2  71384 2P   52.5     1270   .595      5.41  F
 2  81084 2P   49.8     1270   .557      5.59  F
 2  91484 2P   49.1     1280   .464      4.09  F
 4  11284 1P   57.0      448   1.31      3.16  F
****************** 62 data cards not shown here ******************
C*FINIS DSN=GL000199
```

Table GL000200

C#DSN=GL000200;SIZE=000525;DATE=091985;ARCH=TM;TAPE=SM9310;FILE=132;STRT=000429;
C*DATE: 19841203; 0; CHUNG4;
C*CLASS: GEOCHEMICAL; RADON; HELIUM; CONDUCTIVITY; TEMPERATURE;
C*PERSN: Y. CHUNG;
C*ALPHA: 19840101; 19840930; 32.9 N; 34.2 N; 117.3 W; 115.4 W;
C* 14-08-0001-21186; A020;
C*KEYWD: RADON; HELIUM; CONDUCTIVITY;
C*TITLE: INVESTIGATION OF RADON AND HELIUM AS POSSIBLE FLUID-PHASE
C* PRECURSORS TO EARTHQUAKES
C*AUTHOR: Y. CHUNG
C*INSTITUTION: UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA.
C* GEOLOGICAL RESEARCH DIVISION, A-020
C* SCRIPPS INSTITUTION OF OCEANOGRAPHY
C* LA JOLLA, CA 92093
C*ABSTRACT: THIS DATA SET CONTAINS DAILY AVERAGED RADON DATA OBTAINED WITH
C* CRMS AT THREE LOCATIONS DURING 1984. THE MURRIETA DATA AFTER
C* AUGUST 25 WERE NOT VALID BECAUSE THE WATER LEVEL DECREASED
C* SIGNIFICANTLY THEN AND THE GAS BUBBLE COLLECTOR WAS ABOVE THE
C* WATER SURFACE. THE ARROWHEAD SITE HAS SUFFERED SIGNIFICANT DATA
C* LOSS MAINLY DUE TO FREQUENT MALFUNCTIONING OF THE CRM UNDER HIGH
C* HUMIDITY CONDITION OF THE UNDERGROUND CELL. AFTER THE REGULAR CRM
C* UNIT (#115) HAD BROKEN DOWN, TWO SEPARATE UNITS (#113 AND #118)
C* WERE USED THERE BUT THEY DID NOT WORK EITHER. THE DATA FROM JULY
C* 13 TO 25 (DAY 195 TO 207) WERE COLLECTED WITH CRM #113. THE DATA
C* FROM AUGUST 31 TO SEPTEMBER 14 (DAY 244 TO 258) AND FROM OCTOBER 10
C* TO 15 (DAY 284 TO 289) WERE COLLECTED WITH CRM #118. DUE TO
C* POSSIBLE EFFICIENCY DIFFERENCES THESE DATA MAY NOT REFLECT ANY REAL
C* TEMPORAL VARIATIONS.

C* SITE CODE	SITE	DATA GAP	CAUSE
C* 2	MURRIETA	8	PAPER JAMMED
C*			PAPER JAMMED
C*		152-162	DATA LOW DUE TO MIXING WITH AIR
C* 10	ARROWHEAD	42-51	LEAKING; NO GAS FLOW
C*		127-130	PRINTER BATTERIES DISCHARGED
C*		139-194	PRINTER FAILED
C*		208-243	CRM BROKE DOWN
C*		259-283	PAPER JAMMED
C* 12	PINON FLAT	14-20	PRINTER FAILED
C*		83-84	PAPER JAMMED

C*REFERENCE: CHUNG, Y. (1984). "INVESTIGATION OF RADON AND HELIUM AS
C* POSSIBLE FLUID-PHASE PRECURSORS TO EARTHQUAKES" IN SUMMARIES
C* OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C* HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C* SURVEY OPEN-FILE REPORT 85-22.
C* CHUNG, Y. (1984). "DATA REPORT: DATA SUMMARY FOR RADON AND
C* HELIUM MONITORING IN S. CALIFORNIA FROM JAN TO SEP 84."
C* A COPY OF THIS UNPUBLISHED REPORT IS AVAILABLE FROM WILLIE
C* LEE, OFFICE OF EARTHQUAKES, VOLCANOES, AND ENGINEERING, MAIL
C* STOP 977, U. S. GEOLOGICAL SURVEY, 345 MIDDLEFIELD ROAD, MENLO
C* PARK, CA 94025.
C*

```
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*
C*  COLUMN  FORMAT  ITEM     EXPLANATION
C*
C*  01-02   I2      CODE     SITE CODE
C*                           MURRIETA HOT SPRING (2), ARROWHEAD
C*                           HOT SPRINGS (10), PINON FLAT (12).
C*  03      1X               BLANK
C*  04-07   I4      YEAR     YEAR THE DATA WAS COLLECTED.
C*  08-12   5X               BLANK
C*  13-15   I3      JULIAN   DATE THE DATA WAS COLLECTED.
C*                   DATE
C*  16-21   6X               BLANK
C*  22-27   I6      RN       ACTIVITY OF RADON AND TWO ALPHA
C*                           DAUGHTERS IN COUNTS PER 20 MIN.
C*                           (10) OR 40 MIN. (2 AND 12).
C*                           DAILY AVERAGE OF 24 RECORDS.
C*  28-80   53X              BLANK
C*END-------------------------------------------------------------------------
 2 1984     1        101223
 2 1984     2        98640
 2 1984     3        105975
 2 1984     4        107385
 2 1984     5        106859
 2 1984     6        107862
 2 1984     7        103466
 2 1984     9        105774
 2 1984     10       106743
 2 1984     11       107927
****************** 442 data cards not shown here ******************
C*FINIS DSN=GL000200
```

Table GL000201

```
C#DSN=GL000201;SIZE=000313;DATE=091985;ARCH=TM;TAPE=SM9310;FILE=132;STRT=000954;
C*DATE: 19841212; 0; UTAH2;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: W. D. RICHINS; WALTER J. ARABASZ; ROBERT B. SMITH;
C*ALPHA: 19840401; 19840930; 36.75 N; 42.50 N; 114.25 W; 108.75 W;
C*       14-08-0001-21857; A021;
C*KEYWD:  WASATCH FAULT;
C*TITLE: EARTHQUAKE SUMMARY DATA FOR THE UTAH REGION, APRIL 1, 1984-
C*       SEPTEMBER 30, 1984
C*AUTHOR: W. D. RICHINS
C*INSTITUTION: UNIVERSITY OF UTAH, SEISMOGRAPH STATIONS
C*             ROOM 704 W. C. BROWNING BLDG
C*             SALT LAKE CITY, UT  84112-1183
C*ABSTRACT:
C*REFERENCE:  ARABASZ, W. J., R. B. SMITH, J. C. PECHMAN, AND W. D. RICHINS
C*              (1984).  "REGIONAL SEISMIC MONITORING ALONG THE WASATCH
C*              FRONT URBAN CORRIDOR AND ADJACENT INTERMOUNTAIN SEISMIC BELT,"
C*              IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL
C*              EARTHQUAKE HAZARDS REDUCTION PROGRAM, DECEMBER 1984,
C*              U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 85-22.
C*
C*FORMAT: SUMMARY FORMAT DEFINED AS FOLLOWS:
C*
C*  COLUMN  FORMAT    EXPLANATION
C*
C*  01-02   I2        YEAR
C*  03-06   I4        DATE
C*  07      1X        BLANK
C*  08-11   I4        ORIGIN TIME, HOUR AND MINUTE (UTC)
C*  12      1X        BLANK
C*  13-17   F5.2      ORIGIN TIME, SECONDS
C*  18      1X        BLANK
C*  19-20   I2        NORTH LATITUDE, DEGREES
C*  21      1X        BLANK
C*  22-26   F5.2      NORTH LATITUDE, MINUTES
C*  27      1X        BLANK
C*  28-30   I3        WEST LONGITUDE, DEGREES
C*  31      1X        BLANK
C*  32-36   F5.2      WEST LONGITUDE, MINUTES
C*  37-38   2X        BLANK
C*  39-43   F5.2      DEPTH, KM
C*  44      A1        '*' IMPLIES FIXED DEPTH OR POOR DEPTH CONTROL
C*  45      A1        'W' IMPLIES WOOD-ANDERSON MAGNITUDE
C*  46-50   F5.2      LOCAL MAGNITUDE
C*  51      1X        BLANK
C*  52-53   I2        NUMBER OF ARRIVAL TIMES USED FOR SOLUTION
C*  54      1X        BLANK
C*  55-57   I3        MAXIMUM STATION GAP, DEGREES
C*  58-62   F5.1      MINIMUM STATION DISTANCE, KM
C*  63-67   F5.2      RMS RESIDUAL, SECONDS
C*  68-72   F5.1      ESTIMATE OF HORIZONTAL ERROR, KM
C*  73-77   F5.1      ESTIMATE OF VERTICAL ERROR, KM
C*  78-80   3X        BLANK
```

```
C*END-------------------------------------------------------------------------
84 401    4 32.77 40 15.04 112 11.93   5.58*  1.35 15  96 23.2  .28  0.8  1.8
84 402 1318  2.42 41 26.83 113 20.30   8.61*  1.80 25 186 59.6  .30  1.5  0.8
84 403  532 21.37 38 37.80 112 36.75   5.09   1.47 10 127  6.5  .42  1.5  2.6
84 403 2316 42.52 38 52.78 111 52.26    .45*  2.05 11  73 21.1  .46  1.3  3.3
84 405   43 21.00 38 52.92 111 51.89    .23*  2.20 19  73 21.5  .52  1.1  3.0
84 406 1026 47.74 38 34.93 112 33.55   1.82*  1.83 11 105 34.3  .37  1.0  3.4
84 406 1031 57.86 38 34.16 112 33.37   1.94*  1.67 15 107 33.8  .39  0.9  2.6
84 406 2201 46.20 38 37.53 112 35.79  11.64*  1.80 10 100 38.8  .31  1.0  1.4
84 406 2354 28.11 38 53.15 111 53.17    .09*  2.02 15 114 19.7  .33  0.9  2.4
84 407 1913 41.45 39 19.68 111  8.06   5.13*  1.87 13 115 46.7  .46  1.4  2.5
********** 248 data cards not shown here **********
C#FINIS DSN=GL000201
```

Table GL000202

```
C#DSN=GL000202;SIZE=000746;DATE=091985;ARCH=TM;TAPE=SM9310;FILE=132;STRT=001267;
C*DATE: 19841203; 0; WATER2;
C*CLASS: HYDROLOGIC; WATER LEVEL;
C*PERSN: D. L. LAMAR; P. M. MERIFIELD; J. V. LAMAR; S. A. HITCHCOCK;
C*ALPHA: 19840401; 19840930; 33.1 N; 34.5 N; 118.2 W; 116.0 W;
C*       14-08-0001-21859; A019;
C*KEYWD: WATER LEVELS; SAN ANDREAS FAULT; SAN JACINTO FAULT;
C*TITLE: WATER LEVELS IN WELLS ALONG SAN ANDREAS AND SAN JACINTO FAULT ZONES,
C*       SOUTHERN CALIFORNIA
C*AUTHOR: D. L. LAMAR, P. M. MERIFIELD, J. V. LAMAR, S. A. HITCHCOCK
C*INSTITUTION: LAMAR-MERIFIELD GEOLOGISTS, INC.
C*               1318 2ND ST. #25
C*               SANTA MONICA, CA  90401
C*ABSTRACT:  WATER LEVELS WERE MEASURED IN 32 WELLS LOCATED IN A VARIETY OF
C*           ROCK TYPES AND AQUIFERS WITHIN AND ADJACENT TO THE SAN ANDREAS
C*           AND SAN JACINTO FAULT ZONES.
C*REFERENCE: LAMAR, D. L., AND P. M. MERIFIELD (1984).  "HYDROLOGICAL/
C*               GEOCHEMICAL MONITORING ALONG SAN ANDREAS AND SAN JACINTO
C*               FAULTS, SOUTHERN CALIFORNIA, DURING SECOND HALF OF FISCAL YEAR
C*               1984," IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL
C*               EARTHQUAKE HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S.
C*               GEOLOGICAL SURVEY OPEN-FILE REPORT 85-22.
C*           LAMAR, D. L., AND P. M. MERIFIELD (1984).  "DATA REPORT:  SUMMARY
C*               OF WATER LEVEL DATA 01 THROUGH 30 SEP 84."  A COPY OF THIS
C*               UNPUBLISHED REPORT IS AVAILABLE FROM WILLIE LEE, OFFICE OF
C*               EARTHQUAKES, VOLCANOES, AND ENGINEERING, MAIL STOP 977,
C*               U. S. GEOLOGICAL SURVEY, 345 MIDDLEFIELD ROAD, MENLO PARK,
C*               CA  94025.
C*FORMAT:
C*END----------------------------------------------------------------------------
       DATE          TIME   TEMP  O   PROBE     WATER       NOTES
                     (PST)  (F)   B   DEPTH     DEPTH
                                  S   BELOW     BELOW
                                  E   REF.      LAND
            JULIAN                R   SURFACE   SURFACE
MO/DA/YR     DA/YR                V    (FT)      (FT)
                                  E
                                  R

WELL NUMBER: 04N/09W-09M01      VALYERMO QUAD(VY09M01)
****************** 705 data cards not shown here ******************
C#FINIS DSN=GL000202
```

Table GL000203

```
C$DSN=GL000203;SIZE=000422;DATE=082785;ARCH=TM;TAPE=SM9310;FILE=126;STRT=000001;
C*DATE: 19850510; 0; ADAK3;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: CARL KISSLINGER; SELENA BILLINGTON;
C*ALPHA: 19840801; 19850228; 50.5 N; 52.5 N; 179.0 W; 175.0 W;
C*       14-08-0001-21896; A027;
C*KEYWD: ALEUTIANS;
C*TITLE: SUMMARY DATA FOR EARTHQUAKES LOCATED BY THE ADAK SEISMIC NETWORK FOR
C*       AUGUST 1, 1984, THROUGH FEBRUARY 28, 1985
C*AUTHOR: CARL KISSLINGER AND SELENA BILLINGTON
C*INSTITUTION: UNIVERSITY OF COLORADO
C*             CIRES
C*             CAMPUS BOX 449
C*             BOULDER, CO 80309
C*ICODE: UCOL
C*ABSTRACT: EARTHQUAKE LOCATIONS ARE COMPLETE THROUGH FEBRUARY, 1985.
C*              334 EARTHQUAKES WERE LOCATED WITH DATA FROM THE NETWORK DURING
C*              SEVEN-MONTH TIME PERIOD FROM AUGUST 1, 1984, THROUGH
C*              FEBRUARY 28, 1985.
C*REFERENCE: BILLINGTON, SELENA, AND CARL KISSLINGER (1985). "CENTRAL ALEUTIAN
C*               ISLANDS SEISMIC NETWORK," IN SUMMARIES OF TECHNICAL REPORTS,
C*               VOLUME XX, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C*               JULY 1985, U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 85-464.
C*           BILLINGTON, SELENA, AND CARL KISSLINGER (1985). "DATA SUMMARY:
C*               CENTRAL ALEUTIAN ISLANDS SEISMIC NETWORK, AUGUST 1, 1984-
C*               FEBRUARY 28, 1985." A COPY OF THIS UNPUBLISHED REPORT IS
C*               AVAILABLE FROM WILLIE LEE, OFFICE OF EARTHQUAKES, VOLCANOES,
C*               AND ENGINEERING, MAIL STOP 977, U. S. GEOLOGICAL SURVEY,
C*               345 MIDDLEFIELD ROAD, MENLO PARK, CA  94025.
C*
C*FORMAT: DATA FORMAT DEFINED AS FOLLOWS:
C*
C*        COLUMN        EXPLANATION
C*
C*        01-03         DEQ = FREE DEPTH SOLUTION; LEQ = FIXED DEPTH SOLUTION
C*        04-05         BLANK
C*        06-26         DATE AND TIME (YR/MO/DAY HR/MIN/SEC)
C*        27-28         BLANK
C*        29-34         NORTH LATITUDE
C*        35            BLANK
C*        36-43         WEST LONGITUDE
C*        44            BLANK
C*        45-49         DEPTH
C*        50-52         DURATION MAGNITUDE
C*        53-69         P FIRST-MOTION POLARITY AT THE STATIONS (WILL SEND
C*                      SEQUENCE OF STATIONS IF ANYONE CARES)
C*        70-72         IDENTIFIER OF THE SUB-REGION OF THE ADAK SEISMIC ZONE
C*        73-80         EVENT FLAGS AND NEIS TELESEISMIC MAGNITUDE
C*         73           MAGNITUDE OUT OF RANGE FOR DETERMINING DURATION
C*                      MAGNITUDES:
C*                        S = EVENT TOO SMALL FOR DURATION MAGNITUDE
C*                        L = EVENT TOO LARGE FOR DURATION MAGNITUDE
C*         74           SPECIAL STUDIES: USED FOR IDENTIFYING EVENTS
```

```
C*                          USED IN INDIVIDUAL PROJECTS
C*          75              INTERESTING EVENTS
C*                            A = AFTERSHOCK (ONLY WHEN CLEARLY ASSOCIATED
C*                                WITH MAINSHOCK)
C*                            B = BLAST
C*                            C = CONVERTED PHASE
C*                            F = FELT ON ADAK
C*                            H = HARMONIC TREMOR
C*                            I = INTERNATIONAL DATA EXCHANGE EVENT
C*                            L = LOCATED BY OBS'S
C*                            M = FOCAL MECHANISM HAS BEEN DETERMINED
C*                            O = OBSERVED BY OBS'S
C*                            T = TSUNAMIGENIC
C*                            U = UNIDENTIFIED NON-SEISMIC EVENT
C*                            V = ASSOCIATED WITH SURFACE VOLCANISM
C*          76              WARNING FLAGS ARE ASSIGNED AUTOMATICALLY BY
C*                          THE HYPOCENTER LOCATION PROGRAM
C*                            X = DID NOT CONVERGE AND SE GREATER THAN
C*                                0.30 SEC
C*                            Z = DEPTH ABOVE SURFACE OR DEPTH GREATER
C*                                THAN 300 KM
C*          77              STANDARD ERROR CODE IS ASSIGNED AUTOMATICALLY
C*                            1 = SE LESS THAN OR EQUAL TO 0.30
C*                            2 = SE IS GREATER THAN 0.30 BUT LESS THAN OR
C*                                EQUAL TO 0.50
C*                            3 = SE IS GREATER THAN 0.50 BUT LESS THAN OR
C*                                EQUAL TO 0.75
C*                            4 = SE IS GREATER THAN 0.75 BUT LESS THAN OR
C*                                EQUAL TO 1.0
C*                            W = SE IS GREATER THAN 1.0
C*          78-80           TELESEISMIC MAGNITUDES FROM THE PDE ARE GIVEN
C*                          FOR ANY EVENTS WITH DURATION MAGNITUDES
C*                          GREATER THAN 3.5
C*END----------------------------------------------------------------------------
deq  84  8  1  21 11 53.58  51.370 -177.216  24.81.2.cc.ddd.....AC2     1
deq  84  8  1  22 47 52.82  51.403 -176.665  34.71.1..d..d.....SW2     1
leq  84  8  1  23 25 18.25  51.751 -175.408  72.01.5d.........D       1
deq  84  8  2   1  3  9.31  51.709 -176.213  80.51.9c.d....cc.....D       1
leq  84  8  2   3 55 43.70  51.464 -175.178   5.01.4d.d....d.....E     c 1
deq  84  8  2   8 15  8.03  51.797 -173.062  94.13.4.............        1
deq  84  8  3  21 57 54.53  51.878 -176.647   1.8 .5.....cc.....V     v 1
deq  84  8  5  13 54 40.58  51.491 -176.375  57.11.8c.cd.n.dd.....D       1
leq  84  8  6   6 56 49.99  51.269 -176.864  21.91.0....c.d.....AC1     1
leq  84  8  6  17  7 57.82  51.091 -178.189   1.52.0.....c.....W       1
****************** 324 data cards not shown here ******************
C*FINIS DSN=GL000203
```

Table GL000204

```
C#DSN=GL000204;SIZE=004174;DATE=082785;ARCH=TM;TAPE=SM9310;FILE=126;STRT=000423;
C*DATE: 19850305; 0; CITSUM1;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: KATE HUTTON; CLARENCE R. ALLEN; C. E. JOHNSON;
C*ALPHA: 19750101; 19831231; 31.5N; 38.0N; 121.0W; 115.0W; 14-08-0001-21209;
C*       A026;
C*KEYWD: SEISMICITY; SOUTHERN CALIFORNIA; EARTHQUAKES;
C*TITLE: SEISMICITY OF SOUTHERN CALIFORNIA: EARTHQUAKES OF ML 3.0 AND GREATER
C*       1975 THROUGH 1983.
C*AUTHOR: KATE HUTTON, CLARENCE R. ALLEN, C. E. JOHNSON
C*INSTITUTION: CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, CA  91125
C*             U. S. GEOLOGICAL SURVEY, PASADENA, CA  91106
C*ICODE:  CIT, GSP
C*ABSTRACT: MUCH USE CAN BE MADE OF A TIMELY EARTHQUAKE CATALOG WHICH IS
C*          RESTRICTED TO THE LARGER EARTHQUAKES.  WE THEREFORE PRESENT AS
C*          COMPLETE AND RELIABLE A LIST OF EVENTS OF ML 3.0 AND GREATER AS
C*          POSSIBLE, COMPRISING 3,650 INDIVIDUAL EARTHQUAKES.
C*REFERENCE: ALLEN, C. R.  (1983).  "SOUTHERN CALIFORNIA SEISMIC ARRAYS," IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XVII, NATIONAL
C*               EARTHQUAKE HAZARDS REDUCTION PROGRAM, DECEMBER 1983,
C*               U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 83-918.
C*           ALLEN, C. R.  (1983).  "SOUTHERN CALIFORNIA SEISMIC ARRAYS," IN
C*               SUMMARIES OF TECHNICA REPORTS, VOLUME XVI, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, JUNE 1983, U. S. GEOLOGICAL SURVEY
C*               OPEN-FILE REPORT 83-525.
C*           HUTTON, L. K., ALLEN, C. R., AND JOHNSON, C. E.  (1985).
C*               "SEISMICITY OF SOUTHERN CALIFORNIA: EARTHQUAKES OF ML 3.0 AND
C*               GREATER, 1975 THROUGH 1983," CALIFORNIA INSTITUTE OF
C*               TECHNOLOGY, 134 P.
C*FORMAT:
C*
C*  COLUMN  FORMAT  ITEM      EXPLANATION
C*
C*  01-04   I4      EVYEAR    4 DIGITS FOR THE YEAR OF THE QUAKE
C*  05      1X                BLANK
C*  06-07   I2      EVMON     2 DIGITS FOR THE MONTH OF THE QUAKE
C*  08      1X                BLANK
C*  09-10   I2      EVDAY     2 DIGITS FOR THE DAY OF THE QUAKE
C*  11-12   2X                BLANK
C*  13-14   I2      EVHOUR    2 DIGITS FOR THE HOUR OF THE QUAKE
C*  15      1X                BLANK
C*  16-17   I2      EVMIN     2 DIGITS FOR THE MINUTE OF THE QUAKE
C*  18      1X                BLANK
C*  19-23   F5.2    ORTIME    ORIGIN TIME OF THE QUAKE IN SECONDS
C*  24-25   2X                BLANK
C*  26-27   I2      LATDEG    NORTH LATITUDE OF EPICENTER IN DEGREES
C*  28      1X                BLANK
C*  29-33   F5.2    LATMIN    NORTH LATITUDE OF EPICENTER IN MINUTES
C*  34      A1                "-"
C*  35-37   I3      LONDEG    WEST LONGITUDE OF EPICENTER IN DEGREES
C*  38      1X                BLANK
C*  39-43   F5.2    LONMIN    WEST LONGITUDE OF EPICENTER IN MINUTES
C*  44      1X                BLANK
```

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C*  45       A1       HYQUAL    LOCATION QUALITIES ARE AS FOLLOWS:
C*                                  A  ERH LESS THAN 1.0 KM, ERZ LESS THAN 2.0 KM
C*                                  B  ERH LESS THAN 2.0 KM, ERZ LESS THAN 5.0 KM
C*                                  C  ERH LESS THAN 5.0 KM, NO ERZ LIMITATION
C*                                  D  ERH GREATER THAN 5.0 KM
C*  46       A1        FIX      INDICATES LOCATION WAS HELD FIXED DUE TO
C*                                  INSUFFICIENT DATA-EG. AFTERSHOCKS
C*  47-49    F3.1      ML       LOCAL MAGNITUDE OF THE QUAKE
C*  50       A1        NWA       INDICATES NON-WOOD ANDERSON DATA USED IN
C*                                  MAGNITUDE
C*  51-54    4X                 BLANK
C*  55-59    F5.2      HYDEPTH  EARTHQUAKE FOCAL DEPTH IN KILOMETERS
C*  61-62    I2        PHA      INDICATES THE NUMBER OF PHASES USED IN THE
C*                                  LOCATION SOLUTION
C*  63-80    18X                BLANK
C*
C*END-----------------------------------------------------------------------
1975  1  3   5 55 31.40  33 31.52-117 39.92 B 3.4       1.98
 975  1  3   5 55 31.40 F - FELT LAGUNA BEACH, SAN JUAN CAPISTRANO
1975  1  6  11 17 12.30  35 55.70-120 32.50 B 4.5       8.90
 975  1  6   1 17 12.26 F - FELT PASO ROBLES AREA
1975  1 12  21 22 15.04  32 48.90-117 58.46 D 4.8       5.00
 975  1 12  21 22 15.04 F - FELT CATALINA TO SAN DIEGO
1975  1 13  11 21 50.24  33 48.91-118  4.59 B 3.6       7.38
 975  1 13  11 21 50.24 F - FELT ORANGE CO.
1975  1 13  23 28 40.97  34 10.97-117 35.76 A 3.2       0.01
1975  1 14   7 58 41.32  33 48.76-118  6.13 A 3.3      13.85
****************** 4093 data cards not shown here ******************
C$FINIS DSN=GL000204
```

Table GL000205

```
C$DSN=GL000205;SIZE=028918;DATE=091985;ARCH=TM;TAPE=SM9311;FILE=001;STRT=000001;
C*DATE: 19850221; 0; NEVADA1;
C*CLASS: EARTHQUAKE; PHASE;
C*PERSN: ED CORBETT; A. S. RYALL; W. F. NICKS;
C*ALPHA: 19820801; 19840617; 36.0N; 42.0N; 121.0W; 114.0W; 14-08-0001-21867;
C*       A025;
C*KEYWD: NEVADA; EASTERN CALIFORNIA; PHASE DATA;
C*TITLE: PHASE DATA FOR NEVADA AND EASTERN CALIFORNIA EARTHQUAKES,
C*       AUGUST 1982-JUNE 1984
C*AUTHOR:
C*INSTITUTION: UNIVERSITY OF NEVADA, RENO, NV  89557
C*             (702) 784-4975
C*ICODE: UNV
C*ABSTRACT:
C*REFERENCE: RYALL, A. S., W. F. NICKS, AND E. J. CORBETT (1985).
C*               "WESTERN GREAT BASIN-EASTERN SIERRA NEVADA SEISMIC NETWORK,"
C*               IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL
C*               EARTHQUAKE HAZARDS REDUCTION PROGRAM, DECEMBER 1984,
C*               U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 85-22.
C*           RYALL, A. S., W. F. NICKS, AND E. J. CORBETT (1984).
C*               "WESTERN GREAT BASIN-EASTERN SIERRA NEVADA SEISMIC NETWORK,"
C*               IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XVIII, NATIONAL
C*               EARTHQUAKE HAZARDS REDUCTION PROGRAM, JUNE 1984,
C*               U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 84-628.
C*           RYALL, ALAN AND UTE VETTER (1983).  "EARTHQUAKE RESEARCH
C*               IN THE WESTERN GREAT BASIN," IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME XVII, NATIONAL EARTHQUAKE HAZARDS
C*               REDUCTION PROGRAM, DECEMBER 1983, U. S. GEOLOGICAL
C*               SURVEY OPEN-FILE REPORT 83-919.
C*           RYALL, ALAN AND UTE VETTER (1983).  "EARTHQUAKE RESEARCH
C*               IN THE WESTERN GREAT BASIN," IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME XV, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C*               PROGRAM, JANUARY 1983, U. S. GEOLOGICAL SURVEY OPEN-FILE
C*               REPORT 83-90.
C*
C*FORMAT: STANDARD HYPO71 PHASE CARD FORMAT AS FOLLOWS:
C*
C*  COLUMN  FORMAT  ITEM    EXPLANATION
C*
C*  01-04   A4      STNAME  STATION NAME
C*  05      A1              P-ONSET
C*  06      A1              "P" TO DENOTE P-ARRIVAL
C*  07      A1              P FIRST MOTION
C*  08      I1              P-WEIGHT
C*  09      1X              BLANK
C*  10-11   I2      EVYEAR  2 DIGITS FOR THE YEAR OF THE QUAKE
C*  12-13   I2      EVMON   2 DIGITS FOR THE MONTH OF THE QUAKE
C*  14-15   I2      EVDAY   2 DIGITS FOR THE DAY OF THE QUAKE
C*  16-17   I2      EVHOUR  2 DIGITS FOR THE HOUR OF THE QUAKE
C*  18-19   I2      EVMIN   2 DIGITS FOR THE MINUTE OF THE QUAKE
C*  20-24   F5.2    PHPARR  SECOND OF P-ARRIVAL
C*  25-31   3X              BLANK
C*  32-36   F5.2    PHSARR  SECOND OF S-ARRIVAL
```

```
C*  37-39   3X              BLANK
C*  40      I1              S-WEIGHT
C*  41-70   29X             BLANK
C*  71-75   I5              F-P TIME IN SECONDS.  (I. E. DURATION BETEEN
C*                            P-TIME ABD WHEN AMPLITUDE DROPS BELOW 1 CM)
C*NOTE:  NOTE THAT EACH DISCRETE EVENT IS SEPARATED BY A CARD WITH A "1" IN
C*       COLUM 18.
C*END-------------------------------------------------------------------------
 KVNIPC1 820801001039.88                                                  46
 FERIPD0 820801001039.92                                                  39
 RYNIPC0 820801001043.80                                                  31
 MNAIPD0 820801001042.12                                                  35
 POWIPD0 820801001047.32
 LHVEPD2 820801001048.02
 SVPIPD0 820801001054.88
 BONIPD1 820801001051.32
 MONIP 1 820801001053.40                                                  40
 HCKIPD1 820801001051.30
****************** 28846 data cards not shown here ******************
C*FINIS DSN=GL000205
```

Table GL000206

```
C$DSN=GL000206;SIZE=020404;DATE=091985;ARCH=TM;TAPE=SM9311;FILE=002;STRT=000001;
C*DATE: 19850221; 0; NEVADA2;
C*CLASS: EARTHQUAKE; PHASE;
C*PERSN: ED CORBETT; A. S. RYALL; W. F. NICKS;
C*ALPHA: 19840424; 19840630; 36.0N; 42.0N; 121.0W; 114.0W; 14-08-0001-21867;
C*       A025;
C*KEYWD: NEVADA; EASTERN CALIFORNIA; PHASE DATA;
C*TITLE:  PHASE DATA FOR NEVADA AND EASTERN CALIFORNIA EARTHQUAKES,
C*        APRIL 24, 1984-JUNE 30, 1984
C*AUTHOR:
C*INSTITUTION:  UNIVERSITY OF NEVADA,
C*              SEISMOLOGICAL LABORATORY
C*              RENO, NV  89557
C*              (702) 784-4975
C*ICODE: UNV
C*ABSTRACT:
C*REFERENCE: RYALL, A. S., W. F. NICKS, AND E. J. CORBETT (1985).  "WESTERN
C*               GREAT BASIN-EASTERN SIERRA NEVADA SEISMIC NETWORK," IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C*               OPEN-FILE REPORT 85-22.
C*FORMAT: PING PICKFILE FORMAT DESIGNED BY UNIVERSITY OF WASHINGTON.
C*        THERE ARE 5 CARD FORMATS THAT ARE KEYED BY LETTER IN COLUMN 1:
C*        'A'          LOCATION CARD
C*        'E'          ERROR CARD
C*        ' ' (BLANK) PHASE CARD
C*        'C'          COMMENT CARD
C*        'D'          DEAD STATION CARD
C*
C* LOCATION CARD FORMAT:
C*    COLUMN     FORMAT     ITEM
C*     01          A1       'A'
C*     02          A1       EVENT TYPE: ' '   LOCATED LOCAL
C*                                      'U'   UNLOCATED LOCAL
C*                                      'R'   REGIONAL EVENT
C*                                      'T'   TELESEISM
C*                                      'X'   CONFIRMED EXPLOSION
C*                                      'P'   PROBABLE EXPLOSION
C*                                      'H'   HAND-PICKED FROM ANALOG DATA
C*     03-04       I2       YEAR
C*     05-06       I2       MONTH
C*     07-08       I2       DAY
C*     09-12       I4       HOUR AND MINUTE OF GMT
C*     13-18       F6.2     SECOND OF ORIGIN TIME
C*     20-21       I2       LATITUDE (DEGREES)
C*     22          A1       N OR S HEMISPHERE
C*     23-26       I4       LATITUDE (MINUTES X 100)
C*     28-30       I2       LONGITUDE (DEGREES)
C*     31          A1       E OR W HEMISPHERE
C*     32-35       I4       LONGITUDE (MINUTES X 100)
C*     36-41       F6.2     DEPTH (KM)
C*     44-46       F3.1     MAGNITUDE
C*     47-49       I3       NUMBER OF STATIONS
```

```
C*      50          A1      '/'
C*      51-53       I3      NUMBER OF PHASES
C*      55-57       I3      AZIMUTHAL GAP
C*      58-60       I3      DISTANCE TO CLOSEST STATION (KM)
C*      61-65       F5.2    RMS
C*      66-70       F5.1    GREATEST ERROR, HORIZONTAL OR VERTICAL (KM)
C*      71-72       A2      SOLUTION QUALITIES
C*      74-75       A2      VELOCITY MODEL USED
C*
C* ERROR CARD FORMAT:
C*     COLUMN      FORMAT    ITEM
C*      01          A1      'E'
C*      03-04       A2      VELOCITY MODEL USED
C*      06-10       F5.2    RMS
C*      12-16       F5.3    MEAN RMS
C*      18-22       F5.3    STANDARD DEVIATION ABOUT 0
C*      24-28       F5.3    STANDARD DEVIATION ABOUT MEAN
C*      30-36       F7.2    SSWRES
C*      38-40       I3      NUMBER OF DEGREES OF FREEDOM
C*      42-45       4A1     FIXED PARAMETERS (I.E. X,Y,Z, OR T)
C*      47-50       F4.2    STANDARD DEVIATION IN X
C*      52-55       F4.2    STANDARD DEVIATION IN Y
C*      57-60       F4.2    STANDARD DEVIATION IN Z
C*      62-65       F4.2    STANDARD DEVIATION IN T
C*      67-70       F4.2    MAGNITUDE
C*      72-75       F4.2    STANDARD ERROR IN MAGNITUDE
C*      77-80       F4.2    MEAN UNCERTAINITY IN MAGNITUDE
C*
C* PHASE CARD FORMAT:
C*     COLUMN      FORMAT    ITEM
C*      01          A1      ' ' (BLANK)
C*      02-05       A4      STATION NAME
C*      06-09       I4      DURATION (SEC)
C*      11          A1      'P' TO DENOTE P-ARRIVAL
C*      12          A1      P-ONSET
C*      13          A1      P FIRST MOTION
C*      14-19       F6.2    P-ARRIVAL TIME (SEC)
C*      21          I1      P-WEIGHT
C*      22-26       F5.2    PRECISION OF P-TIME
C*      27-31       F5.2    P-RESIDUAL
C*      33          A1      'S' TO DENOTE S-ARRIVAL
C*      36-41       F6.2    S-ARRIVAL TIME
C*      43          I1      S-WEIGHT
C*      44-48       F5.2    PRECISION OF S-TIME
C*      49-53       F5.2     S-RESIDUAL
C*      PHASE CARDS WITH STATION NAME ONLY INDICATE TRACES THAT WERE SAVED,
C*      BUT NOT PICKED.
C*
C* COMMENT CARD FORMAT:
C*     COLUMN      FORMAT    ITEM
C*      1           A1      'C' OR 'C'
C*      2-80        A79     COMMENTS, INCLUDING OBSERVATIONS OF TIME CODE
C*
C* DEAD STATION CARD FORMAT:
C*     COLUMN      FORMAT    ITEM
C*      1           A1      'D'
```

```
C*     3-80         20A4     LIST OF DEAD STATIONS
C*END-------------------------------------------------------------------------
AR8404242115 21.70 37N2723 121E3125  0.04* 0.  27/027 289110 0.52  3.7DD A1
E A1  0.52 0.040 0.552 0.550   34.53  24   Z  2.94 4.51 3.57 1.02 0.       0.07
 JAS     0 Piu 40.15 0 0.01-0.04
 EBP     0 P   55.43 4 0.68 3.06
 SJC     0 Pe+ 54.31 1 0.06 0.39
 SLK     0 PeD 54.45 0 0.03-0.36
 LUL     0 Peu 54.81 0 0.03-0.18
 GND     0 Peu 56.01 2 0.08 0.67
 DMP     0 Peu 55.05 1 0.04-0.42
 MMP     0 Pe+ 55.05 2 0.07-0.49
****************** 20282 data cards not shown here ******************
C*FINIS DSN=GL000206
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Table GL000207

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C$DSN=GL000207;SIZE=016180;DATE=091985;ARCH=TM;TAPE=SM9311;FILE=003;STRT=000001;
C*DATE: 19850221; 0; NEVADA3;
C*CLASS: EARTHQUAKE; PHASE;
C*PERSN: ED CORBETT; A. S. RYALL; W. F. NICKS;
C*ALPHA: 19840701; 19840731; 36.0N; 42.0N; 121.0W; 114.0W; 14-08-0001-21867;
C*       A025;
C*KEYWD: NEVADA; EASTERN CALIFORNIA; PHASE DATA;
C*TITLE:  PHASE DATA FOR NEVADA AND EASTERN CALIFORNIA EARTHQUAKES,
C*        JULY 1, 1985-JULY 31, 1985
C*AUTHOR:
C*INSTITUTION:  UNIVERSITY OF NEVADA,
C*              SEISMOLOGICAL LABORATORY
C*              RENO, NV  89557
C*              (702) 784-4975
C*ICODE: UNV
C*ABSTRACT:
C*REFERENCE: RYALL, A. S., W. F. NICKS, AND E. J. CORBETT (1985).  "WESTERN
C*               GREAT BASIN-EASTERN SIERRA NEVADA SEISMIC NETWORK," IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C*               OPEN-FILE REPORT 85-22.
C*FORMAT: PING PICKFILE FORMAT DESIGNED BY UNIVERSITY OF WASHINGTON.

                  ****************************
See previous format from dataset GL000206
                  ****************************

C*END-------------------------------------------------------------------------
A 8407010035  9.06 38N1340 117E5171  7.96  1.5  7/008 213 34 0.11  4.2BD A1
E A1  0.11 0.012 0.149 0.148   16.74   4      0.33 0.87 4.24 0.17 1.55     0.08
 MNA    19 Piu 14.94 1 0.05-0.09
 FLV    29 PiD 16.83 1 0.04 0.01 S   23.06 3 0.24 0.19
 BON    31 PiD 17.37 2 0.07 0.04
 GVR    30 PiD 18.37 1 0.05 0.05
 ANT    21 Piu 20.89 1 0.05-0.02
 MON     0 Peu 23.04 1 0.05 0.18
 BEN    28 Piu 23.02 1 0.05-0.19
 LHV
****************** 16058 data cards not shown here ******************
C$FINIS DSN=GL000207
```

Table GL000208

```
C#DSN=GL000208;SIZE=018865;DATE=091985;ARCH=TM;TAPE=SM9311;FILE=004;STRT=000001;
C*DATE: 19850221; 0; NEVADA4;
C*CLASS: EARTHQUAKE; PHASE;
C*PERSN: ED CORBETT; A. S. RYALL; W. F. NICKS;
C*ALPHA: 19840801; 19840831; 36.0N; 42.0N; 121.0W; 114.0W; 14-08-0001-21867;
C*       A025;
C*KEYWD: NEVADA; EASTERN CALIFORNIA; PHASE DATA;
C*TITLE:  PHASE DATA FOR NEVADA AND EASTERN CALIFORNIA EARTHQUAKES,
C*        AUGUST 1, 1984-AUGUST 31,1984
C*AUTHOR:
C*INSTITUTION:  UNIVERSITY OF NEVADA,
C*              SEISMOLOGICAL LABORATORY
C*              RENO, NV  89557
C*              (702) 784-4975
C*ICODE: UNV
C*ABSTRACT:
C*REFERENCE: RYALL, A. S., W. F. NICKS, AND E. J. CORBETT (1985).  "WESTERN
C*               GREAT BASIN-EASTERN SIERRA NEVADA SEISMIC NETWORK," IN
C*               SUMMARIES OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE
C*               HAZARDS REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL
C*               OPEN-FILE REPORT 85-22.
C*FORMAT: PING PICKFILE FORMAT DESIGNED BY UNIVERSITY OF WASHINGTON.

                  ****************************
See previous format from dataset GL000206
                  ****************************

C*END-------------------------------------------------------------------------
A 8408010051 42.63 38N2161 118W2091  6.71  1.5  7/008 110 18 0.13  2.9BC A1
E A1  0.13-0.051 0.184 0.169   32.27   4      0.39 0.59 2.94 0.10 1.47     0.05
 LHV   21 Piu 45.84 1 0.04-0.05 S   48.48 2 0.14 0.05
 MNA   32 Peu 45.74 2 0.07-0.20
 POW   17 Piu 47.06 0 0.01 0.04
 GVR   27 Piu 48.92 0 0.02 0.01
 BON   22 PiD 50.40 0 0.02 0.12
 ANT   29 Piu 51.41 0 0.02-0.10
 BEN    0 Pe  54.85 3 0.05-0.25
 HCK
****************** 18743 data cards not shown here ******************
C#FINIS DSN=GL000208
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Table GL000209

```
C#DSN=GL000209;SIZE=002677;DATE=082785;ARCH=TM;TAPE=SM9310;FILE=131;STRT=000001;
C*DATE: 19850104; 0; STRESS1;
C*CLASS: STRAIN; LINEAR STRAIN;
C*PERSN: DR. B. R. CLARK; DAVID SEYMOR;
C*ALPHA: 19771024; 19841030; 33.6 N; 34.7 N; 118.3 W; 116.5 W; 14-08-0001-21868;
C*       A023;
C*KEYWD: STRAIN; STRAINRATE; TECTONIC STRAIN;
C*TITLE: STRESS LEVELS DETERMINED FROM STRESSMETER READINGS ALONG ACTIVE
C*           FAULTS, SOUTHERN CALIFORNIA
C*AUTHOR: DR. B. R. CLARK, DAVID SEYMOUR
C*INSTITUTION: LEIGHTON AND ASSOCIATES, INC.
C*              1151 DURYEA AVENUE
C*              IRVINE, CALIFORNIA  92705
C*ICODE:  LAA
C*ABSTRACT:      THE FOLLOWING DATA SETS CONTAIN SEQUENCES OF READINGS OF
C*           VIBRATING-WIRE STRESSMETERS EMPLACED IN VERTICAL BOREHOLES IN MOST
C*           CASES 20-25 M BENEATH THE GROUND SURFACE.  THE GAUGES ARE
C*           MONITORING SMALL CHANGES OF STRESS LEVELS IN THE WALLS OF THE
C*           BOREHOLES.  TWO SETS OF NS, EW, AND N45W SENSORS ARE PRESENT AT EACH
C*           SITE.  THE MEASUREMENTS IN THE DATA SETS HAVE BEEN CONVERTED INTO
C*           STRESS VALUES, IN KILOPASCALS.  SINCE, THE ABSOLUTE VALUES HAVE NO
C*           MEANING, THEY HAVE BEEN ADJUSTED SO THAT THE READINGS OF 1984 ARE
C*           ARE NEAR ZERO FOR EASE OF GRAPHING.  IF A DATA POINT DIFFERS BY
C*           MORE THAN 100 KPA FROM THE EXPECTED READINGS (E.G. A 0 READING IS
C*           OBTAINED), THEN THE DATA POINT IS ASSUMED TO BE FAULTY AND IS
C*           ENTERED AS 9999.00 IN ORDER TO MAKE IT EASILY IDENTIFIABLE.
C*               TEMPERATURES ARE ALSO RECORDED AT A NUMBER OF SITES IN EACH
C*           BOREHOLE.  THEY ARE READ TO THE NEAREST 0.1 DEGREE C, BUT ARE
C*          REPRODUCIBLE ONLY TO PLUS OR MINUS 0.2 DEGREE C.
C*REFERENCE:  CLARK, BRUCE R.  (1984).  "SUMMARY OF RESULTS FOR FIRST HALF
C*              OF 1984 SOUTHERN CALIFORNIA STRESSMETER PROJECT," IN SUMMARIES
C*              OF TECHNICAL REPORTS, VOLUME XIX, NATIONAL EARTHQUAKE HAZARDS
C*              REDUCTION PROGRAM, DECEMBER 1984, U. S. GEOLOGICAL SURVEY
C*              OPEN-FILE REPORT 85-22.
C*            CLARK, BRUCE R. (1984).  "CONTINUED OPERATION OF STRESSMETER NET
C*              ALONG ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN SUMMARIES OF
C*              TECHNICAL REPORTS, VOLUME XVIII, NATIONAL EARTHQUAKE HAZARDS
C*              REDUCTION PROGRAM, JUNE 1984, U. S. GEOLOGICAL SURVEY
C*              OPEN-FILE REPORT 84-628.
C*            CLARK, BRUCE R.  (1983).  "CONTINUED OPERATION OF STRESSMETER NET
C*              ALONG ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN SUMMARIES OF
C*              TECHNICAL REPORTS, VOLUME XV, NATIONAL EARTHQUAKE HAZARDS
C*              REDUCTION PROGRAM, JANUARY 1983, U. S. GEOLOGICAL SURVEY
C*              OPEN-FILE REPORT 83-90.
C*            CLARK, BRUCE R.  (1982).  "CONTINUED OPERATION OF STRESSMETER NET
C*              ALONG ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN SUMMARIES
C*              OF TECHNICAL REPORTS, VOLUME XIV, NATIONAL EARTHQUAKE HAZARDS
C*              REDUCTION PROGRAM, JULY 1982, U. S. GEOLOGICAL SURVEY OPEN-
C*              FILE REPORT 82-840.
C*            CLARK, BRUCE R.  (1981).  "CONTINUED OPERATION OF STRESSMETER NET
C*              ALONG ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN SUMMARIES OF
C*              TECHNICAL REPORTS, VOLUME XIII, NATIONAL EARTHQUAKE HAZARDS
C*              REDUCTION PROGRAM, DECEMBER 1981, U. S. GEOLOGICAL SURVEY
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C*               OPEN-FILE REPORT 82-65.
C*            CLARK, BRUCE R.  (1980).  "CONTINUED MONITORING OF STRESS CHANGES
C*               NEAR ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN SUMMARIES OF
C*               TECHNICAL REPORTS, VOLUME X, NATIONAL EARTHQUAKE HAZARDS
C*               REDUCTION PROGRAM, JUNE 1980, U. S. GEOLOGICAL SURVEY OPEN-
C*               FILE REPORT 80-842.
C*            CLARK, BRUCE R.  (1980).  "MONITORING STRESS LEVELS ALONG ACTIVE
C*               FAULTS, SOUTHERN CALIFORNIA," IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME IX, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C*               PROGRAM, DECEMBER 1979, U. S. GEOLOGICAL SURVEY OPEN-FILE
C*               REPORT 80-6.
C*            CLARK, BRUCE R.  (1979).  "MONITORING STRESS LEVELS ALONG ACTIVE
C*               FAULTS, SOUTHERN CALIFORNIA," IN SUMMARIES OF TECHNICAL
C*               REPORTS, VOLUME VIII, NATIONAL EARTHQUAKE HAZARDS REDUCTION
C*               PROGRAM, JUNE 1979, U. S. GEOLOGICAL SURVEY.
C*            CLARK, BRUCE R.  (1978).  "CONTINUED MONITORING OF STRESS CHANGES
C*               NEAR ACTIVE FAULTS," IN SUMMARIES OF TECHNICAL REPORTS,
C*               VOLUME VII, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM,
C*               DECEMBER 1978, U. S. GEOLOGICAL SURVEY.
C*            CLARK, B. R.  (1982).  "MONITORING CHANGES OF STRESS ALONG
C*               ACTIVE FAULTS IN SOUTHERN CALIFORNIA," IN JOURNAL OF
C*               GEOPHYSICAL RESEARCH, V. 87, P. 4645-4656.
C*            CLARK, B. R.  (1981).  "STRESS ANOMALY ACCOMPANYING 1979 LYTLE
C*               CREEK EARTHQUAKE, SOUTHERN CALIFORNIA:  IMPLICATIONS FOR
C*               EARTHQUAKE PREDICTION," IN SCIENCE, V. 211, P. 51-53.
C*FORMAT: END OF FILE IS DESIGNATED BY A ?
C*
C*  COLUMN   FORMAT  ITEM    EXPLANATION
C*
C*  01-06    F6.3    YRFRC   YEAR FRACTION
C*  07-08    2X               BLANK
C*  09-15    F7.2    NS-1    NORTH-SOUTH SENSOR #1
C*  16-17    2X               BLANK
C*  18-24    F7.2    EW-1    EAST-WEST SENSOR #1
C*  25-26    2X               BLANK
C*  27-33    F7.2    NW-1    NORTHWEST SENSOR #1
C*  34       1X               BLANK
C*  35-38    F4.1    T-1     TEMPERATURE USED IN CALCULATION OF STRESS
C*                             LEVELS FOR #1 SENSORS.
C*  39-40    2X               BLANK
C*  41-47    F7.2    NS-2    NORTH-SOUTH SENSOR #2
C*  48-49    2X               BLANK
C*  50-56    F7.2    EW-2    EAST-WEST SENSOR #2
C*  57-58    2X               BLANK
C*  59-65    F7.2    NW-2    NORTHWEST SENSOR #2
C*  66       1X               BLANK
C*  67-70    F4.1    T-2     TEMPERATURE USED IN CALCULATION OF STRESS
C*                             LEVELS FOR #2 SENSORS.
C*  71-80    10X              BLANK
C*
C*END---------------------------------------------------------------------------
ANZ
ANZA  33.563 116.628  STRESS  82-01-13 TO 84-10-26
YRFRC      NS-1    EW-1    NW-1   T-1        NS-2    EW-2    NW-2   T-2
82.036   274.00   570.00   416.25  0.0  9999.00  9999.00  9999.00  0.0
82.227    16.00   522.80   136.35  0.0  9999.00  9999.00  9999.00  0.0
```

```
82.249      9.20    505.20    139.50   0.0   9999.00   9999.00   9999.00   0.0
82.271   9999.00   9999.00   9999.00   0.0    216.50    466.20    361.35   0.0
82.290     13.20    498.80    136.35   0.0    191.50    409.80    295.65   0.0
82.310     14.80    496.00    140.85   0.0    181.50    384.00    257.85   0.0
82.329     13.20    464.00    138.15   0.0    173.50    370.20    217.35   0.0
****************** 2562 data cards not shown here ******************
C*FINIS DSN=GL000209
```

Table GL000210

```
C$DSN=GL000210;SIZE=000342;DATE=082785;ARCH=TM;TAPE=SM9310;FILE=131;STRT=002678;
C*DATE: 19850624; 0; UTAH3;
C*CLASS: EARTHQUAKE; SUMMARY;
C*PERSN: WALTER J. ARABASZ; ROBERT B. SMITH; J. C. PECHMAN;
C*ALPHA: 19841001; 19850331; 36.75 N; 42.50 N; 114.25 W; 108.75 W;
C*       14-08-0001-21857; A028;
C*KEYWD: WASATCH FAULT; UTAH; WASATCH FRONT;
C*TITLE: EARTHQUAKE SUMMARY DATA FOR THE UTAH REGION, OCTOBER 1, 1984-
C*       MARCH 31, 1985
C*AUTHOR: J. C. PECHMAN
C*INSTITUTION: UNIVERSITY OF UTAH, SEISMOGRAPH STATIONS
C*             ROOM 704 W. C. BROWNING BLDG
C*             SALT LAKE CITY, UT  84112-1183
C*ICODE: UUT
C*ABSTRACT:
C*REFERENCE:  ARABASZ, W. J., R. B. SMITH, J. C. PECHMAN, AND W. D. RICHINS
C*               (1985).  "REGIONAL SEISMIC MONITORING ALONG THE WASATCH
C*               FRONT URBAN CORRIDOR AND ADJACENT INTERMOUNTAIN SEISMIC BELT,"
C*               IN SUMMARIES OF TECHNICAL REPORTS, VOLUME XX, NATIONAL
C*               EARTHQUAKE HAZARDS REDUCTION PROGRAM, JULY 1985,
C*               U. S. GEOLOGICAL SURVEY OPEN-FILE REPORT 85-464.
C*
C*FORMAT: SUMMARY FORMAT DEFINED AS FOLLOWS:
C*
C*  COLUMN  FORMAT    EXPLANATION
C*
C*  01-02   I2        YEAR
C*  03-06   I4        DATE
C*  07      1X        BLANK
C*  08-11   I4        ORIGIN TIME, HOUR AND MINUTE (UTC)
C*  12      1X        BLANK
C*  13-17   F5.2      ORIGIN TIME, SECONDS
C*  18      1X        BLANK
C*  19-20   I2        NORTH LATITUDE, DEGREES
C*  21      1X        BLANK
C*  22-26   F5.2      NORTH LATITUDE, MINUTES
C*  27      1X        BLANK
C*  28-30   I3        WEST LONGITUDE, DEGREES
C*  31      1X        BLANK
C*  32-36   F5.2      WEST LONGITUDE, MINUTES
C*  37-38   2X        BLANK
C*  39-43   F5.2      DEPTH, KM
C*  44      A1        '*' IMPLIES FIXED DEPTH OR POOR DEPTH CONTROL
C*  45      A1        'W' IMPLIES WOOD-ANDERSON MAGNITUDE
C*  46-50   F5.2      LOCAL MAGNITUDE
C*  51      1X        BLANK
C*  52-53   I2        NUMBER OF ARRIVAL TIMES USED FOR SOLUTION
C*  54      1X        BLANK
C*  55-57   I3        MAXIMUM STATION GAP, DEGREES
C*  58-62   F5.1      MINIMUM STATION DISTANCE, KM
C*  63-67   F5.2      RMS RESIDUAL, SECONDS
C*  68-72   F5.1      ESTIMATE OF HORIZONTAL ERROR, KM
C*  73-77   F5.1      ESTIMATE OF VERTICAL ERROR, KM
```

```
C*  78-80    3X          BLANK
C*END-------------------------------------------------------------------------
841001   105 20.88 41 27.48 112 24.00    1.79    0.88 15 133   7.4 0.35   1.1   3.3
841001   308 27.77 41 27.87 112 25.22    1.94    0.87 10 195   8.2 0.20   1.0  13.9
841001   406 36.21 39 18.41 111  7.34    7.83*   1.67 10 114  35.8 0.27   0.8   1.6
841001  2344 41.03 39 34.18 110 25.13    0.30*   2.20 15 239  47.5 0.32   2.1   2.7
841002   230 42.79 41 51.57 112 22.53    6.92    0.67 11  96   8.8 0.32   0.8   3.5
841002  1306 43.15 39 19.12 111  9.41    1.07*   1.85 14 112  32.8 0.45   1.3   5.0
841002  1802  5.15 39 19.28 111  7.91    3.32*   1.98 10 120  34.9 0.27   0.9   2.1
841003  2048 33.95 41  4.54 111 32.85    2.05*   1.13 13 147  30.9 0.48   2.0   4.7
841003  2131 35.37 39 54.88 111 36.42    1.97*   1.65 18  80  16.0 0.33   0.9   2.0
841005  1138 58.19 42  0.52 112 30.30    6.37*   2.03 31 124  15.4 0.23   0.5   0.8
****************** 276 data cards not shown here ******************
C*FINIS DSN=GL000210
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Table GL000211

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C#DSN=GL000211;SIZE=003018;DATE=082785;ARCH=TM;TAPE=SM9310;FILE=131;STRT=003020;
C*DATE: 19850624; 0; WATER3;
C*CLASS: HYDROLOGIC; WATER LEVEL;
C*PERSN: D. L. LAMAR; P. M. MERIFIELD; S. A. HITCHCOCK;
C*ALPHA: 19841001; 19850331; 33.1 N; 34.5 N; 118.2 W; 116.0 W;
C*       14-08-0001-21982; A030;
C*KEYWD: WATER LEVELS; SAN ANDREAS FAULT; SAN JACINTO FAULT;
C*TITLE: WATER LEVELS IN WELLS ALONG SAN ANDREAS AND SAN JACINTO FAULT ZONES,
C*       SOUTHERN CALIFORNIA
C*AUTHOR: D. L. LAMAR, P. M. MERIFIELD,  S. A. HITCHCOCK
C*INSTITUTION: LAMAR-MERIFIELD GEOLOGISTS, INC.
C*               1318 2ND ST. #25
C*               SANTA MONICA, CA  90401
C*ICODE: LMG
C*ABSTRACT:  WATER LEVELS WERE MEASURED IN 25 WELLS LOCATED IN A VARIETY OF
C*           ROCK TYPES AND AQUIFERS WITHIN AND ADJACENT TO THE SAN ANDREAS -
C*           AND SAN JACINTO FAULT ZONES.
C*REFERENCE: LAMAR, D. L., AND P. M. MERIFIELD (1985).  "HYDROLOGICAL MONITORING
C*               ALONG SAN ANDREAS AND SAN JACINTO FAULTS, SOUTHERN CALIFORNIA,
C*               DURING FIRST HALF OF FISCAL YEAR 1985," IN SUMMARIES OF
C*               TECHNICAL REPORTS, VOLUME XX, NATIONAL EARTHQUAKE HAZARDS
C*               REDUCTION PROGRAM, JULY 1985, U. S. GEOLOGICAL SURVEY
C*               OPEN-FILE REPORT 85-464.
C*               GEOLOGICAL SURVEY OPEN-FILE REPORT
C*           LAMAR, D. L., AND P. M. MERIFIELD (1985).  "DATA REPORT:  SUMMARY
C*               OF WATER LEVEL DATA 01 OCT 84 THROUGH 31 MARCH 85."  A COPY
C*               OF THIS UNPUBLISHED REPORT IS AVAILABLE FROM WILLIE LEE, OFFICE
C*               OF EARTHQUAKES, VOLCANOES, AND ENGINEERING, MAIL STOP 977,
C*               U. S. GEOLOGICAL SURVEY, 345 MIDDLEFIELD ROAD, MENLO PARK,
C*               CA  94025.
C*FORMAT:
C*END----------------------------------------------------------------------------
  WELL NUMBER: 05N/12W-03A01     PALMDALE QUAD(PA03A01)
  LATITUDE: 34-33.28 N     LONGITUDE: 118-07.05 W
  LAND SURFACE ELEVATION:2820.0 FT
  TOTAL DEPTH OF WELL: LAKE PALMDALE
  HEIGHT REFERENCE POINT ABOVE LAND SURFACE: 0.000 FT
  PRECIP STATIONS: 0.40 PSPA19N + 0.60 PSPM24L
  WELL STATUS: LAMAR-MERIFIELD MONTHLY PROBE WITH STEEL TAPE


         DATE          TIME   TEMP  0   PROBE    WATER      NOTE
****************** 2975 data cards not shown here ******************
C#FINIS DSN=GL000211
```