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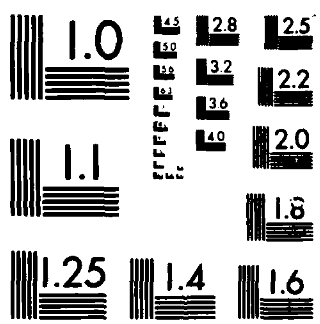

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AD-A164 281

PLANNING AND CONDUCTING
AN INTERNATIONAL SEISMIC
DATA EXCHANGE EXPERIMENT
AT THE CENTER FOR SEISMIC STUDIES
1 JULY 1984 - 31 MARCH 1985

QUARTERLY TECHNICAL REPORTS FOR:
1 JULY 1984 - 30 SEPTEMBER 1984
1 OCTOBER 1984 - 31 DECEMBER 1984
AND
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Science Applications International Corporation

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This report covers preparations for and the conduct of an international seismic data exchange experiment sponsored by the Group of Scientific Experts, U.N. Conference on Disarmament. Seismic data reports from 37 countries were transmitted over circuits of the WMO/GTS. The data were analyzed at Centers in Washington, Moscow and Stockholm and epicenter lists were broadcast to participants. The experiment tested a number of aspects of a proposed numclear test monitoring system.

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1. BACKGROUND

During the third and fourth quarter of CY 1984 and the first quarter of CY 1985 virtually all work conducted under this contract was in support of a major international seismic data exchange experiment. This experiment was conceived and planned by an Ad Hoc group under the aegis of the U.N. Conference on Disarmament and known as the Group of Scientific Experts (GSE). The resulting experiment was termed the Group of Scientific Experts' Technical Test, or GSETT, as it will be referred to in this report. Because the Center for Seismic Study's work on this experiment was conducted as a single project covering a 9-month period, the quarterly technical reports covering this period have been combined herein and presented as a single report.

The GSETT was a step toward evaluating and further developing a nuclear test monitoring concept based on the voluntary submission and exchange of seismic data among the various participating nations. The basic elements include:

- Seismic stations, existing or to be established, to record seismic signals from which measured data would be extracted according to agreed procedures.

- National Data Centers, to collect the raw or analyzed seismic data from stations within each nation's territory and transmit readings/data reports onward in an agreed format.

- An international communications network (the Global Telecommunications System of the World Meterological Organization - WMO/GTS) to broadcast data to the participants.

- International Data Centers (three are envisioned) to assemble all data reports, determine the locations and other routine descriptive parameters of seismic events reported, and transmit the resulting epicenter lists and more complete bulletins to all participants.

Under this concept, each of the participating countries will have full access to all data upon request, and each would draw its own conclusions as to whether a nuclear test had been detected.

The GSETT was designed to test a limited set of the functions associated with this monitoring concept. An overview of the test and its purposes, quoted from "Procedures of the GSE Technical Test/GSETT 1984", CD/534 dated 13 August 1984, is as follows:

> "The World Metrological Organization (WMO) has authorized the use of the Global Telecommunications System (GTS) for the exchange of Level I seismic data on a regular basis from 1 December 1983.
>
> "This technical test will be the first one conducted making regular use of the WMO/GTS. It should further the development of procedures for the use of the WMO/GTS for seismic data exchange, and of procedures related to the use of the WMO/GTS at envisaged international data centres. The technical test has the following purposes:

- to develop and test procedures (with the WMO) for the regular transmission of Level I data from temporary national facilities to experimental international data centres (EIDCs). These will be established during the tecnical test to provide the services of both the national facilities and the IDCs first envisaged in CCD/558;

- to transmit bulletins from EIDCs to participating temporary national facilities using the WMO/GTS;

- to test procedures for retransmission of Level I data messages over the WMO/GTS;

- to provide an opportunity for testing procedures for extracting Level I parameters at seismic stations;

- to develop and test procedures for transmission of Level I parameters to temporary national facilities;

- to test proposed procedures at EIDCs for receipt and archiving of Level I data and for compilation and distribution over the WMO/GTS of event bulletins and parameters using Level I data.

"For the duration of the technical test, participating States will contribute data from the stations which they have previously nominated for this purpose. The Level I parameters should be extracted for all seismic events and signals recorded at these stations according to the instructions outlined in the Appendices and collected at the temporary national facilities.

"Temporary national facilities will prepare seismic messages for the WMO/GTS according to detailed instructions developed in co-operation with the WMO. On a scheduled basis these messages should be transmitted globally over the WMO/GTS.

"The EIDCs will receive Level I messages from all participants and generate and distribute on a scheduled basis over WMO/GTS event lists and bulletins based on the data received. The EIDCs will also request retransmissions of missing or garbled messages when necessary."

"Level I" data in the preceding refers to measurements of seismic waveform features recorded at the stations. Altogether, 75 seismographic stations in 37 countries contributed Level I data for the test. Table 1 lists the participating countries and seismic stations. Data reports covering the period 0000UTC 15 October 1984 through 2400UTC 14 December 1984 were to be submitted for analysis, although the initial period to 26 October was to be considered only as a preparatory period. All analyses were to be completed and epicenter lists transmitted by 15 January 1985.

The Center for Seismic Studies (Center) was charged with the functions of the U.S. National Data Center and of one of the three International Data Centers. Further, the Center participated with the U.S. members of the GSE in planning parts of the experiment, training and providing technical direction to

GSETT PARTICIPANTS			
Country	WMO-Header		Stations,IDC,Coord
Argentina	SEUS2	KWBC (ADD)	BAA LPA
Australia	SEAU1	AMMC	ASPA CTAO MAW NWAO
	SEAU10	AMMC	(COORD)
Austria	SEOS1	LOWM	KBA
Belgium	SEBX1	EBBR	UCC DOU
Bolivia	SEUS2	KWBC (ADD)	LPB
Brasil	SEBZ1	SBBR	BDF
Bulgaria	SEBU1	LZSC	VTS
Canada	SECN1	CWTO	GAC MBC YKA*
Columbia	SEUS2	KWBC	BOG
Czechoslovakia	SECZ1	OKPR	KHC PRU
Denmark	SEDN1	EKMI	COP DAG GDH
Egypt	SEEG1	HECA	HLW
Finland	SEFI1	EKFL	NUR SUF*
France	SEFR1	LFPW	LOR* PMO
German Dem Rep	SEDD1	ETPD	MOX
German Fed Rep	SEDL1	EDZW	GRF*
Hungary	SEHU1	HAPB	BUD JOS PSZ
India	SEIN1	DEMS	GBA*
Indonesia	SEID1	WIIX	AAI JAY KUG
			KSI PSI TRT
Iran	telex		IR2/IR4/IR7
Ireland	SEIE1	EIDB	DKM
Italy	SEIY1	LIIB	MNS RMP
Japan	SEJP1	RJTD	MAT*
Kenya	SEUS2	KWBC (ADD)	NAI
Netherlands	SENL1	EHDB	DBN ENN
New Zealand	SENZ1	NZKL	RAR SBA WEL
Norway	SENO11	ENMI	NAO/NB2*
Pakistan	SEUS2	KWBC (ADD)	QUE
Peru	SEPR1	SPIM	NNA
Romania	SERO1	YRBK	MLR
Sweden	SESN1	ESWI	APO HFS* SLL TBY
	SESN1	ESW1	(IDC)
Thailand	SEUS2	KWBC (ADD)	CHG
U.S.S.R.	SERS1	RUMS	OBN
	SERS1	RUMS	(IDC)
United Kingdom	SEUK1	EGRR	EKA*
United States	SEUS2	KWBC	RSSD RSNY RSON
			LAC LTX FBAS/FBAL
	SEUS2	KWBC (ADD)	SMY SPA
	SEUS10	KWBC	(IDC)
Zambia	SEZB1	FLLS	LSZ
Zimbabwe	SEUS2	KWBC (ADD)	BUL

ADD indicates that the data from this station was provided by the U.S. NDC through at least part of the GSE Technical Test.

STA* indicates that the station provided estimates of signal origins during the GSE Technical Test using array data.

STA1/STA2 indicates separate sensor elements of a single array or station.

Table 1

other U.S. participants, and in preparing reports and analyses of the result of the GSETT. The resulting documents were published as GSE/36, GSE/37 and GSE/38, and are included as principal parts of this report.

2. Preparations for the GSETT

Although the final instructions for the Technical Test were not issued until 13 August 1984, the major functions that the Center would be responsible for were clear well before that time. As noted in the preceding Quarterly Technical Report for January through June of 1986, work had already been initiated on several tasks associated with the GSETT. These included efforts to solve long standing problems with the Center's systems for handling on-line data from the RSTN stations, as well as work on major software elements that would be required for the test. Preparatory work continued throughout the third quarter of CY 1984; highlights are described briefly in the following three sections of this report.

2.1 Preparations for National Data Center (NDC) Functions

During the Technical Test, the Center was responsible for reporting GSE-specified Level I parameters measured from signals recorded by six seismic stations, designated as the primary U.S. contributors. Three of the stations from the Regional Seismic Test Network (RSTN) were selected: New York (RSNY), South Dakota (RSSD) and Ontario (RSON). The data from these three stations were analyzed and reported by the Center. The data from the remaining three designated stations, namely Fairbanks, Ak (FBA); Landers, Ca. (LAC) and LaJitas, Tx. (LTX), were analyzed at those stations, and measured signal parameters were transmitted to the Center for subsequent reporting along with the parameters extracted from the three designated RSTN stations. Additionally, the Center was required to assist in the reporting of data from several seismic stations in remote areas identified by the (ADD) symbol in Table 1.

For planning purposes, the National Datacenter operations were separated into four functions: data receipt, signal detection, parameter extraction, and parameter tabulation and transmission. Additionally, procedures were needed for conducting the data processing by reviewing and editing reports and for monitoring the progress and quality of the work. The primary NDC functions are shown in Figure 1 and the associated procedures are shown in Figure 2 (both figures are taken from the Center's internal plan for GSETT). A specific member of the staff was assigned to discharge each function, and to learn or develop each procedure. All of the tasks implicit in accomplishing the functions and executing the procedures implicit in Figures 1 and 2 were successfully discharged.

Other noteworthy preparatory tasks, not implicit in Figures 1 and 2, were:

- Prepared guidelines and procedures for other U.S. participants (at Lawrence Livermore Laboratory, Air Force Technical Applications Center, and Southern Methodist University) on the analysis and reporting of seismic data to the Center during the GSETT.

- Prepared for and conducted a workshop for seismic analysts in August to teach the various participants the procedures and methods to be used during the test.

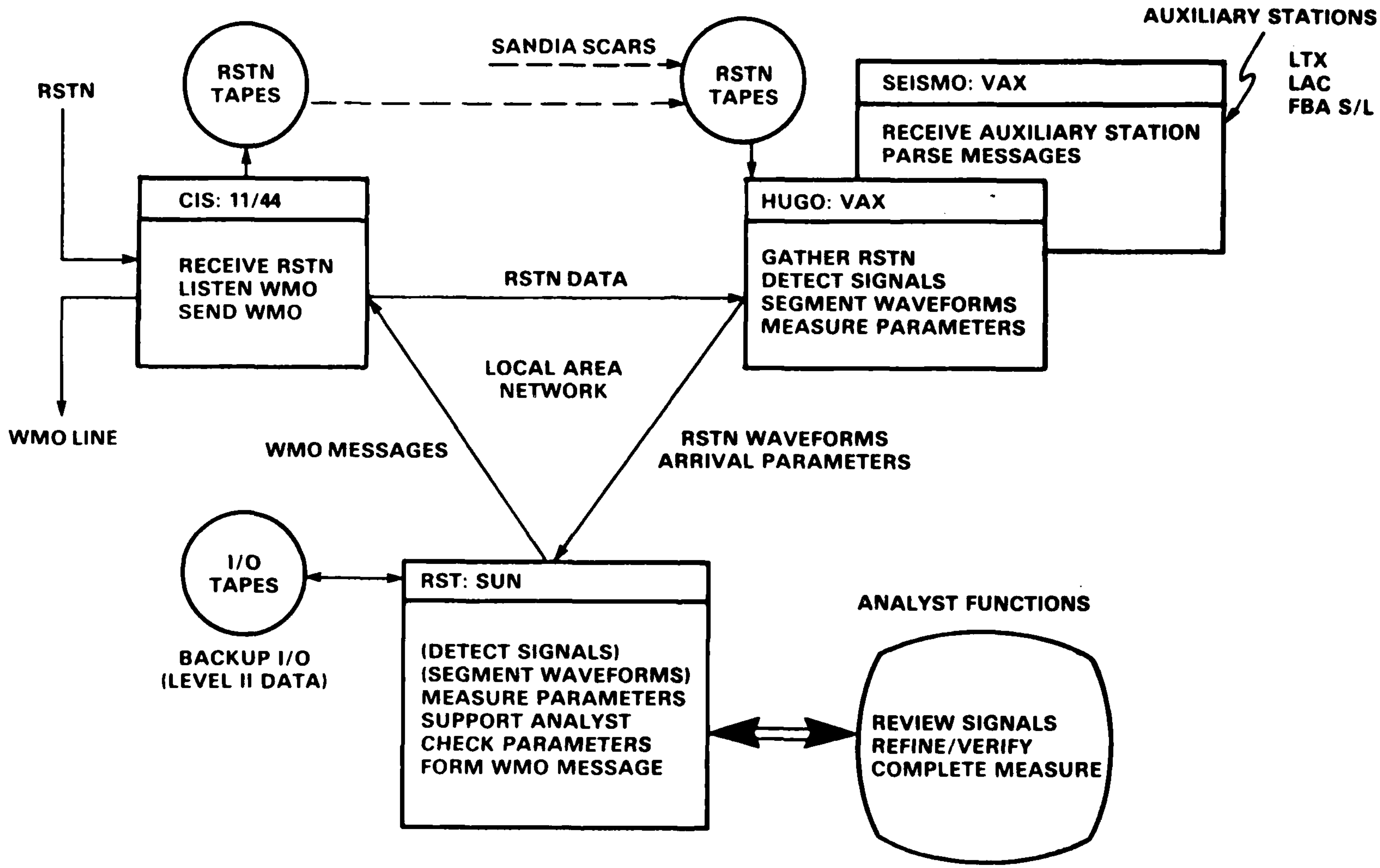


FIGURE 1. NDC FUNCTIONS

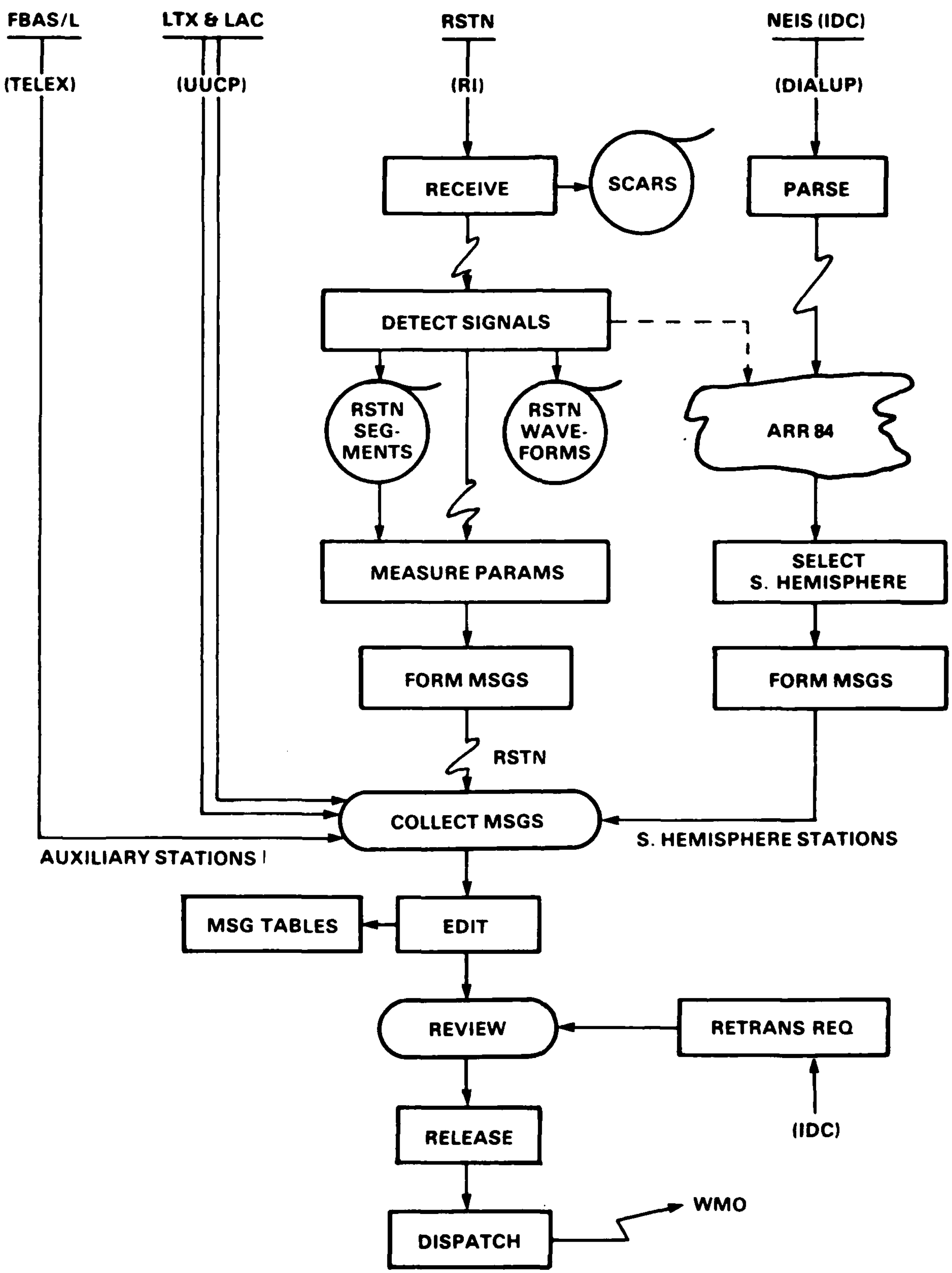


FIGURE 2. NDC PROCEDURES

- Designed and wrote programs for the automatic measurement of GSETT parameters associated with M1X, M2X, M3X, M4X, NSZ.

- Conducted analyses of the occurrence of local events, noise, and the detection of teleseisms at RSTN stations, leading to the selection of RSNY for use in measuring the "extended set" of GSETT Level I parameters.

- Completed an analysis of the choice of parameters to be used in the automatic event detector at the Center. This work was subsequently followed by a more detailed study that resulted in changes in the frequency pass band and signal-to-noise ratio used to trigger the detector. The result was to greatly reduce the number of spurious "signals" detected, with no loss of valid signals among the set of events analysed, and with corresponding reduction in the analyst's workload. These changes (marked by *) were:

ORIGINAL VALUE		NEW VALUE
0.50	low corner freq (hz)	0.70*
4.00	high corner freq (hz)	4.00
60.00	LTA window (sec)	60.00
2.00	STA window (sec)	2.00
1.00	STA step (sec)	1.00
15.00	STA to LTA lag (sec)	15.00
20.00	coda reset (sec)	20.00
5.00	maximum freeze time (min)	5.00
3.00	detection threshold	4.00*
1	minimum detection votes	1
0	last arrival id	0
no	freeze LTA during detection?	no
yes	deglitch?	yes
sz	component	sz
0011	parameter file id number	0012*

2.2 Preparations for International Data Center (IDC) Functions

Substantially more effort was required to prepare the Center to function as an IDC. As for the NDC preparations, analyses were conducted to identify each of the necessary functions and procedures, and individual members of the staff were assigned to learn or develop the means for execution. Figures 3 and 4, taken from the Center's internal plan for GSETT, show the necessary functions in the two major areas of IDC work: the receipt and management of Level I data and other messages broadcast over WMO/GTS, and the analysis of the Level I data to produce and distribute the seismic event lists. Highlights of the associated work were:

- Designed and wrote programs for a parser to prepare Level I seismic data for filing in the Center's database format. The development of a new parser was required because the one previously in use at the Center could not handle all of the seismic parameters specified for the GSETT. Manual pages describing the new parser are included in Appendix A to this report.

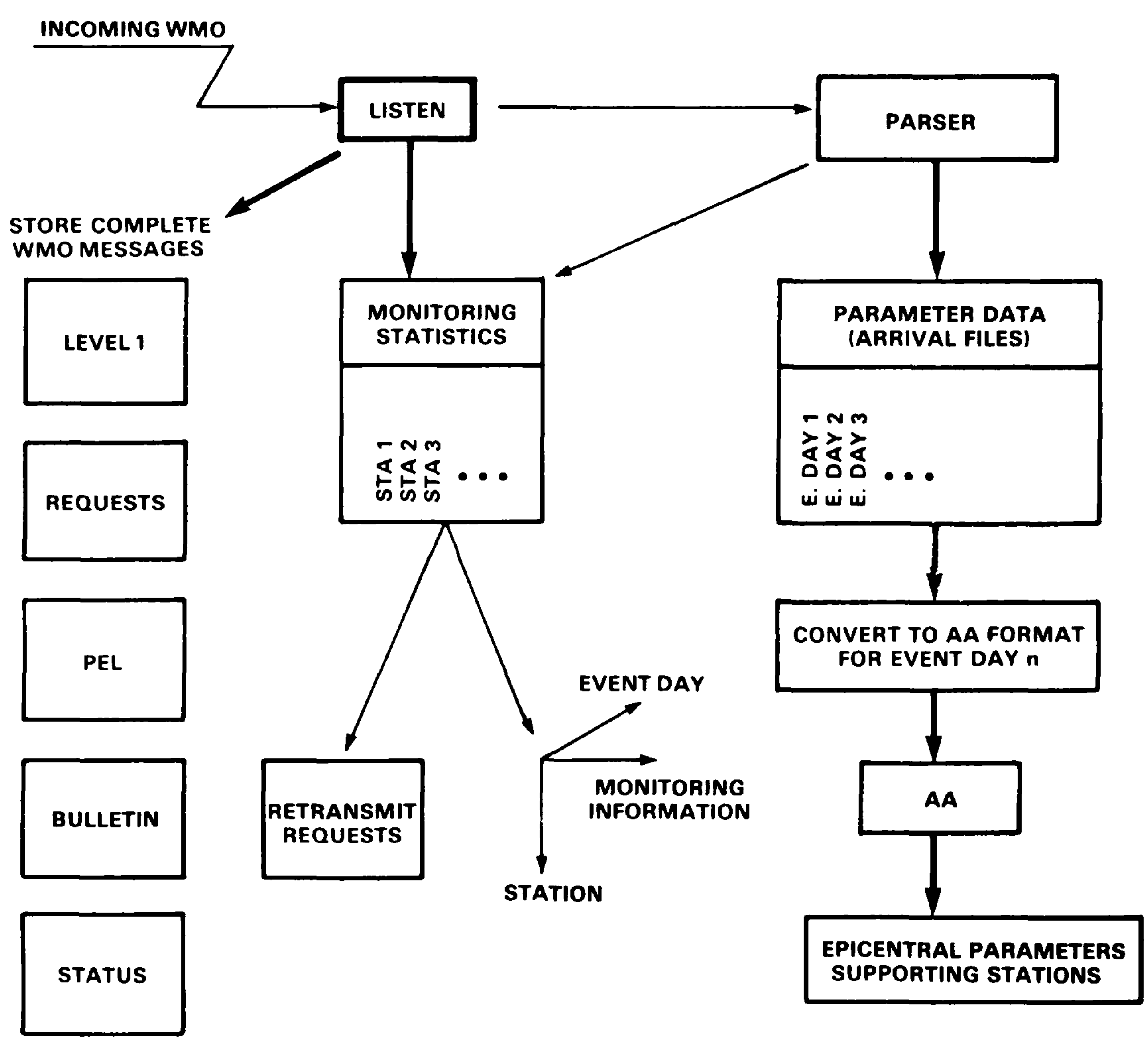


FIGURE 3. IDC MESSAGE HANDLING PROCEDURES

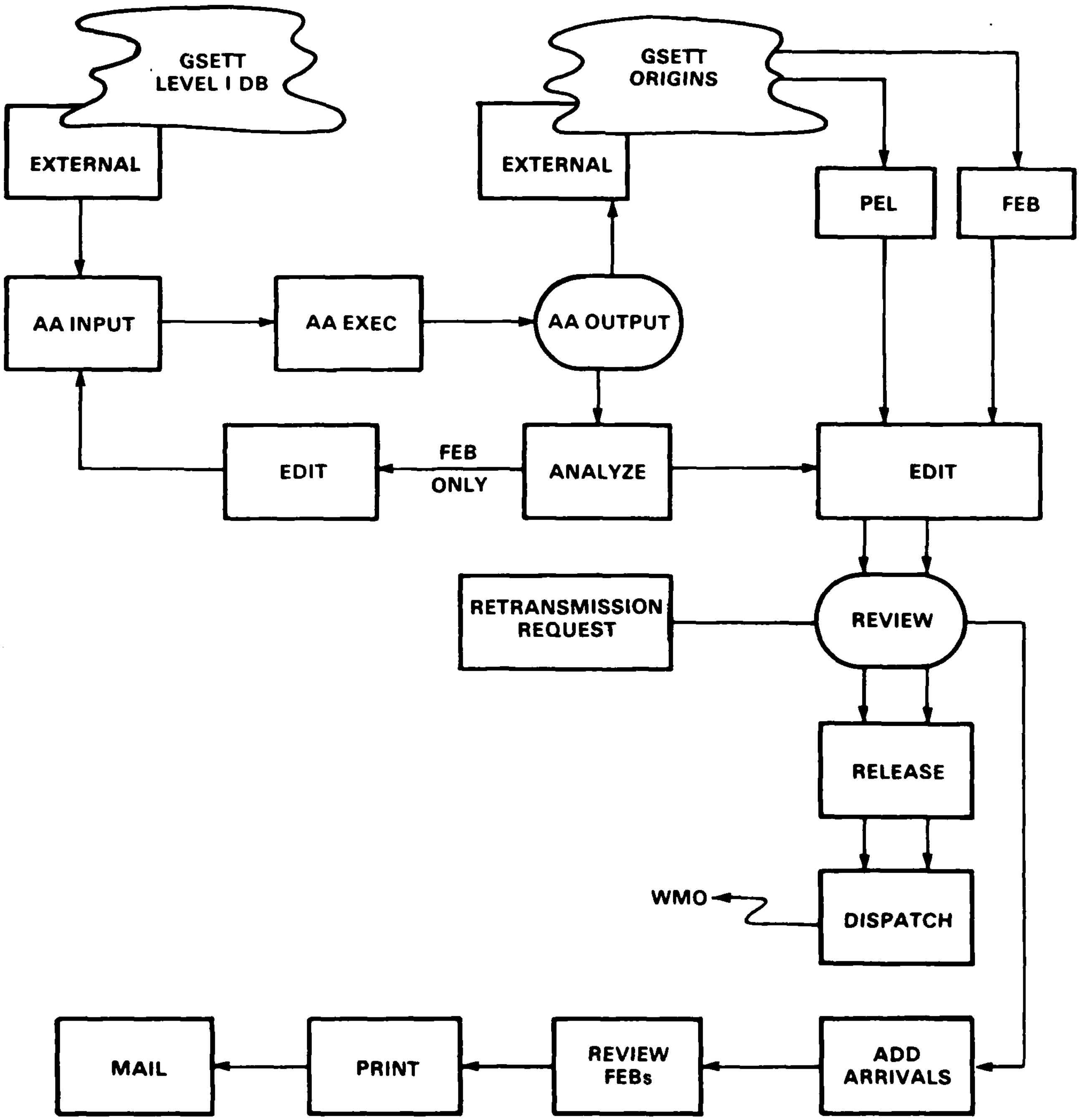


FIGURE 4. IDC SEISMIC EVENT BULLETIN PREPARATION

- Designed a directory structure for managing all messages received at the Center, or transmitted from the Center. Developed software for automatic collection and distribution of messages, and for obtaining statistical data on message traffic during the GSETT. The directory structure is shown in Figure 5 and its contents are shown in Table 2.

- To accommodate the entire set of GSETT Level I parameters, it was necesary to expand the Center's official database structure. Accordingly, Version 2.7 of the "Center for Seismic Studies Data Base Structure, Relations, Attributes and Tape Formats" was published on August 6, 1984 to record the changes necessary for GSETT, as well as to include other evolutionary changes. This report is included in Appendix B to this report.

- The GSE procedures specified the use of a computer program prepared by Swedish seismologists for making the proper association of seismic signals reported by the participating stations, and calculating the epicentral parameters of seismic events. For efficient use of this program, it was necessary to develop software for interfacing both input and output with the Center's database formats.

2.3 Other Preparatory Activities

Highlights of other activities related to the GSETT included:

- Asssisted the U.S. delegation to the GSE with the preparation of procedures for conducting the test, which were presented in Geneva July 30 through August 10, 1984. Specifically, the SAIC staff assisted with the development of National Data Center procedures for measuring Level I parameters from the seismic recordings, worksheets for tabulating these measured parameters and message formats for transmitting the data over the WMO/GTS circuits.*

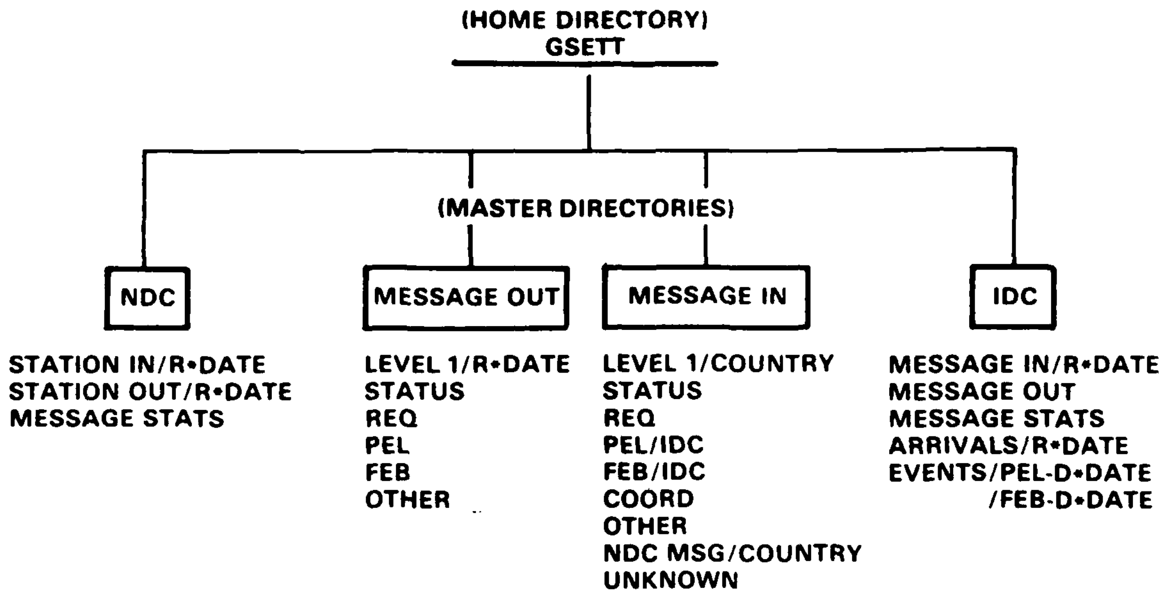
- Development of the prototype National Data Center system (based on the Sun Microprocessor) continued, with programming being accomplished by Science Horizons, Inc., under the SAIC staff's technical direction. The software was tested by a seismic analyst at the Center, and constructive comments were provided to tailor the system to the GSETT needs.

- Conducted a preparatory test, September 10-17, of the procedures to be used at the Center during the GSETT.

- Assisted in the installation of and trained the local staff in the use of a Sun Microprocessor at the Atomic Weapons Research Establishment, Blocknest, England. It was planned that the U.K. would use the Sun for analysis and reporting of data for the GSETT.

- Developed a pronet driver for the Sun so that it could be interconnected with the Center's other computers for receiving RSTN data.

*The message scheme that was developed for the GSETT has since been incorporated into the 1985 version of the International Seismic Code.



WHERE: / INDICATES THAT SUB-DIRECTORIES ARE PRESENT
R•DATE DENOTES REPORTING DATE
D•DATE DENOTES DATA DATE

FIGURE 5. DIRECTORY STRUCTURE FOR GSETT

Table 2 - Directory Structure for GSETT

/ ndc - directories for NDC functions

/ sta. in -	area for assembling raw messages from U.S. and remote stations, stored per day received; oct16, oct17,....
/ sta.out -	area for reviewing and editing Level I messages, stored per reporting day: oct16, oct17,....
/ msg state -	contains summary information for reported Level I data

/ msg. out - contains copies of all messages transmitted during the Test

/ level 1 -	contains copies of all Level I messages sent, stored per reporting day: oct16, oct17,....
/ req -	contains copies of all transmitted REQuests for retransmision
/ pel -	contains copies of all transmitted PELs
/ feb -	contains copies of all transmitted FEBs
/ status -	contains copies of all transmited STATUS messages
/ other -	contains duplicates of all transmitted messages

/ msg. in - Contains copies of all messages received during the Test

/ level 1 -	contains copies of all Level I messages received stored per country of message origin
/ req -	contains copies of REQuests for retransmission received, stored per participant origin
/ pel -	contains copies of PEL messages received, stored per idc of message origin
/ feb -	contains copies of incoming FEB messages received, stored per idc of message origin
/ status -	contains copies of STATUS messages received
/ coord -	contains copies of all COORD messages received
/ other -	contains copies of all messages received other than Level I, REQ, PEL, FEB, STATUS, COOD
/ ndc.msg -	contains status messages produced by NDCs, stored per originating country
/ unknown -	temporary storage for messages not sorted automatically

/ idc - Directories for IDC functions

/ msg in -	contains copies of all messages received, stored per day received
/ msg.stats -	contains information extracted from incoming messages
/ msg.out -	area for assembling messages transmitted from the IDC files names denote msg type (req, pel, feb, sts), day of year reported (289, 290, ...), and msg number (-01, -02, ...)
/ arrivals -	area for parsing Level I messages stored per day received: oct16, oct17, ...
/ events -	area for forming event parameters subdirectory names denote pel or feb plus data-day
/ req -	area for forming requests for retransmision

3. The Technical Test (GSETT)

The experiment commenced on 15 October 1984, and ended as scheduled on 15 January 1985. Preparations described in the preceding sections of this report were, for the most part, satisfactory, and by the time the preparatory phase of the experiment was over the Center was able to adhere to the schedule except when major computer malfunctions occurred. Initial problems that were exposed included:

- As the GSETT proceeded, it was discovered that numerous seismic data messages from various participants departed from the specified procedures. These deviations could not be handled by the parser developed specifically to handle GSETT data without major manual intervention. To cope with these problems, continuous work on the parser was needed to handle successive deviations as they were revealed.
- The analysis of seismic waveform data on the prototype "National Data Center System" (the Sun Microprocessor previously mentioned) disclosed a number of problems with the system. These included errors in the output of the system and procedural features that required excessive time. Most of these were solved as they were discovered, with assistance from personnel of Science Horizons, Inc.

- A week or two into the test it was noticed that the mid-period microseisms had increased and were interfering with the operation of the automatic event detector. Experiments were conducted that resulted in solving this problem by modifying the frequency pass-band in which the detector operated. Changing the low corner frequency from 0.7 to 0.9 hz was sufficient.

- Great difficulty was experienced initially in keeping management records on the large numbers of seismic data messages received. This problem resulted primarily from the failure of the participants to adhere to agreed formats and from the number of duplicates and delayed messages received. Computer programs to handle these data management functions were developed within a few weeks.

- In early November, the communications line connecting the center to the World Meteorological Organization's local center, and in turn to the WMO Global Telecommunication System, was converted from 75 baud to 1200 baud. This change necessitated writing new computer programs, which was accomplished quickly and with little apparent loss of data. The new line later proved to be crucial to the success of the test.

- Interpretations of the received data and the preparation and transmission of the various types of event lists proceeded with few technical problems. Overloaded computers at the Center, and some computer "crashes" initially caused delays in this work. Problems of this type were solved by dedicating one of the VAX 11/780 computers to this exclusive use for six hours each day.

Rather complete descriptions of the experiment are included in Appendices C, D, and E of this report. Appendix C, US/GSE/36 contains logs of all messages sent from or received at the Center during the test. Appendix D, US/GSE/37 includes a description of the Center's experiences functioning as a National Data Center.

Appendix E, US/GSE/38 describes the results of the Center's work functioning as an International Data Center. The reader is referred to these reports for an in-depth account of the procedures used, problems encountered, and the results of the experiment. These reports were prepared under the direction of Ann Kerr and Ralph Alewine of DARPA, both members of the U.S. delegation to the Group of Scientific Experts. Each contributed in major ways to the writing of these three reports, which were subsequently submitted, as formal U.S. documents, to the GSE during the March 1985 meeting in Geneva.

In addition to the documents described above, the Center produced and published detailed final event bulletins containing epicenter lists and the complete set of seismic data that went into these epicenter determinations. There are also complete files of all messages received, and the results of analysing the data reported therein, available on-line through the Center's computer system.

4. COMMENTS

In the view of the sponsors of the GSETT, "the objectives of the technical test were fulfilled", (draft report of the Group of Scientific Experts, Conference on Disarmament). Analyses of the results of the experiment have continued within the Center and will be reported in subsequent Quarterly Technical Reports and other documents.

APPENDIX A UNIX PROGRAMMER'S MANUAL- PARSE

NAME

parse − produce arrival records for WMO message

SYNOPSIS

parse [−c seconds] [−d] [−g] [−i] [−o] [−s seconds] [−n] [−y year] [file] ...

DESCRIPTION

parse takes a set of files and produces the arrival, feature, extra, and stalog relations for the Ingres database.

Several meta characters are allowed for editing WMO messages. Any string in angle brackets (<>) is assumed to be a legal phase name and will be interpreted in relation to surrounding data. Note, you are allowed to qualify this phase as you would any other; the entry "I<XXX>ULZ" will be interpreted correctly. This is meant to take care of currently unknown phases, or phase names that are the same as station names.

Any characters enclosed in square brackets ([]) will be completely ignored.

Any string enclosed in braces ({}) is assumed to be a station name.

An exclamation point (!) delimits the current event.

A carat (^) causes the next phase to be part of the current event.

A mesh mark (#) indicates a change of year and should be immediately followed by a valid year, e.g. "# 1973".

Options:

−c seconds
Supply a number of seconds that will set the warning cut-off for first motions. Any arrival that is later than *seconds* after the current first arrival but within the allowed limits will be flagged.

−d Produce voluminous amounts of debugging information.

−g Indicate that this message should be in the GSETT format.

−i Do interactive correction of the WMO message while parsing.

−n Channels without phase names should have the reported amplitude multiplied by 1000.

−o Parse, but produce no output files.

−s seconds
Supply a number of seconds that imply a first motion. The default is 66 minutes (3960 seconds). Partial seconds, e.g. 39.5, are acceptable.

−y year
Set the year of the WMO message, e.g. "-y 1976". This year will be used as the default year for all messages that do not have an entry of the form "SEISMO N#" where "#" is a digit that is added to the base year (1980) to determine the message year.

DIAGNOSTICS

parse produces numerous error messages, most of which refer to a problem in the WMO message. Each error message will be preceded by the relevant file name and line number in the WMO message. On error, *parse* will continue to parse the files, but no output files will be produced.

NOTES

first arrival codes
First arrival codes are: P, PDIF, PKP, PN, PG, PB. These codes may have the suffixes C, D, U, R, V, Y, E, W, or any combination of the above not including C/D, U/R, E/W, V/Y. These suffixes set the fm field of the arrival record.

channel specifications

Any phase may have a channel specification. These are as follows: LZ, LE, LN, IZ, IE, IN, SZ, SE, SN. It must be the last entry in the phase name, following any suffixes. A long channel (LZ, LE, or LN) by itself is allowed. If it is an LZ and is immediately preceded by an LR, it is treated as if it was an LRLZ. If and LE or LN are immediately preceded by an LQ, they are treated in a similar fashion. To conform to the 2.7 database (if no magnification factor has been set) use the -n flag to cause reported amplitudes for such channels to be multiplied by 1000.

digital waveform flag

The dig field of the arrival record is unset except for the stations RSNY, RSON, and RSSD which has it set to '+';

phase prefixes

Any phase with a prefix of I, E, or () sets the qual field of the arrival record. The combination EI or IE defaults to E and I(, E(or EI(defaults to (. If the phase name is missing, the database entry will be set to null and the parser will treat it as if it were a first arrival P.

parameters

SLOLP and **AZLP** set the channel to "ls" and are placed in the:

1: current record if it's identified as an LZ
2: the first LZ record in the event
3: the most recent LE or LN record
4: the current record

VEL is divided by the conversion value 111.1954153.

DUR, **VEL**, **SLO**, and **AZ** are placed in the coda, seas, or slow fields of:

1: current record if it's a first arrival code.
2: the first record in the event.

CPMX, **LAT**, **LON**, **MB**, **MS**, **OT**, **SPMM** and **SPRT** are placed in the appropriate fields of the feature record. **LAT** and **LON** are allowed to be signed or explicitly set with letter values, e.g. 32N is the equivalent of +32.

DIS and **EMA** are placed in the first arrival record of the event. **SPVT** is always considered an error.

comments

A comment of the form ((GSETT REST OF COMMENT)) will specify the rest of the message to be in GSETT format, the major consequence of this being that only station names will delimit events.

A comment of the form ((XX REST OF COMMENT)) where XX is LA, LB, R, TA, TB, TC, QB, RB, ME, DD, DE, TU, CL causes an appropriate entry to be placed in the stype field of the first arrival record of the event. Unfortunately, the comment cannot be parsed, therefore, ((LB,R)) will only note the LB value. (Even if it could be parsed, the 2.7 database provides no place to store it.)

author field

The author field of the arrival record is XXXXfile_name, where XXXX is the message number (or XXXX if the message number is unknown) followed by the name of the first file given to the parser as an argument.

amplitudes

If the -n flag is set, and it's not a long period phase, with a short period vertical magnification, the amplitude is treated as follows, where AMP is the event amplitude and RMAG is the reported magnification:

(AMP * 1000 / RMAG) / 2

If the -n flag is set, and the channel is "l." or it's an LR or LQ phase, with a long period magnification, the amplitude is as follows:

((AMP * 1000) / (RMAG / 1000)) / 2

If the -n flag is set, and the channel is "l." or it's an LR or LQ phase, without a long period magnification, the amplitude is as follows:

AMP = AMP * 1000

An amplitude consisting of four or more 9's, e.g. 9999 or 9999.99 etc., sets the clip field of the arrival record.

periods without amplitudes

To avoid reading the sequence "EPLZ091802.3 T3.4 M1X T4.5 A4.5" as having two period measurements when in fact the "T" phase was intended, a period without an amplitude is considered an error.

times, dates, and event delimiters

A first arrival code (P, PDIF, PKP, PG, PN, or PB, not including implied first arrivals) will delimit the event unless it's a PG or PB following a PN within 75 seconds or a PN or PB following a PG within 10 seconds. Any arrival will delimit the event if more than 66 minutes have passed since the last first arrival. While times don't apply to GSETT messages, station names and dates will delimit events for both GSETT and non-GSETT messages.

Entries are expected to have a new date set if a day boundary is crossed between events. Year, month, and day wrap are handled correctly *within* an event, but events starting on a subsequent day require a new month/day entry.

APPENDIX B CENTER FOR SEISMIC STUDIES
DATA BASE STRUCTURE RELATIONS,
ATTRIBUTES AND TAPE FORMATS
VERSION 2.7 AUGUST 6, 1984
CENTER 85-001

Center for Seismic Studies

Data Base Structure

Relations, Attributes

and Tape Formats

Version 2.7

Center 85-001

1. Revision History

This is a brief revision history of the Center data base structure. The information below is organised by version number which appears in bold print along with the date that a change was made. Each time a change is made to the data base, the version number is updated and an entry is placed in this file outlining the differences between this version and previous ones.

version 2.0 1/1/83 The entire structure was reviewed and significantly revised from the original 1.0 version.

version 2.1 3/24/83 This is the first revision to be tracked under the new scheme. The external file field width for the *stid* attribute in the *station* relation was increased from 3 to 8. The meaning of this attribute was changed slightly so that it could be used as a unique identifier for a station tuple.

A new relation called *extras* has been added. This relation contains alphanumeric strings which represent data for which no attribute has been defined, and which will not fit, in coded form, in the remarks attribute. The tuples in this relation have a one for one relationship with tuples in some parent relation. That is, each can be linked, through a system of unique id numbers, with a tuple in some other relation. For example, extra information which pertains to an origin can be found by looking for relnam = "origin" and tupid = *orid*.

version 2.2 3/29/83 The name of relation *extras* was changed to *extra* in keeping with the convention that relation names are always singular. The attribute named *relnam* was changed to *rel* to be consistent with one by that name in the *code* relation.

version 2.3 5/12/83 A new attribute *nowft* was added to the *tape* relation. This attribute is used to record the number of wftape tuples which should appear in the data base for a given tape volume.

version 2.4 6/14/83 The field width for the *elev* attribute in relations *explo* and *station* have been increased from f6.4 to f8.4. A new attribute named *cdate* has been added to the *tape* relation. It is set to the date that the tape was logged in the Ingres data base. Null values for all attributes have now been assigned. These are all documented in the glossary of attributes.

version 2.5 6/20/83 The field width on the following attributes was increased by one: *logat mag mo elev* . The attribute formerly known as *inid* has been replaced by *chid*. Similarly *nxinid* has gone to *nxchid*. A new attribute called *mag* has been added to the feature relation. The field width adjustments mentioned above were made to accommodate a new definition of null attribute values which involves fewer different null values. Most null values will now be -1 save those for which this is an expected value. Others will be -999 except for time which is treated as a special case. The null for time is -9999999999.999 . See the glossary for more details.

version 2.6 6/29/83 The external file field widths on the following attributes were increased by one to accommodate the null values: *coldep coldia colvol moist paldep watdep wgt*. This change affects the *assoc* and *explo* relations. The data type for attributes *plpref* and *tmnmw* were corrected in the glossary. The null value for *calib* has been changed to 0. to allow for negative values to be used to indicate polarity reversal in the data.

version 2.7 8/6/84 The external file field widths for the errors, standard deviations and matrix elements reported in the *origerr* relation were expanded to f9.4 to accommodate values reported by other agencies. The content and format of the *feature* relation have been completely altered to obtain greater flexibility for reporting arrival characteristics and to incorporate the spectral moment, spectral ratio, and spectral vector values. Magnitude reporting capabilities were expanded, so that a single feature tuple can now accommodate up to four types of magnitudes. Two author fields have been added to allow for qualification of the *other magnitude* feature and spectral calculations. Array station estimates of latitude, longitude depth and time can now also be placed in the feature relation. The following attributes were added to the *feature* relation: *magb maglr magsh mo spmm sprt spvt moauth spauth stype lat lon depth time*. The *l/zne/amp l/zne/per nsza nszp nl/zne/a nl/zne/p* attributes have been removed from the feature relation and the glossary. The glossary entries of the following attributes have been added or changed: *magb maglr magsh mo spmm sprt spvt moauth spauth stype*.

Another relation was created, called *xparam*, with the intent that if any parameters do not fit into the standard definitions of the *arrival* or *feature* relation then those parameters would be placed in this relation for example, magnitudes which outnumber or otherwise deviate from the definition of the magnitudes located in the *feature* relation. This relation has room for a real-number parameter as well as adequate qualifying space and is organized according to arrival id.

2. Glossary of Relations

INTRODUCTION

The following information describes the INGRES relations which make up the standard Center data base structure. For a detailed outline of the contents of the relations see *Data Base Structure: Version 2.7* and for a description of what each attribute means, see the *Glossary of Attributes* portion of this document.

arrival

Information characterizing a "seismic signal" observed at a particular station. Many of the attributes herein conform to seismological convention and are listed in earthquake catalogs.

assoc

Information that connects arrivals (ie. entries in the arrival relation) to a particular origin.

centryd

Contains information on the 'centroid' location. Designed mainly to accommodate such locations given in the USGS monthly summary and supplied to the USGS by Harvard. For more information see the USGS monthly listing for July, 1981 and "Determination of Earthquake Source Parameters from Waveform Data for Studies of Global and Regional Seismicity" by A.M. Dziewonski, T.A. Chou and J.H. Woodhouse, J.Geophys.Res., 86, 2825-2852, 1981

channel

Describes in detail the orientation of single component, or beams of many, seismometers, as a function of channel codes and identification numbers, for each station and component as a function of time. Also indexes files containing lengthy descriptions of seismometer response as amplitude/phase curves versus frequency and/or poles and zeroes, and beam recipes.

code

The contents of many attributes are coded. This relation describes the meaning of such codes. As new types of information, which were not foreseen at the time that the data base structure was devised, turn up at the Center, these will, unless a new relation seems desirable, be coded in the comment field of the most relevant relation, and the code explained in the "code" relation.

counter

This relation is unique in that it holds one and only one tuple. It is a reference table from which programs and users retrieve the next sequential id for those data objects requiring such. It also marks the current working event and related arrival group.

date

This relation has one entry per day being the epoch time of the start of that day. It allows easy conversion from julian date to epoch time within INGRES.

event

The purpose of this relation is to allow the connection of multiple origins to one "event". Attributes are provided to point to preferred and current working origins.

explo

Contains detailed information on the environment and characteristics of explosion sources. Lists all the information provided for U.S. explosions in "Seismic Source Summary for U.S. Underground Nuclear Explosions" by D.L.Springer and R.L.Kinnaman, Bull.Seism.Soc.Amer., 61, 1073-1098, 1971 (and subsequent updates).

extra

This relation is for garbage collection. When there is left over information which won't fit in an already defined attribute, it is placed here. This could be left over characters of long remarks. It could also be information which is encountered so infrequently or used so little that an attribute to store it in was omitted. An encoding scheme has been devised for the identification of data types which fall into this latter category. The information is stored in character strings as |code=value| where the meaning of code can be found by consulting the code relation.

feature

Information that applies to a related group of arrivals from a particular event are stored in this relation. Some of the attributes herein reflect International Data Center functions.

fplane

Contains a description of the fault-plane solution for a given origin, if available. Gives angles specifying orientation of both nodal planes and also the P- and T-axes. (For sign conventions see Aki & Richards, 1980, p.108.)

moment

Describes the moment tensor obtained for a given origin. Designed mainly to accomodate this in the form given in the USGS monthly summaries, described in more detail in the the July, 1981 monthly summary and in "Determination of Earthquake Source Parameters from Waveform Data for Studies of Global and Regional Seismicity" by A.M.Dziewonski, T.A.Chou and J.H.Woodhouse, J.Geophys.Res., 86, 2825-2852, 1981

gregion

A static relation that contains geographic region numbers and the equivalent English representation. (See Flinn et al., BSSA, v64,n3,p2, July,1974)

origin

Information describing a derived or reported origin for a particular event.

origerr

The error estimates associated with the parameters in the Origin relation.

sregion

A static relation that contains seismic region numbers and the equivalent English representation. (See Flinn et al., BSSA, v64,n3,p2, July,1974)

stalog

Contains station status information such as time corrections, lost channels, and polarity reversals, at dates when these have been supplied.

station

Quick reference relation for station information. More complete information is stored in other relations.

tape

Bookeeping relation for archive tapes.

wfdisc

This relation provides a pointer or index to waveforms that are stored on disc. The waveforms themselves are not stored in INGRES.

wftape

A companion relation to wfdisc. Mostly the same attributes as wfdisc. Points to waveforms that have been archived on official Center archive tapes.

xparam

This relation provides space for extra parameters which do not fit into the standard relations (e.g. magnitudes which deviate from the definitions contained in the feature relation). The relation's organization is based on arrival id. and it contains space for a numeric value and adequate description space to qualify the value.

3. Glossary of Attributes

INTRODUCTORY NOTES

Dates and Times :

Time dependent variables (arrival time, origin time, etc.) are usually given both as epochal time (seconds since 00:00:00.000, January 1, 1970) and in date, of the form 1981231 where 1981 is the year and 231 the day number (231 = August 19 for a non-leap year). Date is a convenient key for searching. System routines (etoh, htoe, make-time, manual section 3C) are available to convert epochal time to and from the more familiar year, month, day, hour, minute and second representation. *Units:*

Period, time - always in seconds

Amplitude - always in nanometers. (A warning - long-period measurements are frequently reported in microns so conversion is required.)

Angular measurements - always in degrees (delta, azimuth, etc.)

Depth, standard errors in location - always in kilometers or seconds.

Attribute type and format

The square brackets [] following each attribute entry contain the type (i4,f4,f8 - denoting 4-byte integer, single- and double precision floating point) and external file format for the attribute. Thus [f8,f15.3] following "time" indicates that time is represented by a double-precision floating point number, with (f15.3) used in external files as the format field.

The null value for character attributes will be _ (underscore) throughout. The attributes "etype", "exptyp", "chan" and "fm", being composite quantities are special cases. For numeric attributes, the null values are noted for each herein. Numeric nulls are "-1" or "-1." (as dictated by standard formatted print statements based on the external file format) except for the following -

calib : Null = 0.

all magnitude measurements (except mb and ms for which the null = -1.0)
and depdp,depth,elev,exlat,exlon,lat,logat,lon,mo,resid : null = -999.

time : special case - see description

Each character attribute is either upper or lower case exclusively, as specified herein except for those noted as format free and phase. There should be no embedded blanks in the character attributes except perhaps in the attributes "comm", "coddes","remark", and "string".

adate Relations: *wfdisc*

Access Date; Julian Date on which the waveform was last accessed (ie. 1980276). When a least recently used archiving scheme is implemented this attribute will drive the archive/cleanup program. [i4,i8]. Null= -1

amp Relations: *arrival*

Signal Amplitude; Zero to peak amplitude in nanometers. [f4,f10.1]. Null= -1.

arid Relations: *arrival assoc xparam*

Arrival Id; Each arrival is assigned a unique positive integer which identifies it in a data base. This number is used in the "assoc" relation along with the origin id to link arrival and origin. [i4,i8]. Null= -1

attrib Relations: *code*

Attribute for which "code" is given: See also "code", "rel", "coddes", "remark" [c7,a7]. Case=lower.

atype Relations: *assoc*

Association Type; One character flag indicating whether or not an arrival is simply associated ("a"), defining ("d"), or nondefining ("n"). Defining observations are those which were used in the final stage of the iterative location process. Only certain phases (currently P,pP,sP, local S, and crustal phases) are presently used by the location program. Nondefining observations are those which can be associated as one of these location-usable phases but were rejected during the location process. At present, the distinction between defining and non-defining is based purely on the arrival time residual at the end of the location procedure ; an arrival is defining if its residual is less than 3.5 seconds and non-defining if the residual is greater than or equal to 3.5 seconds. An associated arrival is one which has been associated as a phase of a type which is not currently used by the location process. (such as PcP,PKiKP,SKP etc.) [c1,a1]. Case=lower.

auth Relations: *arrival centryd explo fplane moment origin xparam*

Author; Originator of arrival (in arrival relation) or origin (in origin relation). Externally supplied arrivals are identified according to their original source, such as WMO, NEIS, CAN(adian), UK(array) etc., with a numeric indicator which provides a traceback to the original message from that source - e.g. neis82034 denotes that the arrival was contained in the 34th file received from NEIS during 1982. [c15,a15]. Case=upper.

basim Relation: *channel*

Beam Azimuth: Horizontal orientation of an array beam, measured in degrees clockwise from North. [f4,f6.1]. Null= -1.

bestdc Relations: *moment*

Best Double Couple: If the moment tensor T and P eigenvalues are s1 and s2 respectively then the scalar seismic moment is defined as

bestdc=(s1+s2)/2.

Given in units of "mexpon" (which see) [f4,f5.2]. Null= -1.

below Relation: channel

Beam Slowness: In seconds per degree. A value of zero indicates an infinite velocity beam (zero lag array sum). A value of 9999.9 indicates a horizontal beam. See also "bazim". [f4,f6.1]. Null= -1.

calib Relations: *wfdisc wftape*

Calibration Factor; Conversion factor in nanometers per digital count at period given in calper. A positive value means ground motion increasing in component direction (up, north, east) is indicated by increasing counts. A negative value means the opposite. [f4,f9.6]. Null= 0.

calper Relations: *wfdisc wftape*

Calibration Period; The period in seconds for which calib is valid. [f4,f7.4]. Null= -1.

cdate Relations: *tape*

Create date; The date a tape is logged in an INGRES data base. [i4,i8]. Null= -1

cdperr Relations: *centryd*

Standard Error in Depth of Centroid location: In kilometers. [f4,f5.1]. Null= -1.

chan Relations: *channel wfdisc wftape arrival*

Channel Indicator; A 2-character code which taken together with "sta" (and sometimes "chid") specifies the instrumental data source. For simple cases, the code may indicate the instrument period and orientation, as in "sz" (short-period vertical) or in "in" (intermediate-period North). Empty character positions indicated by dots (.) Eg. .z indicating the measurement was taken off the vertical component but no information about the channel range (short, mid, or long period) was received. Additional information regarding channel specifications are found via the "channel" relation.

In most cases this simple two-character code does not adequately specify the band and orientation of the instrument. In some cases it may not reflect the band and orientation at all, but rather indicate that the waveform data itself, or that from which the arrival was measured, was not single component but the results of some process such as filtering, rotation, or beamforming. More complete information may be obtained from the "channel" relation. Note that a given two-letter "chan" may represent different things at different dates, and also that "chan" may not be unique even for a given station and date. To avoid ambiguity, "chan" and "chid" should both be considered - "chid" is intended to be unique for a given "chan". There may be several values of "chid" for a given "chan". [c2,a2]. Case=lower.

chid Relations: *arrival channel wfdisc wftape*

Instrument Id; Unique index and key to the "channel" relation. There may be several different values of chid for a given "sta","chan" and even "date". [i4,i8]. Null= -1

claerr Relations: *centryd*

Standard Error in Longitude of Centroid location: In kilometers. [f4,f5.1]. Null= -1.

clip Relations: *arrival wfdisc wftape*

Clipped Data Flag; Single character flag to indicate whether ("c") or not ("n") the data was clipped. Typically derived from status bits supplied with GDSN or RSTN data, but could also be supplied as a result of analyst review. [c1,a1]. Case=lower.

cloerr Relations: *centryd*

Standard Error in Longitude of Centroid location: In kilometers. [f4,f5.1]. Null= -1.

cmpx Relations: *feature*

Complexity; A discriminant based on the complexity of the first arrival P-waves. Unless otherwise specified in the "spauth", the complexity is taken to be the ratio of the median amplitude of the short period vertical coda from 2 to 20 sec. after P wave onset divided by the median amplitude within the first 2 sec. after the onset. [f4,f10.5]. Null= -1.

coda Relations: *arrival*

Coda Length; Length of coda in seconds. No standard definition. When the author field ("auth") indicates that the arrival was generated by the Detection Processor, the value given here indicates the duration of the detection (time between trigger and turn-off). [f4,f6.1]. Null= -1.

coddes relation: *code*

Description in English of the Meaning of "code": For the specified "code", "rel" and "attrib". [c255,a255]. Case=format free.

code Relation: *code*

Code Specified for the Relation and Attribute Given: Six-characters, decoded by "coddes". See also "remark", "coddes". [c6,a6]. Case=upper.

coldep Relations: *explo*

Depth of Collapse Crater: Depth (in km.) of the deepest point of the collapse crater, referred to the original ground surface (given by "surfel") [f4,f7.4]. Null= -1.

coldia Relations: *explo*

Diameter of Collapse Crater: In km. Because of the uncertainty in defining crater boundaries (edges) collapse diameters are inexact, average measurements, especially for craters with gently sloping sides. [f4,f7.4]. Null= -1.

colint Relations: *explo*

Collapse Interval: Time interval after shot time (in seconds) of collapse, as determined by geophone and television monitoring. Accurate to a few seconds for the first 2-3 hour period, but become less reliable in the next several hours, with perhaps an uncertainty of 15-20 seconds. After weeks and months, uncertainties become large to the extent that collapse dates may not be known. [f4,f10.0]. Null= -1.

colvol Relations: *explo*

Collapse Volume: Volume of collapse crater, in km**3. Accurate to +/- 20 %. [f4,f10.7]. Null= -1.

comm **Relations:** ***stalog***

Comment: **Free format comment about the state of the given station at the given time. [c256,a256]. Case=format free.**

coterr **Relations:** ***centryd***

Standard Error in Origin Time of Centroid location: **In seconds. [f4,f5.1]. Null= -1.**

curev **Relations:** ***counter***

Current Working Event Id; **Event id for current event being worked. This points to a tuple in the event relation which can be examined to obtain the current origin. [i4,i8]. Null= -1**

curor **Relations:** ***event***

Current Working Origin Id; **Current origin being worked during analysis session. This points to a tuple in the origin relation that contains the geophysical parameters. [i4,i8]. Null= -1**

date Relations: *arrival date explo origin channel stalog wfdisc wftape*

Julian Date; Date as in 1980276. We keep the date attribute even though the date is implied given the epoch time. Date is a useful key. See time. Dates B.C. are negative. Note: there is no year = 0000 or day = 000. Where only year is known, day of year =001; where only year and month are known, day of year=first day of month. Note: only the year is negated for BC, so Jan 1 of 10 BC is -010001. [i4,i8]. Null= -1

dattyp Relations: *wfdisc wftape*

Data Storage; Method of storage of data. i4, f4 are typical values. i4 denotes 4-byte integer, f4 denotes a 32-bit real number in internal DEC/VAX format. [c2,a2]. Case=lower.

day Relations: *date*

Day Of Month; Conversions to and from the year, month and day of month to julian date can be done through the date relation. [i4,i2]. No null.

delta Relations: *assoc*

Degree Distance; Source-receiver distance in degrees. This is the distance from the origin specified by the orid in the assoc tuple ; to the station from the arrival specified by the arid in the assoc tuple. Distances greater than 180 degrees are permitted and are in some cases necessary to avoid ambiguity for phases such as PP,PPP,PS,SS,SKKS, etc. [f4,f8.3]. Null= -1.

depdp Relations: *origin*

Depth as Estimated from Depth Phases; Often an average of several measurements. In kilometers. See also ndp, sddp, sdzdp. [f4,f9.4]. Null= -999.

depth Relations: *centryd explo feature origin*

Source Depth; Depth of the event origin in kilometers. [f4,f9.4]. Null= -999.

dig **Relations:** ***arrival***

Digital Flag; Single character flag indicating whether or not an arrival has a corresponding digital waveform available in the data base. ("+") indicates yes, ("-") no. See also wfid. [c1,a1]. Case= see allowed values.

dip1,dip2 **Relations:** ***fplane moment***

Dip of first and second nodal planes: In degrees (for sign conventions see Aki and Richards, 1980, p. 106) In fplane, as determined : In moment, refers to best-fitting double couple (see "bestdc"). See also slip1, slip2, str1, str2, paxazm, paxplg, paxval, taxazm, taxplg, taxval, naxazm, naxplg, naxval, plpref [f4,f5.1]. Null= -1.

dir **Relations:** ***channel wfdisc wftape***

Directory; In wfdisc and wftape, sub-directory(s) under the root pathname indicated by the shell variable $WFPATH in which the file containing the waveform can be found. In channel, directory in which "file" may be found. See also "file". [c30,a30]. Case=format free.

dist **Relations:** ***arrival***

Distance; The approximate source-receiver distance in degrees as calculated from slowness (velocity), incident angle or (S-P) times. [f4,f7.2]. Null= -1.

dtype **Relations:** ***origin***

Depth Determination Flag; Single character flag indicating the method by which the depth was determined or constrained during the location process. ("F") free, ("D") from depth phases, ("R") restrained by location program or ("G") restrained by geophysicist. In cases "R" or "G" the author and/or comment field should indicate the agency or person responsible for this action. [c1,a1]. Case=upper.

durat **Relations:** ***centryd***

Half-Duration of Source: In seconds. [f4,f5.1]. Null= -1.

dused **Relations:** ***centryd moment***

Type of Data Used in Inversion: A character string giving the type(s) of data used to determine centroid location or moment tensor. (e.g. "GDSN" , "GDSN+IDA" , etc.) [c10,a10]. Case=upper.

edate **Relations:** ***tape***

First Date Tape was Written upon. [i4,i8]. No null.

elev **Relations:** ***explo station***

Elevation; In "station" elevation in kilometers, relative to mean sea level. In "explo", surface elevation, geodetically measured, at surface above shot point, relative to mean sea level, in kilometers. [f4,f9.4]. Null= -999.

ema **Relations:** ***arrival***

Emergence Angle; Emergence angle of an arrival as observed at a three component station or array, in degrees measured from downwards vertical. [f4,f7.2]. Null= -1.

esaz Relations: *assoc*

Event To Station Azimuth; Calculated event to station azimuth, in degrees clockwise from North. Permissible range 0 <= esaz <=360 degrees. [f4,f8.3]. Null= -1.

etype Relations: *origin*

Event Type/Characteristics; Intended to accommodate the "phenomena" codes provided by NEIS, with possible future extensions. 7-character string basically contains 7 one character codes, as follows:

Character Position	Phenomenon	Coded Values	Meaning of Code
1	Diastrophism	F	faulting
		U	uplift
		S	subsidence
		3	both U and S
		4	both U and F
		5	both F and S
		6	F and U and S
		7	U or S
		8	F and (U or S)
2	Tsunami	T	tsunami
		?	possible tsunami
3	Seiche	S	seiche
		?	possible seiche
4	Volcanism	V	associated with vulcanism
5	Non-tectonic Phenomena	E	explosion
		I	collapse
		C	coalbump
		R	rockburst
		M	meteoritic source
6	Generated waves	T	T wave
		A	acoustic wave
		G	gravity wave
		B	both A and G
		M	T and (A or G)
7	Miscellaneous	L	liquefaction
		G	geyser activity
		S	landslide or avalanche
		B	sandblows
		C	ground crack (not faulting)
		V	lights or other visual phenomena
		O	odors
		M	more than one of the above

Empty character positions indicated by dots (.) Eg. ...V.M. [c7,a7]. Case=upper.

exptyp Relation: *explo*

Explosion Type; Four-character code indicating the type and setting of the explosion. The first character denotes the type of the explosion, either nuclear ("N") or chemical ("C"). The second indicates whether the explosion was denoted in air ("A"), water ("W") or underground ("U"). The third indicates whether the preceding information has been confirmed ("C") or has been presumed ("P"). The fourth indicates the culprit; U=USA, S=USSR, F=France, C=China, I=India... The source of such confirmation or presumption will be found in the "auth" attribute of the "explo" relation. Empty character positions indicated by dots (.) Eg. N.P. [c4,a4]. Case=upper.

evid Relations: *origin event*

Event Id; Each event is assigned a unique positive integer which identifies it in a data base. The number is used to indicate which group of origins actually are the same event. [i4,i8]. Null= -1

exlat,exlon Relation: *explo*

Explosion Latitude and Longitude; For announced Nevada Test Site explosions, determined geodetically. For all other explosions, teleseismic determinations are found in corresponding entries in "origin". See also "lat","lon", where sign conventions and units are given. [f4,f10.5]. Null= -999.

file Relations: *channel wfdisc wftape*

Waveform File; In wfdisc, file name for disc-based waveform file. In wftape, disc file from which data originated. In channel, file containing information on response, beam recipe, etc. See also "dir". [c20,a20]. Case=format free.

files Relations: *tape*

Tape Files; The number of tape files written to an archive tape. [i4,i5]. No null.

fm Relations: *arrival*

First motion; Two character indication of first motion, the first for short period determinations and the second for long period. ("c")/("d") for short period compression/dilatation ; ("u")/("r") for long period compression/dilatation. Empty character positions indicated by dots (.) Eg. .r [c2,a2]. Case=lower.

foff Relations: *wfdisc*

File Offset; The byte offset within a file to the start of a segment. [i4,i10]. No null.

ftid Relations: *arrival feature*

Feature Id; The wavetrain from a single event may be made up of a number of arrivals. A unique ftid joins those arrivals from a common event as measured at a single station. Ftid is also the key to the "feature" relation, which contains additional signal measurements not contained within the "arrival" relation, such as station magnitude estimates and computed signal characteristics.
[i4,i8]. Null= -1

grn Relations: *station gregion*

Region Number; Geographic region number. As defined by Flinn, Engdahl and Hill. (Bull. Seism. Soc. Amer. vol 64, pp 771-992 , 1974) [i4,i3]. Null= -1

hang Relations: *channel*

Horizontal Orientation of Seismometer; The orientation of the seismometer in the horizontal plane, measured in degrees clockwise from north. As examples, for a North-South orientation, North positive, hang=0. ; for East-West orientation, West positive, hang=270. See also "vang". [f4,f6.1]. Null= -1.

instyp Relations: *wfdisc wftape*

Instrument Type; Character string indicating instrument type. ("SRO"), ("ASRO"), ("DWWSSN") , ("LRSM") and ("RSTN") are some examples. [c6,a6]. Case=upper.

intscl Relation: origin

Intensity Scale Code; Single character code for intensity scale used. Values - M denotes modified Mercalli scale (as given by NEIS, NOAA)
- R denotes Rossi-Forel
Other codes will be assigned as necessary.
See also "maxint" [c1,a1]. Case=upper.

lat Relations: *centryd feature origin station*

Latitude; Geographic latitude of relation data object in degrees. North > 0. Range -90. <= lat <= +90. See also "exlat" [f4,f9.4]. Null= -999.

ldate Relations: *tape*

Most Recent Date Tape was Written upon. [i4,i8]. No null.

logat Relations: *arrival*

Log Of Amplitude Divided By Period; Often reported instead of amplitude,period pairs. Not calculated if amplitude and period reported separately. [f4,f7.2]. Null= -999.

lon Relations: *centryd feature origin station*

Longitude; Longitude of relation data object in degrees. East > 0. Range -180.0 <= lon <= +180.0 See also "exlon" [f4,f9.4]. Null= -999.

ltype Relations: *origin*

Location Algorithm Type; Single character flag indicating type of location program used. [c4,a4]. Case=upper.

mag Relations: *assoc*

Station Magnitude; Station magnitude for the appropriate channel and phase. Body wave magnitude is computed using the reported amplitude and period, or log(a/t) from "arrivals" and the Gutenberg-Richter (1956) depth-distance factors. Surface wave magnitude is computed using the reported amplitude and period using the "Prague" formula of Vanek et al. (1962). [f4,f7.2]. Null= -999.

magb Relations: *feature*

Station Body Wave Magnitude; Body wave magnitude is computed using the reported amplitude and period, or log(a/t), using the Gutenberg-Richter (1956) distance-depth factors. Amplitude and period measurements to be used are those associated with the initial P wave, or with M1X, as reported from a single station in the "arrival" record with the same "ftid". See also "mag". [f4,f7.2]. Null= -999.

maglr Relations: *feature*

Station Surface Wave Magnitude; Surface wave magnitude from the long period Rayleigh waves using the "Prague" formula of Vanek et al. (1962). Amplitude and period measurements to be used are those associated with the maximum of the Rayleigh wave train (MLRZ) on the vertical long period component, as reported in the "arrival" record with the same "ftid". See also "mag". [f4,f7.2]. Null= -999.

magsh Relations: *feature*

Station long-period S-wave Magnitude; Station long-period S-wave magnitude is computed using the reported amplitude and period, or log(a/t) from the corresponding S phase "arrival" record with the same "ftid". See also "mag". [f4,f7.2]. Null= -999.

maxblk Relations: *tape*

Maximum Block Size; Maximum block size in bytes of tape blocks written to archive tape. [i4,i5]. Null= -1

maxint Relations: *origin*

Maximum Intensity; On scale identified by "intscl". Originally given in Roman numerals (I-X for Rossi-Forel; I-XII for modified Mercalli). Here as converted to arabic numerals (1-12) See also "intscl". [i4,i2]. Null= -1

mb Relations: *origin*

Body Wave Magnitude; Estimate of the body wave magnitude. Usually an average of several individual station values. See also "nbm", "mag", "magb". [f4,f6.2]. Null= -1.

medium Relations: *explo*

Shot Medium: General description of the shot medium. Examples - "alluvium", "tuff", "rhyolite", "granite" . [c15,a15]. Case=lower.

mexpon Relations: *moment*

Exponent of Moment Scale Factor: The power of 10 by which scalar moment (bestdc) or moment tensor components (mrr, mtt, etc.) and their corresponding errors are to be multiplied to give their actual values. As an example, if "mexpon"=17 and "bestdc"=1.3, then the scalar moment is given by 1.3x10**17 N.-m. (Note units.) [i4,i3]. Null= -1

mff,mrf,mrr,mrt,mtf,mtt Relations: *moment*

Moment Tensor Components: Given in a spherical coordinate system - for conventions and conversion to a Cartesian (x,y,z) system, see Aki & Richards, 1980, p. 118). In units given by "mexpon" (which see) [f4,f5.2]. Null= -1. (only if mexpon is -1)

mfferr,mrferr,mrrerr,mrterr,mtferr,mtterr Relations: *moment*

Standard Errors of Moment Tensor Components: Calculated under the usual assumption of uncorrelated errors in the data. Same units as mff, mrf, etc. [f4,f5.2]. Null= -1.

minblk Relations: *tape*

Minimum Block Size; Minimum block size in bytes of tape blocks written to archive tape. [i4,i5]. Null= -1

mo Relations: *feature origin*

Other Magnitude; Magnitudes other than "mb" or "ms", contributed either by the author given in "auth" or as stated in "moauth". This is an overflow location for any other magnitude attribute in the same tuple. See also "moauth". [f4,f7.2]. Null= -999.

moauth Relations: *feature origin*

Type and Authority for Other Magnitude; Examples are "HFS" (magnitude type not given)
"PAS/ML" - Local magnitude , Pasadena
"OTT/MBLG" - mb(Lg) , Ottawa [c15,a15]. Case=upper.

moist Relations: *explo*

Moisture Content of Medium at Shot Point: Difficult to measure, but given because of the high dependence of seismic coupling on this parameter. Given as a proportion by weight (0.17 = 17%). Accuracies estimated to be ~ +/-20% . [f4,f5.2]. Null= -1.

mon Relations: *date*

Month; Month of the year for the given date tuple. January = 1, February = 2, etc. [i4,i2]. No null.

mrf,mrt,mrr Relations: *moment*

Moment Tensor Components: See mff etc.

mrferr,mrterr,mrrerr Relations: *moment*

Standard Errors of Moment Tensor Components: See mfferr, etc

ms Relations: *origin*

Surface Wave Magnitude; Estimate of the surface wave magnitude; usually an average of several individual station magnitudes. See also nms, mag. [f4,f6.2]. Null= -1.

mtf,mtt Relations: *moment*

Moment Tensor Components: See mff etc.

mtferr,mtterr Relations: *moment*

Standard Errors of Moment Tensor Components: See mfferr, etc

name Relations: *explo*

Code Name of Explosion: Examples - "piledriver", "cannikin", "shoal" , [c15,a15]. Case=lower.

nass Relations: *origin*

Number Of Associated Arrivals; Number of arrivals associated with this origin. [i4,i4]. Null= -1

naxazm,naxplg Relations: *moment*

Null Axis Azimuth and Plunge: Obtained by rotation of the moment tensor into the principal axes system. Associated with the small, intermediate eigenvalue. In degrees, for conventions see Aki & Richards (1980). [f4,f5.1]. Null= -1.

naxval Relations: *moment*

Length of Null-axis Vector: Obtained by rotation of the moment tensor into the principal axes system. Units given by "mexpon" (which see.) . See also "naxazm","naxval". [f4,f5.2]. Null= -1.

ndef Relations: *origin*

Number Of Definers; Number of arrivals used in the location of the event, usually < nass. See also atype. [i4,i4]. Null= -1

ndp Relations: *origin*

Number of Depth Phases; This refers only to the number of depth phases used in calculating depth and/or depthdp. See also depthdp, sddp, sdzdp. [i4,i4]. Null= -1

nmb Relations: *origin*

Number Of Observations Used For mb; The number of individual station measurements used in the calculation of the average body wave magnitude for the origin. See also mb, sigmb. [i4,i4]. Null= -1

nms Relations: *origin*

Number Of Observations Used For Ms; As nmb, but for surface wave magnitude. See also sdms. [i4,i4]. Null= -1

nowft Relations: *tape*

Number of wftape tuples; For a given tape volume the number of waveform segments archived on that volume should equal the number of wftape tuples in the data base. This attribute allows a quick check based on what the archive tape logger found. [i4,i5]. Null= -1

nrlpb Relations: *centryd moment*

Number of Long-Period Body Wave Records: The number of records used in inversion. See also "nslpb" [i4,i3]. Null= -1

nrmw Relations: ***centryd,moment***

Number of Mantle Wave Records: The number of records used in inversion. See also "nsmw" [i4,i3]. Null= -1

nsamp Relations: ***wfdisc wftape***

Number Of Samples; Number of samples in waveform segment. [i4,i8]. Null= -1

nslpb Relations: ***centryd,moment***

Number of Stations Supplying Long-Period Body Wave Records: Refers to number of stations used in inversion. (There may be several records per station - see "nrlpb") [i4,i3]. Null= -1

nsmw Relations: ***centryd,moment***

Number of Stations Supplying Mantle Wave Records: Refers to number of stations used in inversion. (There may be several records per station - see "nrmw") [i4,i3]. Null= -1

nxarid Relations: ***counter***

Next Arrival Id; Next arrival id to be assigned. Next time an arrival is added to the data base it will receive this id. See arid. [i4,i8]. Null= -1

nxchid Relations: ***counter***

Next Instrument Id; Next instrument id to be assigned. Next time a unique instrument has been added to the channels relation it will receive this id. See chid. [i4,i8]. Null= -1

nxevid Relations: ***counter***

Next Event Id; Next event id to be assigned. Next time a unique event has been postulated it will receive this id. See evid. [i4,i8]. Null= -1

nxftid Relations: ***counter***

Next Feature Id; Next feature id to be assigned. See ftid. [i4,i8]. Null= -1

nxorid Relations: ***counter***

Next Origin Id; Next origin id to be assigned. Next time an origin is copied or input it will receive this id. See orid. [i4,i8]. Null= -1

nxwfid Relations: ***counter***

Next Waveform Id; Next waveform id to be assigned. See wfid. [i4,i8]. Null= -1

offdat Relations: ***station***

Turn Off Date; Date on which the station indicated was turned off, dismantled, or moved. See also ondate. [i4,i8]. Null= see date.

ondate Relations: ***station***

Turn On Date; Date on which the station in question came on line. Offdate and ondate are not intended to accommodate temporary downtimes, but rather to indicate the time period for which the attributes of the station (lat, lon, elev) are valid for the given station code. Stations are often moved, but with the station code remaining unchanged. [i4,i8]. Null= see date.

orid Relations: *assoc centryd explo fplane moment origerr origin*

Origin Id; Each origin is assigned a unique positive integer which identifies it in a data base. The number is used to identify one of the many hypothesis of the actual location of the event. [i4,i8]. Null= -1

paldep Relations: *explo*

Depth to Paleozoic Layer: Measured from the surface (see "surfel") In km., generally uncertain by +/- 60 meters. Paleozoic layer is generally dolomite or limestone. [f4,f7.4]. Null= -1.

paxazm,paxplg Relations: *fplane moment*

Compression Axis Azimuth and Plunge: In fplane, as determined. In moment, obtained by rotation of the moment tensor into the principal axes system. Associated with the largest positive eigenvalue. In degrees, for conventions see Aki & Richards (1980). [f4,f5.1]. Null= -1.

paxval Relations: *moment*

Length of Compressional Axis Vector: Obtained by rotation of the moment tensor into the principal axes system. Units given by "mexpon" (which see.) . See also "paxazm","paxval". [f4,f5.2]. Null= -1.

per Relations: *arrival*

Signal Period; Period in seconds for the arrival. [f4,f7.2]. Null= -1.

phase Relations: *arrival assoc*

Phase; Eight character field giving phase type (ie. P,PKP,PcP,pP etc.). Note that since both upper and lower case are available there is no need to e.g represent pP by AP, PcP by PCP etc. In "arrival", as reported ; in "assoc", as associated. [c8,a8]. Case as specified by proper phase names.

plpref Relations: *fplane*

Preferred Fault Plane: When determined from surface breaks, direction of nearby faults, directivity, etc. Given as 1 or 2 depending on whether first or second nodal plane is chosen (see "dip1,slip1,str1" and "dip2,slip2,str2"). Zero (0) denotes that neither can be chosen as preferred. [c1,a1].

pname Relations: *xparam*

Parameter Name; This is an alphanumeric descriptor name of the parameter contained in "pvalue". [c10,a10]. Case= lower.

prefor Relations: *event*

Preferred Origin; Typically the Center version of an event will be the preferred origin. If we have not had a chance to work up the event then any available origin could be used.

[i4,i8]. Null= -1

pvalue Relations: *sparam*

Parameter Value; This value is named by "pname" and can be further characterised by the "author" and "remark" fields contained in the same tuple. [f8,f20.9]. No null.

qual Relations: *arrival*

Onset Quality; Single character flag used to denote the accuracy of the timing of the phase. ("i") impulsive, ("e") emergent, ("w") weak. ("w") here replaces the () of the International Seismic Code. Standard definitions of these are:
i - accurate to +/- 0.2 seconds
e - accuracy between +/-(0.2 to 1.0 seconds)
w - timing uncertain to > 1 second.
[c1,a1]. Case=lower.

reelsz Relations: *tape*

Tape Reel Size; Number of feet of tape on archive tape. [i4,i5]. Null= -1

region Relations: *gregion sregion*

Region Name; Verbal representation of relation data object. Geographic or seismic region. As given in Flinn, Engdahl and Hill (Bull. Seism. Soc. Amer. vol 64, pp 771-992, 1974), possibly with name changes due to changing political circumstances (e.g. old RHODESIA = new ZIMBABWE). [c40,a40]. Case=upper.

rel relation: *code extra*

Relation name; that code refers to or that is the parent for extra information. [c7,a7]. Case=lower.

remark Relations: *arrival assoc centryd explo feature fplane moment origin station wfdisc wftape sparam*

Remark: Free format comment about the relation data object. In some cases the contents of "remark" may not be in English, but coded. In such a case, the coded remark is contained within vertical bars "|" and may be decoded by reference to the "codes" relation for the given relation and the remark attribute. As an example, |CLT=F| in the origin remark field may be discovered, by referring to the "codes" relation, to indicate a cultural effect (CLT) of having been felt (F). [c30,a30]. Case = format free.

resid Relations: *assoc*

Residual; Travel time residual in seconds. Observed (in "arrivals") time minus that calculated for the distance (delta in "assoc") and depth (in "origin") using the travel-time table for the phase as given by "tratbl" (in "assoc"). [f4,f8.3]. Null= -999.

rsptyp Relations: *channel*

Response or Beam Type: A 3-character code denoting the form in which the response or beam specification is given in the stated file. "paz" indicates it is given in terms of the poles and zeroes of the Laplace transform. "fap" indicates it is given as amplitude/phase values at a range of frequencies. "bm " indicates that the file describe the beam recipe corresponding to "chid" and "chan". (Note that "basim" and "below" may not be sufficient, as they do not identify which subarrays or individual sensors were summed to form the beam.) [c3,a3]. Case=lower.

sddp Relations: *origerr*

Standard Deviation of (pP-P) time differences; In seconds. See also depthdp, ndp, sdsdp [f4,f9.4]. Null= -1.

sdmb Relations: *origerr*

Standard Deviation of body wave magnitude. In mb units. See also mb, nmb, mag. [f4,f9.4]. Null= -1.

sdms Relations: *origerr*

Standard Deviation of surface wave magnitude. In ms units. See also ms, nms, mag. [f4,f9.4]. Null= -1.

sdobs Relations: *origerr*

Standard Error of One Observation. In seconds. Refers only to arrivals used in the location (defining arrivals). Defined as the square root of the sum of the squares of the residuals, divided by the number of degrees of freedom. The latter is the number of defining observations (ndef in "origin") minus the dimensions of the system solved (4 if depth free, 3 if depth constrained). [f4,f9.4]. Null= -1.

sdsdp Relations: *origerr*

Standard Deviation of Depth Determined from (pP-P) time differences: In kilometers. See also depthdp, ndp, sddp. [f4,f9.4]. Null= -1.

seaz Relations: *arrivals assoc*

Station To Event Azimuth; In the arrivals relation a crude estimate derived from some observed property of the arrival (from array or 3-component analysis). In the assoc relation calculated from the station and event locations. In degrees clockwise from North. Range 0. <= seaz <= 360. [f4,f7.2]. Null= -1.

segtyp Relations: *wfdisc wftape*

Segment Type; Indicated if a waveform is ("o") original, ("v") virtual, ("s") segmented, ("d") duplicate. [c1,a1]. Case=lower.

slip1,slip2 Relations: *fplane, moment*

Slip of first and second nodal planes: In degrees (for sign conventions see Aki and Richards, 1980, p. 106) In fplane, as determined : In moment, refers to best-fitting double couple (see "bestdc"). See also dip1, dip2, str1, str2, paxazm, paxplg, paxval, taxazm, taxplg, taxval, naxazm, naxplg, naxval, plpref [f4,f5.1]. Null= -1.

slow Relations: *arrival*

Slowness; Array (or 3 component) reported slowness in sec/deg. Velocity, if reported, is always converted to the equivalent slowness. (slowness = 111.194/velocity if velocity given in km./sec) [f4,f7.2]. Null= -1.

smprat Relations: *wfdisc wftape*

Sampling Rate; Sample rate in samples/second. [f4,f11.7]. Null= -1.

sname Relations: *station*

Station Name; Full name of the station usually referred to by station code. As an example, converts "ANMO" to "ALBUQUERQUE, NEW MEXICO (SRO)" [c25,a25]. Case=upper.

spauth Relation: *feature*

Type and Authority for Spectral Measurements; As in "moauth", this author field may also contain coded information delimited by a slash. [c15, a15]. Case=upper.

spmm Relations: *feature*

Spectral Moment; A spectral discriminant computed as the first moment of frequency for the power spectrum in the initial P wave, normalized by the power spectrum taken over the same time and frequency window. Unless otherwise specified in the "spauth", the time and frequency windows correspond to those of "sprt". [f4,f10.5]. Null= -1.

sprt Relations: *feature*

Spectral Ratio; A discriminant based on the ratio of two spectral measurements. Unless otherwise specified in the "feature remark", spectral ratio is the third moment of frequency for the power spectrum in the initial P wave, normalized by the power taken over the same time and frequency windows. The standard for the Center's data bases is the one which is specified in the GSE working paper: "Procedures for Measuring and Reporting Level I Parameters." Accordingly, the spectral ratio is computed from the output (or equivalently converted output) from an SRO-SP instrument with a sampling rate of 20Hz, a time window of 12.8 sec. (starting 1.0sec. before the onset time with a 1.0sec taper applied to both ends of the window), and a spectral window from 0.47 to 3.98Hz. In contrast, the attribute "tmfi" (third moment of frequency from the initial P wave) uses the instrument characteristics of the recording station which may utilize a different frequency window from that specified above. [f4,f10.5]. Null= -1.

spvt Relations: *feature*

Spectral Vector; There is no generally uniform acceptable definition of the spectral vector as of this writing; when there is, it will be published. [f4,f10.5]. Null= -1.

srn Relations: *sregion station origin*

Region Number; Seismic region number. As given by Flinn, Engdahl and Hill (Bull. Seism. Soc. Amer. vol 64, pp 791-992, 1974). [i4,i3]. Null= -1

sta Relations: *arrival channel stalog station wfdisc wftape*

Station Code; Six character station identification code. Generally only 3- or 4-character. For a fuller description of the meaning of this code, see the "station" relation, also relations "channel" and "stalog". [c6,a6]. Case=upper.

stid Relations: *station*

GDSN Station Id; Station id assigned on GDSN tapes. [i4,i3]. Null= -1

str1,str2 Relations: *fplane, moment*

Strike of first and second nodal planes: In degrees (for sign conventions see Aki and Richards, 1980, p. 106) In fplane, as determined : In moment, refers to best-fitting double couple (see "bestdc"). See also dip1, dip2, slip1, slip2, paxazm, paxplg, paxval, taxazm, taxplg, taxval, naxazm, naxplg, naxval, plpref [f4,f5.1]. Null= -1.

string Relations:

Character string; a string of left over information which would not fit in an existing attribute. [c255,a255]. Case = format free.

stt,stx,sty,stz,sxx,sxy,sxz,syy,syz,szz Relations: *origerr*

Square Roots of Elements of the Covariance Matrix; For the location identified by "orid". The covariance matrix is symmetric (and positive definite) so that sxy=syx etc. (x,y,z,t) refer to latitude, longitude, depth and origin time respectively. These attributes (together with sdobs, ndef and dtype) provide all the information necessary to construct the K-dimensional (K=2,3,4) confidence ellipse or ellipsoids at any confidence limit desired. Square roots are given because then the diagonal elements sxx, syy, szz and stt are the conventional standard errors in latitude, longitude, depth and origin time.

Units -
sxx,syy,szz,sxy,szx,syz - kilometers
stt - seconds
stx,sty,stz - sqrt(km-sec) (ugly but consistent)
[f4,f9.4]. Null= -1.

stype Relations: *arrival feature*

Signal Type; Single character flag indicating event/signal type. ("l") local, ("r") regional, ("t") teleseismic, ("m") mixed or multiple event, ("g") glitch or ("c") cal pulse. ("l"),("r") and ("t") either from reporting station comment or as an output of post-detection processing. ("g") and ("c") either from analyst comment or from status bits from GDSN and RSTN data. [c1,a1]. Case=lower.

sxx,sxy,sxz Relations: *origerr*

Covariance Matrix Elements; See stt, etc.

syy,syz Relations: *origerr*

Covariance Matrix Elements; See stt, etc.

szz Relations: *origerr*

Covariance Matrix Element; See stt, etc.

taxazm,taxplg Relations: *fplane moment*

Tension Axis Azimuth and Plunge: In fplane, as determined. In moment, obtained by rotation of the moment tensor into the principal axes system. Associated with the largest (in the absolute sense) negative eigenvalue. In degrees, for conventions see Aki &

Richards (1980). [f4,f5.1]. Null= -1.

taxval **Relations:** ***moment***

Length of Tension Axis Vector: Obtained by rotation of the moment tensor into the principal axes system. Units given by "mexpon". See also "taxazm","taxval". [f4,f5.2]. Null= -1.

tdense **Relations:** ***tape***

Tape Density; Density of archive tape. In bits per inch. (same as bytes per inch for 9-track tape) [i4,i5]. No null.

time Relations: *arrival centryd date explo feature origin wfdisc wftape*

Epoch Time; Epochal time given as seconds and fractions of a second since hour 0 January 1,1970 and stored in a double precision floating number. Refers to the relation data object with which it is found. E.g. in "arrival" - arrival time ; in "centryd","explo", "origin" - origin time; in "feature" - station estimated origin time; in "wfdisc","wftape" - start time of data. Where date of historical events is known, time is set to the start time of that date; where the date of contemporary arrival measurements is known but no time is given, then the time attribute is set to null. N.B. The double-precision floating point number can only accurately represent times for 1970 +/- 300 years. Where time is unknown or prior to Feb 10, 1653, set to null. [f8,f15.3]. Null= -9999999999.999;

tmfc Relations: *feature*

Third Moment Of Frequency From Coda; The third moment of frequency as determined from the coda of the given wavetrain. Used (with tmfi) as a discriminant - no accepted standard definition. [f4,f10.5]. Null= -1.

tmfi Relations: *feature*

Third Moment Of Frequency From Initial Part Of Waveform; A spectral discriminant computed as the third moment of frequency for the power spectrum in the initial P wave, normalized by the power spectrum taken over the same time and frequency windows. See also: "sprt" and "tmfc". [f4,f10.5]. Null= -1.

tmnlpb Relations: *centryd,moment*

Minimum Period used in Body-Wave Inversion: The cut-off period of the low pass filter applied before inversion. In seconds. [f4,f5.1]. Null= -1.

tmnmw Relations: *centryd,moment*

Minimum Period used in Mantle Wave Inversion: The cut-off period of the low pass filter applied before inversion. In seconds. [f4,f5.1]. Null= -1.

tpblck Relations: *wftape*

Tape Block Number; Used with the file number to position dearchiving program to the specific block within a tape file in order to retrieve the waveform specified. [i4,i5]. Null= -1

tpfile Relations: *wftape*

Tape File Number; File number on a tape; each tape begins with file 1. This number can be used for file skips when retrieving segments from the tape. [i4,i5]. Null=-1

tptype Relations: *tape*

Tape Type; Center tape format specifier. [c2,a2]. Case=lower.

tratbl Relations: *assoc*

Travel Time Table; Travel time table used to generate residuals and in location program. As an example, "JB" = Jeffreys-Bullen. [c4,a4]. Case=upper.

tsite Relations: *explo*

Test Site Region: Examples - YUCCA_FLAT, SHAGAN, MURUROA [c15,a15]. Case=upper.

tupid Relations: *extra*

Tuple id; integer id number used to link an extra tuple to its parent tuple in another relation. For origin,origerr,moment,fplane,etc this number matches the orid in the parent. For arrival,assoc,etc the arid is used and so on. [i4,i8]. Null= -1

usedft Relations: *tape*

Tape Feet Used; Amount of archive tape (in feet) used so far. [i4,i5]. Null= -1

volnam Relations: *wftape tape*

ANSI Tape Label; Volume label information for a tape. [c6,a6]. Case=upper.

watdep Relations: *explo*

Depth of Static Water Table Level: Depth from surface zero (see "surfel") to the piezometric surface in pre-Tertiary rocks, or to the composite piezometric surface. Should be considered as maximum values : saturated rock may be found at slightly shallower depths. In km. [f4,f7.4]. Null= -1.

wfid Relations: *arrival wfdisc wftape*

Waveform Id; A unique identifier for original waveforms. [i4,i8]. Null= -1

wgt Relations: *assoc*

Location Weight; Final weight assigned to the arrival by the location program. Based on quality, phase and residual. Range 0.0 <= wgt <= 1.0 . [f4,f6.3]. Null= -1.

year Relations: *date*

Year; The year, as, for example, 1979. [i4,i4]. No null.

yield Relations: *explo*

Explosion Yield: Usually radiochemically determined, in which case accuracy is +/- 10%. It is advisable to check "remark" to see if it was otherwise estimated. In kT. If yldmax is given, then "yield" is an estimated lower limit. [f4,f9.3]. Null= -1.

yldmax Relations: ***explo***

Estimated Upper Limit of Yield: In kT. See also "yield". [f4,f9.3]. Null= -1.

vang Relations: ***channel***

Vertical Orientation of Seismometer: Given in degrees from the upwards (radially outwards) vertical. For a true vertically oriented seismometer, up positive, vang=0.; for a true horizontally oriented seismometer, vang=90. See also "hang". [f4,f6.1]. Null= -1.

4. Data Base: Version 2.7

INTRODUCTION

This section describes the seismic data base structure used by the Center for Seismic Studies. It contains revised or new definitions for the INGRES relations and also includes descriptions of the external file representations of these relations. In the tables which follow the name of the relation appears in bold print at the top. Names and formats for external files have been assigned for all relations even though some relations will not routinely be written to external files. The name of an external file will always be formed from a prefix followed by the relation name which is used as a file name extension. Attributes are ordered with the most useful attributes to the left.

The external file formats given herein are as they might appear in a Fortran format specification. They specify fixed field widths and precisions. What is not indicated explicitly is that each field is separated from the next by exactly one blank. This improves readability and makes records easier to scan for C programs. All numeric entries are right justified and all character strings are left justified within the field.

Changes to the data base definition described herein are handled in the following way. Minor changes will result in the fractional part of the version number being incremented. Major changes are indicated by incrementing the integer part of the version number. Thus, for a small change, version 2.1 becomes version 2.2, while more extensive changes mean version 2.1 goes to version 3.0. For each change a record is kept of what it was; a sort of revision history of the data base, as presented in section 1 of this document.

arrival				
attribute name	storage type	external format	character positions	attribute description
date	i4	i8	1-8	julian date (ie. 1982234)
time	f8	f15.3	10-24	epoch time (epoch=Jan 1,1970)
sta	c6	a6	26-31	station code (ie. anmo)
chan	c2	a2	33-34	channel code (ie. sz)
dig	c1	a1	36-36	digital data flag
qual	c1	a1	38-38	signal onset quality
phase	c8	a8	40-47	reported phase
fm	c2	a2	49-50	first motion
amp	f4	f10.1	52-61	amplitude
per	f4	f7.2	63-69	period
logat	f4	f7.2	71-77	log(amp/per)
coda	f4	f6.1	79-84	signal duration
seaz	f4	f7.2	86-92	observed azimuth
slow	f4	f7.2	94-100	observed slowness
ema	f4	f7.2	102-108	emergence angle
dist	f4	f7.2	110-116	estimated distance
stype	c1	a1	118-118	signal type
clip	c1	a1	120-120	clipped flag
arid	i4	i8	122-129	arrival id (unique within db)
ftid	i4	i8	131-138	related arrival id
chid	i4	i8	140-147	instrument id
wfid	i4	i8	149-156	waveform id
auth	c15	a15	158-172	source/originator
remark	c30	a30	174-203	comment

assoc				
attribute name	storage type	external format	character positions	attribute description
arid	i4	i8	1-8	arrival id
orid	i4	i8	10-17	origin id
delta	f4	f8.3	19-26	distance
phase	c8	a8	28-35	associated phase
esaz	f4	f8.3	37-44	event to station az
seaz	f4	f8.3	46-53	station to event az
resid	f4	f8.3	55-62	residual
atype	c1	a1	64-64	arrival usage
wgt	f4	f6.3	66-71	location weight
mag	f4	f7.2	73-79	station magnitude
tratbl	c4	a4	81-84	travel time table
remark	c30	a30	86-115	comment

centryd				
attribute name	storage type	external format	character positions	attribute description
orid	i4	i8	1-8	KEY
date	i4	i8	10-17	julian date
time	f8	f15.3	19-33	centroid origin time
lat	f4	f9.4	35-42	centroid latitude
lon	f4	f9.4	44-51	centroid longitude
depth	f4	f5.1	53-57	centroid depth
coterr	f4	f5.1	59-63	std. err. in origin time
claerr	f4	f5.1	65-69	std. err. in latitude (km)
cloerr	f4	f5.1	71-75	std. err. in longitude (km)
cdperr	f4	f5.1	77-81	std. err. in depth
durat	f4	f5.1	83-87	source half-duration (sec.)
nslpb	i4	i3	89-91	no. sta. providing LP body waves
nrlpb	i4	i3	93-95	no. LP body waves used
tmnlpb	f4	f5.1	97-101	cut-off period of low pass filter
nsmw	i4	i3	103-105	no. sta. providing mantle waves
nrmw	i4	i3	107-109	no. mantle waves used
tmnmw	f4	f5.1	111-113	cut-off period for mantle waves
dused	c10	a10	115-124	data type
auth	c15	a15	126-140	author
remark	c30	a30	142-171	comment

channel				
attribute name	storage type	external format	character positions	attribute description
sta	c6	a6	1-6	station code
date	i4	i8	8-15	julian date
chan	c2	a2	17-18	channel code
chid	i4	i8	20-27	channel id number
hang	f4	f6.1	29-34	horizontal angle
vang	f4	f6.1	36-41	vertical angle
bazim	f4	f6.1	43-48	beam azimuth
bslow	f4	f6.1	50-55	beam slowness
instyp	c6	a6	57-62	instrument indicator
rsptyp	c3	a3	64-66	response type
dir	c30	a30	68-97	directory tree
file	c20	a20	99-118	file name

code				
attribute name	storage type	external format	character positions	attribute description
code	c6	a6	1-6	code
rel	c7	a7	8-14	relation
attrib	c7	a7	16-22	attribute
coddes	c255	a255	24-278	description of the code

counter				
attribute name	storage type	external format	character positions	attribute description
curev	i4	i8	1-8	working event
nxevid	i4	i8	10-17	next event id assigned
nxorid	i4	i8	19-26	next origin id assigned
nxarid	i4	i8	28-35	next arrival id assigned
nxwfid	i4	i8	37-44	next waveform id assigned
nxftid	i4	i8	46-53	next feature id assigned
nxchid	i4	i8	55-62	next instrument id assigned

date				
attribute name	storage type	external format	character positions	attribute description
date	i4	i8	1-8	julian date
time	f8	f15.3	10-24	epoch time
year	i4	i4	26-29	year
mon	i4	i2	31-32	month
day	i4	i2	34-35	day of month

event				
attribute name	storage type	external format	character positions	attribute description
evid	i4	i8	1-8	event id
curor	i4	i8	10-17	working origin
prefor	i4	i8	19-26	preferred origin

explo				
attribute name	storage type	external format	character positions	attribute description
orid	i4	i8	1-8	KEY
name	c15	a15	10-24	name (e.g. PILEDRIVER)
time	f8	f15.3	26-40	shot time (epochal)
date	i4	i8	42-49	shot date (julian)
depth	f4	f9.4	51-59	burial depth (km.)
elev	f4	f9.4	61-69	surface elevation (km.)
exlat	f4	f10.5	71-80	latitude (geodetic; to 0.1 arcsec)
exlon	f4	f10.5	82-91	longitude (geodetic)
yield	f4	f9.3	93-101	yield (kT.)
yldmax	f4	f9.3	103-111	upper limit of yield range.
medium	c15	a15	113-127	shot medium (e.g. Tuff/Rhyolite)
moist	f4	f5.2	129-133	moisture content ; 17% = 0.17
watdep	f4	f7.4	135-141	depth of static water table (km.)
paldep	f4	f7.4	143-149	depth of Paleozoic layer (km.)
colint	f4	f10.0	151-160	collapse interval (sec.)
coldia	f4	f7.4	162-168	collapse diameter (km.)
coldep	f4	f7.4	170-176	collapse depth (km.)
colvol	f4	f10.7	178-187	collapse volume (km**3)
tsite	c15	a15	189-203	test site name
exptyp	c4	a4	205-208	explosion type
auth	c15	a15	210-224	author
remark	c30	a30	226-255	comment

extra				
attribute name	storage type	external format	character positions	attribute description
tupid	i4	i8	1-8	id number of parent tuple
rel	c7	a7	10-16	name of parent relation
string	c255	a255	18-272	left over codes and remarks

feature				
attribute name	storage type	external format	character positions	attribute description
ftid	i4	i8	1-8	related arrival id
magb	f4	f7.2	10-16	mb (from M1X or P on sz)
maglr	f4	f7.2	18-24	Ms (from MLRZ or LR on lz)
magsh	f4	f7.2	26-32	Msh (from MSLPN/MSLPE or l.p. S)
mo	f4	f7.2	34-40	other magnitude
cmpx	f4	f10.5	42-51	complexity
tmfi	f4	f10.5	53-62	third spectral moment initial
tmfc	f4	f10.5	64-73	third spectral moment coda
spmm	f4	f10.5	75-84	spectral moment
sprt	f4	f10.5	86-95	spectral ratio
spvt	f4	f10.5	97-106	spectral vector
moauth	c15	a15	108-122	other mag author/type
spauth	c15	a15	124-138	spectral author/type
stype	c1	a1	140-140	signal type
lat	f4	f9.4	142-150	estimated latitude
lon	f4	f9.4	152-160	estimated longitude
depth	f4	f9.4	162-170	estimated depth
time	f8	f15.3	172-186	estimated origin time
remark	c30	a30	188-217	comment

fplane				
attribute name	storage type	external format	character positions	attribute description
orid	i4	i8	1-8	KEY
str1	f4	f5.1	10-14	strike of first nodal plane
dip1	f4	f5.1	16-20	dip of first nodal plane
slip1	f4	f5.1	22-26	slip of first nodal plane
str2	f4	f5.1	28-32	as str1, second nodal plane
dip2	f4	f5.1	34-38	as dip1, second nodal plane
slip2	f4	f5.1	40-44	as slip1, second nodal plane
taxazm	f4	f5.1	46-50	azimuth of T-axis
taxplg	f4	f5.1	52-56	plunge of T-axis
paxazm	f4	f5.1	58-62	azimuth of P-axis
paxplg	f4	f5.1	64-68	plunge of P-axis
plpref	c1	a1	70-70	preferred plane (1 or 2, if known)
auth	c15	a15	72-86	author of solution
remark	c30	a30	88-117	comment

gregion				
attribute name	storage type	external format	character positions	attribute description
grn	i4	i3	1-3	geographic region no
region	c40	a40	5-44	geographic region

moment				
attribute name	storage type	external format	character positions	attribute description
orid	i4	i8	1-8	KEY
mexpon	i4	i3	10-12	exponent of values below
mrr	f4	f5.2	14-18	components..
mtt	f4	f5.2	20-24	of..
mff	f4	f5.2	26-30	moment..
mrt	f4	f5.2	32-36	tensor.
mrf	f4	f5.2	38-42	..
mtf	f4	f5.2	44-48	..
mrrerr	f4	f5.2	50-54	standard error in mrr
mtterr	f4	f5.2	56-60	standard error in mtt
mfferr	f4	f5.2	62-66	standard error in mff
mrterr	f4	f5.2	68-72	standard error in mrt
mrferr	f4	f5.2	74-78	standard error in mrf
mtferr	f4	f5.2	80-84	standard error in mtf
taxval	f4	f5.2	86-90	length of T-axis vector
taxplg	f4	f5.1	92-96	plunge of T-axis
taxazm	f4	f5.1	98-102	azimuth of T-axis
paxval	f4	f5.2	104-108	length of P-axis vector
paxplg	f4	f5.1	110-114	plunge of P-axis vector
paxazm	f4	f5.1	116-120	azimuth of P-axis vector
naxval	f4	f5.2	122-126	length of N(null)-axis vector
naxplg	f4	f5.1	128-132	plunge of N-axis vector
naxazm	f4	f5.1	134-138	azimuth of N-axis vector
bestdc	f4	f5.2	140-144	moment of best-fitting double couple
str1	f4	f5.1	146-150	strike of first nodal plane
dip1	f4	f5.1	152-156	dip of first nodal plane
slip1	f4	f5.1	158-162	slip of first nodal plane
str2	f4	f5.1	164-168	strike of second nodal plane
dip2	f4	f5.1	170-174	dip of second nodal plane
slip2	f4	f5.1	176-180	slip of second nodal plane
nslpb	i4	i3	182-184	as..
nrlpb	i4	i3	186-188	in..
tmnlpb	f4	f5.1	190-194	centryd..
nsmw	i4	i3	196-198	relation..
nrmw	i4	i3	200-202	attributes..
tmnmw	f4	f5.1	204-208	of same..
dused	c10	a10	210-219	name
auth	c15	a15	221-235	
remark	c30	a30	237-266	comment

origerr				
attribute name	storage type	external format	character positions	attribute description
orid	i4	i8	1-8	as in origin
sdobs	f4	f9.4	10-18	std error of obs
sxx	f4	f9.4	20-28	latitude error
syy	f4	f9.4	30-38	longitude error
szz	f4	f9.4	40-48	depth error
stt	f4	f9.4	50-58	time error
sxy	f4	f9.4	60-68	roots
sxz	f4	f9.4	70-78	of
syz	f4	f9.4	80-88	elements
stx	f4	f9.4	90-98	of
sty	f4	f9.4	100-108	covariance
stz	f4	f9.4	110-118	matrix
sdmb	f4	f9.4	120-128	std dev of mb
sdms	f4	f9.4	130-138	std dev of ms
sddp	f4	f9.4	140-148	std dev of (pP-P)
sdzdp	f4	f9.4	150-158	std dev of depth(pP-P)
remark	c30	a30	160-189	comment

origin				
attribute name	storage type	external format	character positions	attribute description
date	i4	i8	1-8	julian date
time	f8	f15.3	10-24	epoch time
lat	f4	f9.4	26-34	latitude
lon	f4	f9.4	36-44	longitude
depth	f4	f9.4	46-54	depth
mb	f4	f6.2	56-61	body wave magnitude
ms	f4	f6.2	63-68	surface wave mag
mo	f4	f7.2	70-76	other magnitude
maxint	i4	i2	78-79	max intensity
nass	i4	i4	81-84	arrivals associated
ndef	i4	i4	86-89	locating arrivals
ndp	i4	i4	91-94	no. of depth phases
nmb	i4	i4	96-99	number of stations
nms	i4	i4	101-104	number of stations
depdp	f4	f9.4	106-114	depth (depth phases)
orid	i4	i8	116-123	origin id
evid	i4	i8	125-132	event id
grn	i4	i3	134-136	geographic reg num
srn	i4	i3	138-140	seismic region num
ltype	c4	a4	142-145	locate alg used
dtype	c1	a1	147-147	depth method flag
etype	c7	a7	149-155	volc,quake,bomb etc.
auth	c15	a15	157-171	source/originator
moauth	c15	a15	173-187	other mag author/type
intscl	c1	a1	189-189	intensity scale for maxint
remark	c30	a30	191-220	comment

sregion				
attribute name	storage type	external format	character positions	attribute description
srn	i4	i3	1-3	seismic region no
region	c40	c40	5-44	seismic region

stalog				
attribute name	storage type	external format	character positions	attribute description
sta	c6	a6	1-6	station code
date	i4	i8	8-15	julian date
comm	c255	a255	17-271	comments on station's status

station				
attribute name	storage type	external format	character positions	attribute description
sta	c6	a6	1-6	station code
stid	i4	i3	8-10	gdsn station id
lat	f4	f9.4	12-20	latitude
lon	f4	f9.4	22-30	longitude
elev	f4	f9.4	32-40	elevation
ondate	i4	i8	42-49	start date
offdat	i4	i8	51-58	off date
grn	i4	i3	60-62	geographic region no
srn	i4	i3	64-66	seismic region no
sname	c25	a25	68-92	station name
remark	c30	a30	94-123	comment

tape				
attribute name	storage type	external format	character positions	attribute description
volnam	c6	a6	1-6	ansi tape label
files	i4	i5	8-12	number of tape files
nowft	i4	i5	14-18	number of wftapes
cdate	i4	i8	20-27	date tape logged
edate	i4	i8	29-36	date oldest data segment
ldate	i4	i8	38-45	date newest data segment
tdense	i4	i5	47-51	tape density
minblk	i4	i5	53-57	minimum block size
maxblk	i4	i5	59-63	maximum block size
reelsz	i4	i5	65-69	tape length
usedft	i4	i5	71-75	tape used
tptype	c2	a2	77-78	tape type

wfdisc				
attribute name	storage type	external format	character positions	attribute description
date	i4	i8	1-8	julian date
time	f8	f15.3	10-24	epoch time
sta	c6	a6	26-31	station code
chan	c2	a2	33-34	channel code
nsamp	i4	i8	36-43	number of points
smprat	f4	f11.7	45-55	sampling rate (in samples/sec)
calib	f4	f9.6	57-65	nominal calibration
calper	f4	f7.4	67-73	calibration period
instyp	c6	a6	75-80	instrument code
segtyp	c1	a1	82-82	indexing method
dattyp	c2	a2	84-85	numeric storage
clip	c1	a1	87-87	clipped flag
chid	i4	i8	89-96	instrument id
wfid	i4	i8	98-105	waveform id
dir	c30	a30	107-136	waveform directory
file	c20	a20	138-157	waveform data file
foff	i4	i10	159-168	byte offset
adate	i4	i8	170-177	date last accessed
remark	c30	a30	179-208	comment

wftape				
attribute name	storage type	external format	character positions	attribute description
date	i4	i8	1-8	julian date
time	f8	f15.3	10-24	epoch time
sta	c6	a6	26-31	station code
chan	c2	a2	33-34	channel
nsamp	i4	i8	36-43	number of points
smprat	f4	f11.7	45-55	sampling rate
calib	f4	f9.6	57-65	nominal calibration
calper	f4	f7.4	67-73	calibration period
instyp	c6	a6	75-80	instrument indicator
segtyp	c1	a1	82-82	indexing method
dattyp	c2	a2	84-85	numeric storage
clip	c1	a1	87-87	clipped flag
chid	i4	i8	89-96	instrument id
wfid	i4	i8	98-105	waveform id
dir	c30	a30	107-136	waveform directory
file	c20	a20	138-157	data file
volnam	c6	a6	159-164	tape name
tpfile	i4	i5	166-170	tape file number
tpblck	i4	i5	172-176	block number in tape file
remark	c30	a30	178-207	comment

xparam				
attribute name	storage type	external format	character positions	attribute description
arid	i4	i8	1-8	arrival id
pname	c10	a10	10-19	parameter name
pvalue	f8	f20.9	21-40	parameter value
auth	c15	a15	42-56	author
remark	c30	a30	58-87	remark

5. Center Archive Tape Format

INTRODUCTION

In order to store the large volume of data that the Center for Seismic Studies will be receiving, a magnetic tape format which allows efficient use of the medium has been developed. While allowing reasonably painless retrieval of the data for the Center staff and visiting researchers it is also meant to serve as an export format for data destined for other computing sites. To this end, a set of design goals has been developed and, in turn, these have lead to the specification of a standard tape format to which all archive tapes written at the Center will adhere for the forseeable future.

DESIGN GOALS

The design features which have guided the choice of a tape format are enumerated below:

(1) The format should make efficient use of 6250 BPI tape and thus have large blocks. These should contain an integral number of words and while not of fixed length, most will be large.

(2) The format should contain data headers sufficient to recover and identify the data without the help of data base information. These headers should be large enough to contain all necessary information but not so large as to encourage inclusion of unnecessary information. The headers should not span physical block boundaries and they should be an integral number of words long.

(3) The format should be simple enough to allow reading and decoding with a straight forward user program.

(4) The format should be structured so that resynchronization after a read error (bad block) is easy with the loss of minimum data.

(5) The format should conform to the ANSI standards for multi-file tapes.

ANSI STANDARD LABELS

These tapes will be written to conform to ANSI standard X3.27-1978 as specified in the document *American National Standard Magnetic Tape Labels and File Structure for Information Interchange*. This 1978 release is version 3 of standard X3.27 which supports fixed, variable and spanned records. Each record format has a blocked and an unblocked form. The layout of records in data files will be discussed later in this document.

The layout of required labels (80 character blocks of ASCII characters), tape marks and data files is shown below. Label blocks are denoted by their four letter identifiers and tape marks by asterisks (*).

VOL1 HDR1 HDR2*-file A-*EOF1 EOF2*HDR1 HDR2*-file B-*EOF1 EOF2**

Note the addition of the HDR2 and EOF2 labels. These describe certain features of the record format used within the data files and are required when other than fixed record format is used.

While we do not envision allowing multi-volume multi-file tapes with tape files which span volumes, this can be done under the standard by ending file sections with an EOV1 - EOV2 label group. Should the Center decide to implement an automatic volume switching capability, the layout for two volumes with sections of the same file is as follows.

VOL1 HDR1 HDR2* - - data file - section 1 - - *EOV1 EOV2**
VOL1 HDR1 HDR2* - - data file - section 2 - - *EOF1 EOF2**

The formats for the various label blocks as outlined by the standard are shown in tables below. The data in these label blocks are all in ASCII. When the column labeled "standard description" says "a" chars it means any reasonable printing ASCII character (upper case only) and "n" means the subset 0-9. The column labeled our use attempts to indicate what we intend to use the various fields for. If it simply says "std" then the content is apparent from the standard definition. In other cases we have supplied the default value which will appear.

VOLUME HEADER LABEL (VOL1)

character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be VOL	std
4	2	label num	1	must be 1	std
5-10	3	vol serial num	6	any 6 "a" chars	reel name
11	4	accessibility	1	space=unlimited	space
12-31	5	reserved	20	must be spaces	std
32-37	6	reserved	6	must be spaces	std
38-51	7	owner id	14	any "a" chars	dba
52-79	8	reserved	28	must be spaces	std
80	9	std version	1	version 3	3

FILE HEADER LABEL (HDR1)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be HDR	std
4	2	label num	1	must be 1	std
5-21	3	file ident	17	any "a" chars	see Note 1
22-27	4	file set id	6	any "a" chars	spaces
28-31	5	file sect num	4	0001 single vol	0001
32-35	6	file seq num	4	0001..0002	std
36-39	7	generation num	4	0001 1st gen	0001
40-41	8	gen ver num	2	00 1st ver	std
42-47	9	create date	6	space yyddd	std
48-53	10	expire date	6	same as above	expired
54	11	accessibility	1	space or "a"	unlimited
55-60	12	block count	6	must be "zeros"	std
61-73	13	system code	13	(optional)	see Note 2
74-80	14	reserved	7	must be spaces	std

Note 1: The file ident field identifies the contents of the tape file. For details of what you will find there see the summary at the end of this paper.

Note 2: The system code field is used to identify both the system the tape file was written on and the method used to write it. See the summary at the end of this paper for more details.

FILE HEADER LABEL (HDR2)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be HDR	std
4	2	label num	1	must be 2	std
5	3	rec format	1	F = fixed D = variable S = spanned	std
6-10	4	blk length	5	max chars/blk	ie. 8192
11-15	5	rec length	5	max rec length	ie. 256
16-50	6	reserved	35	any "a" chars	
16-20	6a	tape density	5	NON-STANDARD	tape
21-25	6b	tape length	5	NON-STANDARD	use
26-30	6c	feet used	5	NON-STANDARD	stats
31-35	6d	marks written	5	NON-STANDARD	
36-40	6e	ibgs written	5	NON-STANDARD	
41-50	6f	bytes written	10	NON-STANDARD	
51-52	7	buf offset	2	additional chars inserted before record in each blk	00
53-80	8	reserved	28	reserved	reserved

END OF FILE LABEL (EOF1)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be EOF	std
4	2	label num	1	must be 1	std
5-54	3-11	same as HDR1	50		
55-60	12	block count	6	6 "n" chars	std
61-80	13,14	same as HDR1	20		

END OF FILE LABEL (EOF2)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be EOF	std
4	2	label num	1	must be 2	std
5-80	3-8	same as in HDR2	76	same as in HDR2	std

END OF FILE LABEL (EOV1)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be EOV	std
4	2	label num	1	must be 1	std
5-54	3-11	same as HDR1	50		
55-60	12	block count	6	6 "n" chars	std
61-80	13,14	same as HDR1	20		

END OF FILE LABEL (EOV2)					
character position	field	name	length (bytes)	standard description	our use
1- 3	1	label id	3	must be EOV	std
4	2	label num	1	must be 2	std
5-80	3-8	same as in HDR2	76	same as in HDR2	std

Note that the first reserved field in the HDR2, EOF2 and EOV2 labels has been used to record tape usage statistics. This is allowed under the standard as long as the system code is supplied. Systems which do not recognize the entry in system code should ignore this reserved field.

DATA FILE FORMAT

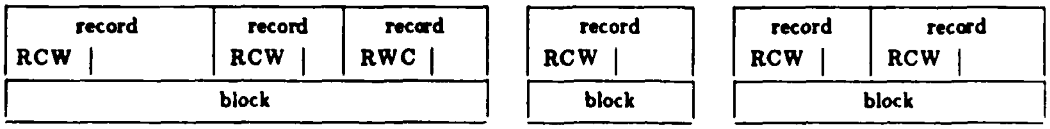
For simplicity we have chosen, for the present, to use the simpler record formats provided by the standard. While spanned format appears tantalizing, especially for long waveform records, it is not fully supported by many systems yet, and has some implementation problems which need to be addressed before it will serve well in an exchange environment. The old fixed length record format is certainly the simplest scheme although it requires that waveforms be represented as several records rather than a single entity.

It is important to note that records of only one format are allowed in any single tape file. If we were to choose variable length record format for parameter data, then tape files containing mixed waveform and parameter data would also have the waveforms formatted as variable length complete with the record control words. If several types of parameter records were to appear in a fixed record format tape file, they would all have to be padded to the largest size. For these reasons waveform data and parameter data should not be mixed in a single tape file.

The question of whether or not to block records is clear no matter whether fixed or variable records are used. Even when large blocks are written a significant amount of tape is given up to record gaps and tape marks. At 6250 bpi an 8192 byte block takes only a little more room than two inter-block gaps, and only half the space required for a tape mark. To treat parameter records and waveform headers as individual records suggests a relatively small record size, say 256 bytes. This means that to make any reasonable use of high density tape we must place many such records in a tape block.

Examples of blocked records appear in the diagrams below.

Blocked Fixed Length Records



Blocked Variable Length Records

Variable length records use a record control word (RCW) to indicate how many characters are in the record. The RCW consists of four ASCII characters forming a decimal number which is the count of characters, inclusive of the RCW itself, in the record. For both fixed and variable there are an integral number of records in a block. The blocks can be filled with as many records as will fit in the maximum block length, but blocks shorter than the maximum length are allowed for either format. It is assumed that the actual number of characters in a block can be recovered from the operating system when the block is read. No explicit indication of the boundaries between records is provided for fixed format.

WAVEFORM DATA

On waveform only tape files a fixed record format is currently in use. The first record for a waveform segment will be an ASCII header which is obtained from the *wftape* relation in INGRES. The format is that specified for external files in the previous section with the characters "WFH1" prepended to it. Four character designators like "WFH1" will henceforth be referred to as record tags. The content of the header fields after the tag is summarized in the table below where blanks appear in the unspecified byte positions such as 9,25,32 etc. Note that the table assumes a 256 character record length. If a different record length is chosen the pad field at the end would be adjusted accordingly.

bytes	name	description	format
1 - 8	date	julian date (ie. 1982254)	i8
10 - 24	time	epochal time (double precision)	f15.3
26 - 31	sta	station code (ie. anmo)	a6
33 - 34	chan	channel (ie. sz)	a2
36 - 43	nsamp	number of samples	i8
45 - 55	smprat	sample rate (in samples/second)	f11.7
57 - 65	calib	calibration constant	f9.6
67 - 73	calper	calibration period	f7.4
75 - 80	instyp	instrument type	a6
82 - 82	segtyp	segment type	a1
84 - 85	dattyp	data type (ie. I4 or F4)	a2
87 - 87	clip	clipped flag	a1
89 - 96	inid	instrument id	i8
98 -105	wfid	waveform id	i8
107-136	dir	directory data came from	a30
138-157	file	file data came from	a20
159-164	volnam	,volume name of tape	a6
166-170	tpfile	tape file number	i5
172-176	tpblck	block number within file	i5
178-207	remark	comment	a30
209-252	reserved	blanks	

Following the header record comes the data records which each occupy the same number of bytes as the header record. The four character record tag is occupied by a decimal number which is a record counter within the waveform. This can be used for resynchronization in case of tape read failures. If more than 9999 records appear in a waveform segment, this counter simply "wraps around" to 0000 and continues counting up again from there.

Since a fair amount of densification is obtained by using binary storage format, tapes written for internal use at the center will use this means of storing waveforms. Binary waveform data samples are written as 32-bit VAX integers or 32 bit VAX floating point numbers (the type can be determined by inspection of the *dattyp* field in the header). This choice means that 63 samples of data will fit in the remaining 252 bytes of each 256 byte record. Details on the order or content of the four bytes in a sample can be found in a VAX hardware manual. If tapes are exported in binary it will most likely be to other Vax sites. If binary data is desired for other installations it will be wise to stick to integer format however some byte swapping may still be required due to the unique order that DEC maps the bytes in memory.

ASCII format will be used for most export data tapes. ASCII waveform data will consist of strings of decimal numbers where again the type of the data samples is derived from *dattyp* as above. Floating point data will be written using fixed point notation and a decimal point will always be present for systems or languages which use it for alignment. Integer data will be right justified in the field and an integral number of samples will be written in a record. For the moment a fixed field width of 12 characters has been chosen for writing ASCII waveforms which results in 21 samples fitting exactly in each record. A waveform tape file written in ASCII is identified by the letters "CSS-AW" in the system code field (field 13) of the HDR1 label block.

PARAMETER DATA

Parameter data are organized in records and are written in ASCII to allow maximum portability. Record formats are the same as those used in the external files (see section 4). There are two ways in which the records can be organized within tape files. The first is designed for use when large numbers of records of the same type are involved (say when you are archiving an entire data base). The second is suitable for archiving small numbers of parameter records of varying types.

LARGE PARAMETER ARCHIVES

When entire data bases are being saved on archive tapes, most of the relations will have a large number of records in them. In this case it is not too wasteful of tape if each new record type is allowed to occupy a new tape file. When this is done, fixed record format can be used and the record length (recorded in the HDR2 label block) can be tailored to that of the data. The type of the record, along with some indication of which data base it came from, can be recorded in the file name in the HDR1 label block, so there is no need to identify individual records as to type or origin. As with waveform data, a means for recovery after tape read failure is desirable. The same scheme of using a four character record counter has been adopted. This method is the one which is currently in use and is implemented in program *arcprm*. Tape files written by *arcprm* have "CSS-AP" in the system code field of the HDR1 label block. The data base name and relation name are recorded in the file ident field.

MIXED PARAMETER FILES

When records of various types are to be mixed in a single tape file, a record type designator (record tag) can be used to identify them. Although this means of storing parameter data has not been implemented yet, it should prove useful if event oriented archives are to be created. A list of suggested record type designators appears in the table below.

	Record Type	Relation
ARR1	arrival record	arrival
ASS1	associated arrivals	assoc
CEN1	centroid record	centryd
CHA1	channel (response) record	channel
COD1	code record	code
COU1	counter record	counter
DAT1	date record	date
EVE1	event record	event
EXP1	explosion record	explo
EXT1	extra record	extra
FEA1	feature record	feature
FPL1	fault plane record	fplane
GRE1	geographic region record	gregion
MOM1	moment record	moment
ORE1	origin error record	origerr
ORI1	origin record	origin
SRE1	seismic region record	sregion
STL1	station log record	stalog
STA1	station location record	station
TAP1	tape index record	tape
WFD1	waveform on disc index	wfdisc
WFT1	waveform on tape index	wftape

Parameter only tape files may be written using variable record format to eliminate the padding of each record type to fit a fixed length. In this case the RCWs should be consulted to recover the actual number of bytes to process. The fields outlined in the record formats will always be in the left part of the record but records may be padded or appended to on the right. If the byte counts in the records are properly interpreted this can be done without modifying programs which understand the old format. They will simply ignore the new attributes.

Other record types may be devised in the future but their designators should be chosen not to conflict with those listed above. Indeed it may be useful to write some parameter data on tape which is not routinely stored in Ingres relations. For this data, formats similar to those of the external files will be devised with no Ingres storage template to go with them. The number in the final position of the record tags may be incremented for future versions of the same record type. These should, in general, be treated as if they were an entirely new record type although in most cases this will simply signal that some new attribute has been added on the right.

SUMMARY

Four types of archive tape files have been outlined in the paragraphs above. Of them three have already been implemented in programs used at the center. Both binary and ASCII waveform files can be written using program *arctwo*. Large parameter archives can be created using program *arcprm*. Mixed waveform and parameter tapes can be made by alternating use of these two programs. No program currently exists which makes mixed parameter record tape files.

To determine what a tape file contains and what format it is in, the ANSI label blocks are very important. For new programs designed to read these tapes a careful interpretation of many of the fields should be done. In general the record type and length can change from tape file to tape file. Although binary data files are technically a violation of the ANSI standard for data interchange, they can be tolerated if the system code is interpreted and indicates this fact.

The bulk of the archive tapes which have been created thus far are binary waveform tapes with fixed record lengths of 256 characters each and a blocking factor of 32 which yields a maximum block size of 8192. These all have the system code field in the HDR1 label blocks set to simply "CSS". In the future tapes with ASCII waveform and parameter files will become more common. To this end we have chosen to extend the use of this field to indicate a little more about the content of the tape file. ASCII waveform tape files will have "CSS-AW" in the system code field. Parameter files of the type written by *arcprm* will have "CSS-AP" and mixed parameter files (if they are implemented) could use "CSS-MP".

The content of the file ident field (field 3) of the HDR1 label block varies depending on what kind of data is in the tape file. Waveform tape files have "yyyyddd/SSSSSS" where yyyyddd is the date of the start of the archive and SSSSSS is the station id. The data are generally organized in one tape file per station for each archive period. Large parameter archives created by *arcprm* have "DDDDDD_RRRRRR" where DDDDDD represents the data base name or prefix name for a group of related parameter files and RRRRR is the name of the relation (external file type) in the tape file. Each new parameter type occupies a separate tape file.

APPENDIX C LOGS OF MESSAGES SENT AND RECEIVED BY THE UNITED STATES NATIONAL DATA CENTER AND THE WASHINGTON INTERNATIONAL DATA CENTER

Logs of Messages Sent and Received by the United States
National Data Center and the Washington International Data Center

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INTRODUCTION

This report contains summarizing information and lists identifying all messages transmitted and received on the World Meteorological Organization's Global Telecommunication System (WMO/GTS) by the Washington National Data Center (NDC) and the Washington International Data Center (WASHIDC) during the Group of Scientific Experts' Technical Test (GSETT) conducted during October 15 - December 14, 1984. These summaries are provided for use by the *Ad Hoc* Group in their evaluation of the WMO/GTS communications channels during the GSETT. The information in this report includes the tabular information specified in the "Instructions for Analyzing/Evaluating the GSETT" (Conference Room Paper 134/Rev. 1, Appendix 9, Item Number 1).

The report that follows is divided into three sections. Section I contains two tables summarizing messages received and messages known to be missing at WASHIDC. It also contains comments on and explanations applying to the other sections. Section II contains listings of all messages sent from the WASHNDC and WASHIDC via the WMO/GTS. Section III contains listings of all messages received at WASHIDC from the other GSETT participants via the WMO/GTS.

I. SUMMARY TABLES AND COMMENTS

Table 1, extracted from the complete lists that follow, contains a summary of messages transmitted from, or received by, WASHIDC by WMO/GTS header. The table shows the total number of messages received followed by the highest number received. This number is not necessarily the highest message number sent, only the highest number observed. The adjacent column shows the number of messages missing on the first transmission and the percentage of those relative to the highest message number received. The next column shows the number of retransmissions received followed by the number of messages still missing after the retransmissions were accounted for.

Table 2 lists the message numbers, by country, that were not received by WASHIDC.

II. OUTGOING MESSAGES FROM THE U. S.

OUTGOING MESSAGES FROM THE U. S. NDC

A total of 835 messages were sent from the U. S. NDC with the SEUS2 header. Of these, 831 were Level I messages, two were status messages and two were actually WASHIDC messages. Of the 831 Level I messages, 313 were retransmissions, most of which were as the result of a single retransmission request from MOSCIDC. Between 15 October-26 October, 97 SEUS2 messages were sent.

OUTGOING MESSAGES FROM THE WASHIDC

A total of 212 messages were sent by WASHIDC under the SEUS10 header, two additional IDC messages were actually sent under the SEUS2 header in the beginning of the GSETT in order to test out the communications. The messages fall into the following approximate categories, using notation for message types defined on the next page. Between 15 October-26 October, 12 SEUS10 messages were sent.

FEB	PEL	R	REC	RET	STA
62	65	29	27	19	12

III. MESSAGES RECEIVED AT WASHIDC

The totals of the message summary, Table 1, show that about 85% of the messages were received on the first transmission, relative to the highest message number received. Retransmissions contributed another 6% to the information content, for a total of 91%. This is an upper limit on the effectiveness of the WMO/GTS, since it is based on the highest message number received, not the actual number sent. The remaining retransmissions were redundant. If we eliminate from the statistics data from sites for which the circuits to WASHIDC appeared to have chronic difficulties, the effectiveness of the WMO/GTS communications seems to be about 97%.

Table 1. Summary of Messages Received at WASHIDC					
WMO/GTS Code	Total No. of Msgs Rec'd	Highest No. Received	No. Missing 1st Trans.	Ret. Rec'd	No. Missing After Ret.
SEAU10	23	N42028	5 (15%)	1	2
SEAU1	276	N40302	26 (9%)	56*	8
	60	N49081	21 (26%)	13	3
	1	N47001	0	0	0
SEBU1	39	N40049	10 (20%)	9	9
SEBX1	32	N40038	6 (16%)	6	2
	9	N47011	2 (18%)	1	1
SEBZ and SEBZ1	19	N40058	39 (67%)	0	39
SECN1	204	N40234	30 (13%)	59	4
	4	N47004	0	0	0
SECO1	1	N40003	?	0	?
SECZ1	70	N40079	13 (9%)	22	0
	1	N47001	0	0	0
SEDD1	36	N40047	11 (23%)	2	7
	11	N47016	5 (31%)	0	5
SEDL1	64	N40070	6 (9%)	9	0
	19	N47023	4 (17%)	4	1
SEDN1	22	N40033	11 (33%)	1	10
	2	N50002	0	2	0
SEEG1 (from MOSCIDC)	1	N40013	?	0	?
SEFI1	46	N40048	2 (4%)	3	0
	3	N47003	0	0	0
SEFR1	76	N40117	41 (35%)	41	12
	1	N47001	0	0	0
SEHU1	57	N40070	13 (19%)	6	8
	5	N47006	1 (16%)	0	1
SEID1	28	N40049	21 (43%)	0	21
SEIE1	34	N40044	10 (23%)	4	6
	6	N47008	2 (25%)	0	2
SEIN1	30	N40061	31 (51%)	0	31
SEIR (Telex)	16	N40024	8 (33%)	0	8
SEIY1	36	N40043	7 (16%)	4	3
	8	N47008	0	0	0

Table 1. Summary of Messages Received at WASHIDC (Cont'd)					
WMO/GTS Code	Total No. of Msgs Rec'd	Highest No. Received	No. Missing 1st Trans.	Ret. Rec'd	No. Missing After Ret.
SEJP1	62	N40069	7 (10%)	5	2
SENL1	64	N40066	2 (3%)	2	0
	15	N47016	1 (6%)	7	0
SENO11	61	N40065	4 (6%)	4	0
SENZ1	9	N40073	64 (88%)	2	59
SEOS1	37	N40039	2 (5%)	10	0
	18	N47018	0	2	0
SEPF01 and SEPF02	6	N40018	12 (67%)	0	12
SEPR1 and SEAG1	20	N40045	25 (56%)	0	25
SERO1	11	N40045	34 (76%)	0	34
SERS1	49	N40059	10 (17%)	6	1
	111	N42128	17 (14%)	17	2
	24	N52031	7 (28%)	13	4
SESN1	173	N40176	3 (2%)	21	0
	174	N42182	8 (4%)	34	0
	9	N52009	0	1	0
SEUK1	70	N40078	8 (10%)	9	1
	7	N47008	1 (13%)	1	1
SEUS2	831	N40831	0	313	0
	2	N47002	0	0	0
SEUS10	197	N42197	0	29	0
	17	N52017	0	0	0
SEZB1	29	N40059	30 (51%)	0	30
Totals	3236 85%	3806	560 15%	719 19%	354 9%

* - Many of these retransmissions contained messages of the N49 series.

Table 2. Missing Messages After Accounting for Retransmissions		
WMO Code	No.	Message List
SEAU10	2	N42022,25
SEAU1	8	N40060,107,126,254,255,274,275,301
	3	N49020,60,73
SEBU1	9	N40008,9,10,16,24,31,34,37,47
SEBX1	2	N40036,37
	1	N47010
SEBZ and SEBZ1	39	N40004-10,19-23,25-29,31-37,39-50,53-57
SECN1	4	N40004,174,218,221
SECO1	Unknown	Only Received N40003
SECZ1	0	None Missing
SEDD1	7	N40018,27,35,39,43-45
	5	N47001,5,6,9,12
SEDL1	1	N47003
SEDN1	10	N40001,5,9,11,14,16,24,25,27,30
SEEG1	Unknown	Only Received N40013
SEFI1	0	None Missing
SEFR1	12	N40052,87,89,91,100,103,104,109-111,113,116
SEHU1	8	N40016,26-30,44,45
	1	N47001
SEID1	21	N40002-7,10,13,16,20,21,27,28,32,35-38,41,42,44
SEIE1	6	N40001-3,8,9,39
	2	N47005,7
SEIN1	31	N40001-28,35,43,49
SEIR	8	N40001-5,9,10,17,18
SEIY1	3	N40017,18,21
SEJP1	2	N40062,66
SENL1	0	None Missing
SENO11	0	None Missing
SENZ1	59	N40001,5,7-13,17-29,32,35-40,43-72
SEOS1	0	None Missing

Table 2. Missing Messages After Accounting for Retransmissions (Cont'd)		
WMO Code	No.	Message List
SEPF01 and SEPF02	12	N40001-5,7,9-14
SEPR1 and SEAG1	25	N40001-10,13,14,19,20,22,24,26,28,30, 33,35,40,41,42,44
SERO1	34	N40001,2,3,5-9,11-18,20-26,28-30,32-34,37-39,41,42
SERS1	1 2 4	N40055 N42125,127 N52028,29,(30,31 from STOCIDC)
SESN1	0	None Missing
SEUK1	1 1	N40064 N47002
SEUS2 and SEUS10	0	None Missing
SEZB1	30	N40002-20,23,24,28,29,35-39,45,51
Total	354	

INCOMING MESSAGES FROM STOCIDC

A total of 183 messages were received from STOCIDC with the following approximate breakdown.

FEB	PEL	R	REC	RET	STA
60	58	35	15	15	0

INCOMING MESSAGES FROM MOSCIDC

A total of 135 messages were received from MOSCIDC with the following approximate breakdown.

FEB	PEL	R	REC	RET	STA
35	39	30	10	12	9

The last two FEB's were obtained through a direct computer link from STOCIDC.

INCOMING MESSAGES FROM THE GSETT COORDINATOR

A total of 23 messages were received from the GSETT Coordinator, the highest message number is 28. The table of missing messages only shows that two messages are missing because the contents of three other messages were obtained from other retransmissions.

INCOMING MESSAGES FROM OTHER GSETT PARTICIPANTS

The listings of messages from all other GSETT participants follow in alphabetical order by country. Certain messages arrived with the wrong WMO/GTS headers, e.g. SEAG and SEIY headers containing messages from the U. S. These messages are not shown in the statistics since they also arrived with the correct headers and are therefore also included in the tabulation.

The listings for each individual country are organized by message number order. The message type was obtained from the contents of the message according to the following table:

CRD - messages from the GSETT coordinator,
I - Level I parameter data,
R - Retransmission of previously transmitted message,
RET - Retransmission request,
PEL - Preliminary event list,
REC - Reconciliation of FEB's between IDC's,
FEB - Final event bulletin,
STA - Status message.

Certain key lines were extracted from the message and are presented in the comment field. The only alteration of these lines that were made for presentation is that the word "RETRANSMISSION" was abbreviated to "RET". Also, if the message number contained blanks, those were eliminated in order to aid the automatic processing. The UTC time of the reception of the message is also shown. If the last digit of the UTC time is not a number that means that the message arrived within the same minute as another message. The number of lines in the message is also presented which includes the WMO/GTS header lines; there were two lines of WMO/GTS headers per message. There was an attempt to eliminate duplicate messages from the processing but some duplicates are included, especially if they arrived on different days with the same message number.

Some countries changed WMO headers during the GSETT. Their message summaries appear under the WMO header with which they arrived.

In some cases it appears that message numbers are presented in the wrong order; however, careful scrutiny reveals that the message numbers contain non-numeric characters such as the letter "O" instead of the number "0".

II. OUTGOING MESSAGES FROM WASHNDC AND WASHIDC

Sender (Country): United States
Sender's WMO/GTS header: SEUS2 KWBC
Time Period: Day 1 (Oct 15) -- Day 67 (Dec 20)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N0023	I	Oct 19	2254	46	BEG FBAL OCT18 000000 END OCT18 240000
N40001	I	Oct 16	231A	42	BEG FBAL OCT15 000001 END OCT15 240000
N40002	I	Oct 16	2313	199	BEG FBAS OCT15 000000 END OCT15 160000
N40003	I	Oct 16	2320	92	BEG FBAS OCT15 160000 END OCT15 240000
N40004	I	Oct 16	2322	50	BEG LAC OCT15 000000 END OCT15 240000
N40005	I	Oct 16	2326	113	BEG LTX OCT15 000000 END OCT15 193000
N40006	I	Oct 16	2329	95	BEG RSNY OCT15 000000 END OCT15 240000
N40007	I	Oct 16	2332	77	BEG RSON OCT15 000000 END OCT15 240000
N40008	I	Oct 16	2334	217	BEG RSSD OCT15 000000 END OCT15 240000
N40009	I	Oct 17	221A	27	BEG FBAL OCT16 000001 END OCT16 240000
N40010	I	Oct 17	2219	162	BEG FBAS OCT16 000001 END OCT16 240000
N40011	I	Oct 17	2236	185	BEG RSSD OCT16 000000 END OCT16 240000
N40012	I	Oct 17	2229	118	BEG RSNY OCT16 000000 END OCT16 240000
N40013	I	Oct 17	223A	34	BEG RSON OCT16 000000 END OCT16 240000
N40014	I	Oct 17	2225	120	BEG LTX OCT15 193000 END OCT16 180000
N40015	I	Oct 17	2224	31	BEG LAC OCT16 000000 END OCT16 240000
N40016	I	Oct 18	2238	61	BEG FBAL OCT17 000001 END OCT17 240000
N40017	I	Oct 18	2240	196	BEG FBAS OCT17 000001 END OCT17 240000
N40018	I	Oct 18	2246	40	BEG LAC OCT17 000000 END OCT17 240000
N40019	I	Oct 18	2247	123	BEG LTX OCT16 180000 END OCT17 090000
N40020	I	Oct 18	2251	123	BEG RSNY OCT17 000000 END OCT17 240000
N40021	I	Oct 18	2255	67	BEG RSON OCT17 000000 END OCT17 240000
N40022	I	Oct 18	2257	180	BEG RSSD OCT17 000000 END OCT17 240000
N40024	I	Oct 20	000A	164	BEG FBAS OCT18 000000 END OCT18 150000
N40025	I	Oct 19	2255	47	BEG LAC OCT18 000000 END OCT18 240000
N40026	I	Oct 19	2302	181	BEG LTX OCT17 090000 END OCT18 153000
N40027	I	Oct 19	2307	96	BEG RSNY OCT18 000000 END OCT18 240000
N40028	I	Oct 19	2310	82	BEG RSON OCT18 000000 END OCT18 240000
N40029	I	Oct 20	0006	173	BEG RSSD OCT18 000000 END OCT18 190000
N40030	I	Oct 20	0011	117	BEG RSSD OCT18 190000 END OCT18 240000
N40031	I	Oct 20	0014	81	BEG FBAS OCT18 150000 END OCT18 240000
N40032	I	Oct 22	234A	77	BEG FBAL OCT19 000000 END OCT19 240000
N40033	I	Oct 23	001A	56	BEG FBAL OCT20 000000 END OCT20 240000
N40034	I	Oct 23	0021	45	BEG FBAL OCT21 000000 END OCT21 240000
N40035	I	Oct 23	0022	191	BEG FBAS OCT19 000000 END OCT19 093000
N40036	I	Oct 23	0012	179	BEG FBAS OCT19 093000 END OCT19 240000
N40037	I	Oct 23	002A	187	BEG FBAS OCT20 000000 END OCT20 180000
N40038	I	Oct 23	0034	99	BEG FBAS OCT20 180000 END OCT19 240000
N40039	I	Oct 23	0037	159	BEG FBAS OCT21 000000 END OCT21 190000
N40040	I	Oct 23	0042	58	BEG FBAS OCT21 190000 END OCT21 240000
N40041	I	Oct 23	0046	28	BEG LAC OCT19 000000 END OCT19 240000
N40042	I	Oct 22	2350	17	BEG LAC OCT20 000000 END OCT20 240000
N40043	I	Oct 22	2351	17	BEG LAC OCT21 000000 END OCT21 240000
N40044	I	Oct 22	235A	131	BEG LTX OCT18 153000 END OCT19 070000
N40045	I	Oct 22	2355	111	BEG RSNY OCT19 000000 END OCT19 240000
N40046	I	Oct 22	2359	55	BEG RSON OCT19 000000 END OCT19 240000
N40047	I	Oct 23	0000	196	BEG RSSD OCT19 000000 END OCT19 150000
N40048	I	Oct 23	0008	151	BEG RSSD OCT19 150000 END OCT19 240000
N40049	I	Oct 23	2254	17	BEG LAC OCT22 000000 END OCT22 240000

N40050	I	Oct 23 2307	52	BEG FBAL OCT22 000000 END OCT22 240000
N40051	I	Oct 23 2308	179	BEG FBAS OCT22 000000 END OCT22 170000
N40052	I	Oct 23 2314	66	BEG FBAS OCT22 170000 END OCT22 240000
N40053	I	Oct 23 2316	105	BEG RSNY OCT20 000000 END OCT20 240000
N40054	I	Oct 23 2319	64	BEG RSON OCT20 000000 END OCT20 240000
N40055	I	Oct 23 2321	158	BEG RSSD OCT20 000000 END OCT20 240000
N40056	I	Oct 23 2325	51	BEG RSNY OCT21 000000 END OCT21 240000
N40057	I	Oct 23 2327	57	BEG RSON OCT21 000000 END OCT21 240000
N40058	I	Oct 23 2255	132	BEG RSSD OCT21 000000 END OCT21 240000
N40059	I	Oct 23 2259	145	BEG LTX OCT19 070000 END OCT20 240000
N40060	I	Oct 23 2303	88	BEG LTX OCT21 000000 END OCT22 150000
N40061	I	Oct 23 2306	25	BEG SMY OCT15 000000 END OCT15 120000
				BEG SPA OCT15 000000 END OCT15 240000
N40062	I	Oct 25 0200	35	BEG LAC OCT23 000000 END OCT23 240000
N40063	I	Oct 25 0214	67	BEG FBAL OCT23 000000 END OCT23 240000
N40064	I	Oct 25 021A	138	BEG FBAS OCT23 000000 END OCT23 120000
N40065	I	Oct 25 0220	144	BEG FBAS OCT23 120000 END OCT23 240000
N40066	I	Oct 25 0225	120	BEG RSNY OCT22 000000 END OCT22 240000
N40067	I	Oct 25 0229	57	BEG RSON OCT22 000000 END OCT22 240000
N40068	I	Oct 25 0230	199	BEG RSSD OCT22 000000 END OCT22 240000
N40069	I	Oct 25 0236	24	BEG RSNY OCT23 000000 END OCT23 080000
N40070	I	Oct 25 0237	34	BEG RSSD OCT23 000000 END OCT23 080000
N40071	I	Oct 25 0201	109	BEG LTX OCT22 160000 END OCT23 180000
N40072	I	Oct 25 0204	44	BEG RSON OCT23 000000 END OCT23 160000
N40073	I	Oct 25 0205	139	BEG BAO OCT15 000000 END OCT15 240000
				BEG BUL OCT15 000000 END OCT15 240000
				BEG CHG OCT15 000000 END OCT15 240000
				BEG LPB OCT15 000000 END OCT15 240000
				BEG NAI OCT15 000000 END OCT15 240000
				BEG QUE OCT15 000000 END OCT15 240000
N40074	I	Oct 25 0210	100	BEG BAO OCT16 000000 END OCT16 240000
				BEG BUL OCT16 000000 END OCT16 240000
				BEG CHG OCT16 000000 END OCT16 240000
				BEG LPB OCT16 000000 END OCT16 240000
				BEG NAI OCT16 000000 END OCT16 240000
				BEG QUE OCT16 000000 END OCT16 240000
				BEG SPA OCT16 000000 END OCT16 240000
N40075	I	Oct 25 2329	19	BEG FBAL OCT24 000000 END OCT24 240000
N40076	I	Oct 25 2334	161	BEG FBAS OCT24 000000 END OCT24 240000
N40077	I	Oct 25 2339	57	BEG LAC OCT24 000000 END OCT24 240000
N40078	I	Oct 25 2342	167	BEG LTX OCT23 180000 END OCT24 180000
N40079	I	Oct 25 2347	136	BEG RSNY OCT23 080000 END OCT23 240000
N40080	I	Oct 25 2354	185	BEG RSSD OCT23 080000 END OCT23 240000
N40081	I	Oct 25 2359	92	BEG RSNY OCT24 000000 END OCT24 240000
N40082	I	Oct 26 0002	128	BEG RSSD OCT24 000000 END OCT24 240000
N40083	I	Oct 26 0006	50	BEG RSON OCT23 160000 END OCT24 240000
N40084	I	Oct 25 232B	176	PARAMETERS FROM ADDITIONAL STATIONS)
N40085	I	Oct 26 2316	72	BEG FBAL OCT25 000000 END OCT25 240000
N40086	I	Oct 26 2320	177	BEG FBAS OCT25 000000 END OCT25 240000
N40087	I	Oct 26 2326	268	BEG FBAS OCT25 000000 END OCT25 240000
				BEG FBAS OCT25 000000 END OCT25 240000
N40088	I	Oct 26 2334	173	BEG LTX OCT24 180000 END OCT25 203000
N40089	I	Oct 26 2340	82	BEG LAC OCT25 000000 END OCT25 240000
N40090	I	Oct 26 2342	160	BEG RSNY OCT25 000000 END OCT25 240000
N40091	I	Oct 26 2347	124	BEG RSON OCT25 000000 END OCT25 240000
N40092	I	Oct 26 2351	181	BEG RSSD OCT25 000000 END OCT25 240000

N40093	I	Oct 26	2357	175	PARAMETERS FROM ADDITIONAL STATIONS
N40094	I	Oct 26	231B	165	PARAMETERS FROM ADDITIONAL STATIONS
N40095	I	Oct 26	2323	53	PARAMETERS FROM ADDITIONAL STATIONS
N40096	I	Oct 26	2324	73	PARAMETERS FROM ADDITIONAL STATIONS
N40097	I	Oct 30	0116	76	BEG LAC OCT26 000000 END OCT26 240000
N40098	I	Oct 30	015A	67	BEG LAC OCT27 000000 END OCT27 240000
N40099	I	Oct 30	0210	28	BEG LAC OCT28 000000 END OCT28 240000
N40100	I	Oct 30	021A	72	BEG FBAL OCT25 000000 END OCT25 240000
N40101	I	Oct 30	0212	140	BEG FBAS OCT 26 000000 END 26 083000
N40102	I	Oct 30	0217	159	BEG FBAS OCT26 0830000 END OCT26 2400000
N40103	I	Oct 30	0222	98	BEG FBAL OCT27 000000 END OCT27 240000
N40104	I	Oct 30	0225	187	BEG FBAS OCT27 000000 END OCT27 080000
N40105	I	Oct 30	0231	193	BEG FBAS OCT27 080000 END OCT27 240000
N40106	I	Oct 30	011B	42	BEG FBAL OCT28 00000 END OCT28 240000
N40107	I	Oct 30	0120	140	BEG FBAS OCT28 000000 END OCT28 110000
N40108	I	Oct 30	0124	98	BEG FBAS OCT28 1200000 END OCT28 2400000
N40109	I	Oct 30	0131	179	BEG LTX OCT25 203000 END OCT26 190000
N40110	I	Oct 30	0137	165	BEG RSNY OCT26 000000 END OCT26 240000
N40111	I	Oct 30	0142	68	BEG RSON OCT26 000000 END OCT26 240000
N40112	I	Oct 30	0144	156	BEG RSSD OCT26 000000 END OCT26 240000
N40113	I	Oct 30	0151	77	BEG RSNY OCT27 000000 END OCT27 150000
N40114	I	Oct 30	0154	64	BEG RSON OCT27 000000 END OCT27 120000
N40115	I	Oct 30	0156	113	BEG RSSD OCT27 000000 END OCT27 150000
N40116	I	Oct 30	0201	181	PARAMETERS FROM ADDITIONAL STATIONS
N40117	I	Oct 30	0206	130	PARAMETERS FROM ADDITIONAL STATIONS
N40118	I	Oct 31	180A	39	BEG FBAL OCT29 000000 END OCT29 240000
N40119	I	Oct 31	1818	197	BEG FBAS OCT29 000000 END OCT29 190000
N40120	I	Oct 31	1825	114	BEG FBAS OCT29 190000 END OCT29 240000
N40121	I	Oct 31	1829	65	BEG LAC OCT29 000000 END OCT29 240000
N40122	I	Oct 31	1830	157	BEG LTX OCT26 190000 END OCT27 130000
N40123	I	Oct 31	1835	163	BEG LTX OCT27 160000 END OCT29 220000
N40124	I	Oct 31	1840	31	BEG RSNY OCT27 150000 END OCT27 240000
N40125	I	Oct 31	1841	23	BEG RSON OCT27 120000 END OCT28 240000
N40126	I	Oct 31	184A	59	BEG RSSD OCT27 150000 END OCT27 240000
N40127	I	Oct 31	1806	53	BEG RSNY OCT28 000000 END OCT28 240000
N40128	I	Oct 31	180B	93	BEG RSSD OCT28 000000 END OCT28 240000
N40129	I	Oct 31	181A	81	BEG RSNY OCT29 000000 END OCT30 240000
N40130	I	Oct 31	1814	49	BEG RSON OCT29 000000 END OCT29 240000
N40131	I	Oct 31	1815	102	BEG RSSD OCT29 000000 END OCT29 240000
N40132	I	Nov 1	0109	23	BEG FBAL OCT30 000000 END OCT30 240000
N40133	I	Nov 1	0110	138	BEG FBAS OCT30 000000 END OCT30 180000
N40134	I	Nov 1	0114	104	BEG FBAS OCT30 180000 END OCT30 240000
N40135	I	Nov 1	0117	136	BEG LTX OCT29 200000 END OCT30 200000
N40136	I	Nov 1	0121	115	BEG RSNY OCT30 000000 END OCT30 240000
N40137	I	Nov 1	0125	66	BEG RSON OCT30 000000 END OCT30 240000
N40138	I	Nov 1	0127	165	BEG RSSD OCT30 000000 END OCT30 240000
N40139	I	Nov 1	0131	187	PARAMETERS FROM ADDITIONAL STATIONS
N40140	I	Nov 1	2307	24	BEG FBAL OCT31 000000 END OCT31 240000
N40141	I	Nov 1	230B	87	BEG FBAS OCT31 000000 END OCT31 240000
N40142	I	Nov 1	2310	106	BEG LAC OCT30 000000 END OCT30 240000
N40143	I	Nov 1	2311	115	BEG LTX OCT30 200000 END OCT31 203000
N40144	I	Nov 1	2314	108	BEG RSNY OCT31 000000 END OCT31 240000
N40145	I	Nov 1	2318	34	BEG RSON OCT31 000000 END OCT31 240000
N40146	I	Nov 1	2319	188	BEG RSSD OCT31 000000 END OCT31 240000
N40147	I	Nov 3	0001	34	BEG FBAL NOV01 000000 END NOV01 240000
N40148	I	Nov 3	0003	159	BEG FBAS NOV01 000000 END NOV01 240000

N40149	I	Nov 3	0008	53	BEG LAC OCT31 000000 END OCT31 240000
N40150	I	Nov 3	0010	135	BEG LTX OCT31 203000 END NOV01 210000
N40151	I	Nov 3	0014	94	BEG RSNY NOV01 000000 END NOV01 240000
N40152	I	Nov 3	0017	47	BEG RSON NOV01 000000 END NOV01 240000
N40153	I	Nov 3	0018	103	BEG RSSD NOV01 000000 END NOV01 240000
N40154	I	Nov 3	0022	161	PARAMETERS FROM ADDITIONAL STATIONS
N40155	R	Nov 3	0026	179	BEG FBAS OCT25 000000 END OCT25 240000 RET OF SEUS2 N40086
N40156	I	Nov 6	0146	37	BEG FBAL NOV02 000000 END NOV02 240000
N40157	I	Nov 6	0204	50	BEG FBAL NOV03 000000 END NOV03 240000
N40158	I	Nov 6	0205	182	BEG FBAS NOV02 000000 END NOV02 240000
N40159	I	Nov 6	021A	208	BEG FBAS NOV03 000000 END NOV03 240000
N40160	I	Nov 6	0218	54	BEG LAC NOV01 000000 END NOV01 240000
N40161	I	Nov 6	0220	40	BEG LAC NOV02 000000 END NOV02 240000
N40162	I	Nov 6	022A	46	BEG LAC NOV03 000000 END NOV03 240000
N40163	I	Nov 6	0223	59	BEG LAC NOV04 000000 END NOV04 240000
N40164	I	Nov 6	022B	185	BEG LTX NOV01 210000 END NOV03 193000
N40165	I	Nov 6	0147	22	BEG FBAL NOV04 000000 END NOV04 240000
N40166	I	Nov 6	0148	171	BEG FBAS NOV04 000000 END NOV04 240000
N40167	I	Nov 6	0153	98	BEG RSNY NOV02 000000 END NOV02 240000
N40168	I	Nov 6	0156	56	BEG RSON NOV02 000000 END NOV02 240000
N40169	I	Nov 6	0158	116	BEG RSSD NOV02 000000 END NOV02 240000
N40170	I	Nov 7	0119	27	BEG FBAL NOV05 000000 END NOV05 240000
N40171	I	Nov 7	0136	112	BEG FBAS NOV05 000000 END NOV05 130000
N40172	I	Nov 7	0139	121	BEG FBAS NOV05 130000 END NOV05 240000
N40173	I	Nov 7	0143	54	BEG LAC NOV05 000000 END NOV05 240000
N40174	I	Nov 7	0144	111	BEG LTX NOV03 193000 END NOV05 050000
N40175	I	Nov 7	0148	118	BEG LTX NOV05 050000 END NOV05 213000
N40176	I	Nov 7	0151	57	BEG RSNY NOV03 000000 END NOV03 240000
N40177	I	Nov 7	0153	46	BEG RSON NOV03 000000 END NOV03 240000
N40178	I	Nov 7	0154	131	BEG RSSD NOV03 000000 END NOV03 240000
N40179	I	Nov 7	011C	52	BEG RSNY NOV04 000000 END NOV04 240000
N40180	I	Nov 7	0121	48	BEG RSON NOV04 000000 END NOV04 240000
N40181	I	Nov 7	0122	101	BEG RSSD NOV04 000000 END NOV04 240000
N40182	I	Nov 7	0125	65	BEG RSNY NOV05 000000 END NOV05 240000
N40183	I	Nov 7	0127	52	BEG RSON NOV05 000000 END NOV05 240000
N40184	I	Nov 7	0132	128	BEG RSSD NOV05 000000 END NOV05 240000
N40185	I	Nov 8	003b	21	BEG FBAL NOV06 000000 END NOV06 240000
N40186	I	Nov 8	004a	165	BEG FBAS NOV06 000000 END NOV06 240000
N40187	I	Nov 8	004b	48	BEG LAC NOV06 000000 END NOV06 240000
N40188	I	Nov 8	004c	141	BEG LTX NOV05 212500 END NOV06 212000
N40189	I	Nov 8	004d	117	BEG RSNY NOV06 000000 END NOV06 240000
N40190	I	Nov 8	0041	71	BEG RSON NOV06 000000 END NOV06 240000
N40191	I	Nov 8	004e	107	BEG RSSD NOV06 000000 END NOV06 240000
N40192	I	Nov 8	004f	90	PARAMETERS FROM ADDITIONAL STATIONS
N40193	I	Nov 8	004g	124	PARAMETERS FROM ADDITIONAL STATIONS
N40194	I	Nov 8	003c	165	PARAMETERS FROM ADDITIONAL STATIONS
N40195	I	Nov 8	0040	98	PARAMETER FROM ADDITIONAL STATION
N40196	I	Nov 8	233c	10	BEG FBAL NOV07 000000 END NOV07 240000
N40197	I	Nov 8	2333	127	BEG FBAS NOV07 000000 END NOV07 240000
N40198	I	Nov 8	2334	69	BEG LAC NOV07 000000 END NOV07 240000
N40199	I	Nov 8	233d	159	BEG LTX NOV06 213000 END NOV07 212000
N40200	I	Nov 8	233e	168	BEG RSNY NOV07 000000 END NOV07 240000
N40201	I	Nov 8	2335	162	BEG RSON NOV07 000000 END NOV07 120000
N40202	I	Nov 8	233f	55	BEG RSON NOV07 120000 END NOV07 240000
N40203	I	Nov 8	233g	78	BEG RSSD NOV07 000000 END NOV07 240000

N40204	I	Nov	8	233h	139	PARAMETERS FROM ADDITIONAL STATIONS
N40205	I	Nov	9	2340	71	BEG FBAL NOV08 000000 END NOV08 240000))
N40206	I	Nov	9	234d	124	BEG FBAS NOV08 000000 END NOV08 140000
N40207	I	Nov	9	2348	58	BEG FBAS NOV08 140000 END NOV08 240000
N40208	I	Nov	9	234f	66	BEG LAC NOV08 000000 END NOV08 240000
N40209	I	Nov	9	2350	122	BEG LTX NOV07 213000 END NOV08 160000
N40210	I	Nov	9	235a	81	BEG LTX NOV08 160000 END NOV08 213000
N40211	I	Nov	9	235b	122	BEG RSNY NOV08 000000 END NOV08 240000
N40212	I	Nov	9	2351	141	BEG RSON NOV08 000000 END NOV08 240000
N40213	I	Nov	9	2352	195	BEG RSSD NOV08 000000 END NOV08 240000
N40214	I	Nov	13	013f	46	BEG FBAL NOV09 000000 END NOV09 240000
N40215	I	Nov	13	013k	116	BEG FBAS NOV09 000000 END NOV09 240000
N40216	I	Nov	13	0135	27	BEG FBAL NOV10 000000 END NOV10 240000
N40217	I	Nov	13	013l	130	BEG FBAS NOV10 000000 END NOV10 160000
N40218	I	Nov	13	013m	76	BEG FBAS NOV10 160000 END NOV10 240000
N40219	I	Nov	13	013n	41	BEG FBAL NOV11 000000 END NOV11 240000
N40220	I	Nov	13	013o	117	BEG FBAS NOV11 000000 END NOV11 240000
N40221	I	Nov	13	0136	131	BEG LTX NOV08 213100 END NOV09 240000
N40222	I	Nov	13	013p	50	BEG LAC NOV09 000000 END NOV09 240000
N40223	I	Nov	13	0132	93	BEG RSNY NOV09 000000 END NOV09 240000
N40224	I	Nov	13	013g	90	BEG RSON NOV09 000000 END NOV09 240000
N40225	I	Nov	13	0133	68	BEG RSSD NOV09 000000 END NOV09 240000
N40226	I	Nov	13	013h	47	BEG RSNY NOV10 000000 END NOV10 240000
N40227	I	Nov	13	013i	77	BEG RSON NOV10 000000 END NOV10 240000
N40228	I	Nov	13	013j	142	BEG RSSD NOV10 000000 END NOV10 240000
N40229	R	Nov	13	0134	103	BEG LAC OCT30 000000 END OCT30 240000 RET OF SEUS2 N40142
N40230	I	Nov	14	0119	21	BEG FBAL NOV12 000000 END NOV12 240000
N40231	I	Nov	14	0122	133	BEG FBAS NOV12 000000 END NOV12 160000
N40232	I	Nov	14	012f	42	BEG FBAS NOV12 160000 END NOV12 240000
N40233	I	Nov	14	012g	52	BEG LAC NOV10 000000 END NOV10 240000
N40234	I	Nov	14	012h	38	BEG LAC NOV11 000000 END NOV11 240000
N40235	I	Nov	14	012i	38	BEG LAC NOV12 000000 END NOV12 240000
N40236	I	Nov	14	012j	67	BEG LTX NOV10 000000 END NOV10 140000
N40237	I	Nov	14	0123	150	BEG LTX NOV10 140000 END NOV12 194500
N40238	I	Nov	14	012k	16	BEG RSNY NOV11 000000 END NOV11 240000
N40239	I	Nov	14	011g	174	BEG RSON NOV11 000000 END NOV11 240000
N40240	I	Nov	14	0120	88	BEG RSSD NOV11 000000 END NOV11 240000
N40241	I	Nov	14	012a	26	BEG RSNY NOV12 000000 END NOV12 240000
N40242	I	Nov	14	012b	130	BEG RSON NOV12 000000 END NOV12 160000
N40243	I	Nov	14	012c	82	BEG RSON NOV12 160000 END NOV12 240000
N40244	I	Nov	14	012d	98	BEG RSSD NOV12 000000 END NOV12 240000
N40245	I	Nov	14	0121	153	PARAMETERS FROM ADDITIONAL STATIONS
N40246	I	Nov	14	012e	46	PARAMETERS FROM ADDITIONAL STATIONS
N40247	I	Nov	15	000d	9	BEG FBAL NOV13 000000 END NOV13 240000
N40248	I	Nov	15	0001	124	BEG FBAS NOV13 000000 END NOV13 160000
N40249	I	Nov	15	000f	73	BEG FBAS NOV13 160000 END NOV13 240000
N40250	I	Nov	15	000g	34	BEG LAC NOV13 000000 END NOV13 240000
N40251	I	Nov	15	000h	105	BEG LTX NOV12 194500 END NOV13 193000
N40252	I	Nov	15	0002	64	BEG RSNY NOV13 000000 END NOV13 240000
N40253	I	Nov	15	0003	114	BEG RSON NOV13 000000 END NOV13 240000
N40254	I	Nov	15	000i	130	BEG RSSD NOV13 000000 END NOV13 240000
N40255	I	Nov	15	0004	140	PARAMETERS FROM ADDITIONAL STATIONS
N40256	I	Nov	15	000e	141	PARAMETERS FROM ADDITIONAL STATIONS
N40257	I	Nov	16	0013	34	BEG FBAL NOV14 000000 END NOV14 240000
N40258	I	Nov	16	001c	112	BEG FBAS NOV14 000000 END NOV14 240000

N40259	I	Nov 16 001d	53	BEG LAC NOV14 000000 END NOV14 240000
N40260	I	Nov 16 0014	286	BEG LTX NOV13 193000 END NOV14 194000
				BEG LTX NOV13 193000 END NOV14 194000
N40261	I	Nov 16 001e	69	BEG RSNY NOV14 000000 END NOV14 240000
N40262	I	Nov 16 0015	73	BEG RSON NOV14 000000 END NOV14 240000
N40263	I	Nov 16 001f	135	BEG RSSD NOV14 000000 END NOV14 240000
N40264	I	Nov 16 234e	35	BEG FBAL NOV15 000000 END NOV15 240000
N40265	I	Nov 16 2340	179	BEG FBAS NOV15 000000 END NOV15 240000))
N40266	I	Nov 16 234a	72	BEG LAC NOV15 000000 END NOV15 240000))
N40267	I	Nov 16 2347	149	BEG LTX NOV14 194000 END NOV15 195000
N40268	I	Nov 16 2348	60	BEG RSNY NOV15 000000 END NOV15 240000
N40269	I	Nov 16 234f	50	BEG RSON NOV15 000000 END NOV15 240000
N40270	I	Nov 16 2349	248	BEG RSSD NOV15 000000 END NOV15 240000
				BEG RSSD NOV15 000000 END NOV15 240000
N40271	I	Nov 16 2359	152	PARAMETERS FROM ADDITIONAL STATIONS
N40272	I	Nov 16 235a	157	PARAMETERS FROM ADDITIONAL STATIONS
N40273	I	Nov 16 235b	57	PARAMETERS FROM ADDITIONAL STATIONS))
N40274	I	Nov 20 0034	16	BEG FBAL NOV16 000000 END NOV16 240000
N40275	I	Nov 20 0037	114	BEG FBAS NOV16 000000 END NOV16 240000
N40276	I	Nov 20 003f	70	BEG RSNY NOV16 000000 END NOV16 240000
N40277	I	Nov 20 003g	156	BEG RSON NOV16 000000 END NOV16 240000
N40278	I	Nov 20 003h	133	BEG RSSD NOV16 000000 END NOV16 240000
N40279	I	Nov 20 0038	123	BEG LTX NOV15 195000 END NOV16 140000
N40280	I	Nov 20 003i	135	BEG LTX NOV16 140000 END NOV17 143000
N40281	I	Nov 20 003j	62	BEG FBAL NOV17 000000 END NOV17 240000
N40282	I	Nov 20 003d	18	BEG FBAL NOV18 000000 END NOV18 240000
N40283	I	Nov 20 003e	165	BEG FBAS NOV17 000000 END NOV17 110000
N40284	I	Nov 20 003k	157	BEG FBAS NOV17 110000 END NOV17 240000
N40285	I	Nov 20 003a	119	BEG FBAS NOV18 000000 END NOV18 160000
N40286	I	Nov 20 003b	81	BEG FBAS NOV18 160000 END NOV18 240000
N40287	I	Nov 20 003c	75	PARAMETERS FROM ADDITIONAL STATIONS
N40288	I	Nov 20 0036	188	PARAMETERS FROM ADDITIONAL STATIONS
N40289	I	Nov 21 013g	67	BEG LAC NOV17 000000 END NOV17 240000
N40290	I	Nov 21 013o	83	BEG RSNY NOV17 000000 END NOV17 240000
N40291	I	Nov 21 013p	188	BEG RSON NOV17 000000 END NOV17 050000
N40292	I	Nov 21 0136	144	BEG RSON NOV17 050000 END NOV17 240000
N40293	I	Nov 21 013q	170	BEG RSSD NOV17 000000 END NOV17 240000
N40294	I	Nov 21 013r	37	BEG RSNY NOV18 000000 END NOV18 240000
N40295	I	Nov 21 013s	59	BEG RSON NOV18 000000 END NOV18 240000
N40296	I	Nov 21 0137	100	BEG RSSD NOV18 000000 END NOV18 240000
N40297	I	Nov 21 013t	46	BEG LAC NOV18 000000 END NOV18 240000
N40298	I	Nov 21 013h	26	BEG FBAL NOV19 000000 END NOV19 240000
N40299	I	Nov 21 013i	144	BEG FBAS NOV19 000000 END NOV19 240000
N40300	I	Nov 21 013j	89	BEG RSNY NOV19 000000 END NOV19 240000
N40301	I	Nov 21 0134	87	BEG RSON NOV19 000000 END NOV19 240000
N40302	I	Nov 21 013k	111	BEG RSSD NOV19 000000 END NOV19 240000
N40303	I	Nov 21 013l	163	BEG LTX NOV17 143000 END NOV18 240000
N40304	I	Nov 21 013m	117	BEG LTX NOV19 000000 END NOV19 200000
N40305	I	Nov 21 0135	77	PARAMETERS FROM ADDITIONAL STATIONS
N40306	I	Nov 21 013n	80	PARAMETERS FROM ADDITIONAL STATIONS
N40307	I	Nov 21 222c	67	BEG LAC NOV19 000000 END NOV19 240000
N40308	I	Nov 21 222d	14	BEG FBAL NOV20 000000 END NOV20 240000
N40309	I	Nov 21 222e	133	BEG FBAS NOV20 000000 END NOV20 120000
N40310	I	Nov 21 222f	87	BEG FBAS NOV20 120000 END NOV20 240000
N40311	I	Nov 21 2230	116	BEG LTX NOV19 200000 END NOV20 200000
N40312	I	Nov 21 223a	39	BEG LAC NOV20 000000 END NOV20 240000

N40313	I	Nov	21	223b	128	BEG RSNY NOV20 000000 END NOV20 240000
N40314	I	Nov	21	223c	79	BEG RSON NOV20 000000 END NOV20 240000
N40315	I	Nov	21	2231	108	BEG RSSD NOV20 000000 END NOV20 240000
N40316	I	Nov	22	205c	41	BEG FBAL NOV21 000000 END NOV21 240000
N40317	I	Nov	22	205d	111	BEG FBAS NOV21 000000 END NOV21 240000
N40318	I	Nov	22	205e	42	BEG LAC NOV16 000000 END NOV16 240000
N40319	I	Nov	22	205f	176	BEG LTX NOV20 200000 END NOV21 203000
N40320	I	Nov	22	2100	96	BEG RSNY NOV21 000000 END NOV21 240000
N40321	I	Nov	22	210a	61	BEG RSON NOV21 000000 END NOV21 240000
N40322	I	Nov	22	210b	96	BEG RSSD NOV21 000000 END NOV21 240000
N40323	I	Nov	23	2230	28	BEG LAC NOV21 000000 END NOV21 240000
N40324	I	Nov	23	223a	72	BEG FBAL NOV22 000000 END NOV22 240000
N40325	I	Nov	23	223b	129	BEG FBAS NOV22 000000 END NOV22 160000
N40326	I	Nov	23	223c	73	BEG FBAS NOV22 160000 END NOV22 240000
N40327	I	Nov	23	2231	135	BEG LTX NOV21 203000 END NOV22 200000
N40328	I	Nov	23	223d	108	BEG RSNY NOV22 000000 END NOV22 240000
N40329	I	Nov	23	2232	84	BEG RSON NOV22 000000 END NOV22 240000
N40330	I	Nov	23	223e	146	BEG RSSD NOV22 000000 END NOV22 240000
N40331	I	Nov	26	234d	50	BEG LAC NOV22 000000 END NOV22 240000
N40332	I	Nov	26	234j	137	BEG LAC NOV23 000000 END NOV23 240000
N40333	I	Nov	26	2348	59	BEG FBAL NOV23 000000 END NOV23 240000
N40334	I	Nov	26	234l	176	BEG FBAS NOV23 000000 END NOV23 080000
N40335	I	Nov	26	234m	172	BEG FBAS NOV23 080000 END NOV23 180000
N40336	I	Nov	26	2349	51	BEG FBAS NOV23 180000 END NOV23 240000
N40337	I	Nov	26	234n	105	BEG LTX NOV22 200000 END NOV23 050000
N40338	I	Nov	26	234o	111	BEG LTX NOV23 050000 END NOV23 200000
N40339	I	Nov	26	234p	184	BEG LAC NOV24 000000 END NOV24 240000
N40340	I	Nov	26	234e	43	BEG FBAL NOV24 000000 END NOV24 240000
N40341	I	Nov	26	234f	105	BEG FBAS NOV24 000000 END NOV24 120000
N40342	I	Nov	26	2343	95	BEG FBAS NOV24 120000 END NOV24 240000
N40343	I	Nov	26	234a	24	BEG FBAL NOV25 000000 END NOV25 240000
N40344	I	Nov	26	234g	116	BEG FBAS NOV25 000000 END NOV25 120000
N40345	I	Nov	26	2344	104	BEG FBAS NOV25 120000 END NOV25 240000
N40346	I	Nov	26	2345	75	BEG LAC NOV25 000000 END NOV25 240000
N40347	I	Nov	26	234h	160	PARAMETERS FROM ADDITIONAL STATIONS
N40348	I	Nov	26	234i	147	PARAMETERS FROM ADDITIONAL STATIONS
N40349	I	Nov	26	2346	121	PARAMETERS FROM ADDITIONAL STATIONS
N40350	I	Nov	26	234k	146	PARAMETERS FROM ADDITIONAL STATIONS
N40351	I	Nov	27	232b	80	BEG RSNY NOV23 000000 END NOV23 240000
N40352	I	Nov	27	232e	117	BEG RSON NOV23 000000 END NOV23 240000
N40353	I	Nov	27	2322	174	BEG RSSD NOV23 000000 END NOV23 240000
N40354	I	Nov	27	232f	15	BEG RSNY NOV24 000000 END NOV24 240000
N40355	I	Nov	27	232g	42	BEG RSON NOV24 000000 END NOV24 240000
N40356	I	Nov	27	232h	88	BEG RSSD NOV24 000000 END NOV24 240000
N40357	I	Nov	27	2323	190	BEG LTX NOV23 200000 END NOV25 130000
N40358	I	Nov	27	232i	34	BEG FBAL NOV26 000000 END NOV26 240000
N40359	I	Nov	27	232j	170	BEG FBAS NOV26 000000 END NOV26 240000
N40360	I	Nov	27	232c	91	BEG LAC NOV26 000000 END NOV26 240000
N40361	I	Nov	27	232d	174	BEG LTX NOV25 130000 END NOV26 200000
N40362	I	Nov	29	0032	17	BEG RSNY NOV25 000000 END NOV25 240000
N40363	I	Nov	29	003m	57	BEG RSON NOV25 000000 END NOV25 240000
N40364	I	Nov	29	003n	107	BEG RSSD NOV25 000000 END NOV25 240000
N40365	I	Nov	29	003o	54	BEG RSNY NOV26 000000 END NOV26 240000
N40366	I	Nov	29	0038	63	BEG RSON NOV26 000000 END NOV26 240000
N40367	I	Nov	29	003p	123	BEG RSSD NOV26 000000 END NOV26 240000
N40368	I	Nov	29	003q	149	BEG RSNY NOV27 000000 END NOV27 240000

N40369	I	Nov 29	003r	58	BEG RSON NOV27 000000 END NOV27 240000
N40370	I	Nov 29	0040	164	BEG RSSD NOV27 000000 END NOV27 240000
N40371	I	Nov 29	003g	24	BEG FBAL NOV27 000000 END NOV27 240000
N40372	I	Nov 29	003h	91	BEG FBAS NOV27 000000 END NOV27 240000
N40373	I	Nov 29	0036	99	BEG LAC NOV27 000000 END NOV27 240000
N40374	I	Nov 29	003i	97	BEG LTX NOV26 200000 END NOV27 203000
N40375	I	Nov 29	0013	98	PARAMETERS FROM ADDITIONAL STATIONS
N40376	I	Nov 29	003k	154	PARAMETERS FROM ADDITIONAL STATIONS
N40377	I	Nov 29	003l	161	PARAMETERS FROM ADDITIONAL STATIONS
N40378	I	Nov 29	2038	38	BEG FBAL NOV28 000000 END NOV28 240000
N40379	I	Nov 29	203e	140	BEG FBAS NOV28 000000 END NOV28 240000
N40380	I	Nov 29	203f	102	BEG LAC NOV28 000000 END NOV28 240000
N40381	I	Nov 29	2039	159	BEG LTX NOV27 203000 END NOV28 194000
N40382	I	Nov 29	203g	121	BEG RSNY NOV28 000000 END NOV28 240000
N40383	I	Nov 29	203h	79	BEG RSON NOV28 000000 END NOV28 240000
N40384	I	Nov 29	203i	135	BEG RSSD NOV28 000000 END NOV28 240000
N40385	I	Nov 29	2040	92	PARAMETERS FROM ADDITIONAL STATIONS
N40386	I	Nov 30	231c	58	BEG FBAL NOV29 000000 END NOV29 240000
N40387	I	Nov 30	2317	137	BEG FBAS NOV29 000000 END NOV29 120000
N40388	I	Nov 30	2318	134	BEG FBAS NOV29 120000 END NOV29 240000
N40389	I	Nov 30	231d	73	BEG LAC NOV29 000000 END NOV29 240000
N40390	I	Nov 30	231e	137	BEG LTX NOV28 194000 END NOV29 070000
N40391	I	Nov 30	231f	66	BEG LTX NOV29 070000 END NOV29 200000
N40392	I	Nov 30	2319	72	BEG RSNY NOV29 000000 END NOV29 240000
N40393	I	Nov 30	231g	119	BEG RSON NOV29 000000 END NOV29 240000
N40394	I	Nov 30	231h	109	BEG RSSD NOV29 000000 END NOV29 240000
N40395	I	Dec 3	234c	31	BEG FBAL NOV30 000000 END NOV30 240000
N40396	I	Dec 3	234a	127	BEG FBAS NOV30 000000 END NOV30 240000
N40397	I	Dec 3	2348	13	BEG FBAL DEC01 000000 END DEC01 240000
N40398	I	Dec 3	234i	147	BEG FBAS DEC01 000000 END DEC01 240000
N40399	I	Dec 3	234j	22	BEG FBAL DEC02 000000 END DEC02 240000
N40400	I	Dec 3	2350	170	BEG FBAS DEC02 000000 END DEC02 100000
N40401	I	Dec 3	235a	81	BEG FBAS DEC02 100000 END DEC02 240000
N40402	I	Dec 3	235b	59	BEG LAC NOV30 000000 END NOV30 240000
N40403	I	Dec 3	235c	57	BEG LAC DEC01 000000 END DEC01 240000
N40404	I	Dec 3	234d	76	BEG LAC DEC02 000000 END DEC02 240000
N40405	I	Dec 3	234e	173	BEG LTX NOV29 200000 END NOV30 230000
N40406	I	Dec 3	2343	68	BEG LTX DEC01 000000 END DEC01 200000
N40407	I	Dec 3	234f	134	BEG RSNY NOV30 000000 END NOV30 240000
N40408	I	Dec 3	2344	53	BEG RSON NOV30 000000 END NOV30 240000
					BEG RSON NOV30 172448 END NOV30 172453
N40409	I	Dec 3	234g	76	BEG RSSD NOV30 000000 END NOV30 240000
N40410	I	Dec 3	234h	29	BEG RSNY DEC01 000000 END DEC01 240000
N40411	I	Dec 3	2345	48	BEG RSON DEC01 000000 END DEC01 240000
N40412	I	Dec 3	2346	64	BEG RSSD DEC01 000000 END DEC01 240000
N40413	I	Dec 3	2347	124	PARAMETERS FROM ADDITIONAL STATIONS
N40414	I	Dec 3	234b	96	PARAMETERS FROM ADDITIONAL STATIONS
N40415	I	Dec 4	232d	34	BEG FBAL DEC03 000000 END DEC03 240000
N40416	I	Dec 4	232h	167	BEG FBAS DEC03 000000 END DEC03 240000
N40417	I	Dec 4	2327	115	BEG LTX DEC01 200000 END DEC02 100000
N40418	I	Dec 4	232i	174	BEG LTX DEC02 100000 END DEC02 190000
N40419	I	Dec 4	232j	82	BEG LAC DEC03 000000 END DEC03 240000
N40420	I	Dec 4	2328	41	BEG RSNY DEC02 000000 END DEC02 240000
N40421	I	Dec 4	232k	121	BEG RSON DEC02 000000 END DEC02 240000
N40422	I	Dec 4	232l	122	BEG RSSD DEC02 000000 END DEC02 240000
N40423	I	Dec 4	2329	92	BEG RSNY DEC03 000000 END DEC03 240000

N40424	I	Dec 4	232e	82	BEG RSON DEC03 000000 END DEC03 240000
N40425	I	Dec 4	232f	137	BEG RSSD DEC03 000000 END DEC03 240000
N40426	I	Dec 4	232g	105	PARAMETERS FROM ADDITIONAL STATIONS
N40427	I	Dec 6	002c	24	BEG FBAL DEC04 000000 END DEC04 240000
N40428	I	Dec 6	002d	160	BEG FBAS DEC04 000000 END DEC04 240000
N40429	I	Dec 6	0024	28	BEG LAC DEC04 000000 END DEC04 240000
N40430	I	Dec 6	0025	63	BEG LTX DEC03 190000 END DEC03 240000
N40431	I	Dec 6	002e	118	BEG LTX DEC04 070000 END DEC04 240000
N40432	I	Dec 6	002f	35	BEG RSNY DEC04 000000 END DEC04 240000
N40433	I	Dec 6	0026	83	BEG RSON DEC04 000000 END DEC04 240000
N40434	I	Dec 6	0027	131	BEG RSSD DEC04 000000 END DEC04 240000
N40435	I	Dec 6	233a	33	BEG FBAL DEC05 000000 END DEC05 240000
N40436	I	Dec 6	233b	120	BEG FBAS DEC05 000000 AND DEC05 240000
N40437	I	Dec 6	233c	75	BEG LTX DEC05 000000 END DEC05 200300
N40438	I	Dec 6	233d	52	BEG LAC DEC05 000000 END DEC05 240000
N40439	I	Dec 6	2332	61	BEG RSNY DEC05 000000 END DEC05 240000
N40440	I	Dec 6	233e	109	BEG RSON DEC05 000000 END DEC05 240000
N40441	I	Dec 6	233f	94	BEG RSSD DEC05 000000 END DEC05 240000
N40442	I	Dec 6	233g	122	PARAMETERS FROM ADDITIONAL STATIONS
N40443	I	Dec 6	2333	157	PARAMETERS FROM ADDITIONAL STATIONS
N40444	I	Dec 6	233h	44	PARAMETERS FROM ADDITIONAL STATIONS
N40445	I	Dec 7	235c	30	BEG FBAL DEC06 000000 END DEC06 240000
N40446	I	Dec 7	235d	153	BEG FBAS DEC06 000000 AND DEC06 240000
N40447	I	Dec 7	2354	178	BEG DEC05 200300 END DEC06 200000
N40448	I	Dec 7	235e	93	BEG LAC DEC06 000000 END DEC06 240000
N40449	I	Dec 7	2355	25	BEG RSNY DEC06 000000 END DEC06 240000
N40450	I	Dec 7	235f	80	BEG RSON DEC06 000000 END DEC06 240000
N40451	I	Dec 7	235g	76	BEG RSSD DEC06 000000 END DEC06 240000
N40452	I	Dec 7	235h	65	PARAMETERS FROM ADDITIONAL STATIONS
N40453	R	Dec 9	161a	38	BEG FBAL OCT15 000001 END OCT15 240000 RET OF SEUS2 N40001
N40454	R	Dec 9	161b	195	BEG FBAS OCT15 000000 END OCT15 160000 RET OF SEUS2 N40002
N40455	R	Dec 9	1614	88	BEG FBAS OCT15 160000 END OCT15 240000 RET OF SEUS2 N40003
N40456	R	Dec 9	161c	46	BEG LAC OCT15 000000 END OCT15 240000 RET OF SEUS2 N40004
N40457	R	Dec 9	1615	108	BEG LTX OCT15 000000 END OCT15 193000 RET OF SEUS2 N40005
N40458	R	Dec 9	161x	96	BEG RSNY OCT15 000000 END OCT15 240000)) RET OF SEUS2 N40006))
N40459	R	Dec 9	161y	78	BEG RSON OCT15 000000 END OCT15 240000)) RET OF SEUS2 N40007))
N40460	R	Dec 9	161e	70	BEG RSSD OCT15 000000 END OCT15 240000 RET OF SEUS2 N40008
N40461	R	Dec 9	1616	23	BEG FBAL OCT16 000001 END OCT16 240000 RET OF SEUS2 N40009
N40462	R	Dec 9	161f	158	BEG FBAS OCT16 000001 END OCT16 240000 RET OF SEUS2 N40010
N40463	R	Dec 9	1617	181	BEG RSSD OCT16 000000 END OCT16 240000 RET OF SEUS2 N40011
N40464	R	Dec 9	161g	114	BEG RSNY OCT16 000000 END OCT16 240000 RET OF SEUS2 N40012
N40465	R	Dec 9	1618	30	BEG RSON OCT16 000000 END OCT16 240000 RET OF SEUS2 N40013
N40466	R	Dec 9	161h	116	BEG LTX OCT15 193000 END OCT16 180000

					RET OF SEUS2 N40014
N40467	R	Dec 9	1619	27	BEG LAC OCT16 000000 END OCT16 240000
					RET OF SEUS2 N40015
N40468	R	Dec 9	161i	57	BEG FBAL OCT17 000001 END OCT17 240000
					RET OF SEUS2 N40016
N40469	R	Dec 9	161j	192	BEG FBAS OCT17 000001 END OCT17 240000
					RET OF SEUS2 N40017
N40470	R	Dec 9	161k	36	BEG LAC OCT17 000000 END OCT17 240000
					RET OF SEUS2 N40018
N40471	R	Dec 9	161l	119	BEG LTX OCT16 180000 END OCT17 090000
					RET OF SEUS2 N40019
N40472	R	Dec 9	1620	119	BEG RSNY OCT17 000000 END OCT17 240000
					RET OF SEUS2 N40020
N40473	R	Dec 9	181a	63	BEG RSON OCT17 000000 END OCT17 240000
					RET OF SEUS2 N40021
N40474	R	Dec 9	1812	176	BEG RSSD OCT17 000000 END OCT17 240000
					RET OF SEUS2 N40022
N40475	R	Dec 9	181b	42	BEG FBAL OCT18 000000 END OCT18 240000
					RET OF SEUS2 N40023
N40476	R	Dec 9	1813	159	BEG FBAS OCT18 000000 END OCT18 150000
					RET OF SEUS2 N40024
N40477	R	Dec 9	1814	43	BEG LAC OCT18 000000 END OCT18 240000
					RET OF SEUS2 N40025
N40478	R	Dec 9	181c	177	BEG LTX OCT17 090000 END OCT18 153000
					RET OF SEUS2 N40026
N40479	R	Dec 9	181d	92	BEG RSNY OCT18 000000 END OCT18 240000
					RET OF SEUS2 N40027
N40480	R	Dec 9	1815	76	BEG RSON OCT18 000000 END OCT18 240000
					RET OF SEUS2 N40028
N40481	R	Dec 9	181e	169	BEG RSSD OCT18 000000 END OCT18 190000
					RET OF SEUS2 N40029
N40482	R	Dec 9	181f	113	BEG RSSD OCT18 190000 END OCT18 240000
					RET OF SEUS2 N40030
N40483	R	Dec 9	1816	77	BEG FBAS OCT18 150000 END OCT18 240000
					RET OF SEUS2 N40031
N40484	R	Dec 9	181g	73	BEG FBAL OCT19 000000 END OCT19 240000
					RET OF SEUS2 N40032
N40485	R	Dec 9	181h	52	BEG FBAL OCT20 000000 END OCT20 240000
					RET OF SEUS2 N40033
N40486	R	Dec 9	181i	41	BEG FBAL OCT21 000000 END OCT21 240000
					RET OF SEUS2 N40034
N40487	R	Dec 9	1817	187	BEG FBAS OCT19 000000 END OCT19 093000
					RET OF SEUS2 N40035
N40488	R	Dec 9	1818	150	BEG FBAS OCT19 093000 END OCT19 240000
					RET OF SEUS2 N40036
N40489	R	Dec 9	182a	183	BEG FBAS OCT20 000000 END OCT20 180000
					RET OF SEUS2 N40037
N40490	R	Dec 9	182b	95	BEG FBAS OCT20 180000 END OCT19 240000
					RET OF SEUS2 N40038
N40491	R	Dec 9	182c	155	BEG FBAS OCT21 000000 END OCT21 190000
					RET OF SEUS2 N40039
N40492	R	Dec 9	183a	54	BEG FBAS OCT21 190000 END OCT21 240000
					RET OF SEUS2 N40040
N40493	R	Dec 9	1839	24	BEG LAC OCT19 000000 END OCT19 240000
					RET OF SEUS2 N40041
N40494	R	Dec 9	1840	13	BEG LAC OCT20 000000 END OCT20 240000

					RET OF SEUS2 N40042
N40495	R	Dec 9	184a	13	BEG LAC OCT21 000000 END OCT21 240000
					RET OF SEUS2 N40043
N40496	R	Dec 9	184b	127	BEG LTX OCT18 153000 END OCT19 070000
					RET OF SEUS2 N40044
N40497	R	Dec 9	184c	107	BEG RSNY OCT19 000000 END OCT19 240000
					RET OF SEUS2 N40045
N40498	R	Dec 9	1841	51	BEG RSON OCT19 000000 END OCT19 240000
					RET OF SEUS2 N40046
N40499	R	Dec 9	184d	192	BEG RSSD OCT19 000000 END OCT19 150000
					RET OF SEUS2 N40047
N40500	R	Dec 9	1842	147	BEG RSSD OCT19 150000 END OCT19 240000
					RET OF SEUS2 N40048
N40501	R	Dec 9	184x	18	BEG LAC OCT22 000000 END OCT22 240000))
					RET OF SEUS2 N40049))
N40502	R	Dec 9	184e	55	BEG FBAL OCT22 000000 END OCT22 240000
					BEG LAC OCT22 000000 END OCT22 240000
					RET OF SEUS2 N40049
					RET OF SEUS2 N40050
N40503	R	Dec 9	1843	175	BEG FBAS OCT22 000000 END OCT22 170000
					RET OF SEUS2 N40051
N40504	R	Dec 9	184f	56	BEG FBAS OCT22 170000 END OCT22 240000
					RET OF SEUS2 N40052
N40505	R	Dec 9	184g	101	BEG RSNY OCT20 000000 END OCT20 240000
					RET OF SEUS2 N40053
N40506	R	Dec 9	1844	60	BEG RSON OCT20 000000 END OCT20 240000
					RET OF SEUS2 N40054
N40507	R	Dec 9	184h	154	BEG RSSD OCT20 000000 END OCT20 240000
					RET OF SEUS2 N40055
N40508	R	Dec 9	1845	42	BEG RSNY OCT21 000000 END OCT21 240000
					RET OF SEUS2 N40056
N40509	R	Dec 9	184i	53	BEG RSON OCT21 000000 END OCT21 240000
					RET OF SEUS2 N40057
N40510	R	Dec 9	1847	128	BEG RSSD OCT21 000000 END OCT21 240000
					RET OF SEUS2 N40058
N40511	R	Dec 9	184j	99	BEG LTX OCT19 070000 END OCT20 240000
					RET OF SEUS2 N40059
N40512	R	Dec 9	1906	84	BEG LTX OCT21 000000 END OCT22 150000
					RET OF SEUS2 N40060
N40513	R	Dec 9	190a	21	BEG SMY OCT15 000000 END OCT15 120000
					BEG SPA OCT15 000000 END OCT15 240000
					RET OF SEUS2 N40061
N40514	R	Dec 9	190b	32	BEG LAC OCT23 000000 END OCT23 240000
					RET OF SEUS2 N40062
N40515	R	Dec 9	190c	63	BEG FBAL OCT23 000000 END OCT23 240000
					RET OF SEUS2 N40063
N40516	R	Dec 9	190d	134	BEG FBAS OCT23 000000 END OCT23 120000
					RET OF SEUS2 N40064
N40517	R	Dec 9	1908	140	BEG FBAS OCT23 120000 END OCT23 240000
					RET OF SEUS2 N40065
N40518	R	Dec 9	190f	116	BEG RSNY OCT22 000000 END OCT22 240000
					RET OF SEUS2 N40066
N40519	R	Dec 9	190x	58	BEG RSON OCT22 000000 END OCT22 240000))
					RET OF SEUS2 N40067))
N40520	R	Dec 9	190g	195	BEG RSSD OCT22 000000 END OCT22 240000
					RET OF SEUS2 N40068

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EXCHANGE EXPERIMENT..(U) SCIENCE APPLICATIONS
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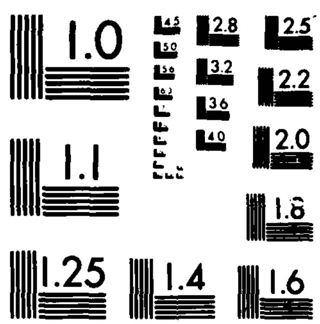
N40521	R	Dec 9	190h	20	BEG RSNY OCT23 000000 END OCT23 080000 RET OF SEUS2 N40069
N40522	R	Dec 9	190i	30	BEG RSSD OCT23 000000 END OCT23 080000 RET OF SEUS2 N40070
N40523	R	Dec 9	190j	105	BEG LTX OCT22 160000 END OCT23 180000 RET OF SEUS2 N40071
N40524	R	Dec 9	1910	40	BEG RSON OCT23 000000 END OCT23 160000 RET OF SEUS2 N40072
N40525	R	Dec 9	191a	135	BEG BAO OCT15 000000 END OCT15 240000 BEG BUL OCT15 000000 END OCT15 240000 BEG CHG OCT15 000000 END OCT15 240000 BEG LPB OCT15 000000 END OCT15 240000 BEG NAI OCT15 000000 END OCT15 240000 BEG QUE OCT15 000000 END OCT15 240000 RET OF SEUS2 N40073
N40526	R	Dec 9	191b	96	BEG BAO OCT16 000000 END OCT16 240000 BEG BUL OCT16 000000 END OCT16 240000 BEG CHG OCT16 000000 END OCT16 240000 BEG LPB OCT16 000000 END OCT16 240000 BEG NAI OCT16 000000 END OCT16 240000 BEG QUE OCT16 000000 END OCT16 240000 BEG SPA OCT16 000000 END OCT16 240000 RET OF SEUS2 N40074
N40527	R	Dec 9	1911	15	BEG FBAL OCT24 000000 END OCT24 240000 RET OF SEUS2 N40075
N40528	R	Dec 9	191c	157	BEG FBAS OCT24 000000 END OCT24 240000 RET OF SEUS2 N40076
N40529	R	Dec 9	191d	53	BEG LAC OCT24 000000 END OCT24 240000 RET OF SEUS2 N40077
N40530	R	Dec 9	1912	163	BEG LTX OCT23 180000 END OCT24 180000 RET OF SEUS2 N40078
N40531	R	Dec 9	191e	132	BEG RSNY OCT23 080000 END OCT23 240000 RET OF SEUS2 N40079
N40532	R	Dec 9	193a	177	BEG RSSD OCT23 080000 END OCT23 240000 RET OF SEUS2 N40080
N40533	R	Dec 9	193b	88	BEG RSNY OCT24 000000 END OCT24 240000 RET OF SEUS2 N40081
N40534	R	Dec 9	193c	124	BEG RSSD OCT24 000000 END OCT24 240000 RET OF SEUS2 N40082
N40535	R	Dec 9	193d	46	BEG RSON OCT23 160000 END OCT24 240000 RET OF SEUS2 N40083
N40536	R	Dec 9	1935	172	PARAMETERS FROM ADDITIONAL STATIONS) RET OF SEUS2 N40084
N40537	R	Dec 9	193e	68	BEG FBAL OCT25 000000 END OCT25 240000 RET OF SEUS2 N40085
N40538	R	Dec 9	193f	173	BEG FBAS OCT25 000000 END OCT25 240000 RET OF SEUS2 N40086
N40539	R	Dec 9	1936	121	BEG FBAS OCT25 000000 END OCT25 240000 RET OF SEUS2 N40087
N40540	R	Dec 9	193g	169	BEG LTX OCT24 180000 END OCT25 203000 RET OF SEUS2 N40088
N40541	R	Dec 9	193h	78	BEG LAC OCT25 000000 END OCT25 240000 RET OF SEUS2 N40089
N40542	R	Dec 9	1938	156	BEG RSNY OCT25 000000 END OCT25 240000 RET OF SEUS2 N40090
N40543	R	Dec 9	1939	120	BEG RSON OCT25 000000 END OCT25 240000



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					RET OF SEUS2 N40091
N40544	R	Dec 9	193i	171	BEG RSSD OCT25 000000 END OCT25 240000
					RET OF SEUS2 N40092
N40545	R	Dec 9	194a	171	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40093
N40546	R	Dec 9	1941	161	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40094
N40547	R	Dec 9	194b	49	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40095
N40548	R	Dec 9	194c	69	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40096
N40549	R	Dec 9	194d	72	BEG LAC OCT26 000000 END OCT26 240000
					RET OF SEUS2 N40097
N40550	R	Dec 9	194e	63	BEG LAC OCT27 000000 END OCT27 240000
					RET OF SEUS2 N40098
N40551	R	Dec 9	194f	24	BEG LAC OCT28 000000 END OCT28 240000
					RET OF SEUS2 N40099
N40552	R	Dec 9	2014	73	BEG FBAL OCT25 000000 END OCT25 240000))
					RET OF SEUS2 N40100))
N40553	R	Dec 9	2016	136	BEG FBAS OCT 26 000000 END 26 083000
					RET OF SEUS2 N40101
N40554	R	Dec 9	201a	155	BEG FBAS OCT26 0830000 END OCT26 2400000
					RET OF SEUS2 N40102
N40555	R	Dec 9	2017	94	BEG FBAL OCT27 000000 END OCT27 240000
					RET OF SEUS2 N40103
N40556	R	Dec 9	201b	183	BEG FBAS OCT27 000000 END OCT27 080000
					RET OF SEUS2 N40104
N40557	R	Dec 9	201c	184	BEG FBAS OCT27 080000 END OCT27 240000
					RET OF SEUS2 N40105
N40558	R	Dec 9	2018	38	BEG FBAL OCT28 00000 END OCT28 240000
					RET OF SEUS2 N40106
N40559	R	Dec 9	201d	136	BEG FBAS OCT28 000000 END OCT28 110000
					RET OF SEUS2 N40107
N40560	R	Dec 9	201e	90	BEG FBAS OCT28 1200000 END OCT28 2400000
					RET OF SEUS2 N40108
N40561	R	Dec 9	2019	175	BEG LTX OCT25 203000 END OCT26 190000
					RET OF SEUS2 N40109
N40562	R	Dec 9	201f	161	BEG RSNY OCT26 000000 END OCT26 240000
					RET OF SEUS2 N40110
N40563	R	Dec 9	201g	79	BEG RSON OCT26 000000 END OCT26 240000
					RET OF SEUS2 N40111
N40564	R	Dec 9	2020	152	BEG RSSD OCT26 000000 END OCT26 240000
					RET OF SEUS2 N40112
N40565	R	Dec 9	202a	72	BEG RSNY OCT27 000000 END OCT27 150000
					RET OF SEUS2 N40113
N40566	R	Dec 9	2021	60	BEG RSON OCT27 000000 END OCT27 120000
					RET OF SEUS2 N40114
N40567	R	Dec 9	202b	109	BEG RSSD OCT27 000000 END OCT27 150000
					RET OF SEUS2 N40115
N40568	R	Dec 9	2022	177	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40116
N40569	R	Dec 9	2023	126	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40117
N40570	R	Dec 9	202c	35	BEG FBAL OCT29 000000 END OCT29 240000
					RET OF SEUS2 N40118
N40571	R	Dec 9	202d	197	BEG FBAS OCT29 000000 END OCT29 190000

					RET OF SEUS2 N40119
N40572	R	Dec 9	2046	98	BEG FBAS OCT29 190000 END OCT29 240000
					RET OF SEUS2 N40120
N40573	R	Dec 9	204a	61	BEG LAC OCT29 000000 END OCT29 240000
					RET OF SEUS2 N40121
N40574	R	Dec 9	204x	160	BEG LTX OCT26 190000 END OCT27 130000))
					RET OF SEUS2 N40122))
N40575	R	Dec 9	204b	159	BEG LTX OCT27 160000 END OCT29 220000
					RET OF SEUS2 N40123
N40576	R	Dec 9	2049	27	BEG RSNY OCT27 150000 END OCT27 240000
					RET OF SEUS2 N40124
N40577	R	Dec 9	204c	17	BEG RSON OCT27 120000 END OCT28 240000
					RET OF SEUS2 N40125
N40578	R	Dec 9	204d	55	BEG RSSD OCT27 150000 END OCT27 240000
					RET OF SEUS2 N40126
N40579	R	Dec 9	205x	54	BEG RSNY OCT28 000000 END OCT28 240000))
					RET OF SEUS2 N40127))
N40580	R	Dec 9	205y	92	BEG RSSD OCT28 000000 END OCT28 240000))
					RET OF SEUS2 N40128))
N40581	R	Dec 9	205z	82	BEG RSNY OCT29 000000 END OCT30 240000))
					RET OF SEUS2 N40129))
N40582	R	Dec 9	2050	31	RET OF SEUS2 N4013
N40583	R	Dec 9	2051	97	BEG RSSD OCT29 000000 END OCT29 240000
					RET OF SEUS2 N40131
N40584	R	Dec 9	205a	19	BEG FBAL OCT30 000000 END OCT30 240000
					RET OF SEUS2 N40132
N40585	R	Dec 9	205b	134	BEG FBAS OCT30 000000 END OCT30 180000
					RET OF SEUS2 N40133
N40586	R	Dec 9	205c	100	BEG FBAS OCT30 180000 END OCT30 240000
					RET OF SEUS2 N40134
N40587	R	Dec 9	2052	132	BEG LTX OCT29 200000 END OCT30 200000
					RET OF SEUS2 N40135
N40588	R	Dec 9	2053	111	BEG RSNY OCT30 000000 END OCT30 240000
					RET OF SEUS2 N40136
N40589	R	Dec 9	205d	62	BEG RSON OCT30 000000 END OCT30 240000
					RET OF SEUS2 N40137
N40590	R	Dec 9	2054	144	BEG RSSD OCT30 000000 END OCT30 240000
					RET OF SEUS2 N40138
N40591	R	Dec 9	205e	183	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40139
N40592	R	Dec 9	212a	20	BEG FBAL OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40140
N40593	R	Dec 9	212b	129	BEG FBAS OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40141
N40594	R	Dec 9	2128	102	BEG LAC OCT30 000000 END OCT30 240000
					RET OF SEUS2 N40142
N40595	R	Dec 9	212c	111	BEG LTX OCT30 200000 END OCT31 203000
					RET OF SEUS2 N40143
N40596	R	Dec 9	212d	104	BEG RSNY OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40144
N40597	R	Dec 9	212e	30	BEG RSON OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40145
N40598	R	Dec 9	212f	184	BEG RSSD OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40146
N40599	R	Dec 9	2129	30	BEG FBAL NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40147

N40600	R	Dec 9	212g	155	BEG FBAS NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40148
N40601	R	Dec 9	2130	49	BEG LAC OCT31 000000 END OCT31 240000
					RET OF SEUS2 N40149
N40602	R	Dec 9	2131	131	BEG LTX OCT31 203000 END NOV01 210000
					RET OF SEUS2 N40150
N40603	R	Dec 9	213a	90	BEG RSNY NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40151
N40604	R	Dec 9	213b	43	BEG RSON NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40152
N40605	R	Dec 9	213c	99	BEG RSSD NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40153
N40606	R	Dec 9	2132	163	PARAMETERS FROM ADDITIONAL STATIONS
					RET OF SEUS2 N40154
N40607	R	Dec 9	213d	175	BEG FBAS OCT25 000000 END OCT25 240000
					RET OF SEUS2 N40086
					RET OF SEUS2 N40155
N40608	R	Dec 9	2133	33	BEG FBAL NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40156
N40609	R	Dec 9	213e	46	BEG FBAL NOV03 000000 END NOV03 240000
					RET OF SEUS2 N40157
N40610	R	Dec 9	213f	178	BEG FBAS NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40158
N40611	R	Dec 9	2134	204	BEG FBAS NOV03 000000 END NOV03 240000
					RET OF SEUS2 N40159
N40612	R	Dec 9	2158	45	BEG LAC NOV01 000000 END NOV01 240000
					RET OF SEUS2 N40160
N40613	R	Dec 9	215a	29	BEG LAC NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40161
N40614	R	Dec 9	215b	41	BEG LAC NOV03 000000 END NOV03 240000
					RET OF SEUS2 N40162
N40615	R	Dec 9	215c	55	BEG LAC NOV04 000000 END NOV04 240000
					RET OF SEUS2 N40163
N40616	R	Dec 9	2159	181	BEG LTX NOV01 210000 END NOV03 193000
					RET OF SEUS2 N40164
N40617	R	Dec 9	2200	160	BEG FBAL NOV04 000000 END NOV04 240000
					RET OF SEUS2 N40165
N40618	R	Dec 9	220x	172	RET OF SEUS2 N40166))
N40619	R	Dec 9	220a	90	BEG RSNY NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40167
N40620	R	Dec 9	2201	52	BEG RSON NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40168
N40621	R	Dec 9	220b	105	BEG RSSD NOV02 000000 END NOV02 240000
					RET OF SEUS2 N40169
N40622	R	Dec 9	220c	23	RET OF SEUS2 N40170
N40623	R	Dec 9	220d	100	BEG FBAS NOV05 000000 END NOV05 130000
					RET OF SEUS2 N40171
N40624	R	Dec 9	2202	115	BEG FBAS NOV05 130000 END NOV05 240000
					RET OF SEUS2 N40172
N40625	R	Dec 9	220e	50	BEG LAC NOV05 000000 END NOV05 240000
					RET OF SEUS2 N40173
N40626	R	Dec 9	2204	107	BEG LTX NOV03 193000 END NOV05 050000
					RET OF SEUS2 N40174
N40627	R	Dec 9	220f	114	BEG LTX NOV05 050000 END NOV05 213000
					RET OF SEUS2 N40175
N40628	R	Dec 9	2205	53	BEG RSNY NOV03 000000 END NOV03 240000

N40629	R	Dec 9	220g	42	RET OF SEUS2 N40176 BEG RSON NOV03 000000 END NOV03 240000
N40630	R	Dec 9	220h	127	RET OF SEUS2 N40177 BEG RSSD NOV03 000000 END NOV03 240000
N40631	R	Dec 9	220i	48	RET OF SEUS2 N40178 BEG RSNY NOV04 000000 END NOV04 240000
N40632	R	Dec 9	222a	44	RET OF SEUS2 N40179 BEG RSON NOV04 000000 END NOV04 240000
N40633	R	Dec 9	2230	97	RET OF SEUS2 N40180 BEG RSSD NOV04 000000 END NOV04 240000
N40634	R	Dec 9	223a	60	RET OF SEUS2 N40181 BEG RSNY NOV05 000000 END NOV05 240000
N40635	R	Dec 9	223b	48	RET OF SEUS2 N40182 BEG RSON NOV05 000000 END NOV05 240000
N40636	R	Dec 9	2231	124	RET OF SEUS2 N40183 BEG RSSD NOV05 000000 END NOV05 240000
N40637	R	Dec 9	223c	23	RET OF SEUS2 N40184 BEG FBAL NOV06 000000 END NOV06 240000
N40638	R	Dec 9	2232	166	RET OF SEUS2 N40185 BEG FBAS NOV06 000000 END NOV06 240000
N40639	R	Dec 9	223d	50	RET OF SEUS2 N40186 BEG LAC NOV06 000000 END NOV06 240000
N40640	R	Dec 9	223e	143	RET OF SEUS2 N40187 BEG LTX NOV05 212500 END NOV06 212000
N40641	R	Dec 9	2233	119	RET OF SEUS2 N40188 BEG RSNY NOV06 000000 END NOV06 240000
N40642	R	Dec 9	223f	73	RET OF SEUS2 N40189 BEG RSON NOV06 000000 END NOV06 240000
N40643	R	Dec 9	223g	109	RET OF SEUS2 N40190 BEG RSSD NOV06 000000 END NOV06 240000
N40644	R	Dec 9	2234	92	RET OF SEUS2 N40191 PARAMETERS FROM ADDITIONAL STATIONS
N40645	R	Dec 9	223h	126	RET OF SEUS2 N40192 PARAMETERS FROM ADDITIONAL STATIONS
N40646	R	Dec 9	223i	167	RET OF SEUS2 N40193 PARAMETERS FROM ADDITIONAL STATIONS
N40647	R	Dec 9	2235	106	RET OF SEUS2 N40194 PARAMETER FROM ADDITIONAL STATION
N40648	R	Dec 9	223k	12	RET OF SEUS2 N40195 BEG FBAL NOV07 000000 END NOV07 240000
N40649	R	Dec 9	223l	129	RET OF SEUS2 N40196 BEG FBAS NOV07 000000 END NOV07 240000
N40650	R	Dec 9	223m	71	RET OF SEUS2 N40197 BEG LAC NOV07 000000 END NOV07 240000
N40651	R	Dec 9	223n	161	RET OF SEUS2 N40198 BEG LTX NOV06 213000 END NOV07 212000
N40652	R	Dec 9	225a	162	RET OF SEUS2 N40199 BEG RSNY NOV07 000000 END NOV07 240000
N40653	R	Dec 9	2300	149	RET OF SEUS2 N40200 BEG RSON NOV07 000000 END NOV07 120000
N40654	R	Dec 9	230a	57	RET OF SEUS2 N40201 BEG RSON NOV07 120000 END NOV07 240000
N40655	R	Dec 9	2302	80	RET OF SEUS2 N40202 BEG RSSD NOV07 000000 END NOV07 240000
N40656	R	Dec 9	2303	141	RET OF SEUS2 N40203 PARAMETERS FROM ADDITIONAL STATIONS

					RET OF SEUS2 N40204
N40657	R	Dec 9	2304	69	BEG FBAL NOV08 000000 END NOV08 240000 RET OF SEUS2 N40205
N40658	R	Dec 9	230b	126	BEG FBAS NOV08 000000 END NOV08 140000 RET OF SEUS2 N40206
N40659	R	Dec 10	183a	61	BEG FBAS NOV08 140000 END NOV08 240000 RET OF SEUS2 N40207
N40660	R	Dec 10	1836	69	BEG LAC NOV08 000000 END NOV08 240000 RET OF SEUS2 N40208
N40661	R	Dec 10	183b	125	BEG LTX NOV07 213000 END NOV08 160000 RET OF SEUS2 N40209
N40662	R	Dec 10	183c	84	BEG LTX NOV08 160000 END NOV08 213000 RET OF SEUS2 N40210
N40663	R	Dec 10	1837	125	BEG RSNY NOV08 000000 END NOV08 240000 RET OF SEUS2 N40211
N40664	R	Dec 10	183d	143	BEG RSON NOV08 000000 END NOV08 240000 RET OF SEUS2 N40212
N40665	R	Dec 10	183e	196	BEG RSSD NOV08 000000 END NOV08 240000 RET OF SEUS2 N40213
N40666	R	Dec 10	1839	49	BEG FBAL NOV09 000000 END NOV09 240000 RET OF SEUS2 N40214
N40667	R	Dec 10	183f	117	BEG FBAS NOV09 000000 END NOV09 240000 RET OF SEUS2 N40215
N40668	R	Dec 10	183x	35	BEG FBAL NOV10 000000 END NOV10 240000)) RET OF SEUS2 N40216))
N40669	R	Dec 10	183g	223	BEG FBAL NOV10 000000 END NOV10 240000 BEG FBAS NOV10 000000 END NOV10 160000 BEG FBAS NOV10 000000 END NOV10 160000 RET OF SEUS2 N40216 RET OF SEUS2 N40217 RET OF SEUS2 N40217
N40670	R	Dec 10	1842	79	BEG FBAS NOV10 160000 END NOV10 240000 RET OF SEUS2 N40218
N40671	R	Dec 10	1843	44	BEG FBAL NOV11 000000 END NOV11 240000 RET OF SEUS2 N40219
N40672	R	Dec 10	184a	120	BEG FBAS NOV11 000000 END NOV11 240000 RET OF SEUS2 N40220
N40673	R	Dec 10	184b	134	BEG LTX NOV08 213100 END NOV09 240000 RET OF SEUS2 N40221
N40674	R	Dec 10	1844	53	BEG LAC NOV09 000000 END NOV09 240000 RET OF SEUS2 N40222
N40675	R	Dec 10	184c	96	BEG RSNY NOV09 000000 END NOV09 240000 RET OF SEUS2 N40223
N40676	R	Dec 10	1845	80	BEG RSON NOV09 000000 END NOV09 240000 RET OF SEUS2 N40224
N40677	R	Dec 10	184d	70	BEG RSSD NOV09 000000 END NOV09 240000 RET OF SEUS2 N40225
N40678	R	Dec 10	184e	50	BEG RSNY NOV10 000000 END NOV10 240000 RET OF SEUS2 N40226
N40679	R	Dec 10	1846	80	BEG RSON NOV10 000000 END NOV10 240000 RET OF SEUS2 N40227
N40680	R	Dec 10	184f	145	BEG RSSD NOV10 000000 END NOV10 240000 RET OF SEUS2 N40228
N40681	R	Dec 10	1847	107	BEG LAC OCT30 000000 END OCT30 240000 RET OF SEUS2 N40142 RET OF SEUS2 N40229

N40682	R	Dec 10 1848	24	BEG FBAL NOV12 000000 END NOV12 240000 RET OF SEUS2 N40230
N40683	R	Dec 10 184g	136	BEG FBAS NOV12 000000 END NOV12 160000 RET OF SEUS2 N40231
N40684	R	Dec 10 1850	39	BEG FBAS NOV12 160000 END NOV12 240000 RET OF SEUS2 N40232
N40685	R	Dec 10 185a	54	BEG LAC NOV10 000000 END NOV10 240000 RET OF SEUS2 N40233
N40686	R	Dec 10 1851	41	BEG LAC NOV11 000000 END NOV11 240000 RET OF SEUS2 N40234
N40687	R	Dec 10 185b	41	BEG LAC NOV12 000000 END NOV12 240000 RET OF SEUS2 N40235
N40688	R	Dec 10 185c	70	BEG LTX NOV10 000000 END NOV10 140000 RET OF SEUS2 N40236
N40689	R	Dec 10 185e	152	BEG LTX NOV10 140000 END NOV12 194500 RET OF SEUS2 N40237
N40690	R	Dec 10 1852	19	BEG RSNY NOV11 000000 END NOV11 240000 RET OF SEUS2 N40238
N40691	R	Dec 10 185x	182	BEG RSON NOV11 000000 END NOV11 240000)) RET OF SEUS2 N40239))
N40692	R	Dec 10 192a	91	BEG RSSD NOV11 000000 END NOV11 240000 RET OF SEUS2 N40240
N40693	R	Dec 10 192b	29	BEG RSNY NOV12 000000 END NOV12 240000 RET OF SEUS2 N40241
N40694	R	Dec 10 1924	133	BEG RSON NOV12 000000 END NOV12 160000 RET OF SEUS2 N40242
N40695	R	Dec 10 192d	85	BEG RSON NOV12 160000 END NOV12 240000 RET OF SEUS2 N40243
N40696	R	Dec 10 192e	99	BEG RSSD NOV12 000000 END NOV12 240000 RET OF SEUS2 N40244
N40697	R	Dec 10 1926	156	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40245
N40698	R	Dec 10 192f	49	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40246
N40699	R	Dec 10 192g	12	BEG FBAL NOV13 000000 END NOV13 240000 RET OF SEUS2 N40247
N40700	R	Dec 10 192h	126	BEG FBAS NOV13 000000 END NOV13 160000 RET OF SEUS2 N40248
N40701	R	Dec 10 1927	76	BEG FBAS NOV13 160000 END NOV13 240000 RET OF SEUS2 N40249
N40702	R	Dec 10 1928	35	BEG LAC NOV13 000000 END NOV13 240000 RET OF SEUS2 N40250
N40703	R	Dec 10 192i	108	BEG LTX NOV12 194500 END NOV13 193000 RET OF SEUS2 N40251
N40704	R	Dec 10 1929	67	BEG RSNY NOV13 000000 END NOV13 240000 RET OF SEUS2 N40252
N40705	R	Dec 10 192j	117	BEG RSON NOV13 000000 END NOV13 240000 RET OF SEUS2 N40253
N40706	R	Dec 10 192k	133	BEG RSSD NOV13 000000 END NOV13 240000 RET OF SEUS2 N40254
N40707	R	Dec 10 1930	143	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40255
N40708	R	Dec 10 193a	144	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40256
N40709	R	Dec 10 1931	31	BEG FBAL NOV14 000000 END NOV14 240000 RET OF SEUS2 N40257

N40710	R	Dec 10 193b	115	BEG FBAS NOV14 000000 END NOV14 240000 RET OF SEUS2 N40258
N40711	R	Dec 10 193c	56	BEG LAC NOV14 000000 END NOV14 240000 RET OF SEUS2 N40259
N40712	R	Dec 10 2027	165	BEG LTX NOV13 193000 END NOV14 194000 RET OF SEUS2 N40260
N40713	R	Dec 10 2028	72	BEG RSNY NOV14 000000 END NOV14 240000 RET OF SEUS2 N40261
N40714	R	Dec 10 202a	76	BEG RSON NOV14 000000 END NOV14 240000 RET OF SEUS2 N40262
N40715	R	Dec 10 202b	138	BEG RSSD NOV14 000000 END NOV14 240000 RET OF SEUS2 N40263
N40716	R	Dec 10 202c	35	BEG FBAL NOV15 000000 END NOV15 240000 RET OF SEUS2 N40264
N40717	R	Dec 10 2029	177	BEG FBAS NOV15 000000 END NOV15 240000 RET OF SEUS2 N40265
N40718	R	Dec 10 202d	70	BEG LAC NOV15 000000 END NOV15 240000 RET OF SEUS2 N40266
N40719	R	Dec 10 202e	151	BEG LTX NOV14 194000 END NOV15 195000 RET OF SEUS2 N40267
N40720	R	Dec 10 2030	63	BEG RSNY NOV15 000000 END NOV15 240000 RET OF SEUS2 N40268
N40721	R	Dec 10 203a	51	RET OF SEUS2 N40269
N40722	R	Dec 10 203b	136	BEG RSSD NOV15 000000 END NOV15 240000 RET OF SEUS2 N40270
N40723	R	Dec 10 2031	155	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40271
N40724	R	Dec 10 203c	160	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40272
N40725	R	Dec 10 2032	55	PARAMETERS FROM ADDITIONAL STATIONS RET OF SEUS2 N40273
N40726	R	Dec 10 203d	19	BEG FBAL NOV16 000000 END NOV16 240000 RET OF SEUS2 N40274
N40727	R	Dec 10 203e	117	BEG FBAS NOV16 000000 END NOV16 240000 RET OF SEUS2 N40275
N40728	R	Dec 10 203f	73	BEG RSNY NOV16 000000 END NOV16 240000 RET OF SEUS2 N40276
N40729	R	Dec 10 2033	177	BEG RSON NOV16 000000 END NOV16 240000 RET OF SEUS2 N40277
N40730	R	Dec 10 2034	136	BEG RSSD NOV16 000000 END NOV16 240000 RET OF SEUS2 N40278
N40731	R	Dec 10 203g	126	BEG LTX NOV15 195000 END NOV16 140000 RET OF SEUS2 N40279
N40732	R	Dec 10 2125	138	BEG LTX NOV16 140000 END NOV17 143000 RET OF SEUS2 N40280
N40733	R	Dec 10 212a	65	BEG FBAL NOV17 000000 END NOV17 240000 RET OF SEUS2 N40281
N40734	R	Dec 10 212b	21	BEG FBAL NOV18 000000 END NOV18 240000 RET OF SEUS2 N40282
N40735	R	Dec 10 2126	168	BEG FBAS NOV17 000000 END NOV17 110000 RET OF SEUS2 N40283
N40736	R	Dec 10 2127	160	BEG FBAS NOV17 110000 END NOV17 240000 RET OF SEUS2 N40284
N40737	R	Dec 10 212c	122	BEG FBAS NOV18 000000 END NOV18 160000 RET OF SEUS2 N40285
N40738	R	Dec 10 2128	85	BEG FBAS NOV18 160000 END NOV18 240000

				RET OF SEUS2 N40286
N40739	R	Dec 10 212d	78	PARAMETERS FROM ADDITIONAL STATIONS
				RET OF SEUS2 N40287
N40740	R	Dec 10 212e	191	PARAMETERS FROM ADDITIONAL STATIONS
				RET OF SEUS2 N40288
N40741	R	Dec 10 2129	70	BEG LAC NOV17 000000 END NOV17 240000
				RET OF SEUS2 N40289
N40742	R	Dec 10 212f	86	BEG RSNY NOV17 000000 END NOV17 240000
				RET OF SEUS2 N40290
N40743	R	Dec 10 212g	191	BEG RSON NOV17 000000 END NOV17 050000
				RET OF SEUS2 N40291
N40744	R	Dec 10 212x	152	BEG RSON NOV17 050000 END NOV17 240000))
				RET OF SEUS2 N40292))
N40745	R	Dec 10 212y	178	BEG RSSD NOV17 000000 END NOV17 240000))
				RET OF SEUS2 N40293))
N40746	R	Dec 10 212z	34	BEG FBAL NOV19 000000 END NOV19 240000))
				RET OF SEUS2 N40298))
N40747	R	Dec 10 2130	130	BEG FBAS NOV19 000000 END NOV19 240000
				RET OF SEUS2 N40299
N40748	R	Dec 10 2131	92	BEG RSNY NOV19 000000 END NOV19 240000
				RET OF SEUS2 N40300
N40749	R	Dec 10 213a	90	BEG RSON NOV19 000000 END NOV19 240000
				RET OF SEUS2 N40301
N40750	R	Dec 10 213b	114	BEG RSSD NOV19 000000 END NOV19 240000
				RET OF SEUS2 N40302
N40751	R	Dec 10 2132	166	BEG LTX NOV17 143000 END NOV18 240000
				RET OF SEUS2 N40303
N40752	R	Dec 10 2133	120	BEG LTX NOV19 000000 END NOV19 200000
				RET OF SEUS2 N40304
N40753	R	Dec 10 2134	79	PARAMETERS FROM ADDITIONAL STATIONS
				RET OF SEUS2 N40305
N40754	R	Dec 10 213c	83	PARAMETERS FROM ADDITIONAL STATIONS
				RET OF SEUS2 N40306
N40755	I	Dec 11 003f	39	BEG FBAL DEC07 000000 END DEC07 240000
N40756	I	Dec 11 0037	134	BEG FBAS DEC07 000000 END DEC07 240000
N40757	I	Dec 11 003g	62	BEG LAC DEC07 000000 END DEC07 240000
N40758	I	Dec 11 003h	188	BEG LTX DEC06 200000 END DEC07 240000
N40759	I	Dec 11 0038	44	BEG RSNY DEC07 000000 END DEC07 240000
N40760	I	Dec 11 003i	118	BEG RSON DEC07 000000 END DEC07 240000
N40761	I	Dec 11 0040	112	BEG RSSD DEC07 000000 END DEC07 240000
N40762	I	Dec 11 004a	29	BEG FBAL DEC08 000000 END DEC08 240000
N40763	I	Dec 11 0041	130	BEG FBAS DEC08 000000 END DEC08 240000
N40764	I	Dec 11 004b	14	BEG LAC DEC08 000000 END DEC08 240000
N40765	I	Dec 11 004c	61	BEG LTX DEC08 000000 END DEC08 200000
N40766	I	Dec 11 004d	19	BEG RSNY DEC08 000000 END DEC08 240000
N40767	I	Dec 11 0042	56	BEG RSON DEC08 000000 END DEC08 240000
N40768	I	Dec 11 0043	123	BEG RSSD DEC08 000000 END DEC08 240000
N40769	I	Dec 11 004e	26	BEG FBAL DEC09 000000 END DEC09 240000
N40770	I	Dec 11 0044	81	BEG FBAS DEC09 000000 END DEC09 080000
N40771	I	Dec 11 004f	123	BEG FBAS DEC09 080000 END DEC09 240000
N40772	I	Dec 11 0045	88	BEG LAC DEC09 000000 END DEC09 240000
N40773	I	Dec 11 004g	63	PARAMETERS FROM ADDITIONAL STATIONS
N40774	I	Dec 11 004h	97	PARAMETERS FROM ADDITIONAL STATIONS
N40775	I	Dec 11 233b	169	BEG LTX DEC08 200000 END DEC09 240000
N40776	I	Dec 11 2334	56	BEG RSNY DEC09 000000 END DEC09 240000
N40777	I	Dec 11 233d	124	BEG RSON DEC09 000000 END DEC09 240000

N40778	I	Dec 11 233e	108	BEG RSSD DEC09 000000 END DEC09 240000
N40779	I	Dec 11 233f	21	BEG FBAL DEC10 000000 END DEC10 240000
N40780	I	Dec 11 2335	123	BEG FBAS DEC10 000000 END DEC10 240000
N40781	I	Dec 11 233g	44	BEG LAC DEC10 000000 END DEC10 240000
N40782	I	Dec 11 233h	103	BEG LTX DEC10 000000 END DEC10 200000
N40783	I	Dec 11 233i	74	BEG RSNY DEC10 000000 END DEC10 240000
N40784	I	Dec 11 233j	99	BEG RSON DEC10 000000 END DEC10 240000
N40785	I	Dec 11 2336	87	BEG RSSD DEC10 000000 END DEC10 240000
N40786	I	Dec 13 003b	29	BEG FBAL DEC11 000000 END DEC11 240000
N40787	I	Dec 13 003c	100	BEG FBAS DEC11 000000 END DEC11 240000
N40788	I	Dec 13 0037	25	BEG LAC DEC11 000000 END DEC11 240000
N40789	I	Dec 13 003d	111	BEG LTX DEC10 200000 END DEC11 200000
N40790	I	Dec 13 003e	109	BEG RSNY DEC11 000000 END DEC11 240000
N40791	I	Dec 13 0039	96	BEG RSON DEC11 000000 END DEC11 240000
N40792	I	Dec 13 003f	104	BEG RSSD DEC11 000000 END DEC11 200000
N40793	I	Dec 13 003g	148	BEG RSSD DEC11 200000 END DEC11 240000
N40794	I	Dec 13 0040	161	PARAMETERS FROM ADDITIONAL STATIONS
N40795	I	Dec 13 0041	102	PARAMETERS FROM ADDITIONAL STATIONS
N40796	I	Dec 13 2321	32	BEG FBAL DEC12 000000 END DEC12 240000))
N40797	I	Dec 13 2322	180	BEG FBAS DEC12 000000 END DEC12 240000))
N40798	I	Dec 13 2323	51	BEG LAC DEC12 000000 END DEC12 240000))
N40799	I	Dec 13 2324	119	BEG LTX DEC11 200000 END DEC12 200000))
N40800	I	Dec 13 2325	75	BEG RSNY DEC12 000000 END DEC12 240000))
N40801	I	Dec 13 2326	69	BEG RSON DEC12 000000 END DEC12 240000))
N40802	I	Dec 13 2327	109	BEG RSSD DEC12 000000 END DEC12 240000))
N40803	I	Dec 13 2328	44	PARAMETERS FROM ADDITIONAL STATION))
N40804	I	Dec 15 005e	37	BEG FBAL DEC13 000000 END DEC13 240000
N40805	I	Dec 15 005f	117	BEG FBAS DEC13 000000 END DEC13 240000
N40806	I	Dec 15 0053	191	BEG LTX DEC12 200000 END DEC13 200000
N40807	I	Dec 15 005g	36	BEG LAC DEC13 000000 END DEC13 240000
N40808	I	Dec 15 005h	85	BEG RSNY DEC13 000000 END DEC13 240000
N40809	I	Dec 15 0054	74	BEG RSON DEC13 000000 END DEC13 240000
N40810	I	Dec 15 0057	112	BEG RSSD DEC13 000000 END DEC13 240000
N40811	I	Dec 15 005i	111	PARAMETERS FROM ADDITIONAL STATIONS
N40812	I	Dec 18 003a	66	BEG LAC DEC14 000000 END DEC14 240000
N40813	I	Dec 18 003b	17	BEG FBAL DEC14 000000 END DEC14 240000
N40814	I	Dec 17 230g	116	BEG FBAS DEC14 000000 END DEC14 240000
N40815	I	Dec 17 230h	147	BEG LTX DEC13 200000 END DEC14 240000
N40816	I	Dec 18 003c	86	BEG RSNY DEC14 000000 END DEC14 240000
N40817	I	Dec 18 0032	154	BEG RSON DEC14 000000 END DEC14 240000
N40818	I	Dec 17 230j	34	BEG RSSD DEC14 000000 END DEC14 240000
N40818	I	Dec 18 003d	122	BEG RSSD DEC14 000000 END DEC14 240000
N40819	I	Dec 18 003e	107	PARAMETERS FROM ADDITIONAL STATIONS
N40820	R	Dec 18 0033	52	BEG RSNY OCT21 000000 END OCT21 240000
				RET OF SEUS2 N40056
				RET OF SEUS2 N40508
N40821	R	Dec 18 003f	58	BEG LAC OCT24 000000 END OCT24 240000
				RET OF SEUS2 N40077
				RET OF SEUS2 N40529
N40822	R	Dec 18 003g	73	BEG FBAL OCT25 000000 END OCT25 240000
				RET OF SEUS2 N40100
				RET OF SEUS2 N40552
N40823	R	Dec 18 003h	134	BEG FBAS OCT31 000000 END OCT31 240000
				RET OF SEUS2 N40141
				RET OF SEUS2 N40593
N40824	R	Dec 18 0034	17	BEG FBAL NOV07 000000 END NOV07 240000

						RET OF SEUS2 N40196
						RET OF SEUS2 N40648
N40825	R	Dec	18	003i	74	BEG FBAL NOV08 000000 END NOV08 240000
						RET OF SEUS2 N40205
						RET OF SEUS2 N40657
N40826	R	Dec	18	003j	182	BEG RSON NOV11 000000 END NOV11 240000
						RET OF SEUS2 N40239
						RET OF SEUS2 N40691
N40827	R	Dec	18	0035	83	PARAMETERS FROM ADDITIONAL STATIONS
						RET OF SEUS2 N40287
						RET OF SEUS2 N40739
N40828	R	Dec	18	003k	88	PARAMETERS FROM ADDITIONAL STATIONS
						RET OF SEUS2 N40306
						RET OF SEUS2 N40754
N40829	I	Dec	18	232d	57	PARAMETERS FROM ADDITIONAL STATIONS
N40830	I	Dec	18	232e	103	PARAMETERS FROM ADDITIONAL STATIONS
N40831	I	Dec	20	234d	33	PARAMETERS FROM ADDITIONAL STATIONS
N42001	STA	Oct	16	234A	14	STATUS1! COORD1! N42001 MESSAGE RECEIVED
N42002	RET	Oct	17	2343	17	RET REQUEST WASHIDC
N47001	STA	Oct	25	0212	26	
N47002	STA	Nov	1	0136	17	

Sender (Country): United States
Sender's WMO/GTS header: SEUS10 KWBC
Time Period: Day 1 (Oct 15) -- Day 89 (Jan 11)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N42003	RET	Oct 19	225A	17	RET REQUEST WASHIDC
N42004	PEL	Oct 19	2252	46	BEG OCT15 000000 END OCT15 240000
N42005	PEL	Oct 23	2336	30	BEG OCT16 000000 END OCT16 240000
N42006	RET	Oct 23	2337	34	RET REQUEST WASHIDC
N42007	STA	Oct 25	015A	26	
N42008	RET	Oct 25	0159	27	RET REQUEST WASHIDC
N42009	PEL	Oct 25	232A	22	BEG OCT17 000000 END OCT17 240000
N42010	PEL	Oct 25	2325	35	BEG OCT18 000000 END OCT18 240000
N42011	PEL	Oct 25	2327	54	BEG OCT19 000000 END OCT19 240000
N42012	PEL	Oct 26	231A	41	BEG OCT20 000000 END OCT20 240000
N42013	PEL	Oct 30	011A	33	BEG OCT21 000000 END OCT21 240000
N42014	FEB	Oct 30	0113	27	BEG OCT15 000000 END OCT15 240000
N42015	RET	Oct 30	0115	29	RET REQUEST WASHIDC
N42016	PEL	Oct 30	1659	42	BEG OCT22 000000 END OCT 22 240000
N42017	PEL	Oct 30	1702	65	BEG OCT23 000000 END OCT23 240000
N42018	PEL	Oct 30	1705	54	BEG OCT24 000000 END OCT24 240000
N42019	FEB	Oct 31	0006	20	BEG OCT16 000000 END OCT16 240000
N42020	FEB	Oct 31	000A	22	BEG OCT17 000000 END OCT17 240000
N42021	PEL	Oct 31	0007	61	BEG OCT25 000000 END OCT25 240000
N42022	FEB	Nov 1	010A	23	BEG OCT18 000000 END OCT18 240000
N42023	RET	Nov 1	0107	17	RET REQUEST WASHIDC
N42024	STA	Nov 1	0108	27	
N42025	PEL	Nov 1	2149	87	BEG OCT26 000000 END OCT26 240000
N42026	FEB	Nov 1	2153	26	BEG OCT18 000000 END OCT18 240000
N42027	PEL	Nov 1	230A	58	BEG OCT27 000000 END OCT27 240000
N42028	FEB	Nov 1	2305	34	BEG OCT19 000000 END OCT19 240000
N42029	PEL	Nov 2	235A	30	BEG OCT28 000000 END OCT28 240000
N42030	PEL	Nov 2	2356	67	BEG OCT29 000000 END OCT29 240000
N42031	FEB	Nov 2	2359	24	BEG OCT20 000000 END OCT20 240000
N42032	STA	Nov 5	024A	19	STATUS MESSAGE FOR GSETT COORDINATOR
N42033	STA	Nov 5	0245	50	STATUS SUMMARY OF MESSAGES RECEIVED AT WASHIDC
N4[illegible]4	RET	Nov 5	0248	35	REQUEST MESSAGE CONFIRMATION
N42035	R	Nov 5	0250	19	RET OF SEUS10 N42001
					RET OF SEUS10 N42001
					STATUS1 COORD1 N42001 MESSAGE RECEIVED
					STATUS1 COORD1 N42001 MESSAGE RECEIVED
N42036	RET	Nov 5	0251	41	REQUEST FOR RECONCILIATION OF PEL FOR OCT25
N42037	PEL	Nov 6	013A	47	BEG OCT29 235000 END OCT30 240000
N42038	PEL	Nov 6	0140	37	BEG OCT31 000000 END OCT31 240000
N42039	FEB	Nov 6	0141	23	BEG OCT21 000000 END OCT21 240000
N42040	FEB	Nov 6	0142	26	BEG OCT22 000000 END OCT22 240000
N42041	RET	Nov 6	0144	40	REQUEST FOR RECONCILIATION OF PEL FOR OCT27
N42042	FEB	Nov 7	011A	29	BEG OCT23 000000 END OCT23 240000
N42043	FEB	Nov 7	011B	28	BEG OCT24 000000 END OCT24 240000
N42044	PEL	Nov 7	0115	53	BEG NOV01 000000 END NOV01 240000
N42045	STA	Nov 7	0117	17	STATUS RESPONSE TO GSETT COORDINATOR MESSAGE N4201
N42046	STA	Nov 7	0118	17	STATUS FOR MOSCIDC
N42047	R	Nov 7	2231	16	RET OF SEUS10 N42001
					RET OF SEUS10 N42001

					RET OF SEUS10 N42035
					RET OF SEUS10 N42035
					STATUS1! COORD1! N42001 MESSAGE RECEIVED
					STATUS1! COORD1! N42001 MESSAGE RECEIVED
N42048	R	Nov 7	2305	14	RET OF SEUS10 N42002
					RET REQUEST WASHIDC
N42049	PEL	Nov 8	003a	55	BEG NOV02 000000 END NOV02 240000
N42050	FEB	Nov 8	0039	28	BEG OCT25 000000 END OCT25 240000
N42051	PEL	Nov 8	233a	36	BEG NOV03 000000 END NOV03 240000
N42052	FEB	Nov 8	233b	33	BEG OCT26 000000 END OCT26 240000
N42053	PEL	Nov 9	234a	51	BEG NOV04 000000 END NOV04 240000
N42054	PEL	Nov 9	234b	42	BEG NOV05 000000 END NOV05 240000
N42055	FEB	Nov 9	234c	22	BEG OCT27 000000 END OCT27 240000
N42056	RET	Nov 9	2347	36	REQUEST FOR RET
N42057	FEB	Nov 13	013a	13	BEG OCT28 000000 END OCT28 240000
N42058	FEB	Nov 13	013b	22	BEG OCT29 000000 END OCT29 240000
N42059	R	Nov 13	0131	19	BEG OCT18 000000 END OCT18 240000
					RET OF N42022 AS REQUESTED
N42060	R	Nov 13	013c	13	RET OF N42023 AS REQUESTED
N42061	R	Nov 13	013d	23	RET OF N42024 AS REQUESTED
N42062	R	Nov 13	013e	15	RET OF N42032 AS REQUESTED
					STATUS MESSAGE FOR GSETT COORDINATOR
N42063	PEL	Nov 14	011a	20	BEG NOV06 000000 END NOV06 A
N42064	PEL	Nov 14	011b	27	BEG NOV07 000000 END NOV07 240000
N42065	FEB	Nov 14	011c	17	BEG OCT30 000000 END OCT30 240000
N42066	FEB	Nov 14	0118	16	BEG OCT31 000000 END OCT31 240000
N42067	R	Nov 14	011d	76	BEG OCT15 000000 END OCT15 240000
					BEG OCT16 000000 END OCT16 240000
					BEG OCT17 000000 END OCT17 240000
					RET OF SEUS10 N42004,005,009
N42068	R	Nov 14	011e	109	BEG OCT18 000000 END OCT18 240000
					BEG OCT19 000000 END OCT19 240000
					BEG OCT20 000000 END OCT20 240000
					RETRANSISSION OF SEUS10 N42010,011,012
N42069	PEL	Nov 15	000a	49	BEG NOV08 000000 END NOV08 240000
N42070	PEL	Nov 15	000b	43	BEG NOV09 000000 END NOV09 240000
N42071	FEB	Nov 15	000c	17	BEG NOV01 000000 END NOV01 240000
N42072	PEL	Nov 16	001a	55	BEG NOV10 000000 END NOV10 240000
N42073	FEB	Nov 16	001b	24	BEG NOV02 000000 END NOV02 240000
N42074	PEL	Nov 16	234a	53	BEG NOV11 000000 END NOV11 240000
N42075	PEL	Nov 16	2346	62	BEG NOV12 000000 END NOV12 240000
N42076	FEB	Nov 16	234b	19	BEG NOV03 000000 END NOV03 240000
N42077	RET	Nov 16	234c	13	REQUEST FOR RET
N42078	STA	Nov 16	234d	13	STATUS MESSAGE TO SENZ1 NZKL
N42079	FEB	Nov 20	0033	23	BEG NOV04 000000 END NOV04 240000
N42080	PEL	Nov 21	013a	76	BEG NOV13 000000 END NOV13 240000
N42081	PEL	Nov 21	013b	59	BEG NOV14 000000 END NOV14 240000
N42082	PEL	Nov 21	013c	61	BEG NOV15 000000 END NOV15 120000
N42083	PEL	Nov 21	013d	83	BEG NOV15 120000 END NOV15 240000
N42084	FEB	Nov 21	0133	22	BEG NOV05 000000 END NOV05 240000
N42085	FEB	Nov 21	013e	16	BEG NOV06 000000 END NOV06 240000
N42086	FEB	Nov 21	013f	19	BEG NOV07 000000 END NOV07 240000
N42087	FEB	Nov 21	222a	32	BEG NOV08 000000 END NOV08 240000
N42088	PEL	Nov 21	222b	43	BEG NOV16 000000 END NOV16 240000
N42089	FEB	Nov 22	205a	23	BEG NOV09 000000 END NOV09 240000
N42090	PEL	Nov 22	205b	69	BEG NOV17 000000 END NOV17 120000

N42091	PEL	Nov	22	2059	45	BEG NOV17 120000 END NOV17 240000
N42092	RET	Nov	22	2145	33	REQUEST FOR RET
N42093	FEB	Nov	23	222a	26	BEG NOV10 000000 END NOV10 240000
N42094	PEL	Nov	23	222b	66	BEG NOV18 000000 END NOV18 240000
N42095	PEL	Nov	23	2229	58	BEG NOV19 000000 END NOV19 240000
N42096	PEL	Nov	26	2341	92	BEG NOV20 000000 END NOV20 240000
N42097	PEL	Nov	26	2342	36	BEG NOV21 000000 END NOV21 240000
N42098	FEB	Nov	26	234b	18	BEG NOV11 000000 END NOV11 240000
N42099	FEB	Nov	26	234c	28	BEG NOV12 000000 END NOV12 240000
N42100	PEL	Nov	27	231a	83	BEG NOV22 000000 END NOV22 240000
N42101	FEB	Nov	27	2320	28	BEG NOV13 000000 END NOV13 240000
N42102	FEB	Nov	27	232a	23	BEG NOV14 000000 END NOV14 240000
N42103	PEL	Nov	29	003f	76	BEG NOV23 000000 END NOV23 120000
N42104	PEL	Nov	29	203b	47	BEG NOV23 120000 END NOV23 240000
N42105	FEB	Nov	29	0031	36	BEG NOV15 000000 END NOV15 240000
N42106	PEL	Nov	29	203c	53	BEG NOV24 000000 END NOV 240000
N42106	PEL	Nov	30	231a	74	BEG NOV26 000000 END NOV26 240000
N42107	FEB	Nov	29	203d	21	BEG NOV16 000000 END NOV16 240000
N42108	PEL	Dec	3	2341	71	BEG NOV25 000000 END NOV25 240000
N42109	PEL	Dec	3	2342	74	BEG NOV26 000000 END NOV26 240000
N42110	FEB	Nov	30	2316	33	BEG NOV17 000000 END NOV17 240000
N42111	RET	Nov	30	231b	41	REQUEST FOR RET
N42112	PEL	Dec	3	233a	51	BEG NOV27 000000 END NOV27 240000
N42113	PEL	Dec	3	233b	48	BEG NOV28 000000 END NOV28 240000
N42114	FEB	Dec	3	2340	25	BEG NOV18 000000 END NOV18 240000
N42115	FEB	Dec	3	234x	25	BEG NOV19 000000 END NOV19 240000
N42116	R	Dec	3	234y	100	BEG NOV20 000000 END NOV20 240000
						RET OF N42096 AS REQUESTED
N42117	PEL	Dec	4	2324	52	BEG NOV29 000000 END NOV29 120000
N42118	PEL	Dec	4	232a	62	BEG NOV29 120000 END NOV29 240000
N42119	FEB	Dec	4	2325	28	BEG NOV20 000000 END NOV20 240000
N42119	FEB	Dec	4	232x	37	BEG NOV20 000000 END NOV20 240000
N42120	FEB	Dec	4	232y	23	BEG NOV21 000000 END NOV21 240000
N42121	STA	Dec	4	232c	13	
N42122	PEL	Dec	6	002a	61	BEG NOV30 000000 END NOV30 240000
N42123	FEB	Dec	6	002b	32	BEG NOV22 000000 END NOV22 240000
N42124	PEL	Dec	6	232a	48	BEG DEC01 000000 END DEC01 240000
N42125	FEB	Dec	6	2329	36	BEG NOV23 000000 END NOV23 240000
N42126	STA	Dec	6	2330	16	STATUS FOR MOSCIDC
N42127	PEL	Dec	7	235a	100	BEG DEC02 000000 END DEC02 240000
N42128	PEL	Dec	7	2353	88	BEG DEC03 000000 END DEC03 240000
N42129	FEB	Dec	7	235b	22	BEG NOV24 000000 END NOV24 240000
N42130	R	Dec	10	233a	10	RET OF SEUS10 N42001
						STATUS1, COORD1, N42001 MESSAGE RECEIVED
N42131	R	Dec	10	233b	13	RET OF SEUS10 N42002
						RET REQUEST WASHIDC
N42132	R	Dec	10	233c	12	RET OF SEUS10 N42003
N42133	R	Dec	10	233d	42	BEG OCT15 000000 END OCT15 240000
						RET OF SEUS10 N42004
N42134	R	Dec	10	233e	26	RET OF SEUS10 N42005
N42135	R	Dec	10	2339	30	RET OF SEUS10 N42006
						RET REQUEST WASHIDC
N42136	R	Dec	10	2340	22	RET OF SEUS10 N42007
N42137	R	Dec	10	234a	23	RET OF SEUS10 N42008
						RET REQUEST WASHIDC
N42138	R	Dec	10	234b	18	BEG OCT17 000000 END OCT17 240000

					RET OF SEUS10 N42009
N42139	R	Dec 10	234c	31	BEG OCT18 000000 END OCT18 240000
					RET OF SEUS10 N42010
N42140	R	Dec 10	234d	50	BEG OCT19 000000 END OCT19 240000
					RET OF SEUS10 N42011
N42141	R	Dec 10	234e	37	BEG OCT20 000000 END OCT20 240000
					RET OF SEUS10 N42012
N42142	R	Dec 10	234f	74	BEG NOV25 000000 END NOV25 240000
					RET OF SEUS10 N42108
N42143	R	Dec 10	2341	77	BEG NOV26 000000 END NOV26 240000
					RET OF SEUS10 N42109
N42144	R	Dec 10	234g	44	BEG NOV27 000000 END NOV27 240000
					RET OF SEUS10 N42112
N42145	R	Dec 10	234h	96	RET OF N42096 AS REQUESTED
					RET OF SEUS10 N42116
N42146	PEL	Dec 11	003a	92	BEG DEC04 000000 END DEC04 240000)
N42147	PEL	Dec 11	003c	75	BEG DEC05 000000 END DEC05 240000
N42148	FEB	Dec 11	0035	23	BEG NOV25 000000 END NOV25 240000
N42149	FEB	Dec 11	0036	24	BEG NOV26 000000 END NOV26 240000
N42150	STA	Dec 11	003d	47	STATUS WASHIDC
N42151	STA	Dec 11	003e	19	STATUS FOR STOCIDC AND MOSCIDC
N42152	PEL	Dec 11	2332	92	BEG DEC06 000000 END DEC06 240000
N42153	FEB	Dec 11	2333	18	BEG NOV27 000000 END NOV27 240000
N42154	FEB	Dec 11	233a	20	BEG NOV28 000000 END NOV28 240000
N42155	PEL	Dec 13	0033	55	BEG DEC07 000000 END DEC07 240000
N42156	REC	Dec 13	003a	54	BEG DEC01 000000 END DEC01 240000
N42157	FEB	Dec 13	0034	32	BEG NOV29 000000 END NOV29 240000
N42158	RET	Dec 13	0036	36	REQUEST FOR RET
N42159	PEL	Dec 13	230a	43	BEG DEC08 000000 END DEC08 240000
N42159	PEL	Dec 13	2325	42	BEG DEC08 000000 END DEC08 240000
N42160	REC	Dec 13	232a	84	BEG DEC02 000000 END DEC02 240000
N42161	REC	Dec 13	232b	69	BEG DEC01 000000 END DEC01 240000
N42162	FEB	Dec 13	2326	23	BEG NOV30 000000 END NOV30 240000
N42163	RET	Dec 13	232c	15	REQUEST FOR EGYPT: SEEG1
N42164	RET	Dec 13	232d	12	REQUEST FOR MOSCIDC
N42165	PEL	Dec 15	004a	86	BEG DEC09 000000 END DEC09 240000
N42166	PEL	Dec 15	0048	78	BEG DEC10 000000 END DEC10 240000
N42167	REC	Dec 15	004b	90	BEG DEC03 000000 END DEC03 240000
N42168	REC	Dec 15	0051	62	BEG DEC04 000000 END DEC04 120000
N42169	REC	Dec 15	005a	57	BEG DEC04 120000 END DEC04 240000
N42170	REC	Dec 15	005b	104	BEG DEC05 000000 END DEC05 240000
N42171	REC	Dec 15	0052	94	BEG DEC02 000000 END DEC02 240000
N42172	FEB	Dec 15	005c	22	BEG DEC01 000000 END DEC01 240000
N42173	RET	Dec 15	005d	9	REQUEST FOR RET TO SEPF01
N42174	PEL	Dec 18	0028	48	BEG DEC11 000000 END DEC11 240000
N42175	PEL	Dec 17	2304	33	BEG DEC12 000000 END DEC12 240000
N42176	REC	Dec 18	002b	96	BEG DEC06 000000 END DEC06 240000
N42177	FEB	Dec 17	230b	24	BEG DEC02 000000 END DEC02 240000
N42178	FEB	Dec 17	230c	28	BEG DEC03 000000 END DEC03 240000
N42179	R	Dec 18	002d	64	BEG NOV30 000000 END NOV30 240000
					RET OF SEUS10 N42122
N42180	R	Dec 18	002e	35	BEG NOV22 000000 END NOV22 240000
					RET OF SEUS10 N42123
N42181	R	Dec 18	0030	25	BEG NOV24 000000 END NOV24 240000
					RET OF SEUS10 N42129
N42182	PEL	Dec 18	232a	64	BEG DEC13 000000 END DEC13 240000

N42183	REC	Dec	18	232b	59	BEG DEC07 000000 END DEC07 240000
N42184	FEB	Dec	18	2322	25	BEG DEC04 000000 END DEC04 240000
N42185	FEB	Dec	18	232c	32	BEG DEC05 000000 END DEC05 240000
N42186	PEL	Dec	20	003a	99	BEG DEC14 000000 END DEC14 240000
N42187	REC	Dec	20	0040	48	BEG DEC08 000000 END DEC08 240000
N42188	REC	Dec	20	004a	74	BEG DEC07 000000 END DEC07 240000
N42189	FEB	Dec	20	004b	20	BEG DEC06 000000 END DEC06 240000
N42190	REC	Dec	20	2344	89	BEG DEC09 000000 END DEC09 240000
N42191	REC	Dec	20	234a	94	BEG DEC10 000000 END DEC10 2400000
N42192	FEB	Dec	20	234c	19	BEG DEC07 000000 END DEC07 240000
N42193	REC	Dec	20	234b	54	BEG DEC08 000000 END DEC08 240000
N42194	RET	Dec	20	2345	23	REQUEST FOR MOSIDC
N42195	FEB	Dec	22	0045	17	BEG DEC08 000000 END DEC08 240000
N42196	REC	Dec	22	0046	65	BEG DEC11 000000 END DEC11 240000
N42197	REC	Dec	22	0047	51	BEG DEC12 000000 END DEC12 240000
N52001	REC	Jan	7	235a	52	BEG DEC09 000000 END DEC09 120000
N52002	REC	Jan	8	0000	72	BEG DEC09 120000 END DEC09 240000
N52003	REC	Jan	8	0001	46	BEG DEC10 000000 END DEC10 120000
N52004	REC	Jan	8	000a	72	BEG DEC10 120000 END DEC10 240000
N52005	REC	Jan	8	0002	77	BEG DEC11 000000 END DEC11 240000
N52006	REC	Jan	8	0005	63	BEG DEC12 000000 END DEC12 240000
N52007	REC	Jan	8	0006	84	BEG DEC13 000000 END DEC13 240000
N52008	RET	Jan	8	000b	11	REQUEST FOR RET
N52009	REC	Jan	8	2235	105	BEG DEC14 000000 END DEC14 240000
N52010	FEB	Jan	8	223a	24	BEG DEC09 000000 END DEC09 240000
N52011	FEB	Jan	8	2236	23	BEG DEC10 000000 DEC10 240000
N52012	FEB	Jan	9	235a	18	BEG DEC11 000000 END DEC11 240000
N52013	FEB	Jan	9	2354	18	BEG DEC12 000000 END DEC12 240000
N52014	REC	Jan	11	0005	72	BEG DEC14 000000 END DEC14 100000
N52015	REC	Jan	11	000a	64	BEG DEC14 100000 END DEC14 240000
N52016	FEB	Jan	11	0006	26	BEG DEC13 000000 END DEC13 240000
N52017	FEB	Jan	11	2248	27	BEG DEC14 000000 END DEC14 240000

III. MESSAGES RECEIVED AT WASHIDC

MESSAGES RECEIVED AT WASHIDC

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Sweden
Sender's WMO/GTS header: SESN1 ESWI
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N42001	PEL	Oct 22	0910	85	BEG OCT15 000000 END OCT15 240000
N42002	RET	Oct 22	112A	22	RET REQUEST STOCIDC
N42003	RET	Oct 23	091A	20	RET REQUEST STOCIDC
N42004	PEL	Oct 23	1419	54	BEG OCT16 000000 END OCT16 240000
N42005	PEL	Oct 23	1759	61	BEG OCT17 000000 END OCT17 240000
N42006	PEL	Oct 24	2022	57	BEG OCT18 000000 END OCT18 240000
N42007	RET	Oct 25	1504	38	RET REQUEST STOCIDC
N42008	FEB	Oct 29	0815	89	BEG OCT15 000000 END OCT15 240000
N42009	FEB	Oct 29	0828	33	BEG OCT15 000000 END OCT15 240000
N42010	PEL	Oct 29	0948	71	BEG OCT19 000000 END OCT19 240000
N42011	PEL	Oct 29	0952	50	BEG OCT20 000000 END OCT20 240000
N42012	PEL	Oct 29	1623	53	BEG OCT21 000000 END OCT21 240000
N42013	RET	Oct 29	1728	31	RET REQUEST STOCIDC
N42014	PEL	Oct 29	1749	68	BEG OCT22 000000 END OCT22 240000
N42015	FEB	Oct 30	1944	24	BEG OCT16 000000 END OCT16 240000
N42016	FEB	Oct 30	2013	31	BEG OCT17 000000 END OCT17 240000
N42017	RET	Nov 1	1658	32	RET REQUEST STOCIDC
N42018	FEB	Nov 1	2147	30	BEG OCT18 000000 END OCT18 240000
N42019	PEL	Nov 1	2159	78	BEG OCT23 000000 END OCT23 240000
N42020	PEL	Nov 1	2203	69	BEG OCT24 000000 END OCT24 240000
N42021	PEL	Nov 1	2210	97	BEG OCT25 000000 END OCT25 240000
N42022	FEB	Nov 1	2230	31	BEG OCT19 000000 END OCT19 240000
N42023	PEL	Nov 2	2002	88	BEG OCT26 000000 END OCT26 240000
N42024	PEL	Nov 2	2012	71	BEG OCT27 000000 END OCT27 240000
N42025	PEL	Nov 2	2020	54	BEG OCT28 000000 END OCT28 240000
N42026	PEL	Nov 2	2025	67	BEG OCT29 000000 END OCT29 240000
N42027	FEB	Nov 2	2034	24	BEG OCT20 000000 END OCT20 240000
N42028	FEB	Nov 5	1952	25	BEG OCT21 000000 END OCT21 240000
N42029	FEB	Nov 5	2006	30	BEG OCT22 000000 END OCT22 240000
N42030	PEL	Nov 5	2031	70	BEG OCT30 000000 END OCT30 240000
N42031	PEL	Nov 5	2038	40	BEG OCT31 000000 END OCT31 240000
N42032	RET	Nov 6	1518	28	RET REQUEST STOCIDC
N42033	PEL	Nov 6	1808	65	BEG NOV01 000000 END NOV01 240000
N42034	FEB	Nov 6	1814	37	BEG OCT23 000000 END OCT23 240000
N42035	FEB	Nov 6	1823	29	BEG OCT24 000000 END OCT24 240000
N42038	FEB	Nov 8	1921	27	BEG OCT26 000000 END OCT26 240000))
N42039-	PEL	Nov 8	1925	52	BEG NOV03 000000 END NOV03 240000))
N42040	FEB	Nov 9	2102	27	BEG OCT27 000000 END OCT27 240000
N42041	PEL	Nov 9	210a	71	BEG NOV04 000000 END NOV04 240000
N42042	PEL	Nov 9	2111	79	BEG NOV05 000000 END NOV05 240000
N42043	R	Nov 12	0929	30	BEG OCT25 000000 END OCT25 240000 RET OF N42036 AS REQUESTED BY WASHIDC
N42044	R	Nov 12	0934	85	BEG NOV02 000000 END NOV02 240000 RET OF N42037 AS REQUESTED BY WASHIDC
N42046	FEB	Nov 12	2016	25	BEG OCT29 000000 END OCT29 240000
N42047	PEL	Nov 12	2022	50	BEG NOV06 000000 END NOV06 240000

N42048	PEL	Nov 12 2025	62	BEG NOV07 000000 END NOV07 240000
N42049	R	Nov 13 0955	15	RET OF SESN1 N42003 AS REQUESTED RET REQUEST STOCIDC
N42050	R	Nov 13 1000	26	RET OF SESN1 N42013 AS REQUESTED RET REQUEST STOCIDC
N42051	R	Nov 13 1003	25	BEG OCT18 000000 END OCT18 240000 RET OF N42018 AS REQUESTED))
N42052	R	Nov 13 1226	73	BEG OCT23 000000 END OCT23 240000 RET OF SESN1 N42019 AS REQUESTED
N42053	R	Nov 13 1225	64	BEG OCT24 000000 END OCT24 240000 RET OF SESN1 N42020 AS REQUESTED))
N42054	R	Nov 13 1237	92	BEG OCT25 000000 END OCT25 240000 RET OF SESN1 N42021 AS REQUESTED))
N42055	R	Nov 13 1231	23	RET OF SESN1 N42032 AS REQUESTED)) RET REQUEST STOCIDC
N42056	FEB	Nov 13 1953	24	BEG OCT30 000000 END OCT30 240000
N42057	FEB	Nov 13 2002	17	BEG OCT31 000000 END OCT31 240000
N42058	PEL	Nov 13 2006	88	BEG NOV08 000000 END NOV08 240000
N42059	RET	Nov 14 0716	20	RET REQUEST STOCIDC
N42060	FEB	Nov 14 1803	21	BEG NOV01 000000 END NOV01 240000
N42061	FEB	Nov 15 1917	28	BEG NOV02 000000 END NOV02 240000
N42062	PEL	Nov 15 1921	61	BEG NOV09 000000 END NOV09 240000
N42063	PEL	Nov 15 193a	79	BEG NOV10 000000 END NOV10 240000
N42064	FEB	Nov 16 1925	23	BEG NOV03 000000 END NOV03 240000
N42065	PEL	Nov 16 1929	58	BEG NOV11 000000 END NOV11 240000
N42066	PEL	Nov 16 1937	70	BEG NOV12 000000 END NOV12 240000
N42067	FEB	Nov 19 2033	22	BEG NOV04 000000 END NOV04 240000
N42068	FEB	Nov 19 2037	25	BEG NOV05 000000 END NOV05 240000
N42070	PEL	Nov 20 185a	73	BEG NOV13 000000 END NOV13 240000
N42071	PEL	Nov 20 1852	63	BEG NOV14 000000 END NOV14 240000
N42072	PEL	Nov 20 1854	21	BEG NOV15 000000 END NOV15 240000
N42073	FEB	Nov 20 185f	21	BEG NOV06 000000 END NOV06 240000
N42074	FEB	Nov 20 185h	24	BEG NOV07 000000 END NOV07 240000
N42075	FEB	Nov 21 2031	33	BEG NOV08 000000 END NOV08 240000
N42076	PEL	Nov 21 203a	37	BEG NOV16 000000 END NOV16 240000
N42077	FEB	Nov 22 1856	22	BEG NOV09 000000 END NOV09 240000
N42078	PEL	Nov 23 1858	102	BEG NOV17 000000 END NOV17 240000
N42079	FEB	Nov 23 1856	27	BEG NOV10 000000 END NOV10 240000
N42080	PEL	Nov 23 2000	70	BEG NOV18 000000 END NOV18 240000
N42081	RET	Nov 26 0940	22	RET REQUEST STOCIDC
N42082	R	Nov 26 1448	107	BEG NOV15 000000 END NOV15 240000 RET OF N42072
N42083	PEL	Nov 26 1909	49	BEG NOV19 000000 END NOV19 240000
N42084	FEB	Nov 26 190b	22	BEG NOV11 000000 END NOV11 240000
N42085	FEB	Nov 26 1913	26	BEG NOV12 000000 END NOV12 240000
N42086	PEL	Nov 26 2042	90	BEG NOV20 000000 END NOV20 240000
N42087	PEL	Nov 26 204b	44	BEG NOV21 000000 END NOV21 240000
N42088	FEB	Nov 27 1946	27	BEG NOV13 000000 END NOV13 240000
N42089	FEB	Nov 27 194b	24	BEG NOV14 000000 END NOV14 240000
N42090	PEL	Nov 27 1959	101	BEG NOV22 000000 END NOV22 240000
N42091	FEB	Nov 28 114a	26	BEG NOV14 000000 END NOV14 240000
N42094	R	Nov 29 1033	91	BEG NOV20 000000 END NOV20 240000 RET OF SESN1 N42086 AS REQUESTED BY SEOS1))
N42095	R	Nov 29 103a	45	BEG NOV21 000000 END NOV21 240000 RET OF SESN1 N42087 AS REQUESTED BY SEOS1))
N42096	R	Nov 29 144b	29	BEG NOV02 000000 END NOV02 240000

					RET OF SESN1 N42061 AS REQUESTED BY WASHIDC))
N42097	R	Nov 29	144c	62	BEG NOV09 000000 END NOV09 240000
					RET OF SESN1 N42062 AS REQUESTED BY WASHIDC))
N42098	R	Nov 29	144f	80	BEG NOV10 000000 END NOV10 240000
					RET OF SESN1 N42063 AS REQUESTED BY WASHIDC))
N42099	R	Nov 30	094a	24	BEG NOV03 000000 END NOV03 240000
					RET OF SESN1 N42064 AS REQUESTED BY WASHIDC
N42100	R	Nov 30	0951	59	BEG NOV11 000000 END NOV11 240000
					RET OF SESN1 N42065 AS REQUESTED BY WASHIDC
N42101	R	Nov 30	1006	71	BEG NOV12 000000 END NOV12 240000
					RET OF SESN1 N42066 AS REQUESTED BY WASHIDC
N42103	FEB	Nov 29	2020	19	BEG NOV16 000000 END NOV16 240000
N42104	PEL	Nov 30	2110	52	BEG NOV24 000000 END NOV24 240000
N42105	PEL	Nov 30	2112	58	BEG NOV25 000000 END NOV25 240000
N42106	PEL	Nov 30	211a	70	BEG NOV26 000000 END NOV26 240000
N42107	FEB	Nov 30	211b	35	BEG NOV17 000000 END NOV17 240000
N42108	R	Dec 3	1600	103	BEG NOV17 000000 END NOV17 240000
					RET OF N42078 AS REQUESTED BY SEDD1
N42109	R	Dec 3	1553	45	BEG NOV21 000000 END NOV21 240000
					RET OF N42087 AS REQUESTED BY SEDD1
N42110	R	Dec 3	1559	25	BEG NOV03 000000 END NOV03 240000
					RET OF SESN1 N42064 AND N42099 (WHICH WAS
N42111	R	Dec 3	160a	60	BEG NOV11 000000 END NOV11 240000
					RET OF SESN1 N42065 AND N42100 WHICH WAS
N42112	R	Dec 3	1610	72	BEG NOV12 000000 END NOV12 240000
					RET OF N42066 AS REQUESTED BY SEOS1 AND SEDD1
					RET OF SESN1 N42066 AND N42101 WHICH WAS A
N42113	RET	Dec 3	1631	37	RET REQUEST STOCIDC
N42114	RET	Dec 3	1621	21	RET REQUEST STOCIDC
N42115	FEB	Dec 3	1924	25	BEG NOV18 000000 END NOV18 240000
N42116	FEB	Dec 3	192b	20	BEG NOV19 000000 END NOV19 240000
N42117	PEL	Dec 3	1932	47	BEG NOV27 000000 END NOV27 240000
N42118	PEL	Dec 3	1938	45	BEG NOV28 000000 END NOV28 240000
N42119	FEB	Dec 4	1805	31	BEG NOV20 000000 END NOV20 240000
N42120	FEB	Dec 4	1809	18	BEG NOV21 000000 END NOV21 240000
N42121	PEL	Dec 4	2053	83	BEG NOV29 000000 END NOV29 240000
N42122	RET	Dec 5	0838	19	RET REQUEST STOCIDC
N42123	R	Dec 5	0939	92	BEG NOV20 000000 END NOV20 240000
					RET OF SESN1 N42094 AS REQUESTED BY MOSCIDC
N42124	FEB	Dec 5	192b	33	BEG NOV22 000000 END NOV22 240000
N42125	PEL	Dec 5	193a	61	BEG NOV30 000000 END NOV30 240000
N42126	FEB	Dec 6	2013	34	BEG NOV23 000000 END NOV23 240000
N42126	FEB	Dec 6	201a	34	BEG NOV23 000000 END NOV23 240000
N42127	PEL	Dec 6	2019	51	BEG DEC01 000000 END DEC01 240000
N42128	R	Dec 7	1419	104	BEG NOV17 000000 END NOV17 240000
					RET OF N42108 WHICH WAS A RETRANSMISSION
N42129	FEB	Dec 7	1846	21	BEG NOV24 000000 END NOV24 240000
N42130	PEL	Dec 7	1850	72	BEG DEC02 000000 END DEC02 240000
N42132	FEB	Dec 10	185g	22	BEG NOV25 000000 END NOV25 240000
N42133	FEB	Dec 10	1855	27	BEG NOV26 000000 END NOV26 240000
N42134	PEL	Dec 10	1859	81	BEG DEC04 000000 END DEC04 240000
N42135	PEL	Dec 10	190a	60	BEG DEC05 000000 END DEC05 240000
N42136	RET	Dec 11	1454	13	RET REQUEST STOCIDC
N42137	FEB	Dec 11	1840	18	BEG NOV27 000000 END NOV27 240000
N42138	FEB	Dec 11	1845	21	BEG NOV28 000000 END NOV28 240000
N42139	PEL	Dec 11	1953	65	BEG DEC06 000000 END DEC06 240000

N42140	R	Dec 12 1524	53	BEG NOV25 000000 END NOV25 240000
				RET OF N42105.
N42141	PEL	Dec 12 1641	43	BEG DEC07 000000 END DEC07 240000
N42142	FEB	Dec 12 1650	31	BEG NOV29 000000 END NOV29 240000
N42143	REC	Dec 12 1829	53	BEG DEC01 000000 END DEC01 240000
N42144	RET	Dec 13 0901	21	RET REQUEST STOCIDC
N42144	RET	Dec 13 0902	21	RET REQUEST STOCIDC
N42145	R	Dec 13 1427	19	BEG OCT28 000000 END OCT28 240000
				RET OF N42045 AS REQUESTED BY WASHIDC
N42145	R	Dec 13 142a	19	BEG OCT28 000000 END OCT28 240000
				RET OF N42045 AS REQUESTED BY WASHIDC
N42146	R	Dec 13 1437	32	RET OF N42069 AS REQUESTED BY WASHIDC
				RET REQUEST STOCIDC
N42146	R	Dec 13 143a	32	RET OF N42069 AS REQUESTED BY WASHIDC
				RET REQUEST STOCIDC
N42147	R	Dec 13 1451	139	BEG NOV23 000000 END NOV23 240000
				RET OF N42092 AS REQUESTED BY WASHIDC))
N42147	R	Dec 13 145b	139	BEG NOV23 000000 END NOV23 240000
				RET OF N42092 AS REQUESTED BY WASHIDC))
N42148	R	Dec 13 1442	32	BEG NOV15 000000 END NOV15 240000
				RET OF N42093 AS REQUESTED BY WASHIDC
N42148	R	Dec 13 144a	32	BEG NOV15 000000 END NOV15 240000
				RET OF N42093 AS REQUESTED BY WASHIDC
N42149	R	Dec 13 1449	38	RET OF N42102 AS REQUESTED BY WASHIDC
				RET OF SESN1 N42069 AS REQUESTED BY WASHIDC
				RET REQUEST STOCIDC
N42149	R	Dec 13 1450	38	RET OF N42102 AS REQUESTED BY WASHIDC
				RET OF SESN1 N42069 AS REQUESTED BY WASHIDC
				RET REQUEST STOCIDC
N42149	R	Dec 13 145a	38	RET OF N42102 AS REQUESTED BY WASHIDC
				RET OF SESN1 N42069 AS REQUESTED BY WASHIDC
				RET REQUEST STOCIDC
N42150	R	Dec 13 1506	113	BEG DEC03 000000 END DEC03 240000
				RET OF N42131 AS REQUESTED BY WASHIDC
N42150	R	Dec 13 1523	113	BEG DEC03 000000 END DEC03 240000
				RET OF N42131 AS REQUESTED BY WASHIDC
N42151	PEL	Dec 13 1802	45	BEG DEC08 000000 END DEC08 240000
N42151	PEL	Dec 13 180a	45	BEG DEC08 000000 END DEC08 240000
N42152	FEB	Dec 13 1808	25	BEG NOV30 000000 END NOV30 240000
N42152	FEB	Dec 13 180b	25	BEG NOV30 000000 END NOV30 240000
N42153	REC	Dec 13 1950	77	BEG DEC02 000000 END DEC02 240000
N42153	REC	Dec 13 1951	77	BEG DEC02 000000 END DEC02 240000
N42154	RET	Dec 14 122d	10	RET REQUEST STOCIDC
N42155	REC	Dec 14 1634	108	BEG DEC03 000000 END DEC03 240000
N42156	PEL	Dec 14 1648	74	BEG DEC09 000000 END DEC09 240000
N42157	PEL	Dec 14 1654	70	BEG DEC10 000000 END DEC10 240000
N42158	FEB	Dec 16 1328	22	BEG DEC01 000000 END DEC01 240000
N42159	REC	Dec 16 1339	16	
N42160	REC	Dec 17 104b	99	BEG DEC04 000000 END DEC04 240000
N42161	REC	Dec 17 1418	96	BEG DEC05 000000 END DEC05 240000
N42162	FEB	Dec 17 173b	23	BEG DEC02 000000 END DEC02 240000
N42163	FEB	Dec 17 1739	29	BEG DEC03 000000 END DEC03 240000
N42164	PEL	Dec 17 185a	57	BEG DEC11 000000 END DEC11 240000
N42165	PEL	Dec 17 190a	41	BEG DEC12 000000 END DEC12 240000
N42166	R	Dec 18 1457	32	BEG NOV30 000000 END NOV30 240000
				REQUESTED BY SEDD1 :

					RET OF N42152 AS REQUESTED BY SEDD1
N42167	RET	Dec 18	160a	10	RET REQUEST STOCIDC
N42168	REC	Dec 18	194a	67	BEG DEC06 000000 END DEC06 240000
N42169	PEL	Dec 18	1944	72	BEG DEC13 000000 END DEC13 240000
N42170	FEB	Dec 18	1946	27	BEG DEC04 000000 END DEC04 240000
N42171	FEB	Dec 18	1949	33	BEG DEC05 000000 END DEC05 240000
N42172	REC	Dec 18	195a	46	BEG DEC07 000000 END DEC07 240000
N42173	FEB	Dec 19	1708	24	BEG DEC06 000000 END DEC06 240000
N42174	PEL	Dec 19	172a	67	BEG DEC14 000000 END DEC14 240000
N42175	REC	Dec 19	173b	46	BEG DEC08 000000 END DEC08 240000
N42176	FEB	Dec 20	1901	19	BEG DEC07 000000 END DEC07 240000
N42177	REC	Dec 20	1913	75	BEG DEC09 000000 END DEC09 240000
N42178	REC	Dec 20	1921	75	BEG DEC10 000000 END DEC10 240000
N42179	R	Dec 21	0926	22	RET OF N42144 AS REQUESTED BY MOSCIDC))
					RET REQUEST STOCIDC
N42180	FEB	Dec 21	1731	18	BEG DEC08 000000 END DEC08 240000
N42181	REC	Dec 21	1739	62	BEG DEC11 000000 END DEC11 240000
N42182	REC	Dec 21	1745	65	BEG DEC12 000000 END DEC12 240000
N52001	R	Jan 7	135a	73	BEG DEC13 000000 END DEC13 240000
					RET OF N42169 AS REQUESTED BY MOSCIDC
N52002	REC	Jan 8	1051	74	BEG DEC13 000000 END DEC13 240000
N52003	FEB	Jan 8	170a	24	BEG DEC09 000000 END DEC09 240000
N52004	FEB	Jan 8	170b	21	BEG DEC10 000000 END DEC10 240000
N52005	REC	Jan 9	1406	96	BEG DEC14 000000 END DEC14 240000
					BEG DEC14 000000 END DEC14 240000
N52006	FEB	Jan 9	1814	22	BEG DEC11 000000 END DEC11 240000
N52007	FEB	Jan 9	181a	20	BEG DEC12 000000 END DEC12 240000
N52008	FEB	Jan 10	1751	25	BEG DEC13 000000 END DEC13 240000
N52009	FEB	Jan 12	1424	27	BEG DEC14 000000 END DEC14 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): U.S.S.R.
Sender's WMO/GTS header: SERS1 RUMS
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N4201	FEB	Oct 31	1108	22	BEG OCT19 0000 END OCT20 0000
N42002	PEL	Oct 22	1029	23	BEG OCT15 0000 END OCT16 0000
N42003	PEL	Oct 23	1244	23	BEG OCT16 0000 END OCT18 0000
N42004	RET	Oct 23	124B	21	RET REQUEST MOSCIDC
N42005	STA	Oct 23	1245	32	
N42006	PEL	Oct 24	1009	29	BEG OCT18 0000 END OCT19 0000
N42007	RET	Oct 25	1006	21	RET REQUEST MOSCIDC
N42008	PEL	Oct 25	1007	24	BEG OCT19 0000 END OCT20 0000
N42009	PEL	Oct 26	1006	28	BEG OCT20 0000 END OCT21 0000
N42010	FEB	Oct 26	1007	21	BEG OCT15 0000 END OCT16 0000
N42010	FEB	Oct 26	1009	21	BEG OCT15 0000 END OCT16 0000
N42011	RET	Oct 26	1333	22	RET REQUEST MOSCIDC
N42012	FEB	Oct 29	1230	23	BEG OCT16 0000 END OCT17 2400
N42012	FEB	Oct 29	1233	23	BEG OCT16 0000 END OCT17 2400
N42013	PEL	Oct 29	1231	48	BEG OCT21 0000 END OCT22 2400
N42014	STA	Oct 29	1406	33	
N42015	FEB	Oct 30	1040	19	BEG OCT18 0000 END 19 0000
N42016	PEL	Oct 30	1041	52	BEG OCT23 0000 END OCT24 2400
N42017	PEL	Oct 31	1103	43	BEG OCT25 0000 END OCT26 0000
N42018	FEB	Oct 31	110C	22	BEG OCT19 0000 END OCT20 0000
N42019	RET	Oct 31	1111	26	RET REQUEST MOSCIDC
N42020	RET	Nov 1	1159	24	RET REQUEST MOSCIDC
N42021	PEL	Nov 2	1228	27	BEG OCT27 0000 END OCT28 0000
N42022	PEL	Nov 1	1155	41	BEG OCT26 0000 END OCT27 0000
N42023	FEB	Nov 5	1015	31	BEG OCT21 0000 END OCT22 2400
N42024	FEB	Nov 2	1350	21	BEG OCT20 0000 END OCT21 0000
N42027	RET	Nov 6	1132	22	RET REQUEST MOSCIDC
N42029	STA	Nov 10	1029	13	STATUS FOR WASHIDC
N42030	PEL	Nov 10	1035	30	BEG NOV1 0000 END NOV1 2400
N42031	PEL	Nov 10	1033	48	BEG OCT30 0000 END OCT31 2400
N42032	FEB	Nov 11	1022	20	BEG OCT25 0000 END OCT25 2400
N42033	PEL	Nov 11	1025	37	BEG NOV2 0000 END NOV2 2400
N42034	FEB	Nov 11	1028	22	BEG OCT26 0000 END OCT26 2400
N42035	RET	Nov 12	1028	19	RET REQUEST MOSCIDC
N42036	STA	Nov 12	1034	34	
N42037	R	Nov 12	1040	71	BEG OCT28 0000 END OCT29 2400 RET OF MOSCIDC N42025,N42026
N42038	FEB	Nov 12	104e	16	BEG OCT27 0000 END OCT27 2400
N42039	PEL	Nov 12	104c	19	BEG NOV3 0000 END NOV3 2400
N42040	FEB	Nov 14	103c	26	BEG OCT28 0000 END OCT29 2400
N42040	FEB	Nov 14	103d	23	BEG OCT28 0000 END OCT29 2400
N42041	PEL	Nov 14	1035	44	BEG NOV4 0000 END NOV5 2400
N42044	PEL	Nov 16	1307	43	BEG NOV6 0000 END NOV7 2400
N42045	PEL	Nov 19	1337	54	BEG NOV8 0000 END NOV9 2400
N42046	R	Nov 20	1012	27	BEG OCT30 0000 END OCT31 2400 RET OF MOSCIDC N42042

N42047	FEB	Nov	20	1304	27	BEG NOV1 0000 END NOV2 2400
N42048	PEL	Nov	20	1302	44	BEG NOV10 0000 END NOV10 2400
N42049	PEL	Nov	20	1419	63	BEG NOV11 0000 END NOV12 2400
N42050	PEL	Nov	22	1019	53	BEG NOV13 0000 END NOV14 2400
N42051	FEB	Nov	22	102a	15	BEG NOV3 0000 END NOV3 2400
N42052	FEB	Nov	22	1157	23	BEG NOV4 0000 END NOV5 2400
N42053	PEL	Nov	26	104a	31	BEG NOV15 0000 END NOV15 240000
N42054	R	Nov	26	1046	74	BEG NOV6 0000 END NOV7 2400
						BEG NOV6 0000 END NOV7 2400
						BEG OCT23 0000 END OCT24 2400
						BEG OCT23 0000 END OCT24 2400
						RET OF MOSCIDC N42028,N42043,N42044
						RET OF MOSCIDC N42028,N42043,N42044
						RET REQUEST MOSCIDC
						RET REQUEST MOSCIDC
N42058	PEL	Nov	27	1122	69	BEG NOV 16 0000 END NOV17 2400
N42059	R	Nov	28	1032	43	BEG OCT18 0000 END 19 0000
						BEG OCT18 0000 END 19 0000
						RET OF MOSCIDC N42001,42005,42015
						RET OF MOSCIDC N42001,42005,42015
N42060	R	Nov	28	1020	64	BEG OCT23 0000 END OCT24 2400
						BEG OCT23 0000 END OCT24 2400
						BEG OCT28 0000 END OCT29 2400
						BEG OCT28 0000 END OCT29 2400
						RET OF MOSCIDC N42025,42028
						RET OF MOSCIDC N42025,42028
N42061	FEB	Nov	28	120a	29	BEG NOV9 0000 END NOV11 2400
N42062	STA	Nov	28	102a	17	
N42063	PEL	Nov	28	154d	60	BEG NOV18 0000 END NOV19 2400
N42064	R	Nov	30	1237	26	RET OF MOSCIDC N42056,42057
						RET REQUEST MOSCIDC
N42066	FEB	Nov	30	131a	29	BEG NOV14 0000 END NOV15 2400
N42069	PEL	Nov	30	1256	53	BEG NOV20 0000 END NOV21 2400
N42070	PEL	Dec	3	1304	45	BEG NOV22 0000 END NOV22 2400
N42071	PEL	Dec	3	1230	54	BEG NOV23 0000 END NOV24 2400
N42073	FEB	Dec	4	100a	26	BEG NOV18 0000 END NOV19 2400
N42074	R	Dec	4	1237	62	RET OF MOSCIDC N42056,42057
						RET REQUEST MOSCIDC
N42075	R	Dec	4	1235	37	BEG NOV6 0000 END NOV8 2400
						RET OF MOSCIDC N42055
N42076	STA	Dec	4	1306	49	
N42077	RET	Dec	4	1314	21	RET REQUEST MOSCIDC
N42078	PEL	Dec	5	1235	67	BEG NOV25 0000 END NOV26 2400
N42079	FEB	Dec	5	1238	28	BEG NOV20 0000 END NOV21 2400
N42080	R	Dec	5	1021	57	BEG NOV20 0000 END NOV21 2400
						RET OF MOSCIDC N42069
N42081	STA	Dec	5	1252	12	
N42083-	FEB	Dec	6	135a	20	BEG NOV22 0000 END NOV22 2400
N42083	FEB	Dec	6	1422	20	BEG NOV22 0000 END NOV22 2400
N42084	PEL	Dec	10	1018	57	BEG NOV27 0000 END NOV28 2400
N42085	FEB	Dec	10	1200	20	BEG NOV23 0000 END NOV23 2400
N42086	PEL	Dec	10	1205	29	BEG NOV29 0000 END NOV30 2400
N42088	FEB	Dec	11	1157	14	BEG NOV24 0000 END NOV24 2400
N42089	STA	Dec	13	1033	11	
N42090	RET	Dec	12	1330	22	RET REQUEST MOSCIDC
N42091	FEB	Dec	11	1202	29	BEG NOV25 0000 END NOV26 2400

N42092	FEB	Dec 11 1205	15	BEG NOV27 0000 END NOV27 2400
N42093	FEB	Dec 11 1329	19	BEG NOV28 0000 END NOV28 2400
N42094	PEL	Dec 12 0959	27	BEG DEC02 0000 END DEC02 2400
N42095	R	Dec 14 104b	34	BEG NOV12 0000 END NOV13 2400 RET OF MOSCIDC N42065
N42096	R	Dec 14 104c	43	RET OF MOSCIDC N42068 RET REQUEST MOSCIDC
N42097	R	Dec 14 104c	43	BEG NOV16 0000 END NOV17 2400 RET OF MOSCIDC N42072
N42098	R	Dec 14 104d	14	RET OF MOSCIDC N42082
N42099	R	Dec 14 104f	37	BEG DEC01 0000 END DEC01 2400 RET OF MOSCIDC N42087
N42100	R	Dec 14 104g	59	BEG NOV29 0000 END NOV30 2400 RET OF MOSCIDC N42086
N42103	PEL	Dec 17 0944	48	BEG DEC5 0000 END DEC6 2400
N42104	FEB	Dec 17 095a	20	BEG NOV29 0000 END NOV29 2400
N42105	FEB	Dec 17 095b	17	BEG NOV30 0000 END NOV30 2400
N42106	PEL	Dec 17 102b	65	BEG DEC7 0000 END DEC8 2400
N42108	REC	Dec 17 103a	61	BEG DEC02 0000 END DEC02 2400
N42109	REC	Dec 17 1038	68	BEG DEC03 0000 END DEC03 2400
N42110	FEB	Dec 17 115a	21	BEG DEC01 0000 END DEC01 2400
N42111	REC	Dec 18 0944	67	
N42112	STA	Dec 18 1447	50	
N42113	FEB	Dec 18 1450	20	BEG DEC02 0000 END DEC 02 2400
N42114	PEL	Dec 19 134a	51	BEG DEC09 0000 END DEC09 2400
N42115	RET	Dec 19 1404	27	RET REQUEST MOSCIDC
N42115	RET	Dec 19 140b	27	RET REQUEST MOSCIDC
N42116	R	Dec 19 140f	55	BEG DEC01 0000 END DEC01 2400 RET OF MOSCIDC N42107
N42117	FEB	Dec 20 100a	25	BEG DEC03 0000 END DEC03 2400
N42118	FEB	Dec 20 1340	22	BEG DEC04 0000 E?D DEC04 2400
N42119	REC	Dec 20 1343	20	BEG DECWPT PPPP END DEC05 2400
N42120	PEL	Dec 21 095b	17	BEG DEC10 0000 END DEC10 2400
N42121	PEL	Dec 21 1004	32	BEG DEC11 0000 END DEC11 2400
N42122	PEL	Dec 21 1009	31	BEG DEC12 0000 END DEC12 2400
N42123	R	Dec 21 1058	29	BEG HLW NOV24 0710 END NOV28 0713 RET OF SEEG1 N40013
N42124	RET	Dec 21 1328	9	REQUEST FOR WASHIDC
N42126	RET	Dec 21 1329	12	RET REQUEST MOSCIDC
N42128	PEL	Dec 25 061a	15	BEG DEC13 0000 END DEC13 2400
N52001	FEB	Jan 7 0901	14	BEG DEC05 0000 END DEC05 2400
N52005	REC	Jan 7 0917	51	BEG DEC09 0000 END DEC09 2400
N52006	REC	Jan 7 090a	45	BEG DEC10 0000 END DEC10 2400
N52007	REC	Jan 7 1212	25	BEG DEC11 0000 END DEC11 2400
N52008	REC	Jan 7 0902	42	BEG DEC12 0000 END DEC12 2400
N52009	REC	Jan 7 090e	60	BEG DEC13 0000 END DEC13 2400
N52010	REC	Jan 7 090c	51	BEG DEC14 0000 END DEC14 2400
N52011	R	Jan 9 110b	18	BEG DEC04 0000 END DEC04 2400 RET OF N42111 SERS1
N52012	R	Jan 9 1103	27	BEG DEC04 0000 END DEC04 2400 RET OF N42118 SERS1
N52013	R	Jan 9 110d	68	BEG DEC05 0000 END DEC05 2400 RET OF N42119 SERS1
N52014	R	Jan 9 1109	51	BEG DEC10 0000 END DEC10 2400 RET OF N42120 SERS1
N52015	R	Jan 9 111a	36	BEG DEC12 0000 END DEC12 2400

					RET OF N42122 SERS1
N52016	R	Jan 9	111b	24	REQUEST FOR WASHIDC
					RET OF N42124 SERS1
N52017	R	Jan 9	1119	65	BEG DEC13 0000 END DEC13 2400
					RET OF N42128 SERS1
N52018	R	Jan 9	1123	33	BEG DEC05 0000 END DEC05 2400
					RET OF N52001 SERS1
N52019	FEB	Jan 8	1348	22	BEG DEC09 0000 END DEC09 2400
N52020	FEB	Jan 8	135a	20	BEG DEC10 0000 END DEC10 2400
N52021	FEB	Jan 9	0704	18	BEG DEC11 0000 END DEC11 2400
N52022	FEB	Jan 9	0706	18	BEG DEC12 0000 END DEC12 2400
N52023	R	Jan 10	120a	18	RET OF N42126 SERS1
					RET REQUEST MOSCIDC
N52024	R	Jan 10	1211	23	BEG DEC06 0000 END DEC06 2400
					RET OF N52002 SERS1
N52025	R	Jan 10	121a	24	BEG DEC07 0000 END DEC07 2400
					RET OF N52003 SERS1
N52026	R	Jan 10	121b	24	BEG DEC08 0000 END DEC08 2400
					RET OF N52004 SERS1
N52027	R	Jan 10	121c	49	BEG DEC11 0000 END DEC11 2400
					RET OF N52007 SERS1
N420101	PEL	Dec 14	0958	39	BEG DEC03 0000 END DEC03 2400
N420102	PEL	Dec 14	140b	31	BEG DEC04 0000 END DEC04 2400

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Australia
Sender's WMO/GTS header: SEAU10 AMMC
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N42001	CRD	Oct 15	0635	26	
N42002	CRD	Oct 19	0712	21	
N42003	CRD	Oct 22	0818	33	
N42004	CRD	Oct 26	0211	34	
N42005	CRD	Oct 26	0825	20	
N42006	CRD	Oct 27	0220	22	
N42007	CRD	Oct 30	0517	27	
N42008	CRD	Nov 1	0221	52	
N42009	CRD	Nov 2	0252	44	
N42010	CRD	Nov 3	0826	27	
N42012	CRD	Nov 7	0518	51	
N42014	CRD	Nov 15	0501	38	
N42015	CRD	Nov 17	0230	22	
N42016	CRD	Nov 20	0227	51	
N42017	R	Nov 21	0539	65	RET OF N42014 SEAU10 AS REQUESTED BY SEDL1
N42019	CRD	Nov 29	224a	19	
N42020	CRD	Dec 1	0228	15	RET REQUEST TO MOSCIDC
N42021	CRD	Dec 3	0317	54	
N42023	CRD	Dec 10	090a	54	
N42024	CRD	Dec 13	0352	31	
N42026	CRD	Dec 18	0350	57	
N42027	CRD	Dec 18	0812	19	
N42028	CRD	Dec 20	0501	16	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Australia
Sender's WMO/GTS header: SEAU1 AMMC
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40107	I	Nov 9	0822	42	BEG CTAO NOV08 000000 END NOV08 130000))
N4012	I	Oct 19	0810	91	BEG CTAO OCT18 000000 END OCT18 110000
N4015	I	Oct 21	0217	105	BEG CTAO OCT19 000000 END OCT19 120000
N4022	I	Oct 22	0848	80	BEG CTAO OCT21 000000 END OCT21 240000
N4023	R	Oct 23	0219	78	BEG CTAO OCT15 000000 END OCT15 110000 RET OF N40001 AS REQUESTED BY SESN1
N4047	I	Oct 27	0837	99	BEG CTAO OCT26 080000 END OCT26 240000
N4049	I	Oct 28	0824	93	BEG CTAO OCT27 100000 END OCT27 240000
N4060	I	Oct 30	0814	85	BEG CTAO OCT29 000000 END OCT29 180000
N40002	I	Oct 16	0825	83	BEG CTAO OCT15 110000 END OCT15 240000
N40003	I	Oct 16	0844	85	BEG NWAO OCT15 000000 END OCT15 240000
N40004	I	Oct 17	0815	138	BEG CTAO OCT16 000000 END OCT16 240000
N40005	I	Oct 17	0826	52	BEG NWAO OCT16 000000 END OCT16 240000
N40006	I	Oct 18	0835	99	BEG ASPA OCT 15 000000 END OCT 15 240000)
N40007	I	Oct 18	0828	67	BEG NWAO OCT17 000000 END OCT17 240000
N40008	I	Oct 18	0909	73	BEG CTAO OCT17 000000 END OCT17 080000
N40009	I	Oct 18	0912	83	BEG CTAO OCT17 080000 END OCT17 240000
N40010	R	Oct 18	0938	72	BEG CTAO OCT15 000000 END OCT15 110000 BEG CTAO OCT15 000000 END OCT15 240000 RET OF N40001 AS REQUESTED
N40011	I	Oct 19	0507	121	BEG ASPA OCT16 000001 END OCT16 240000
N40013	I	Oct 19	0822	84	BEG CTAO OCT18 110000 END OCT18 240000
N40014	I	Oct 19	0833	79	BEG NWAO OCT18 000000 END OCT18 240000
N40017	I	Oct 21	0835	112	BEG CTAO OCT20 000000 END OCT20 240000
N40018	I	Oct 22	0542	139	BEG NWAO OCT19 000000 END OCT19 240000
N40019	I	Oct 22	054A	64	BEG NWAO OCT20 000000 END OCT20 240000
N40020	I	Oct 22	0821	131	BEG ASPA OCT17 000200 END OCT17 240000
N40021	I	Oct 22	0825	48	BEG NWAO OCT21 000000 END OCT21 240000
N40024	I	Oct 23	0520	118	BEG ASPA OCT18 000100 END OCT18 120000
N40025	I	Oct 23	0820	124	BEG CTAO OCT22 000000 END OCT22 240000
N40026	I	Oct 23	0824	103	BEG ASPA OCT18 120000 END OCT18 240000
N40027	I	Oct 23	0828	60	BEG NWAO OCT22 000000 END OCT22 240000
N40028	I	Oct 23	0834	123	BEG ASPA OCT19 000100 END OCT19 160000
N40029	R	Oct 24	0219	84	BEG CTAO OCT15 110000 END OCT15 240000 RET OF N40002 AS REQUESTED BY MOSCIDC
N40030	I	Oct 24	0418	74	BEG ASPA OCT19 160000 END ASPA OCT19 240000)
N40031	I	Oct 24	0520	63	BEG OCT23 000000 END OCT23 240000)
N40032	I	Oct 24	0813	134	BEG CTAO OCT23 000000 END OCT23 240000
N40033	I	Oct 24	0825	121	BEG ASPA OCT20 000000 END OCT20 240000
N40034	I	Oct 25	0344	46	BEG NWAO OCT24 000000 END OCT24 240000
N40035	I	Oct 25	0824	99	BEG ASPA OCT21 000100 END OCT21 240000
N40036	I	Oct 25	054A	128	BEG ASPA OCT22 000000 END ASPA OCT22 160000)
N40037	I	Oct 25	0814	128	BEG CTAO OCT24 000000 END OCT24 240000
N40038	R	Oct 26	0250	140	BEG NWAO OCT19 000000 END OCT19 240000 RET OF N40018 AS REQUESTED BY MOSCID
N40039	R	Oct 26	0246	63	BEG NWAO OCT20 000000 END OCT20 240000 RET OF N40019 AS REQUESTED BY MOSCIDC

N40040	R	Oct 26	0303	87	BEG CTA0 OCT19 120000 END OCT19 240000 RET OF N40016 AS REQUESTED BY MOSCIDC STOCIDC
N40041	I	Oct 26	0431	65	BEG ASPA OCT22 160000 END OCT22 240000
N40042	I	Oct 26	0505	84	BEG ASPA OCT23 000000 END OCT 23 240000)
N40043	I	Oct 26	0612	57	BEG NWA0 OCT25 000000 END OCT25 240000
N40044	I	Oct 26	0816	100	BEG CTA0 OCT25 000000 END OCT25 120000
N40045	I	Oct 26	0821	113	BEG CTA0 OCT25 120000 END OCT25 240000
N40046	I	Oct 27	0925	108	BEG CTA0 OCT26 000000 END OCT26 080000
N40048	I	Oct 28	0820	108	BEG CTA0 OCT27 000000 END OCT27 100000
N40050	R	Oct 29	0354	69	BEG MAW OCT22 031328 END OCT23 030212) RET OF N49010 AS REQUESTED BY MOSCIDC
N40051	I	Oct 29	0525	99	BEG ASPA OCT24 000000 END OCT24 240000
N40052	I	Oct 29	0832	102	BEG CTA0 OCT28 000000 END OCT28 240000
N40053	I	Oct 29	0836	110	BEG NWA0 OCT26 000000 END OCT26 240000
N40054	I	Oct 29	0826	51	BEG NWA027 000000 END OCT27 240000
N40055	I	Oct 29	0858	29	BEG NWA0 OCT28 000000 END OCT28 240000
N40056	I	Oct 30	0356	57	BEG ASPA OCT25 000000 END OCT25 120000
N40057	I	Oct 30	0405	52	BEG ASPA OCT25 120000 END OCT25 240000
N40058	I	Oct 30	0439	46	BEG ASPA OCT26 000000 END OCT26 080500
N40059	I	Oct 30	0450	46	BEG NWA0 OCT29 000000 END OCT29 240000
N40062	R	Oct 30	0820	87	BEG CTA0 OCT19 120000 END OCT19 240000 RET OF N40016 AS REQUESTED BY STOCIDC
N40063	I	Oct 31	0833	50	BEG CTA0 OCT30 000000 END OCT30 120000
N40064	I	Oct 31	0305	55	BEG ASPA OCT26 080500 END OCT26 160000
N40065	I	Oct 31	0325	46	BEG ASPA OCT26 160000 END OCT26 240000
N40066	I	Oct 31	0412	58	BEG ASPA OCT27 000000 END OCT27 120000
N40067	I	Oct 31	0436	44	BEG ASPA OCT27 120000 END OCT27 240000
N40068	I	Oct 31	0830	41	BEG NWA0 OCT30 000000 END OCT30 240000
N40069	I	Oct 31	0838	45	BEG CTA0 OCT30 120000 END OCT30 240000
N40070	I	Nov 1	0215	69	BEG ASPA OCT28 000000 END OCT28 240000
N40071	R	Nov 1	0302	100	BEG ASPA OCT24 000000 END OCT24 240000 RET OF N40051 AS REQUESTED BY MOSCIDC
N40072	I	Nov 1	0503	58	BEG CTA0 OCT31 000000 END OCT31 240000 BEG NWA0 OCT31 000000 END OCT31 240000
N40073	STA	Nov 2	0219	21	
N40074	R	Nov 2	0223	85	BEG CTA0 OCT29 180000 END OCT29 240000 RET OF N40061 AS REQUESTED BY MOSCIDC STOCIDC))
N40075	R	Nov 2	0226	51	BEG CTA0 OCT30 000000 END OCT30 120000 RET OF N40063 AS REQUESTED BY MOSCIDC
N40076	I	Nov 2	0237	71	BEG ASPA OCT29 000000 END OCT29 240000
N40077	I	Nov 2	044A	50	BEG NWA0 NOV01 000000 END NOV01 240000 BEG NWA0 NOV01 000000 END NOV01 240000
N40078	I	Nov 2	0525	53	BEG ASPA OCT30 000000 END OCT30 180000
N40079	I	Nov 2	0817	62	BEG CTA0 NOV01 000000 END NOV01 100000
N40080	I	Nov 2	0901	54	BEG CTA0 NOV01 100000 END NOV01 240000
N40081	I	Nov 3	0840	64	BEG CTA0 NOV02 000000 END NOV02 060000
N40082	I	Nov 3	0851	56	BEG CTA0 NOV02 060000 END NOV02 240000
N40083	I	Nov 4	0817	69	BEG CTA0 NOV03 000000 END NOV03 240000
N40084	I	Nov 5	0423	34	BEG ASPA OCT30 180000 END OCT30 240000
N40085	I	Nov 5	0222	65	BEG ASPA OCT31 000000 END OCT31 240000
N40086	I	Nov 5	0411	45	BEG NWA0 NOV02 000000 END NOV02 240000
N40087	I	Nov 5	0413	26	BEG NWA0 NOV03 000000 END NOV03 240000
N40088	I	Nov 5	0818	58	BEG CTA0 NOV04 000000 END NOV04 240000
N40089	I	Nov 5	0813	25	BEG NWA0 NOV04 000000 END NOV04 240000
N40090	I	Nov 6	0506	86	BEG ASPA NOV01 000000 END NOV01 240000

N40091	I	Nov 6	0524	57	BEG ASPA NOV02 000000 END NOV02 120000
N40092	I	Nov 6	052A	49	BEG ASPA NOV02 120000 END NOV02 240000
N40093	I	Nov 6	0813	47	BEG ASPA NOV03 000000 END NOV03 160200
N40094	I	Nov 6	0816	36	BEG NWAO NOV05 000000 END NOV05 240000
N40095	I	Nov 6	0828	61	BEG CTAO NOV05 000000 END NOV05 240000
N40096	I	Nov 7	0243	45	BEG ASPA NOV03 160200 END NOV03 240000
N40097	I	Nov 7	0317	70	BEG ASPA NOV04 000000 END NOV04 240000
N40098	I	Nov 7	0322	33	BEG NWAO NOV06 000000 END NOV06 240000
N40099	STA	Nov 7	0400	24	
N40100	I	Nov 7	0820	63	BEG CTAO NOV06 000000 END NOV06 240000
N40104	I	Nov 9	0259	47	BEG ASPA NOV06 000000 END NOV06 120000))
N40105	I	Nov 9	0304	39	BEG ASPA NOV06 120000 END NOV06 240000))
N40106	I	Nov 9	0309	27	BEG NWAO NOV08 000000 END NOV08 240000))
N40108	I	Nov 10	0826	43	BEG CTAO NOV08 130000 END NOV08 240000
N40109	I	Nov 10	0820	71	BEG CTAO NOV09 000000 END NOV09 240000
N40110	I	Nov 11	0825	46	BEG CTAO NOV10 000000 END NOV10 240000
N40111	I	Nov 12	0309	63	BEG ASPA NOV07 000000 END NOV07 240000
N40112	I	Nov 12	0819	51	BEG ASPA NOV08 000000 END NOV08 120000
N40113	I	Nov 12	0824	48	BEG CTAO NOV11 000000 END NOV11 240000
N40114	I	Nov 12	0832	49	BEG NWAO NOV09 000000 END NOV10 240000
N40115	I	Nov 13	0815	47	BEG ASPA NOV08 120000 END NOV08 160000
N40116	I	Nov 13	0819	45	BEG ASPA NOV08 160000 END NOV08 240000
N40117	I	Nov 13	0831	38	BEG NWAO NOV11 000000 END NOV11 240000
N40118	I	Nov 13	0843	53	BEG NWAO NOV12 000000 END NOV12 240000
N40119	I	Nov 13	0845	54	BEG CTAO NOV12 000000 END NOV12 080000
N40120	I	Nov 13	0847	47	BEG CTAO NOV12 080000 END NOV12 240000
N40121	R	Nov 14	0246	16	RETS AS REQUESTED BY STOCIDC IN N42050,N42055)
N40122	I	Nov 14	054a	48	BEG ASPA NOV09 000000 END NOV09 120000)
N40123	I	Nov 14	0545	49	BEG ASPA NOV09 120000 END NOV09 240000)
N40124	I	Nov 14	0546	18	BEG NWAO NOV13 000000 END NOV13 240000)
N40125	I	Nov 14	0824	73	BEG CTAO NOV13 000000 END NOV13 240000
N40127	R	Nov 15	0217	41	BEG ASPA NOV03 000000 END NOV03 160200)
					RET OF N40093 AS REQUESTED BY MOSCIDC)
N40128	R	Nov 15	0219	35	BEG MAW NOV03 031513 END NOV04 032200
					BEG NWAO NOV05 000000 END NOV05 240000)
					RET OF N40094 AS REQUESTED BY MOSCIDC)
					RET OF N49030 AS REQUESTED BY MOSCIDC)
N40129	R	Nov 15	0229	56	BEG CTAO NOV05 000000 END NOV05 240000
					RET OF N40095 AS REQUESTED BY MOSCIDC
N40130	I	Nov 15	0238	56	BEG ASPA NOV10 000000 END NOV10 090000)
N40131	I	Nov 15	0349	25	BEG NWAO NOV14 000000 END NOV14 240000)
N40132	I	Nov 15	084a	66	BEG CTAO NOV14 000000 END NOV14 240000
N40133	I	Nov 15	0849	112	BEG ASPA NOV10 090000 END NOV10 240000)
					BEG ASPA NOV10 090000 END NOV10 240000)
N40134	I	Nov 15	0852	38	BEG ASPA NOV11 000000 END NOV11 045100)
N40136	I	Nov 16	0417	51	BEG ASPA NOV11 045100 END NOV11 240000)
N40137	I	Nov 16	0424	47	BEG ASPA NOV12 000000 END NOV12 070000)
N40139-	I	Nov 16	0434	44	BEG ASPA NOV12 130000 END NOV12 240000)
N40140	I	Nov 16	0441	35	BEG ASPA NOV13 000000 END NOV13 080000)
N40141	I	Nov 16	0445	27	BEG NWAO NOV15 000000 END NOV15 240000)
N40142	I	Nov 16	0525	58	BEG CTAO NOV15 000000 END NOV15 240000
N40143	I	Nov 16	0812	53	BEG ASPA NOV13 080000 END NOV13 160000
N40144	STA	Nov 17	023a	22	
N40145	I	Nov 17	081a	50	BEG CTAO NOV16 000000 END NOV16 240000
N40146	I	Nov 18	0815	41	BEG CTAO NOV17 000000 END NOV17 130000
N40147	I	Nov 18	0819	40	BEG CTAO NOV17 130000 END NOV17 240000

N40148	I	Nov 19 0354	27	BEG CTAO NOV18 000000 END NOV18 240000
N40149	I	Nov 19 044a	58	BEG ASPA NOV13 160000 END NOV14 130000)
N40150	I	Nov 19 0451	56	BEG ASPA NOV14 130000 END NOV14 240000)
N40151	I	Nov 19 082b	23	BEG NWAO NOV16 000000 END NOV16 240000)
N40152	I	Nov 19 0822	47	BEG NWAO NOV17 000000 END NOV17 240000)
N40153	I	Nov 19 0512	18	BEG NWAO NOV18 000000 END NOV18 240000)
N40154	I	Nov 20 0223	53	
N40155	I	Nov 20 0249	69	BEG ASPA NOV15 000000 END NOV15 080000)
N40156	I	Nov 20 0251	26	BEG NWAO NOV19 000000 END NOV19 240000)
N40157	I	Nov 20 0443	49	BEG ASPA NOV15 080000 END NOV15 180000)
N40158	I	Nov 20 0425	46	BEG CTAO NOV19 000000 END NOV19 240000
N40159	I	Nov 21 0528	33	BEG NWAO NOV20 000000 END NOV20 240000)
N40160	I	Nov 21 053a	37	BEG ASPA NOV15 180000 END NOV15 240000)
N40161	R	Nov 21 0533	53	BEG ASPA NOV12 070000 END NOV12 130000) RET OF N40138 AS REQUESTED BY STOCIDC)
N40162	R	Nov 21 0535	57	BEG ASPA NOV14 130000 END NOV14 240000) RET OF N40150 AS REQUESTED BY STOCIDC)
N40163	I	Nov 21 0546	67	BEG ASPA NOV16 000000 END NOV16 160000)
N40164	I	Nov 21 0841	73	BEG CTAO NOV20 000000 END NOV20 240000
N40165	I	Nov 22 0814	37	BEG ASPA NOV16 160000 END NOV16 240000)
N40167	I	Nov 22 0824	60	BEG CTAO NOV21 000000 END NOV21 240000
N40168	I	Nov 22 0912	47	BEG ASPA NOV17 080000 END NOV17 180000)
N40170	I	Nov 22 0915	44	BEG NOV18 000000 END NOV18 240000
N40171	I	Nov 23 0223	67	BEG ASPA NOV19 000000 END NOV19 240000)
N40172	I	Nov 23 0222	29	BEG NWAO NOV21 000000 END NOV21 240000)
N40173	I	Nov 23 0226	54	BEG ASPA NOV20 000000 END NOV20 120000)
N40174	R	Nov 23 0324	60	BEG ASPA NOV10 090000 END NOV10 240000) RET OF N40133 AS REQUESTED BY WASHIDC)
N40175	R	Nov 23 0320	52	BEG ASPA NOV11 045100 END NOV11 240000) RET OF N40136 AS REQUESTED BY WASHIDC)
N40176	R	Nov 23 0336	39	BEG ASPA NOV11 000000 END NOV11 045100) RET OF N40134 AS REQUESTED BY WASHIDC)
N40177	R	Nov 23 0332	47	BEG ASPA NOV12 000000 END NOV12 070000) RET OF N40137 AS REQUESTED BY WASHIDC)
N40178	R	Nov 23 0344	53	BEG ASPA NOV12 070000 END NOV12 130000) RET OF N40138 AS REQUESTED BY STOCIDC)
N40179	R	Nov 23 0348	45	BEG ASPA NOV12 130000 END NOV12 240000) RET OF N40139 AS REQUESTED BY WASHIDC)
N40180	R	Nov 23 0357	53	BEG ASPA NOV13 000000 END NOV13 080000) BEG NWAO NOV15 000000 END NOV15 240000) RET OF N40140, N40141 AS REQUESTED BY WASHIDC)
N40181	R	Nov 23 0411	64	BEG ASPA NOV13 080000 END NOV13 160000 BEG NWAO NOV18 000000 END NOV18 240000) RET OF N40143, N40153 AS REQUESTED BY WASHIDC)
N40182	I	Nov 23 0431	54	BEG MAW NOV06 033524 END NOV07 033900
N40183	R	Nov 23 0433	42	BEG MAW NOV09 200551 END NOV10 183613 RET OF N49038 AS REQUESTED BY WASHIDC)
N40184	R	Nov 23 0437	70	BEG MAW NOV11 183558 END NOV12 185532 BEG MAW NOV13 181512 END NOV14 173527 RET OF N49040, N49043 AS REQUESTED BY WASHIDC)
N40185	R	Nov 23 0457	68	BEG CTAO NOV14 000000 END NOV14 240000 RET OF N40132 AS REQUESTED BY WASHIDC
N40186	R	Nov 23 0523	64	BEG CTAO NOV15 000000 END NOV15 240000 RET OF N40142 AS REQUESTED BY WASHIDC
N40187	I	Nov 23 0858	49	BEG ASPA NOV20 120000 END NOV20 240000)
N40188	I	Nov 23 0826	38	BEG NWAO NOV22 000000 END NOV22 240000)

N40189	I	Nov 23 0913	70	BEG CTAO NOV22 000000 END NOV22 110000
N40190	R	Nov 23 0833	54	BEG MAW NOV17 051757 END NOV18 031300
				RET OF N49048 AS REQUESTED BY WASHIDC)
N40191	STA	Nov 23 0840	23	
N40192	I	Nov 23 0928	60	BEG CTAO NOV22 110000 END NOV22 240000
N40193	I	Nov 24 1226	81	BEG CTAO NOV23 000000 END NOV23 240000
N40194	I	Nov 25 081a	55	BEG CTAO NOV24 000000 END NOV24 240000
N40195	I	Nov 26 0345	66	BEG ASPA NOV21 000000 END NOV21 240000)
N40196	I	Nov 26 0433	42	BEG CTAO NOV25 000000 END NOV25 240000
N40198	I	Nov 26 0822	27	BEG NWAO NOV24 000000 END NOV24 240000)
N40199	I	Nov 26 0838	32	BEG NWAO NOV25 000000 END NOV25 240000)
N40201	I	Nov 27 0225	62	BEG ASPA NOV22 000000 END NOV22 090000)
N40202	I	Nov 27 0221	53	BEG ASPA NOV22 090000 END NOV22 170000)
N40203	I	Nov 27 0347	42	BEG ASPA NOV22 170000 END NOV22 240000)
N40204	I	Nov 27 0348	21	BEG NWAO NOV26 00000 END NOV26 240000
N40205	I	Nov 27 0438	52	BEG ASPA NOV23 000000 END NOV23 080000)
N40206	I	Nov 27 0513	55	BEG CTAO NOV26 000000 END NOV26 240000
N40207	I	Nov 28 0353	66	BEG ASPA NOV23 080000 END NOV23 240000)
N40208	I	Nov 28 0354	22	BEG NWAO NOV27 000000 END NOV27 240000)
N40209	I	Nov 28 0413	36	BEG CTAO NOV27 000000 END NOV27 240000
N40210	I	Nov 28 0416	55	BEG ASPA NOV24 000000 END NOV24 160000)
N40211	I	Nov 29 0421	63	BEG ASPA NOV24 160000 END NOV25 150000)
N40212	I	Nov 29 0423	48	BEG ASPA NOV25 150000 END NOV25 240000)
N40213	I	Nov 29 0443	37	BEG CTAO NOV28 000000 END NOV28 240000
N40214	I	Nov 29 2232	30	BEG NWAO NOV28 000000 END NOV28 240000)
N40215	I	Nov 30 0230	71	BEG ASPA NOV26 000000 END NOV26 240000)
N40216	I	Nov 30 023a	69	BEG ASPA NOV27 000000 END NOV27 240000)
N40218	I	Nov 30 0823	50	BEG CTAO NOV29 000000 END NOV29 120000
N40219	I	Nov 30 0826	53	BEG CTAO NOV29 120000 END NOV29 240000
N40220	R	Dec 1 0232	43	BEG ASPA NOV17 180000 END NOV17 240000)
				RET OF N40169 AS REQUESTED BY MOSCIDC. THIS WAS
N40221	I	Dec 1 0851	67	BEG CTAO NOV30 000000 END NOV30 240000
N40222	R	Dec 1 0854	44	BEG ASPA NOV17 000000 END NOV17 080000)
				RET OF N40166 AS REQUESTED BY WASHIDC))
N40223	R	Dec 1 0858	40	BEG NWAO NOV23 000000 END NOV23 240000)
				RET OF N40197 AS REQUESTED BY WASHID
				RETRANSMITTED AS N40200 (RR BY STOCIDC) AND AS N40
N40224	R	Dec 1 0902	25	BEG MAW NOV22 181717 END NOV23 022300
				RET OF N49055 AS REQUESTED BY WASHIDC)
N40225	I	Dec 2 0824	61	BEG CTAO DEC01 000000 END DEC01 240000
N40227	R	Dec 2 0828	24	RET OF N42015 AS REQUESTED BY WASHIDC)
N40228	I	Dec 3 0821	62	BEG ASPA NOV28 000000 END NOV29 080000)
N40229	I	Dec 3 0829	42	BEG NWAO NOV30 000000 END DEC 01 240000
N40230	I	Dec 3 0816	67	BEG CTAO DEC02 000000 END DEC02 240000
N40231	I	Dec 4 0301	31	BEG NWAO DEC02 000000 END DEC02 240000)
N40232	I	Dec 4 0354	60	BEG ASPA NOV29 080000 END NOV29 170000)
N40233	I	Dec 4 0424	37	BEG ASPA NOV29 170000 END NOV29 240000)
N40234	I	Dec 4 0427	49	BEG ASPA NOV30 000000 END NOV30 240000)
N40235	I	Dec 4 0428	26	BEG NWAO DEC03 000000 END DEC03 240000)
N40236	I	Dec 4 0817	52	BEG CTAO DEC03 000000 END DEC03 120000
N40237	I	Dec 4 0831	47	BEG CTAO DEC03 120000 END DEC03 240000
N40238	I	Dec 5 0214	74	
N40239	I	Dec 5 0506	52	BEG CTAO DEC04 000000 END DEC04 240000
N40240	I	Dec 5 0820	20	BEG NWAO DEC04 000000 END DEC04 240000)
N40241	I	Dec 5 0824	64	BEG ASPA DEC01 000000 END DEC 01 160000
N40242	I	Dec 5 0833	65	BEG ASPA DEC01 160000 END DEC02 080000)

N40244	R	Dec 6	0309	43	BEG NWAO NOV29 000000 END NOV29 240000)
					RET OF SEAU1 N40217 AS REQUESTED BY MOSCIDC AND)
N40245	R	Dec 6	0214	49	BEG CTAO NOV29 000000 END NOV29 120000
					RET OF N40218 AS REQUESTED BY MOSCIDC,STOCIDC
N40246	R	Dec 6	0217	52	BEG CTAO NOV29 120000 END NOV29 240000
					RET OF N40219 AS REQUESTED BY MOSCIDC,STOCIDC
N40247	I	Dec 6	0401	21	BEG NWAO DEC05 000000 END DEC05 240000)
N40248	I	Dec 6	0527	73	BEG CTAO DEC05 000000 END DEC05 240000
N40249	I	Dec 7	0214	59	BEG ASPA DEC03 000000 END DEC03 150000)
N40250	I	Dec 7	030[illegible]	51	BEG ASPA DEC03 150000 END DEC03 240000)
N40251	I	Dec 7	024[illegible]	56	BEG ASPA DEC04 000000 END DEC04 240000)
N40252	I	Dec 7	0457	19	BEG NWAO DEC06 000000 END DEC06 240000)
N40253	I	Dec 7	0459	51	BEG CTAO DEC06 000000 END DEC06 240000
N40256	I	Dec 10	0816	28	BEG CTAO DEC09 000000 END DEC09 240000
N40257	I	Dec 10	0820	51	BEG NWAO DEC07 000000 END DEC09 240000)
N40258	I	Dec 11	0247	57	BEG ASPA DEC05 000000 END DEC05 120000)
N40259	I	Dec 11	0314	59	BEG ASPA DEC05 120000 END DEC05 240000)
N40260	I	Dec 11	0435	71	BEG ASPA DEC06 000000 END DEC06 240000)
N40261	I	Dec 11	0559	41	BEG CTAO DEC10 000000 END DEC10 240000
N40262	R	Dec 12	0218	52	BEG ASPA DEC03 150000 END DEC03 240000)
					RET OF N40250 AS REQUESTED BY STOCIDC)
N40263	I	Dec 12	0442	59	BEG CTAO DEC11 000000 END DEC11 240000
N40264	I	Dec 12	0519	35	BEG NWAO DEC10 000000 END DEC11 240000)
N40265	CRD	Dec 13	0354	31	
N40266	R	Dec 13	0400	77	RET OF N40238 AS REQUESTED BY MOSCIDC)
N40267	R	Dec 13	035[illegible]	21	BEG NWAO DEC04 000000 END DEC04 240000)
					RET OF N40240 AS REQUESTED BY MOSCIDC)
N40268	R	Dec 13	0403	49	BEG ASPA DEC02 080000 END DEC02 240000)
					RET OF N40243 AS REQUESTED BY MOSCIDC)
N40269	R	Dec 13	0413	65	BEG CTAO NOV07 000000 END NOV07 240000
					RET OF N40101 AS REQUESTED BY WASHIDC
N40270	R	Dec 13	0413	65	BEG CTAO NOV07 000000 END NOV07 240000
					RET OF N40101 AS REQUESTED BY WASHIDC
N40271	R	Dec 13	041[illegible]	69	BEG ASPA NOV05 000000 END NOV05 240000)
					RET OF N40102 AS REQUESTED BY WASHIDC)
N40272	R	Dec 13	0414	19	BEG NWAO NOV07 000000 END NOV07 240000)
					RET OF N40103 AS REQUESTED BY WASHIDC)
N40273	STA	Dec 13	0434	15	
N40276	I	Dec 13	0833	66	BEG ASPA DEC07 130000 END DEC08 080000)
N40277	STA	Dec 13	2158	13	
N40279	I	Dec 14	0310	35	BEG NWAO DEC12 000000 END DEC13 240000)
N40280	I	Dec 14	0357	65	BEG ASPA DEC09 080000 END DEC10 110000)
N40281	I	Dec 14	0415	58	BEG ASPA DEC10 110000 END DEC11 120000)
N40283	I	Dec 14	0507	66	BEG CTAO DEC13 000000 END DEC13 240000
N40284	R	Dec 15	0820	66	BEG CTAO DEC13 000000 END DEC13 240000
					RET OF SEAU1 N40283 AS REQUESTED BY STOCIDC
N40285	I	Dec 15	0829	69	BEG CTAO DEC14 000000 END DEC14 240000
N40286	R	Dec 17	0216	67	BEG ASPA NOV23 080000 END NOV23 240000)
					RET OF N40207 AS REQUESTED BY MOSCIDC)
N40287	R	Dec 17	0221	68	BEG ASPA NOV24 000000 END NOV24 160000)
					BEG NWAO NOV27 000000 END NOV27 240000)
					RET OF N40208)
					RET OF N40210)
N40288	R	Dec 17	0235	25	BEG MAW NOV26 033908 END NOV27 030621
					RET OF N49059 AS REQUESTED BY MOSCIDC)
N40289	R	Dec 17	0238	35	BEG CTAO NOV27 000000 END NOV27 240000

				RET OF N40209 AS REQUESTED BY MOSCIDC
N40290	I	Dec 17 0821	24	BEG NWAO DEC14 000000 END DEC14 240000)
N40291	I	Dec 17 0825	61	BEG ASPA DEC12 000000 END DEC12 120000)
N40292	I	Dec 17 0829	56	BEG ASPA DEC12 120000 END DEC12 240000)
N40293	I	Dec 18 0219	73	BEG ASPA DEC13 000000 END DEC13 240000)
N40294	I	Dec 20 0333	51	BEG ASPA DEC14 000000 END DEC14 120000)
N40295	I	Dec 20 0351	47	BEG ASPA DEC14 120000 END DEC14 240000)
N40296	R	Dec 20 0814	59	BEG ASPA DEC08 080000 END DEC09 080000)
				RET OF N40278 AS REQUESTED BY MOSCIDC)
N40297	R	Dec 20 0823	66	BEG ASPA DEC09 080000 END DEC10 110000)
				RET OF N40280 AS REQUESTED BY MOSCIDC)
N40298	R	Dec 20 0848	45	BEG ASPA DEC11 120000 END DEC11 240000)
				RET OF N40282)
N40299	R	Dec 20 0851	86	BEG MAW DEC01 033939 END DEC02 033534
				BEG MAW DEC02 033632 END DEC03 023142
				BEG MAW NOV28 032825 END DEC01 033826
				RET OF N49061 N49062 N49063 AS REQUESTED
				RET OF N49061-065,067 AS REQUESTED BY MOSCIDC)
				RET OF N49064)
				RET OF N49065)
N40300	R	Dec 21 0219	72	BEG MAW DEC03 023358 END DEC04 030543
				BEG MAW DEC04 031242 END DEC05 030337
				BEG MAW DEC05 030435 END DEC06 032501
				RET OF N49066)
				RET OF N49066,68,69 AS REQUESTED BY MOSCIDC)
				RET OF N49068)
				RET OF N49069)
N40302	R	Dec 21 0347	33	BEG MAW DEC12 000704 END DEC12 185638
				BEG MAW DEC12 185758 END DEC13 180053
				RET OF N49070,77-80 AS REQUESTED BY MOSCIDC))
				RET OF N49077)
				RET OF N49080)
N49002	I	Oct 17 0450	120	BEG MAW OCT 15 101424
N49003	I	Oct 18 0028	77	BEG MAW OCT16 091049 END OCT17 085602
N49004	I	Oct 19 0050	92	BEG MAW OCT17 085738 END OCT18 092200
N49005	I	Oct 20 0045	103	BEG MAW OCT18 092257 END OCT19 032000
N49006	I	Oct 21 0007	128	BEG MAW OCT 19 032128 END OCT 20 031100
N49007	I	Oct 22 0047	78	BEG MAW OCT20 031212 END OCT21 034100
N49008	I	Oct 22 0443	51	BEG MAW OCT21 034230 END OCT22 031200
N49009	R	Oct 22 2058	33	BEG MAW OCT15 000000 END OCT15 101306
				RET OF N49001 AS REQUESTED
N49010	I	Oct 23 1556	101	BEG MAW OCT22 031328 END OCT23 030212
N49011	I	Oct 26 0139	95	BEG MAW OCT23 030422 END OCT24 033700
N49012	R	Oct 24 1537	95	BEG MAW OCT15 101424 END OCT16 090841
				RET OF N49002 AS REQUESTED
N49013	I	Oct 26 0944	81	BEG MAW OCT24 033800 END OCT25 032600
N49015	I	Oct 27 0822	72	BEG MAW OCT26 043326 END OCT27 030500
N49016	I	Oct 28 0652	57	BEG MAW OCT27 0306050 END OCT28 034200
N49021	I	Oct 31 0913	54	BEG MAW OCT30 031300 END OCT31 035000
N49022	R	Oct 31 0944	59	BEG MAW OCT25 032701 END OCT26 043200
				RET OF N49014 AS REQUESTED
N49023	I	Nov 2 0257	38	BEG MAW OCT31 035118 END NOV01 031213
N49024	I	Nov 4 0007	48	BEG MAW NOV01 031432 END NOV02 034100
N49025	R	Nov 4 0026	43	BEG MAW OCT28 034327 END OCT29 030600
				RET OF N49017 AS REQUESTED
N49026	R	Nov 4 0023	93	BEG MAW OCT15 101424 END OCT16 090841

					RET OF N49002/N49018 AS REQUESTED
N49027	R	Nov 4	0014	99	BEG MAW OCT23 030422 END OCT24 033700
					RET OF N49011 AS REQUESTED
					RET OF N49019 ALSO
N49029	I	Nov 4	0034	32	BEG MAW NOV02 034229 END NOV03 025800
N49030	I	Nov 4	0640	22	BEG MAW NOV03 031513 END NOV04 032200
N49031	I	Nov 6	0000	29	BEG MAW NOV04 032322 END NOV05 031200
N49032	I	Nov 7	0241	42	BEG MAW NOV05 031308 END NOV06 033400
N49035	I	Nov 8	1651	29	BEG MAW NOV07 033951 END NOV08 030822))
N49036	I	Nov 9	1601	44	BEG MAW NOV08 030934 END NOV09 000400
N49037	I	Nov 11	0314	31	BEG MAW NOV09 000503 END NOV09 200500
N49039	I	Nov 12	0939	39	BEG MAW NOV09 200551 END NOV10 183613
N49041	I	Nov 14	1536	42	BEG MAW NOV12 185647 END NOV 13 181400
N49042	R	Nov 14	1533	40	BEG MAW NOV=9 200551 END NOV10 183613
					RET OF N49038 AS REQUESTED
N49043	I	Nov 17	0527	32	BEG MAW NOV13 181512 END NOV14 173527
N49044	I	Nov 17	0530	45	BEG MAW NOV14 173640 END NOV15 165901
N49045	I	Nov 17	0524	29	BEG MAW NOV15 165953 END NOV16 042800
N49046	R	Nov 17	0517	51	BEG MAW NOV11 183558 END NOV12 185532
					RET OF N49040 AS REQUESTED
N49047	I	Nov 17	0951	38	BEG MAW NOV16 042854 END NOV17 051700
N49048	I	Nov 18	0837	71	BEG MAW NOV17 051757 END NOV18 031300
N49049	I	Nov 19	1659	19	BEG MAW NOV18 031432 END NOV19 031501
N49051	I	Nov 21	1642	16	BEG MAW NOV19 210915 END NOV20 173200
N49052	R	Nov 22	1514	20	BEG MAW NOV19 031606 END NOV19 201800
					RET OF N49050 AS REQUESTED
N49053	I	Nov 23	0044	28	BEG MAW NOV20 173324 END NOV21 171108
N49054	I	Nov 24	1647	71	BEG MAW NOV21 171222 END NOV22 181602
N49056	I	Nov 25	1545	114	BEG MAW NOV23 022519 END NOV24 031400
N49057	I	Nov 27	0320	88	BEG MAW NOV24 031511 END NOV25 030300
N49058	I	Nov 27	0322	34	BEG MAW NOV25 030359 END NOV26 033633
N49059	I	Nov 28	0035	24	BEG MAW NOV26 033908 END NOV27 030621
N49064	I	Dec 4	0235	42	BEG MAW DEC01 033939 END DEC02 033534
N49065	I	Dec 4	1558	35	BEG MAW DEC02 033632 END DEC03 023142
N49066	I	Dec 5	224a	18	BEG MAW DEC03 023358 END DEC04 030543
N49067	R	Dec 6	0231	38	BEG MAW NOV28 032825 END DEC01 033826
					RET OF N49061 N49062 N49063 AS REQUESTED
N49068	I	Dec 6	0424	44	BEG MAW DEC04 031242 END DEC05 030337
N49071	I	Dec 7	1625	64	BEG MAW DEC06 032622 END DEC07 030511
N49072	I	Dec 8	0823	18	BEG MAW DEC07 030632 END DEC08 032700
N49074	I	Dec 10	0814	28	BEG MAW DEC09 0302 END DEC10 0315
N49075	I	Dec 12	1239	42	BEG MAW DEC10 031659 END DEC11 030829
N49076	I	Dec 12	1230	11	BEG MAW DEC11 030951 END DEC12 000600
N49078	R	Dec 14	0038	36	BEG MAW DEC02 033632 END DEC03 023142
					RET OF N49065 AND N49070 AS REQUESTED
N49078	R	Dec 14	0042	36	BEG MAW DEC02 033632 END DEC03 023142
					RET OF N49065 AND N49070 AS REQUESTED
N49079	R	Dec 14	004a	29	BEG MAW DEC 05 030435 END DEC06 032501
					RET OF N49069 AS REQUESTED
N49080	I	Dec 14	003a	11	BEG MAW DEC12 185758 END DEC13 180053
N49081	I	Dec 16	0858	22	BEG MAW DEC13 180200 END DEC15 000000
N470001	RET	Nov 12	0816	10	RET REQUEST TO STOCIDC

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Australia
Sender's WMO/GTS header: SEAUI AMMC
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40108	I	Nov 9	0825	41	BEG CTAO NOV08 130000 END NOV08 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Austria
Sender's WMO/GTS header: SEOS1 LOWM
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	STA	Oct 15	1039	14	
N40002	I	Oct 17	1037	116	BEG KBA OCT15 000000 END OCT16 240000
N40003	I	Oct 19	0946	127	BEG KBA OCT17 000000 END OCT18 240000
N40004	I	Oct 22	1008	173	BEG KBA OCT19 000000 END OCT21 240000
N40005	I	Oct 24	0923	149	BEG KBA OCT22 000000 END OCT23 240000
N40006	I	Oct 26	0851	154	BEG KBA OCT24 000000 END OCT25 240000
N40007	I	Oct 29	1001	157	BEG KBA OCT26 000000 END OCT28 240000
N40008	I	Oct 31	0951	186	BEG KBA OCT29 000000 END OCT30 240000
N40009	R	Oct 31	1256	155	BEG KBA OCT24 000000 END OCT25 240000 RET OF N40006 AS REQUESTED BY MOSCIDC
N40010	R	Nov 1	1707	143	BEG KBA OCT17 000000 END OCT18 240000 RET OF N40003 AS REQUESTED BY MOSCIDC
N40011	R	Nov 1	1725	174	BEG KBA OCT19 000000 END OCT21 240000 RET OF N40004 AS REQUESTED BY MOSCIDC
N40012	R	Nov 1	1743	150	BEG KBA OCT22 000000 END OCT23 240000 RET OF N40005 AS REQUESTED BY MOSCIDC
N40013	R	Nov 1	1759	155	BEG KBA OCT24 000000 END OCT25 240000 RET OF N40006 AS REQUESTED BY MOSCIDC
N40014	I	Nov 2	0956	131	BEG KBA OCT31 000000 END NOV01 240000
N40016	I	Nov 7	1003	167	BEG KBA NOV05 000000 END NOV06 240000
N40017	I	Nov 9	0953	208	BEG KBA NOV07 000000 END NOV08 240000))
N40018	R	Nov 10	0924	109	BEG KBA NOV02 000000 END NOV04 240000 RET OF N40015 AS REQUESTED BY WASHIDC
N40019	I	Nov 12	0948	181	BEG KBA NOV09 000000 END NOV11 240000
N40020	R	Nov 12	1227	145	BEG KBA OCT22 000000 END OCT23 240000 RET OF N40012 AS REQUESTED BY MOSCIDC
N40021	I	Nov 14	0859	127	BEG KBA NOV12 000000 END NOV13 240000
N40021	R	Nov 12	1239	150	BEG KBA OCT24 000000 END OCT25 240000 RET OF N40013 AS REQUESTED BY MOSCIDC
N40023	STA	Nov 14	1009	9	
N40024	I	Nov 16	0901	156	BEG KBA NOV14 000000 END NOV15 240000
N40025	I	Nov 19	1020	197	BEG KBA NOV16 000000 END NOV18 240000
N40026	I	Nov 21	0924	102	BEG KBA NOV19 000000 END NOV20 240000
N40027	I	Nov 23	0835	123	BEG KBA NOV21 000000 END NOV22 240000
N40028	R	Nov 23	125a	129	BEG KBA NOV12 000000 END NOV13 240000 RET OF N40022 AS REQUESTED BY WASHIDC
N40029	I	Nov 26	0746	95	BEG KBA NOV23 000000 END NOV25 240000
N40030	I	Nov 28	093b	62	BEG KBA NOV26 000000 END NOV27 240000
N40031	I	Nov 30	0921	95	BEG KBA NOV28 000000 END NOV29 240000
N40032	R	Nov 30	1241	124	BEG KBA NOV21 000000 END NOV22 240000 RET OF SEOS1 N40027 AS REQUESTED BY MOSCIDC
N40033	I	Dec 3	0857	141	BEG KBA NOV30 000000 END DEC02 240000
N40034	I	Dec 5	0911	135	BEG KBA DEC03 000000 END DEC04 240000
N40035	I	Dec 7	0909	107	BEG KBA DEC05 000000 END DEC06 240000
N40036	I	Dec 10	0907	141	BEG KBA DEC07 000000 END DEC09 240000
N40037	I	Dec 12	0802	51	BEG KBA DEC10 000000 END DEC11 240000
N40038	I	Dec 14	0821	67	BEG KBA DEC12 000000 END DEC13 240000

N40039	I	Dec	17	080a	69	BEG KBA DEC14 000000 END DEC14 240000
N47001	STA	Oct	22	1231	21	
N47002	STA	Oct	30	0801	47	
N47003	STA	Nov	12	1550	46	
N47004	STA	Nov	16	1016	9	
N47005	STA	Nov	26	102d	56	
N47005	STA	Nov	26	102e	56	
N47006	STA	Nov	28	0955	10	
N47007	STA	Nov	28	095c	10	
N47008	STA	Nov	29	0956	11	
N47009	R	Dec	18	081a	113	BEG KBA NOV19 000000 END NOV20 240000
						RET OF SEOS1 N40026 AND N47009
N47010	STA	Dec	1	1007	11	
N47011	STA	Dec	3	0927	10	
N47012	STA	Dec	4	0836	10	
N47013	STA	Dec	7	0931	10	
N47014	STA	Dec	10	1328	65	
N47015	STA	Dec	11	1047	18	STATUS FOR WASHIDC
						STATUS FOR WASHIDC
N47016	STA	Dec	12	0831	12	
N47017	R	Dec	13	0832	12	RET OF SEOS1 LOWM N47009
N47017	R	Dec	13	083a	12	RET OF SEOS1 LOWM N47009
N47018	STA	Dec	18	0856	11	
N57001	RET	Jan	8	0817	12	RET REQUEST TO MOSCIDC
N57002	RET	Jan	9	0928	10	RET REQUEST TO MOSCIDC
N57003	STA	Jan	11	165a	57	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Belgium
Sender's WMO/GTS header: SEBX1 EBUM
Time Period: Day 1 (Oct 15) -- Day 93 (Jan 15)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40002	I	Oct 18	1818	66	BEG DOU OCT15 073554 END OCT17 073005
					BEG UCC OCT15 094020 END OCT17 094100
N40003	I	Oct 22	1420	81	BEG DOU OCT17 073454 END OCT19 090458
					BEG UCC OCT17 094145 END OCT19 093642
N40005	I	Oct 23	143A	72	BEG DOU OCT19 103122 END OCT22 093048
					BEG UCC OCT19 093745 END OCT22 095300
N40006	R	Oct 24	1555	54	BEG DOU OCT15 000000 END OCT15 073104
					BEG DOU OCT17 073454 END OCT19 090458
					BEG UCC OCT17 094145 END OCT19 093642
N40007	I	Oct 25	1456	51	BEG DOU OCT22 093459 END OCT24 092805
					BEG UCC OCT22 095400 END OCT24 115800
N40008	R	Oct 25	1523	53	BEG DOU OCT17 073454 END OCT19 090458
					BEG UCC OCT17 094145 END OCT19 093642
N40009	I	Oct 29	143A	72	BEG DOU OCT24 093727 END OCT26 094406
					BEG UCC OCT24 115900 END OCT26 094500
N40010	I	Oct 30	1438	69	BEG DOU OCT26 095205 END OCT28 071005
					BEG UCC OCT26 094500 END OCT28 071100
N40011	I	Oct 31	1551	62	BEG DOU OCT28 071453 END OCT30 095717
					BEG UCC OCT28 071100 END OCT30 095800
N40012	I	Nov 9	1012	74	BEG DOU OCT30 100148 END NOV02 071404))
					BEG UCC OCT30 095800 END NOV02 101900))
N40013	I	Nov 9	1038	46	BEG DOU NOV02 071850 END NOV05 094904))
					BEG UCC NOV02 102100 END NOV05 095000))
N40014	I	Nov 9	1240	30	BEG DOU NOV05 095604 END NOV7 093005))
					BEG UCC NOV05 095000 END NOV7 093000))
N40015	I	Nov 12	1606	43	BEG DOU NOV07 094007 END NOV09 094314
					BEG UCC NOV07 093000 END NOV09 094300
N40016	I	Nov 14	1334	56	BEG DOU NOV09 092909 END NOV12 073103
					BEG UCC NOV09 094300 END NOV12 073100
N40017	I	Nov 16	1325	61	BEG DOU NOV12 073548 END NOV14 073202
					BEG UCC NOV12 073100 END NOV14 073200
N40018	I	Nov 19	1336	110	BEG DOU NOV14 073651 END NOV16 100806
					BEG UCC NOV14 073200 END NOV16 100800
N40019	I	Nov 21	092a	76	BEG DOU NOV16 101220 END NOV17 180000
					BEG UCC NOV16 100800 END NOV17 180000
N40020	R	Nov 21	0925	68	BEG DOU OCT24 093727 END OCT26 094406
					BEG UCC OCT24 115900 END OCT26 094500
N40021	R	Nov 21	0935	47	BEG DOU OCT17 073454 END OCT19 090458
					BEG UCC OCT17 094145 END OCT19 093642
N40022	I	Nov 21	2016	68	BEG DOU NOV17 180000 END NOV19 092011
					BEG UCC NOV17 180000 END NOV19 092000
N40023	I	Nov 23	1310	124	BEG DOU NOV19 092259 END NOV21 092919
					BEG UCC NOV19 092000 END NOV21 092900
N40026	I	Nov 28	1033	14	BEG DOU NOV25 000000 END NOV26 073303
N40027	I	Nov 29	1446	53	BEG DOU NOV26 073749 END NOV28 073110
					BEG UCC NOV25 000000 END NOV28 073100
N40028	I	Dec 3	1335	62	BEG DOU NOV28 073549 END NOV30 073105

					BEG UCC NOV28 073100 END NOV30 073100
N40029	I	Dec 4	1046	32	BEG DOU NOV30 073554 END DEC01 240000
					BEG UCC NOV30 073100 END DEC01 240000
N40030	I	Dec 5	1448	81	BEG DOU DEC02 000000 END DEC03 084705
					BEG UCC DEC02 000000 END DEC03 084700
N40031	I	Dec 6	1315	61	BEG DOU DEC03 085405 END DEC05 094505
					BEG UCC DEC03 084700 END DEC05 094500
N40032	I	Dec 10	1237	51	BEG DOU DEC05 095205 END DEC07 095608
					BEG UCC DEC05 094500 END DEC07 095600
N40033	I	Dec 11	1419	100	BEG DOU DEC07 100022 END DEC10 092331
					BEG UCC DEC07 095600 END UCC10 081400
N40034	I	Dec 13	1334	101	BEG DOU DEC10 092645 END DEC12 091454
					BEG UCC DEC10 081400 END DEC12 091500
N40035	R	Dec 13	1343	145	BEG DOU NOV21 093154 END NOV22 240000
					BEG DOU NOV23 000000 END NOV24 240000
					BEG UCC NOV21 092900 END NOV22 240000
					BEG UCC NOV23 000000 END NOV24 240000
N40035	R	Dec 13	1401	144	BEG DOU NOV21 093154 END NOV22 240000
					BEG DOU NOV23 000000 END NOV24 240000
					BEG UCC NOV21 092900 END NOV22 240000
					BEG UCC NOV23 000000 END NOV24 240000
N40038	I	Dec 18	1200	38	BEG DOU DEC14 000000 END DEC14 240000
N47001	STA	Oct 26	1337	42	
DURING	STA	Nov 19	1555	37	
N47002	STA	Oct 30	1533	43	
N47003	STA	Nov 21	0928	38	
N47004	STA	Nov 21	202a	33	
N47004	STA	Nov 22	1509	33	
N47005	STA	Nov 22	1536	31	
N47007	STA	Dec 4	1601	36	
N47008	STA	Dec 11	1501	16	
N47009	STA	Dec 18	1354	42	
N47011	STA	Jan 3	1211	10	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Brazil
Sender's WMO/GTS header: SEBZ1 SBBR
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N04046	I	Nov 30	1952	26	BEG BDF NOV29 000000 END NOV29 240000
N4003	I	Nov 9	1536	46	BEG VAO OCT25 000000 END NOV05 070000
N4018	I	Nov 5	2019	47	BEG BDF NOV01 000000 END NOV01 240000
N4024	I	Nov 8	2018	47	BEG BDF NOV07 000000 END NOV07 240000))
N4030	I	Nov 14	2115	45	BEG BDF NOV13 000000 END NOVL3 240000
					BEG BDF NOV13 000000 END NOVL3 240000
					BEG BDF NOV13 000000 END NOVL3 240000
N4038	I	Nov 22	2035	20	BEG BDF NOV21 END NOV21 240000
N4038	I	Nov 22	203a	20	BEG BDF NOV21 END NOV21 240000
N4038	I	Nov 23	2034	18	BEG BDF NOV21 000000 END NOV21 240000
N4051	I	Dec 6	2012	48	BEG BDF DEZ05 000000 END DEZ05 240000
N4052	I	Dec 7	2018	45	BEG BDF DEZ06 000000 END DEZ 240000
N4058	I	Dec 13	2007	29	BEG BDF DEC12 000000 END DEC12 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Brazil
Sender's WMO/GTS header: SEBZ SBBR
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N4001	I	Oct 26	1951	54	BEG SOB1 OCT15 000000 END OCT17 010000 BEG VAO OCT18 000000 END OCT23 210000
N4002	I	Oct 31	1405	26	BEG BMA OCT17 000000 END OCT20 190000
N4011	I	Oct 26	1953	29	BEG BDF OCT25 000000 END OCT25 240000
N4012	I	Oct 29	2034	96	BEG BDF OCT26 000000 END OCT26 240000
N4013	I	Oct 29	203A	31	BEG BDF OCT27 000000 =3,$9:527 240000
N4014	I	Oct 29	2039	28	BEG BDF OCT28 000000 END OCT28 240000
N4015	I	Oct 30	2019	56	BEG BDF OCT29 000000 END OCT29 240000
N4016	I	Oct 31	2013	48	BEG BDF OCT30 000000 END OCT30 240000
N4017	I	Nov 1	204A	59	BEG BDF OCT31 000000 END OCT31 240000
N40017	I	Nov 1	1351	66	BEG NNA OCT29 114900 END OCT31 113000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Bulgaria
Sender's WMO/GTS header: SEBU1 LZSO
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	R	Dec 5	160a	39	BEG VTS OCT14 000000 END OCT14 248000 RET OF N40001 AS REQUESTED
N40001	R	Nov 2	1604	45	BEG VTS OCT14 000000 END OCT14 240000 RET OF N40001 AS REQUESTD
N40002	R	Dec 5	155b	27	BEG VTS OCT15 000000 END OCT15 240000 RET OF N40002 AS REQUESTED
N40002	R	Nov 2	1602	33	BEG VTS OCT15 000000 END OCT15 240000 RET OF N40002 AS REQUESTED
N40003	I	Nov 2	1606	25	BEG VTS OCT16 000000 END OCT16 240000
N40004	I	Nov 2	1824	31	BEG VTS OCT17 000000 END OCT17 240000
N40004	R	Dec 5	1553	25	BEG VTS OCT17 000000 END OCT17 240000 RET OF N40004 AS REQUESTED
N40005	I	Nov 2	1825	32	BEG VTS OCT18 000000 END OCT18 240000
N40006	I	Nov 2	1612	65	
N40007	I	Nov 13	1416	29	BEG VTS OCT22 000000 END OCT22 240000
N40011	I	Oct 29	1422	120	BEG VTS OCT26 000000 END OCT28 240000
N40012	I	Oct 30	1509	28	BEG VTS OCT29 000000 END OCT29 240000
N40013	I	Oct 31	1522	60	BEG VTS OCT30 000000 END OCT30 240000
N40014	I	Nov 1	1520	35	BEG VTS OCT31 000000 END OCT31 240000
N40017	R	Nov 2	1829	13	RET OF N40004 TO N40005 AS REQUESTED BY WASHIDC
N40018	I	Nov 5	1415	74	
N40020	I	Nov 8	1422	37	BEG VTS NOV06 000000 END NOV07 240000))
N40021	I	Nov 9	1416	27	BEG VTS NOV08 000000 END NOV08 240000))
N40022	I	Dec 3	1519	111	BEG VTS NOV09 000000 END NOV11 240000
N40023	I	Nov 13	1439	19	BEG VTS NOV12 000000 END NOV12 240000
N40025	I	Dec 3	145a	28	BEG VTS NOV14 00000 END NOV14 240000
N40025	I	Dec 6	144c	100	BEG VTS NOV14 00000 END NOV14 240000 BEG VTS NOV16 000000 END NOV18 240000
N40026	I	Nov 16	1443	81	BEG VTS NOV15 000000 END NOV15 240000
N40027	I	Dec 6	1510	90	BEG VTS NOV16 000000 END NOV18 240000
N40027	I	Nov 19	1520	81	BEG VTS NOV16 000000 END NOV18 240000
N40028	I	Dec 6	1657	37	BEG VTS NOV19 000000 END NOV19 240000
N40028	I	Nov 20	1426	35	
N40029	I	Dec 3	1453	42	BEG VTS NOV20 000000 END NOV20 240000
N40029	I	Nov 21	1407	42	BEG VTS NOV20 000000 END NOV20 240000
N40030	I	Nov 22	1419	22	BEG VTS NOV21 000000 END NOV21 240000
N40032	I	Nov 26	1449	76	BEG VTS NOV23 000000 END NOV25 240000
N40035	I	Dec 6	1452	19	BEG VTS NOV28 000000 END NOV28 240000
N40036	I	Nov 30	143a	17	BEG VTS NOV29 000000 END NOV29 240000
N40038	I	Dec 4	1402	32	BEG VTS DEC03 000000 END DEC03 240000
N40039	I	Dec 5	1405	39	BEG VTS DEC04 000000 END DEC04 240000
N40040	R	Dec 5	1547	7	RET OF N40001 N40002 N40004 AS REQUESTED BY WASHID
N40041	I	Dec 6	1416	37	BEG VTS DEC05 000000 END DEC05 240000
N40042	R	Dec 6	144a	8	RET OF N40025 N40027 N40028 N40033 N40035 AS REQUE
N40043	R	Dec 6	1651	8	RET OF N40028 AS REQUESTED
N40044	I	Dec 7	142a	39	BEG VTS DEC06 000000 END DEC06 240000
N40045	I	Dec 11	193a	14	BEG VTS DEC10 000000 END DEC10 240000

N40046	I	Dec	12	1630	25	BEG	VTS	DEC11	000000	END	DEC11	240000
N40048	I	Dec	13	1415	24	BEG	VTS	DEC12	000000	END	DEC12	240000
N40048	I	Dec	13	141a	24	BEG	VTS	DEC12	000000	END	DEC12	240000
N40049	I	Dec	14	1510	19	BEG	VTS	DEC13	000000	END	DEC13	240000
N40049	I	Dec	15	1444	42	BEG	VTS	DEC14	000000	END	DEC14	240000
N400015	I	Dec	3	145c	41	BEG	VTS	NOV01	000000	END	NOV01	240000
N400015	I	Nov	2	1406	48	BEG	VTS	NOV01	000000	END	NOV01	240000
N400015	I	Nov	27	1448	50	BEG	VTS	NOV01	000000	END	NOV01	240000
N400019	I	Nov	15	143a	38							
N400019	I	Nov	6	1423	54							

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Canada
Sender's WMO/GTS header: SECN1 CWTO
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	1414	77	BEG GAC OCT15 000000 END OCT15 120300
N40006	I	Oct 19	1621	87	BEG MBC OCT15 180700 END OCT16 174600
N40007	I	Oct 19	1623	49	BEG YKA OCT15 000000 END OCT16 143500
N40008	I	Oct 21	1336	77	BEG YKA OCT16 144200 END OCT17 1502
N40009	I	Oct 21	1341	145	BEG MBC OCT16 17500 END OCT18 174600
N40010	I	Oct 21	1348	99	BEG GAC OCT18 120400 END OCT19 120600
N40011	I	Oct 21	1921	126	BEG GAC OCT19 120800 END OCT20 123700
N40012	I	Oct 22	1257	116	BEG GAC OCT20 1239 END OCT21 1240
N40013	I	Oct 22	1301	109	BEG MBC OCT18 175100 END OCT19 180200
N40014	I	Oct 22	1305	86	BEG MBC OCT19 180800 END OCT20 175100
N40015	I	Oct 23	1416	75	BEG GAC OCT21 1241 END OCT22 1152
N40016	I	Oct 23	1421	141	BEG MBC OCT20 183300 END OCT21 182600
N40017	I	Oct 23	1816	145	BEG GAC OCT22 115440 END OCT25 114905
N40018	I	Oct 23	1821	60	BEG MBC OCT21 183100 END OCT22 180900
N40019	R	Oct 23	1826	124	BEG GAC OCT17 120500 END OCT18 120100 RET OF SECN1 CWTO N40005
N40020	I	Oct 24	2056	158	BEG GAC OCT22 115440 END OCT23 114905 BEG YKA OCT17 150800 END OCT19 150500
N40021	I	Oct 24	2101	58	BEG MBC OCT22 181300 END OCT23 180600
N40022	I	Oct 24	2105	138	BEG YKA OCT19 151000 END OCT20 155300
N40023	I	Oct 25	1737	104	BEG YKA OCT20 160000 END OCT22 1457
N40024	I	Oct 25	1743	85	BEG MBC OCT23 181100 END OCT24 180400
N40025	I	Oct 26	2124	183	BEG GAC OCT23 113100 END OCT25 113000
N40026	I	Oct 26	2132	149	BEG YKA OCT22 150200 END OCT24 150500
N40027	I	Oct 29	1643	148	BEG GAC OCT25 113200 END OCT26 111000
N40028	I	Oct 29	1649	132	BEG MBC OCT24 180900 END OCT25 180800
N40033	I	Oct 30	2148	46	BEG MBC OCT28 181000 END OCT29 180400
N40034	I	Oct 30	2151	111	BEG YKA OCT25 1543 END OCT26 1506
N40035	I	Oct 30	2159	118	BEG GAC OCT29 124400 END OCT30 124300
N40036	I	Oct 31	1702	170	BEG YKA OCT26 151100 END YKA OCT29 150700
N40037	I	Oct 31	1707	65	BEG MBC OCT29 181900 END OCT30 180600
N40038	I	Oct 31	1803	82	BEG GAC OCT30 124505 END OCT31 123855
N40039	I	Nov 1	1418	38	BEG YKA OCT29 155600 END OCT30 155400
N40040	R	Nov 1	1419	89	BEG MBC OCT15 180700 END OCT16 174600 RET OF N40006 AS REQUESTED
N40041	R	Nov 1	142A	51	BEG YKA OCT15 000000 END OCT16 143500 RET OF N40007 AS REQUESTED
N40042	R	Nov 1	1424	79	BEG YKA OCT16 144200 END OCT17 1502 RET OF N40008 AS REQUESTED
N40043	R	Nov 1	1429	147	BEG MBC OCT16 17500 END OCT18 174600 RET OF N40009 AS REQUESTED
N40044	R	Nov 1	1439	125	BEG GAC OCT18 120400 END OCT19 120600 RET OF N40010 AS REQUESTED
N40045	R	Nov 1	144A	128	BEG GAC OCT19 120800 END OCT20 123700 RET OF N40011 AS REQUESTED
N40046	R	Nov 1	1505	118	BEG GAC OCT20 1239 END OCT21 1240 RET OF N40012 AS REQUESTED

N40047	R	Nov 1	1512	111	BEG MBC OCT18 175100 END OCT19 180200 RET OF N40013 AS REQUESTED
N40048	R	Nov 1	1531	88	BEG MBC OCT19 180800 END OCT20 175100 RET OF N40014 AS REQUESTED
N40049	R	Nov 1	153A	77	BEG GAC OCT21 1241 END OCT22 1152 RET OF N40015 AS REQUESTED
N40050	R	Nov 1	1543	143	BEG MBC OCT20 183300 END OCT21 182600 RET OF N40016 AS REQUESTED
N40051	R	Nov 1	1549	147	BEG GAC OCT22 115440 END OCT25 114905 RET OF N40017 AS REQUESTED
N40052	R	Nov 1	1555	62	BEG MBC OCT21 183100 END OCT22 180900 RET OF N40018 AS REQUESTED
N40053	R	Nov 1	1606	126	BEG GAC OCT17 120500 END OCT18 120100 RET OF N40019 AS REQUESTED
N40054	R	Nov 1	1620	160	BEG GAC OCT22 115440 END OCT23 114905 BEG YKA OCT17 150800 END OCT19 150500 RET OF N40020 AS REQUESTED
N40055	R	Nov 1	1626	60	BEG MBC OCT22 181300 END OCT23 180600 RET OF N40021 AS REQUESTED
N40056	R	Nov 1	1636	140	BEG YKA OCT19 151000 END OCT20 155300 RET OF N40022 AS REQUESTED
N40057	R	Nov 1	1644	106	BEG YKA OCT20 160000 END OCT22 1457 RET OF N40023 AS REQUESTED
N40058	R	Nov 1	1705	87	BEG MBC OCT23 181100 END OCT24 180400 RET OF N40024 AS REQUESTED
N40059	R	Nov 1	1716	183	BEG GAC OCT23 113100 END OCT25 113000 RET OF N40025 AS REQUESTED
N40060	R	Nov 1	1736	151	BEG YKA OCT22 150200 END OCT24 150500 RET OF N40026 AS REQUESTED
N40061	R	Nov 1	210A	150	BEG GAC OCT25 113200 END OCT26 111000 RET OF N40027 AS REQUESTED
N40062	R	Nov 1	2108	134	BEG MBC OCT24 180900 END OCT25 180800 RET OF N40028 AS REQUESTED
N40063	R	Nov 1	2112	62	BEG YKA OCT24 150900 END OCT25 153800 RET OF N40029 AS REQUESTED
N40064	R	Nov 1	2114	168	BEG GAC OCT26 114240 END OCT27 115330 RET OF N40030 AS REQUESTED
N40065	R	Nov 1	2120	146	BEG GAC OCT27 115425 END OCT29 124210 RET OF N40031 AS REQUESTED
N40066	R	Nov 1	2126	208	BEG MBC OCT25 181300 END OCT28 180500 RET OF N40032 AS REQUESTED
N40067	I	Nov 1	2132	60	BEG GAC OCT31 123900 END NOV01 124500
N40068	I	Nov 1	2134	69	BEG MBC OCT30 181100 END OCT31 180700
N40069	I	Nov 2	2037	106	BEG MBC OCT31 181200 END NOV01 180300
N40070	I	Nov 2	2040	60	BEG YKA OCT30 161200 END OCT31 160900
N40071	I	Nov 2	204A	101	BEG GAC NOV01 124700 END NOV02 124600
N40072	I	Nov 4	1927	146	BEG GAC NOV02 124935 END NOV04 125725
N40073	I	Nov 4	1932	97	BEG YKA OCT31 161400 END NOV01 160400
N40074	I	Nov 4	1938	158	BEG MBC NOV01 180700 END MBC NOV03 180900
N40075	I	Nov 5	2221	47	BEG MBC NOV03 182900 END NOV04 184300
N40076	I	Nov 5	2225	95	BEG GAC NOV04 125900 END NOV05 124300
N40077	I	Nov 6	2040	87	BEG GAC NOV05 124500 END NOV06 122900
N40078	I	Nov 6	2044	77	BEG YKA NOV01 155600 END NOV02 155400
N40079	I	Nov 6	2049	58	BEG YKA NOV02 160800 END NOV03 155600
N40080	I	Nov 6	2053	64	BEG MBC NOV04 END NOV05 181400
N40081	STA	Nov 6	2058	19	

N40082	R	Nov 6	2104	112	BEG MBC OCT18 175100 END OCT19 180200
					RET OF SECN1 CWTO N40047 AS REQUESTED
N40083	R	Nov 6	2113	130	BEG GAC OCT17 120500 END OCT18 120100
					RET OF SECN1 CWTO N40053 AS REQUESTED
N40084	R	Nov 6	2121	161	BEG GAC OCT22 115440 END OCT23 114905
					BEG YKA OCT17 150800 END OCT19 150500
					RET OF SECN1 CWTO N40054 AS REQUESTED
N40085	R	Nov 6	2126	61	BEG MBC OCT22 181300 END OCT23 180600
					RET OF SECN1 CWTO N40045 AS REQUESTED
N40087	R	Nov 6	2136	107	BEG YKA OCT20 160000 END OCT22 1457
					RET OF SECN1 CWTO N40057 AS REQUESTED
N40088	R	Nov 6	2142	88	BEG MBC OCT23 181100 END OCT24 180400
					RET OF SECN1 CWTO N40058 AS REQUESTED
N40089	R	Nov 6	2150	185	BEG GAC OCT23 113100 END OCT25 113000
					RET OF SECN1 CWTO N40059 AS REQUESTED
N40090	R	Nov 6	2158	152	BEG YKA OCT22 150200 END OCT24 150500
					RET OF SECN1 CWTO N40060 AS REQUESTED
N40095	I	Nov 8	2102	22	BEG YKA NOV05 155600 END NOV06 155400))
N40096	I	Nov 8	2305	117	BEG GAC NOV07 124000 END NOV08 124600))
N40097	I	Nov 11	201a	42	BEG YKA NOV06 160700 END NOV07 160000)
N40098	I	Nov 11	2025	116	BEG MBC NOV06 181100 END NOV07 180000
					BEG MBC NOV07 180000 END NOV08 181500
N40099	I	Nov 11	2031	61	BEG GAC NOV08 124800 END NOV09 123500)
N40100	I	Nov 11	2037	94	BEG YKA NOV07 160600 END NOV08 162600
N40101	I	Nov 11	2040	39	BEG MBC NOV08 182000 END NOV09 181200
N40102	I	Nov 11	204a	82	BEG GAC NOV09 124100 END NOV10 130600
N40103	I	Nov 11	204b	73	BEG MBC NOV09 181700 END NOV10 180300
N40104	I	Nov 11	2055	60	BEG GAC NOV10 130800 END NOV11 130130
N40105	R	Nov 11	2058	58	BEG YKA NOV03 155800 END NOV04 155400
					RET OF N40091 AS REQUESTED BY
N40106	R	Nov 11	2104	77	BEG YKA NOV04 155400 END NOV05 164400
					RET OF N40092 AS REQUESTED BY
N40107	R	Nov 11	2107	60	BEG GAC NOV06 123020 END NOV07 124008
					RET OF N40093 AS REQUESTED BY
N40108	R	Nov 11	2112	32	BEG MBC NOV05 181800 END NOV06 180400
					RET OF N40094 AS REQUESTED BY
N40109	I	Nov 12	1611	53	BEG GAC NOV11 130230 END NOV12 130335
N40110	I	Nov 14	1603	45	BEG YKA NOV08 163000 END NOV09 150900)
N40111	I	Nov 14	161a	127	BEG MBC NOV10 181900 END NOV12 181300
N40112	I	Nov 14	1623	10	BEG GAC NOV12 130500 END NOV13 122040
N40113	I	Nov 14	1631	111	
N40114	I	Nov 14	1641	31	BEG GAC NOV13 122120 END NOV14 122615
N40115	STA	Nov 14	1644	16	
N40116	I	Nov 14	171a	105	BEG MBC NOV12 181800 END NOV13 182200
N40117	I	Nov 15	1437	104	
N40119	I	Nov 15	1449	70	BEG YKA NOV13 000000 END NOV13 160000
N40120	I	Nov 15	2033	42	BEG GAC NOV14 122655 END NOV15 124250
N40121	I	Nov 15	2044	125	BEG MBC NOV13 182700 END NOV14 180600
N40122	I	Nov 16	2006	82	BEG MBC NOV14 181200 END NOV15 180500
N40123	I	Nov 16	2013	54	BEG GAC NOV15 124400 END NOV16 124400)
N40124	I	Nov 16	2020	95	BEG YKA OCT13 160600 END OCT14 160100
N40125	I	Nov 17	1720	140	BEG YKA NOV14 160800 END NOV15 1601200
N40126	I	Nov 17	1729	81	BEG GAC NOV16 124500 END NOV17 145100
N40127	I	Nov 18	1841	112	BEG MBC NOV15 181000 END NOV17 180400
N40128	I	Nov 18	1913	68	BEG GAC NOV17 145300 END NOV18 160300)
N40130	I	Nov 19	1955	47	BEG MBC NOV17 211900 END NOV18 180700

N40131	I	Nov	20	1733	37	BEG YKA NOV15 160800 END NOV16 160900
N40132	I	Nov	20	1741	29	BEG YKA NOV16 161500 END NOV17 155000
N40133	I	Nov	20	1742	63	BEG MBC NOV18 181200 END NOV19 181400
N40135	I	Nov	21	1429	110	BEG YKA NOV17 162900 END NOV18 163300
N40136	I	Nov	21	1438	144	BEG YKA NOV18 163300 END NOV19 161700
N40137	R	Nov	21	1905	111	BEG YKA NOV12 000000 END NOV12 240000)
						RET OF SECN1 N40118 AS REQUESTED BY
N40138	I	Nov	21	1907	15	BEG GAC NOV20 123300 END NOV21 123300
N40139	I	Nov	21	1914	64	BEG MBC NOV19 181800 END NOV20 180900
N40140	I	Nov	21	2307	102	BEG YKA NOV19 162300 END NOV20 155700
N40141	I	Nov	22	2142	57	BEG MBC NOV20 182600 END NOV21 181700
N40142	I	Nov	22	2156	91	BEG GAC NOV19 123400 END NOV20 123000)
N40143	I	Nov	23	1958	136	BEG GAC NOV21 123400 END NOV22 123000
						BEG GAC NOV22 123200 END NOV23 123430
N40144	I	Nov	23	2002	51	BEG YKA NOV20 160100 END NOV21 160700
N40145	I	Nov	23	2326	81	BEG MBC NOV21 182200 END NOV22 180700
N40146	I	Nov	24	1712	76	BEG NOV23 123545 END NOV24 133655
N40147	I	Nov	25	1537	112	BEG YKA NOV21 161200 END NOV22 160600
N40148	I	Nov	25	1544	96	BEG MBC NOV22 181100 END NOV23 184200
N40149	I	Nov	25	1555	67	BEG MBC NOV23 184700 END NOV24 181500
N40150	I	Nov	25	1608	50	BEG GAC NOV24 133730 END NOV25 132635
N40151	R	Nov	25	1659	110	BEG YKA NOV12 000000 END NOV12 240000)
						RET OF SECN1 N40118 AS REQUESTED BY
N40152	R	Nov	25	1704	84	BEG MBC NOV14 181200 END NOV15 180500
						RET OF N40122 AS REQUESTED BY
N40153	R	Nov	25	1711	97	BEG YKA OCT13 160600 END OCT14 160100
						RET OF SECN1 N40124 AS REQUESTED BY
N40154	R	Nov	25	1715	83	BEG GAC NOV16 124500 END NOV17 145100
						RET OF SECN1 N40126 AS REQUESTED BY
N40155	R	Nov	25	1721	69	BEG GAC NOV18 160430 END NOV19 123550
						RET OF SECN1 N40129 AS REQUESTED BY
N40156	R	Nov	25	1723	60	BEG GAC NOV19 123700 END NOV20 123100
						RET OF SECN1 N40134 AS REQUESTED BY
N40157	I	Nov	26	2027	111	BEG GAC NOV25 132900 END NOV26 123100
N40158	I	Nov	26	2034	106	BEG MBC NOV24 181900 END NOV25 180400
N40159	I	Nov	27	191a	86	BEG GAC NOV26 123300 END NOV27 123610
N40160	I	Nov	27	1911	99	BEG MBC NOV25 180900 END NOV26 180400
N40161	I	Nov	28	0128	125	BEG YKA NOV22 161300 END NOV23 155700)
N40165	I	Nov	29	1447	157	BEG YKA NOV24 155520 END NOV25 155510
N40166	I	Nov	29	145c	107	BEG YKA NOV25 155600 END NOV26 155410
N40167	I	Nov	29	160a	35	BEG GAC NOV28 123840 END NOV29 125520
N40168	I	Nov	29	1614	63	BEG MBC NOV27 180900 END NOV28 180400
N40169	I	Nov	29	2258	102	BEG YKA NOV26 160400 END NOV27 160400)
N40170	I	Dec	1	0206	140	BEG MBC NOV28 181000 END NOV29 180500
N40172	I	Dec	1	0224	131	BEG YKA NOV27 160800 END NOV29 155700
N40173	I	Dec	2	1618	52	BEG GAC NOV30 123900 END DEC01 131200
N40175	I	Dec	2	1731	67	BEG GAC DEC01 137400 END DEC02 125900))
N40176	I	Dec	2	1738	56	BEG MBC NOV29 181000 END NOV30 180400
N40179	I	Dec	3	2033	73	BEG GAC DEC02 130000 END DEC03 124615
N40180	R	Dec	3	2041	31	BEG MBC NOV26 180900 END NOV27 180400
						RET OF SECN1 N40162 AS REQUESTED BY
N40181	R	Dec	3	205a	74	BEG GAC NOV27 123645 END NOV28 123850
						RET OF SECN1 N40163 AS REQUESTED BY
N40182	R	Dec	3	2100	54	BEG YKA NOV23 160200 END NOV24 160200
						RET OF SECN1 N40164 AS REQUESTED BY
N40183	I	Dec	3	2102	69	BEG MBC DEC01 183100 END DEC02 180200

N40184	I	Dec 4	2142	69	BEG GAC DEC03 124710 END DEC04 123735
N40185	I	Dec 4	2154	117	BEG YKA NOV29 161100 END NOV30 163800
N40186	I	Dec 4	2159	58	BEG MBC DEC02 180700 END DEC03 180200
N40187	I	Dec 5	2104	59	BEG GAC DEC04 123805 END DEC05 123515
N40188	I	Dec 5	2109	32	BEG MBC DEC03 180700 END DEC04 180500
N40189	R	Dec 5	2113	50	BEG MBC NOV30 180900 END DEC01 180700
					RET OF SECN1 N40178 AS REQUESTED BY
N40190	I	Dec 6	1702	144	BEG YKA NOV30 164600 END DEC01 170800
N40192	I	Dec 6	1811	117	BEG YKA DEC03 160100 END DEC04 155600)
N40193	I	Dec 6	1823	63	BEG GAC DEC05 123610 END DEC06 125045
N40194	I	Dec 6	2232	51	BEG MBC DEC04 180900 END DEC05 180400
N40195	I	Dec 9	190e	124	BEG MBC DEC05 180900 END DEC06 180200
N40196	I	Dec 9	1913	55	BEG GAC DEC06 125200 END DEC07 080000)
N40197	I	Dec 9	1918	40	BEG GAC DEC07 124100 END DEC08 124300
N40198	I	Dec 9	1923	38	BEG GAC DEC08 132440 END DEC09 130755
N40199	I	Dec 9	1932	131	BEG YKA DEC04 160300 END DEC05 152600
N40200	I	Dec 9	1937	108	BEG YKA DEC05 153200 END DEC06 153300
N40201	I	Dec 9	1940	78	BEG MBC DEC06 180600 END DEC07 180300
N40202	I	Dec 9	1948	48	BEG MBC DEC07 180700 END DEC08 180300
N40203	I	Dec 10	2228	54	BEG MBC DEC08 180800 END DEC09 180200
N40204	I	Dec 10	2238	116	BEG GAC DEC09 130900 END DEC10 124800)
N40205	I	Dec 11	203a	123	BEG YKA DEC06 153700 END DEC07 152100
N40206	I	Dec 11	2046	95	BEG YKA DEC07 152900 END DEC08 163400
N40207	I	Dec 11	2050	67	BEG GAC DEC10 125000 END DEC11 124100)
N40208	I	Dec 11	2058	38	BEG MBC DEC09 180700 END DEC10 180400
N40209	I	Dec 12	2207	145	BEG YKA DEC08 164000 END DEC09 164100
N40210	I	Dec 12	2239	138	BEG YKA DEC09 164100 END DEC10 153400))
N40213	I	Dec 14	1621	34	BEG MBC DEC11 181800 END 180300
N40214	I	Dec 14	1628	70	BEG YKA DEC10 164300 END DEC11 154700)
N40215	I	Dec 14	1632	70	BEG GAC DEC12 125100 END DEC13 123630
N40216	R	Dec 14	1636	35	BEG GAC OCT15 122700 END OCT16 122000
					RET OF SECN1 N40002 AS REQUESTED BY WASHIDC
N40217	R	Dec 14	1645	74	BEG GAC OCT16 122100 END OCT17 120300
					RET OF SECN1 N40003 AS REQUESTED BY WASHIDC
N40219	R	Dec 14	1659	118	BEG GAC OCT17 120500 END OCT18 120100
					RET OF SECN1 N40005 AS REQUESTED BY WASHIDC
N40220	R	Dec 14	1705	80	BEG GAC NOV29 125700 END NOV30 123700
					RET OF SECN1 N40171 AS REQUESTED BY WASHIDC
N40222	R	Dec 14	1716	113	BEG YKA DEC01 171800 END DEC03 155600
					RET OF SECN1 N40191 AS REQUESTED BY WASHIDC
N40223	R	Dec 14	1723	106	BEG YKA DEC03 160100 END DEC04 155600)
					RET OF SECN1 N40192 AS REQUESTED BY STOCIDC
N40224	I	Dec 14	1956	68	BEG GAC DEC13 125200 END DEC14 130200)
N40225	I	Dec 14	2000	62	BEG MBC DEC12 180800 END DEC13 180600
N40226	I	Dec 16	211a	29	BEG GAC DEC14 123720 END DEC14 240000
N40227	I	Dec 16	2124	55	BEG YKA DEC11 155100 END DEC12 162000
N40228	I	Dec 16	2137	83	BEG MBC DEC13 181100 END DEC14 240000
N40229	I	Dec 16	2124	55	BEG YKA DEC11 155100 END DEC12 162000
N40229	I	Dec 16	2139	91	BEG YKA DEC12 162400 END DEC13 153200
N40230	I	Dec 18	2122	91	BEG YKA DEC13 153700 END DEC14 010000
N40231	I	Dec 18	2130	160	BEG YKA DEC14 010000 END DEC14 240000
N40232	R	Dec 19	1645	141	BEG YKA DEC09 164100 END DEC10 153400))
					RET OF SECN1 N40210, REPORTED MISSING BY
N40233	R	Dec 19	1652	24	BEG MBC DEC10 180800 END DEC11 180400
					RET OF SECN1 N40211, REPORTED MISSING BY
N40234	R	Dec 19	1655	61	BEG GAC DEC11 124300 END DEC12 123700)

RET OF SECN1 N40212, REPORTED MISSING BY

N47002	STA	Nov	18	1831	52
N47003	STA	Nov	26	204a	51
N47004	STA	Dec	20	1950	50
N470001	STA	Nov	2	204B	54

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Colombia
Sender's WMO/GTS header: SEC01 MCBO
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Comment Lines
N40003	I	Nov 16	2259	13

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Czechoslovakia
Sender's WMO/GTS header: SECZ1 OKPR
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	R	Oct 30	1309	119	BEG KHC OCT15 000000 END OCT15 240000
					BEG PRU OCT15 000000 END OCT15 240000
					RET OF N40001 AS REQUESTED BY N42014 MOSCIDS
N40002	I	Oct 17	1625	119	BEG KHC OCT16 000000 END OCT16 240000
					BEG PRU OCT16 000000 END OCT16 240000
N40005	I	Oct 22	1339	230	BEG KHC OCT19 000000 END OCT20 240000
					BEG PRU OCT19 000000 END OCT20 240000
N40006	I	Oct 23	1352	210	BEG KHC OCT21 000000 END OCT22 240000
					BEG PRU OCT21 000000 END OCT22 240000
N40008	I	Oct 25	0936	54	BEG KHC OCT24 000000 END OCT24 240000
					BEG PRU OCT24 000000 END OCT24 240000
N40009	I	Oct 26	1241	200	BEG KHC OCT25 000000 END OCT25 240000
					BEG PRU OCT25 000000 END OCT25 240000
N40010	R	Oct 27	1227	114	BEG KHC OCT18 000000 END OCT18 240000
					BEG PRU OCT18 000000 END OCT18 240000
					RET OF N40004 AS REQUESTED
N40011	I	Oct 29	1305	143	BEG PRU OCT26 000000 END OCT27 240000
N40012	I	Oct 29	1314	181	BEG KHC OCT26 000000 END OCT27 240000
N40013	I	Oct 30	1222	191	BEG KHC OCT28 000000 END OCT29 240000
					BEG PRU OCT28 000000 END OCT29 240000
N40014	R	Oct 31	1326	119	BEG KHC OCT15 000000 END OCT15 240000
					BEG PRU OCT15 000000 END OCT15 240000
					RET OF N40001 AS REQUESTED BY N42014 MOSCIDS
N40015	I	Oct 31	1248	137	BEG KHC OCT30 000000 END OCT30 240000
					BEG PRU OCT30 000000 END OCT30 240000
N40016	I	Nov 1	1200	123	BEG KHC OCT31 000000 END OCT31 240000
					BEG PRU OCT31 000000 END OCT31 240000
N40017	I	Nov 2	1205	152	BEG KHC NOV01 000000 END NOV01 240000
					BEG PRU NOV01 000000 END NOV01 240000
N40018	I	Nov 5	1309	116	BEG PRU NOV02 000000 END NOV03 240000
N40019	I	Nov 5	1326	197	BEG KHC NOV02 000000 END NOV03 240000
N40021	I	Nov 7	1209	69	BEG KHC NOV06 000000 END NOV06 240000
					BEG PRU NOV06 000000 END NOV06 240000
N40025	I	Nov 12	1328	126	BEG PRU NOV09 000000 END NOV10 240000
N40026	I	Nov 12	1345	169	BEG KHC NOV09 000000 END NOV10 240000
N40027	I	Nov 13	1044	128	BEG KHC NOV11 000000 END NOV12 240000
N40028	I	Nov 13	1402	101	BEG PRU NOV11 000000 END NOV12 240000
N40029	I	Nov 14	1050	72	BEG KHC NOV13 000000 END NOV13 240000
					BEG PRU NOV13 000000 END NOV13 240000
N40031	R	Nov 16	0930	130	BEG KHC NOV11 000000 END NOV12 240000
					RET OF SEISMO N40027 AS REQUESTED BY MOSCIDS
N40032	R	Nov 16	1022	74	BEG PRU NOV08 000000 END NOV08 240000
					RET OF SEISMO N40023 NOT RECEIVED BY COORDINATOR
N40033	R	Nov 16	1027	115	BEG KHC NOV08 000000 END NOV08 240000
					RET OF SEISMO N40023 NOT RECEIVED BY COORDINATOR
N40034	I	Nov 16	1320	170	BEG KHC NOV15 000000 END NOV15 240000
					BEG PRU NOV15 000000 END NOV15 240000

N40035	I	Nov 19	1500	123	BEG PRU NOV16 000000 END NOV17 240000
N40036	I	Nov 19	150a	93	BEG KHC NOV16 000000 END NOV17 240000
N40037	R	Nov 20	0852	121	BEG PRU NOV04 000000 END NOV05 240000
					RET OF SEISMO N40020 AND N40024 AS REQUESTED BY
N40038	R	Nov 20	0900	225	BEG KHC NOV04 000000 END NOV05 240000
					BEG KHC NOV04 000000 END NOV05 240000
					RET OF SEISMO N40020 AND N40024 AS REQUESTED BY
					RET OF SEISMO N40020 AND N40024 AS REQUESTED BY
N40039	I	Nov 20	1314	99	BEG PRU NOV18 000000 END NOV19 240000
N40040	I	Nov 20	1316	95	BEG KHC NOV18 000000 END NOV19 240000
N40041	I	Nov 21	1030	80	BEG KHC NOV20 000000 END NOV20 240000
					BEG PRU NOV20 000000 END NOV20 240000
N40042	I	Nov 22	1034	57	BEG KHC NOV21 000000 END NOV21 240000
					BEG PRU NOV21 000000 END NOV21 240000
N40043	R	Nov 23	0931	99	BEG KHC NOV07 000000 END NOV07 240000
					BEG PRU NOV07 000000 END NOV07 240000
					RET OF SEISMO N40022 AS REQUESTED BY WASHIDC
N40044	R	Nov 23	0847	71	BEG KHC NOV14 000000 END NOV14 240000
					BEG PRU NOV14 000000 END NOV14 240000
					RET OF SEISMO N40030 AS REQUESTED BY WASHIDC
N40045	I	Nov 23	1258	141	BEG KHC NOV22 000000 END NOV22 240000
					BEG PRU NOV22 000000 END NOV22 240000
N40046	I	Nov 26	1036	169	BEG KHC NOV23 000000 END NOV24 240000
					BEG PRU NOV23 000000 END NOV24 240000
N40049	I	Nov 27	142f	86	BEG PRU NOV25 000000 END NOV26 240000
N40050	I	Nov 27	142d	114	BEG KHC NOV25 000000 END NOV26 240000
N40051	I	Nov 28	103b	54	BEG KHC NOV27 000000 END NOV27 240000
					BEG PRU NOV27 000000 END NOV27 240000
N40052	I	Nov 29	103c	63	BEG KHC NOV28 000000 END NOV28 240000
					BEG PRU NOV28 000000 END NOV28 240000
N40053	I	Nov 30	1331	75	BEG KHC NOV29 000000 END NOV29 240000
					BEG PRU NOV29 000000 END NOV29 240000
N40054	R	Nov 30	1415	65	BEG PRU NOV23 000000 END NOV24 240000
					RET OF SECZ1 N40046 AS REQUESTED BY MOSCIDS
N40055	R	Dec 3	1022	95	BEG KHC NOV16 000000 END NOV17 240000
					RET OF SECZ1 N40036 AS REQUESTED BY
N40056	I	Dec 3	1040	131	BEG KHC NOV30 000000 END DEC01 240000
					BEG PRU NOV30 000000 END DEC01 240000
N40057	R	Dec 3	1103	84	BEG KHC NOV20 000000 END NOV20 240000
					BEG PRU NOV20 000000 END NOV20 240000
					RET OF SECZ1 N40041 AS REQUESTED BY COORD
N40058	R	Dec 3	122a	73	BEG KHC NOV14 000000 END NOV14 240000
					BEG PRU NOV14 000000 END NOV14 240000
					RET OF SECZ1 N40044 AS REQUESTED BY COORD
N40059	R	Dec 3	1229	82	BEG KHC NOV20 000000 END NOV20 240000
					BEG PRU NOV20 000000 END NOV20 240000
					RET OF SECZ1 N40047, WHICH WAS THE RETRANSMISSION
N40060	R	Dec 3	1242	71	BEG KHC NOV14 000000 END NOV14 240000
					BEG PRU NOV14 000000 END NOV14 240000
					RETRANMISSION OF SECZ1 N40048, WHICH WAS THE RET
N40061	I	Dec 4	1233	141	BEG KHC DEC02 000000 END DEC03 240000
N40062	I	Dec 4	1251	91	BEG PRU DEC02 000000 END DEC03 240000
N40063	R	Dec 4	1454	65	BEG KHC NOV28 000000 END NOV28 240000
					BEG PRU NOV28 000000 END NOV28 240000
					RET OF SECZ1 N40052 AS REQUESTED BY MOSCIDC
N40064	I	Dec 5	1314	89	BEG KHC DEC04 000000 END DEC04 240000

					BEG PRU DEC04 000000 END DEC04 240000
N40065	I	Dec 6	1335	153	BEG KHC DEC05 000000 END DEC05 240000
					BEG PRU DEC05 000000 END DEC05 240000
N40066	I	Dec 7	1326	108	BEG KHC DEC06 000000 END DEC06 240000
					BEG PRU DEC06 000000 END DEC06 240000
N40067	I	Dec 10	1229	87	BEG PRU DEC07 000000 END DEC08 240000
N40068	I	Dec 10	132b	157	BEG KHC DEC07 000000 END DEC08 240000
N40069	I	Dec 11	1220	93	BEG PRU DEC09 000000 END DEC10 240000
N40070	I	Dec 11	1236	158	BEG KHC DEC09 000000 END DEC10 240000
N40071	R	Dec 12	0700	67	BEG KHC NOV28 000000 END NOV28 240000
					BEG PRU NOV28 000000 END NOV28 240000
					RET OF SECZ1 N40052 AS REQUESTED BY MOSCIDC
					RET OF SECZ1 N40063 AS REQUESTED BY COORD
N40072	R	Dec 12	0745	71	BEG KHC NOV14 000000 END NOV14 240000
					BEG PRU NOV14 000000 END NOV14 240000
					RET OF SECZ1 N40030 AS REQUESTED BY
N40073	I	Dec 12	1256	94	BEG KHC DEC11 000000 END DEC11 240000
					BEG PRU DEC11 000000 END DEC11 240000
N40074	R	Dec 13	095a	117	BEG PRU OCT17 000000 END OCT17 240000
					BEG KHC OCT17 000000 END OCT17 240000
					RET OF SECZ1 N40003 AS REQUESTED BY
N40075	R	Dec 13	095b	107	BEG PRU OCT18 000000 END OCT18 240000
					BEG KHC OCT18 000000 END OCT18 240000
					RET OF SECZ1 N40004 AS REQUESTED BY
N40076	R	Dec 13	101a	145	BEG PRU OCT23 000000 END OCT23 240000
					BEG KHC OCT23 000000 END OCT23 240000
					RET OF SECZ1 N40007 AS REQUESTED BY
N40077	I	Dec 13	1139	86	BEG PRU DEC12 000000 END DEC12 240000
					BEG KHC DEC12 000000 END DEC12 240000
N40078	I	Dec 14	1303	80	BEG KHC DEC13 000000 END DEC13 240000
					BEG PRU DEC13 000000 END DEC13 240000
N40079	I	Dec 17	1027	101	BEG KHC DEC14 000000 END DEC14 240000
					BEG PRU DEC14 000000 END DEC14 240000
N47001	STA	Nov 1	1006	15	
N400007	I	Oct 24	1255	149	BEG KHC OCT23 000000 END OCT23 240000
					BEG PRU OCT23 000000 END OCT23 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Denmark
Sender's WMO/GTS header: SEDN1 EKMI
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40002	I	Oct 29	1544	70	BEG END
N40003	I	Nov 1	1449	83	BEG DAG OCT23 130000 END OCT26 240000
					BEG GDH OCT22 140600 END OCT25 142100
N40004	I	Nov 2	1310	72	BEG DAG OCT26 000000 END OCT27 240000
N40006	I	Nov 2	1636	77	BEG DAG OCT28 000000 END OCT30 130000
N40007	I	Nov 6	1330	65	BEG DAG OCT30 130500 END NOV03 130400
					BEG GDH OCT25 142900 END NOV01 132200
N40008	I	Nov 7	1508	136	BEG COP OOCT19 081700 END OCT26 000000
					BEG DAG NOV03 130900 END NOV05 123100
					BEG GDH NOV01 135400 END NOV05 134200
N40010	I	Nov 9	153a	61	BEG COP OCT27 000000 END OCT31 240000
N40012	I	Nov 13	1458	126	BEG COP NOV01 000000 END NOV12 084300
N40013	I	Nov 14	1207	34	BEG DAG NOV10 115400 END NOV12 124200
					BEG GDH NOV08 135100 END NOV12 135200
N40015	I	Nov 16	1356	18	BEG DAG NOV12 125100 END NOV14 124400
N40017	I	Nov 19	0958	25	BEG DAG NOV12 125100 END NOV14 124400
N40018	I	Nov 19	1144	29	BEG COP 12 NOV 084900 END 15 NOV 094100
N40019	I	Nov 19	1413	88	BEG DAG NOV14 125300 END NOV17 134800
					BEG GDH NOV12 135900 END NOV15 134600
N40020	I	Nov 20	1226	47	BEG COP NOV15 094100 END NOV18 092517
N40021	I	Nov 22	0914	166	BEG COP NOV18 091300 END NOV 20 084000
					BEG DAG NOV17 135500 END NOV19 424700
					BEG GDH NOV15 135200 END NOV19 141300
N40022	I	Nov 26	144a	105	BEG COP NOV20 085435 END NOV22 100343
					BEG DAG NOV19 125200 END NOV21 131800
N40023	I	Nov 27	130a	128	BEG COP NOV22 100600 END NOV23 114600
					BEG DAG NOV21 132300 END NOV24 125000
					BEG GDH NOV19 142000 END NOV22 130200
N40028	I	Dec 11	1359	67	BEG COP DEC07 101800 END DEC10 083500
					BEG DAG DEC05 121100 END DEC08 121400
N40029	I	Dec 12	1306	43	BEG COP DEC10 084100 END DEC 11084200
					BEG DAG DEC08 121900 END DEC10 12350
N40031	I	Dec 17	1419	8	BEG COP DEC14 090000 END DEC15 091400
N40032	R	Dec 27	133a	68	BEG COP DEC14 090000 END DEC15 000000
					BEG DAG DEC12 123900 END DEC15 000000
					RET OF N40031 AS REQUESTED BY STOCIDC
N40033	I	Dec 27	1433	12	BEG GDH DEC10 141000 END DEC14 240000
N50001	R	Jan 3	145b	90	BEG COP NOV29 085000 END DEC04 084000
					BEG DAG DEC01 125100 END DEC03 122500
					RET OF N40026
N50002	STA	Jan 3	1456	9	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): U.S.S.R.
Sender's WMO/GTS header: SERS1 RUMS
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N42123	R	Dec 21	1058	29	BEG HLW NOV24 0710 END NOV28 0713 RET OF SEEG1 N40013 BY MOSCIDC

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Finland
Sender's WMO/GTS header: SEFI1 EFKL
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	1515	117	BEG NUR OCT15 000000 END OCT15 240000 BEG SUF OCT15 000000 END OCT15 240000
N40002	I	Oct 17	1724	51	BEG NUR OCT16 000000 END OCT16 240000 BEG SUF OCT16 000000 END OCT16 240000
N40004	I	Oct 19	1248	75	BEG NUR OCT18 000000 END OCT18 240000 BEG SUF OCT18 000000 END OCT18 240000
N40005	I	Oct 23	0754	171	BEG NUR OCT19 000000 END OCT20 240000 BEG SUF OCT19 000000 END OCT20 240000
N40006	I	Oct 23	1414	119	BEG NUR OCT21 000000 END OCT22 240000 BEG SUF OCT21 000000 END OCT22 240000
N40007	I	Oct 24	1319	94	BEG NUR OCT23 000000 END OCT23 240000 BEG SUF OCT23 000000 END OCT23 240000
N40008	I	Oct 25	1143	64	BEG NUR OCT24 000000 END OCT24 240000 BEG SUF OCT24 000000 END OCT24 240000
N40009	I	Oct 26	1311	111	BEG NUR OCT25 000000 END OCT25 240000 BEG SUF OCT25 000000 END OCT25 240000
N40010	I	Oct 29	1451	231	BEG NUR OCT26 000000 END OCT27 240000 BEG SUF OCT26 000000 END OCT27 240000
N40011	I	Oct 30	1316	150	BEG NUR OCT28 000000 END OCT29 240000 BEG SUF OCT28 000000 END OCT29 240000
N40012	I	Oct 31	1221	40	
N40013	I	Oct 31	1239	70	BEG NUR OCT30 000000 END OCT30 240000 BEG SUF OCT30 000000 END OCT30 240000
N40014	I	Nov 1	1318	44	BEG NUR OCT31 000000 END OCT31 240000 BEG SUF OCT31 000000 END OCT31 240000
N40015	I	Nov 2	1203	88	BEG NUR NOV01 000000 END NOV01 240000 BEG SUF NOV01 000000 END NOV01 240000
N40017	I	Nov 6	1418	110	BEG NUR NOV04 000000 END NOV05 240000 BEG SUF NOV04 000000 END NOV05 240000
N40018	R	Nov 7	1237	65	BEG OCT24 000000 END OCT24 240000 BEG SUF OCT24 000000 END OCT24 240000 RET OF N40008 AS REQUESTED
N40019	I	Nov 7	1504	44	BEG NUR NOV06 000000 END NOV06 240000 BEG SUF NOV06 END NOV06 240000
N40020	I	Nov 8	1349	50	BEG NUR NOV07 000000 END NOV07 240000)) BEG SUF NOV07 000000 END NOV07 240000))
N40021	I	Nov 9	150a	87	BEG NUR NOV08 000000 END NOV08 240000)) BEG SUF NOV08 E000000 END NOV08 240000))
N40022	I	Nov 12	1514	116	BEG NUR NOV09 000000 END NOV10 240000 BEG SUF NOV09 000000 END NOV10 240000
N40023	I	Nov 13	1459	138	BEG NUR NOV11 000000END NOV12 240000 BEG SUF NOV11 000000 END NOV12 240000
N40024	I	Nov 14	1244	43	BEG NUR NOV13 000000 END NOV13 240000 BEG SUF NOV13 000000 END NOV13 240000
N40025	I	Nov 15	1509	79	BEG NUR NOV14 000000 END NOV14 240000) BEG SUF NOV14 000000 END NOV14 240000
N40026	I	Nov 16	1244	63	BEG NUR NOV15 000000 END NOV15 240000

					BEG SUF NOV15 000000 END NOV15 240000
N40027	I	Nov 19	1810	223	BEG NUR NOV16 000000 END NOV17 240000
					BEG SUF NOV16 000000 END NOV17 240000
N40028	I	Nov 20	1424	164	BEG NUR NOV18 000000 END NOV19 240000
					BEG SUF NOV18 000000 END NOV19 240000
N40029	I	Nov 21	1509	83	BEG NUR NOV20 000000 END NOV20 240000
					BEG SUF NOV20 END NOV20 240000
N40030	I	Nov 22	1504	52	BEG NUR NOV21 000000 END NOV21 240000
					BEG SUF NOV21 000000 END NOV21 240000
N40031	I	Nov 23	1506	130	BEG NUR NOV22 000000 END NOV22 240000
					BEG SUF NOV22 000000 END NOV22 240000
N40032	I	Nov 26	1509	109	BEG NUR NOV23 000000 END NOV34 240000
					BEG SUF NOV23 000000 END NOV24 240000
N40033	I	Nov 27	151b	125	BEG NUR NOV25 000000 END NOV26240000
					BEG SUF NOV25 000000 END NOV26 240000
N40034	I	Nov 28	122a	50	BEG NUR NOV27 000000 END NOV27 240000
					BEG SUF NOV27 000000 END NOV27240000
N40035	I	Nov 29	1508	72	BEG NUR NOV28 000000 END NOV28 240000
					BEG SUF NOV28 000000 END NOV28 240000
N40036	I	Nov 30	1252	67	BEG NUR NOV29 000000 END NOV29 240000
					BEG SUF NOV29 000000 END NOV29 240000
N40037	I	Dec 3	1507	151	BEG NUR NOV30 000000 END DEC01 240000
					BEG SUF NOV30 000000 END DEC01 240000
N40038	I	Dec 4	1430	154	BEG NUR DEC02 000000 END DEC03 240000
					BEG SUF DEC02 000000 END DEC03 240000
N40039	I	Dec 5	1251	66	BEG NUR DEC04 000000 END DCE04 240000
					BEG SUF DEC04 000000 END DEC04 240000
N40040	I	Dec 7	121a	118	BEG NUR DEC05 000000 END DEC06 240000
					BEG SUF DEC05 000000 END DEC06 240000
N40041	I	Dec 10	151a	170	BEG NUR DEC07 000000 END DEC08 240000
					BEG SUF DEC07 000000 END DEC08 240000
N40042	I	Dec 11	1423	80	BEG NUR DEC09 000000 END DEC10 240000
					BEG SUF DEC09 000000 END DEC10 240000
N40043	I	Dec 12	130b	52	BEG NUR DEC11 000000 END DEC11 240000
					BEG SUF DEC11 000000 END DEC11 240000
N40044	I	Dec 13	1310	70	BEG NUR DEC12 000000 END DEC12 240000
					BEG SUF DEC12 000000END DEC12 240000
N40044	I	Dec 13	131a	70	BEG NUR DEC12 000000 END DEC12 240000
					BEG SUF DEC12 000000END DEC12 240000
N40045	I	Dec 14	131b	60	BEG NUR DEC13 000000 END DEC13 240000
					BEG SUF DEC13 000000 END DEC13 240000
N40046	I	Dec 17	150a	77	BEG NUR DEC14 000000 END DEC14240000
					BEG SUF DEC14 000000 END DEC14 240000
N40047	R	Dec 19	1035	85	BEG SUF OCT17 000000 END OCT17 240000
					RET OF N40003 AS REQUESTED
N40048	R	Dec 19	1210	112	BEG NOV02 000000 END NOV03 240000
					BEG SUF NOV02 000000 END NOV03 240000
					RET OF N40016 AS REQUESTED
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N47001	STA	Oct 25	1202	22	
N47002	STA	Nov 6	1509	25	
N47003	STA	Nov 26	1441	20	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): France
Sender's WMO/GTS header: SEFR1 LFPW
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
NN40081	R	Dec 5	0856	49	BEG LOR NOV13 00000 END NOV13 240000
					RET OF N40043 AS REQUESTED BY SEUS10
					RET OF N40060 AS REQUESTED BY SESN1
N40009	R	Oct 24	1657	57	BEG LOR OCT15 00000 END OCT15 240000
					RET OF N40001 AS REQUESTED BY SESN1
N40011	R	Oct 24	1643	57	BEG LOR OCT15 00000 END OCT15 240000
					RET OF N40001 AS REQUESTED BY SEUS10
N40012	R	Oct 24	1646	36	BEG LOR OCT16 00000 END OCT16 240000
					RET OF N40002 AS REQUESTED BY SEUS10
N40013	R	Oct 24	1652	50	BEG LOR OCT17 00000 END OCT17 240000
					RET OF N40003 AS REQUESTED BY SEUS10
N40014	R	Oct 24	1655	61	BEG LOR OCT18 00000 END OCT18 240000
					RET OF N40004 AS REQUESTED BY SEUS10
N40015	R	Oct 25	1326	86	BEG LOR OCT20 00000 END OCT20 240000
					RET OF N40006 AS REQUESTED BY SEUS10
N40016	I	Oct 25	1332	40	BEG LOR OCT24 00000 END OCT24 240000
N40017	I	Oct 26	1454	127	BEG LOR OCT25 00000 END OCT25 240000
N40018	I	Oct 30	1326	113	BEG LOR OCT26 00000 END OCT26 240000
N40019	I	Oct 30	1332	93	BEG LOR OCT27 00000 END OCT27 240000
N40020	I	Oct 31	0825	46	BEG LOR OCT28 00000 END OCT28 240000
N40021	R	Oct 31	084A	79	BEG LOR OCT21 00000 END OCT21 240000
					RET OF N40007 AS REQUESTED BY SESN1
N40022	R	Oct 31	0847	58	BEG LOR OCT23 00000 END OCT23 240000
					RET OF N40010 AS REQUESTED BY SESN1
N40023	R	Oct 31	0844	87	BEG LOR OCT20 00000 END OCT20 240000
					RET OF N40006 AS REQUESTED BY SEUS10
					RET OF N40015 AS REQUESTED BY SESN1
N40024	I	Oct 31	1245	81	BEG LOR OCT29 00000 END OCT29 24000
N40025	R	Nov 2	1158	50	BEG LOR OCT22 00000 END OCT22 240000
					RET OF N40008 AS REQUESTED BY SEUS10
N40026	I	Nov 2	1200	100	BEG LOR OCT30 00000 END OCT30 240000
N40027	I	Nov 2	1213	52	BEG LOR OCT31 00000 END OCT31 240000
N40028	I	Nov 5	1501	64	BEG LOR NOV01 00000 END NOV01 240000
N40029	I	Nov 5	1504	80	BEG LOR NOV02 00000 END NOV02 240000
N40032	I	Nov 7	1240	84	BEG LOR NOV05 00000 END NOV05 240000
N40033	I	Nov 7	1355	56	BEG LOR NOV06 00000 END NOV06 240000
N40034	I	Nov 8	1415	49	BEG LOR NOV07 00000 END NOV07 240000))
N40036	I	Nov 12	1318	52	BEG LOR NOV09 00000 END NOV09 240000
N40037	I	Nov 13	123b	95	BEG LOR NOV10 00000 END NOV10 240000
N40038	I	Nov 13	1233	50	BEG LOR NOV11 00000 END NOV11 240000
N40044	I	Nov 15	1413	50	BEG LOR NOV14 00000 END NOV14 240000
N40045	I	Nov 16	130a	76	BEG LOR NOV15 00000 NOV15 240000
N40046	I	Nov 19	1317	48	BEG LOR NOV16 00000 END NOV16 240000
N40047	I	Nov 21	1316	89	BEG LOR NOV17 00000 END NOV17 120000
N40053	R	Nov 26	102b	57	BEG LOR NOV03 00000 END NOV03 240000
					RET OF N40030 AS REQUESTED BY SEUS10
N40054	R	Nov 26	0945	44	BEG LOR NOV04 000000 END NOV04 240000

					RET OF N40031 AS REQUESTED BY SEUS10
N40055	R	Nov 26	1021	66	BEG LOR NOV08 000000 END NOV08 240000
					RET OF N40035 AS REQUESTED BY SEUS10
N40055	R	Nov 26	102c	59	BEG LOR NOV08 00000 END NOV08 240000
					RET OF N40035 AS REQUESTED BY SEUS10
N40057	R	Nov 26	102a	8	RET OF N40030 AS REQUESTED BY SESN1
N40061	I	Nov 26	130a	88	BEG LOR NOV22 000000 END NOV22 240000
N40062	I	Nov 27	1241	94	BEG LOR NOV23 000000 END NOV23 240000
N40065	I	Nov 28	1440	44	BEG LOR NOV26 000000 END NOV26 240000
N40066	I	Nov 28	1435	33	BEG LOR NOV27 000000 END NOV27 240000
N40067	I	Nov 30	0924	66	BEG LOR NOV28 000000 END NOV28 240
N40069	R	Dec 3	1239	59	BEG LOR NOV12 00000 END NOV12 240000
					RET OF N40039 AS REQUESTED BY SESN1
N40070	R	Dec 3	1251	59	BEG LOR NOV03 00000 END NOV03 240000
					RET OF N40030 AS REQUESTED BY SESN1
					RET OF N40040 AS REQUESTED BY SESN1
N40071	R	Dec 3	1258	45	BEG LOR NOV04 00000 END NOV04 240000
					RET OF N40031 AS REQUESTED BY SESN1
					RET OF N40041 AS REQUESTED BY SESN1
N40072	R	Dec 3	1259	67	BEG LOR NOV08 00000 END NOV08 240000
					RET OF N40035 AS REQUESTED BY SESN1
					RET OF N40042 AS REQUESTED BY SESN1
N40073	R	Dec 3	1307	48	BEG LOR NOV13 00000 END NOV13 240000
					RET OF N40043 AS REQUESTED BY SESN1
N40074	R	Dec 3	130c	78	BEG LOR NOV15 00000 NOV15 240000
					RET OF N40045 AS REQUESTED BY SESN1
N40075	I	Dec 4	0851	71	BEG LOR NOV29 00000 END NOV29 240000
N40076	I	Dec 4	1345	56	BEG LOR NOV30 00000 END NOV30 240000
N40077	I	Dec 4	134a	26	BEG LOR DEC01 00000 END DEC01 240000
N40078	R	Dec 5	0832	59	BEG LOR NOV12 00000 END NOV12 240000
					RET OF N40056 AS REQUESTED BY SESN1
N40079	R	Dec 5	0834	46	BEG LOR NOV04 00000 END NOV04 240000
					RET OF N40031 AS REQUESTED BY SESN1
					RET OF N40041 AS REQUESTED BY SEUS10
					RET OF N40058 AS REQUESTED BY SESN1
N40080	R	Dec 5	0858	68	BEG LOR NOV08 00000 END NOV08 240000
					RET OF N40035 AS REQUESTED BY SESN1
					RET OF N40042 AS REQUESTED BY SEUS10
					RET OF N40059 AS REQUESTED BY SESN1
N40082	R	Dec 5	0900	38	BEG LOR NOV24 00000 END NOV24 240000
					RET OF N40063 AS REQUESTED BY SESN1
N40083	R	Dec 5	0902	25	BEG LOR NOV25 00000 END NOV25 240000
					RET OF N40064 AS REQUESTED BY SESN1
N40084	R	Dec 5	1325	67	BEG LOR NOV08 00000 END NOV08 240000
					RET OF N40035 AS REQUESTED BY SESN1
					RET OF N40068 AS REQUESTED BY SESN1
N40085	I	Dec 6	1415	64	BEG LOR DEC02 000000 END DEC02 240000
N40086	I	Dec 6	150b	73	BEG LOR DEC03 00000 END DEC03 240000
N40088	I	Dec 7	1606	60	BEG LOR DEC05 000000 END DEC05 240000
N40090	I	Dec 10	1452	86	BEG LOR DEC07 00000 END DEC07 240000
N40092	R	Dec 11	1120	82	BEG LOR NOV10 00000 END NOV10 240000
					RET OF N40037 AS REQUESTED BY SEUS10
N40093	R	Dec 11	112a	27	BEG LOR NOV11 00000 END NOV11 240000
					RET OF N40038 AS REQUESTED BY SEUS10
N40094	R	Dec 11	1122	51	BEG LOR NOV14 00000 END NOV14 240000
					RET OF N40044 AS REQUESTED BY SEUS10

N40095	R	Dec 11 1124	79	BEG LOR NOV15 00000 NOV15 240000 RET OF N40045 AS REQUESTED BY SEUS10
N40096	R	Dec 11 1125	49	BEG LOR NOV16 00000 END NOV16 240000 RET OF N40046 AS REQUESTED BY SEUS10
N40097	R	Dec 11 1131	77	BEG LOR NOV17 00000 END NOV17 120000 RET OF N40047 AS REQUESTED BY SEUS10
N40098	I	Dec 11 1445	63	BEG LOR DEC08 00000 END DEC08 240000
N40099	I	Dec 11 154a	41	BEG LOR DECO 000000 END DEC09 24000
N40101	I	Dec 12 1527	51	BEG LOR DEC11 00000 END DEC11 240000
N40102	I	Dec 13 151a	51	BEG LOR DEC12 000000 END DEC12 240000
N40105	R	Dec 21 093a	73	BEG LOR NOV17 120000 END NOV17 240000 RET OF N40048 AS REQUESTED BY SEUS10 AND SERS1
N40106	R	Dec 21 093b	45	BEG LOR NOV18 00000 END NOV18 240000 RET OF N40049 AS REQUESTED BY SEUS10 AND SERS1
N40107	R	Dec 21 0944	65	BEG LOR NOV19 00000 END NOV19 240000 RET OF N40050 AS REQUESTED BY SEUS10 AND SERS1
N40108	R	Dec 21 0935	53	BEG LOR NOV20 00000 END NOV20 240000 RET OF N40051 AS REQUESTED BY SEUS10 AND SERS1
N40112	R	Dec 21 0950	32	BEG LOR NOV04 00000 END NOV04 240000))9 A43630.8 T RET OF N40031 AS REQUESTED BY SESN1 RET OF N40041 AS REQUESTED BY SEUS10 RET OF N40058 AS REQUESTED BY SERS1
N40114	R	Dec 21 1001	49	BEG LOR NOV13 00000 END NOV13 240000 RET OF N40043 AS REQUESTED BY SEUS10 RET OF N40060 AS REQUESTED BY SERS1
N40115	R	Dec 21 100a	38	BEG LOR NOV24 00000 END NOV24 240000 RET OF N40063 AS REQUESTED BY SERS1
N40117	R	Dec 21 1002	50	BEG LOR NOV13 00000 END NOV13 240000 RET OF N40043 AS REQUESTED BY SEUS10 RET OF N40060 AS REQUESTED BY SESN1 RET OF N40081 AS REQUESTED BY SEUS10
N47001	STA	Nov 9 0900	17	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): France
Sender's WMO/GTS header: SEFR20 LFPW
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40005	I	Oct 22	1410	88	BEG LOR OCT19 000000 END OCT19 24000
N40006	I	Oct 31	0425	52	BEG PMO OCT29 170000 END OCT30 180000
N40008	I	Nov 3	040A	51	BEG PMO OCT31 180000 END NOV02 180000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): French Polynesia
Sender's WMO/GTS header: SEPF01 NTAA
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40006	I	Oct 31	0425	52	BEG PMO OCT29 170000 END OCT30 180000
N40008	I	Nov 3	040A	51	BEG PMO OCT31 180000 END NOV02 180000
N40015	I	Nov 15	0142	19	BEG PMO NOV13 180000 END NOV14 180000
N40017	I	Nov 17	0102	30	BEG PMO NOV15 180000 END NOV16 180000
N40018	I	Nov 20	044a	37	BEG PMO NOV16 180000 END NOV19 180000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): French Polynesia
Sender's WMO/GTS header: SEPF02 NTAA
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40016	I	Nov 16	0207	36	BEG PMO NOV14 180000 END NOV15 180000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): German Dem. Rep.
Sender's WMO/GTS header: SEDD1 ETPD
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	1408	51	BEG MOX OCT15 000000 END OCT16 051000
N40002	I	Oct 17	1729	26	BEG MOX OCT16 051100 END OCT17 050300
N40003	I	Oct 18	1009	28	BEG MOX OCT17 050400 END OCT18 044500
N40004	I	Oct 19	1330	53	BEG MOX OCT18 044600 END OCT19 043800
N40005	I	Oct 22	1326	94	BEG MOX OCT19 043900 END OCT22 050500
N40008	I	Oct 26	1413	54	BEG MOX OCT25 051000 END OCT26 050300
N40009	I	Oct 29	1301	85	BEG MOX OCT26 050400 END OCT29 043000
N40010	R	Oct 30	0900	39	BEG MOX OCT22 050700 END OCT23 050400
					BEG MOX OCT23 050400 END OCT25 050900
					RET OF N40006 AND N40007 AS REQUESTED
N40011	I	Oct 30	1419	52	BEG MOX OCT29 043100 END OCT30 034500
N40012	I	Oct 31	1214	30	BEG MOX OCT30 034600 END OCT31 042900
N40013	I	Nov 1	1515	38	BEG MOX OCT31 043000 END NOV01 055300
N40014	I	Nov 2	1210	43	BEG MOX NOV01 055500 END NOV02 043100
N40015	I	Nov 5	1315	67	BEG MOX NOV02 043100 END NOV05 044500
N40016	I	Nov 6	1210	23	BEG MOX NOV05 044500 END NOV06 050800
N40017	I	Nov 7	1329	39	BEG MOX NOV06 050900 END NOV07 051300
N40019	I	Nov 9	1402	36	BEG MOX NOV08 051300 END NOV09 050200))
N40020	I	Nov 12	1307	102	BEG MOX NOV09 050300 END NOV12 050800
N40021	I	Nov 13	1304	27	BEG MOX NOV12 050800 END NOV13 050400
N40022	I	Nov 14	1214	16	BEG MOX NOV13 050400 END NOV14 050400
N40023	I	Nov 16	1208	57	BEG MOX NOV14 050500 END NOV16 050100
N40024	I	Nov 19	1422	105	BEG MOX NOV16 050200 END NOV19 050300
N40025	I	Nov 20	1305	18	BEG MOX NOV19 050400 END NOV20 044500
N40026	I	Nov 21	1309	24	BEG MOX NOV20 044600 END NOV21 044500
N40028	I	Nov 23	0759	22	BEG MOX NOV07 051400 END NOV08 051300
N40029	I	Nov 23	1322	43	BEG MOX NOV22 044400 END NOV23 044800
N40030	I	Nov 26	1319	51	BEG MOX NOV23 044900 END NOV26 044600
N40033	I	Nov 30	1227	22	BEG MOX NOV29 050600 END NOV30 045200
N40034	I	Dec 3	1207	61	BEG MOX NOV30 045300 END DEC03 050800
N40036	I	Dec 4	1347	24	BEG MOX DEC03 050900 END DEC04 050900
N40037	R	Dec 5	0728	41	BEG MOX NOV26 044700 END NOV27 050900
					BEG MOX NOV27 051000 END NOV29 050500
					RET OF N40031 AND N40032 AS REQUESTED BY MOSCIDC
N40038	I	Dec 5	1015	20	BEG MOX DEC04 051000 END DEC05 050600
N40040	I	Dec 7	1420	31	BEG MOX DEC06 050900 END DEC07 050100
N40041	I	Dec 10	1335	66	BEG MOX DEC07 050200 END DEC10 050900
N40042	I	Dec 12	1008	28	BEG MOX DEC10 050900 END DEC12 045900
N40046	I	Dec 14	1223	35	BEG MOX DEC13 051200 END DEC14 050700
N40047	I	Dec 17	0759	22	BEG MOX DEC14 050800 END DEC14 240000
N47002	STA	Oct 27	1838	43	
N47003	RET	Nov 13	1502	12	RET REQUEST TO WASHIDC
N47004	STA	Nov 14	1404	44	
N47007	RET	Nov 30	1432	10	RET REQUEST TO STOCIDC
N47008	RET	Nov 30	1438	10	RET REQUEST TO WASHIDC
N47010	RET	Dec 6	1357	10	RET REQUEST TO WASHIDC
N47011	RET	Dec 6	1419	9	RET REQUEST TO STOCIDC

N47013	STA	Dec	14	122a	10	
N47014	STA	Dec	14	1224	10	
N47015	STA	Dec	14	1226	10	
N47016	RET	Dec	14	142b	10	RET REQUEST TO COORD

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): German Fed. Rep.
Sender's WMO/GTS header: SEDL1 EDZW
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40002	I	Oct 19	1314	92	BEG GRF OCT16 000000 END OCT16 240000
N40003	I	Oct 20	0942	117	BEG GRF OCT17 000000 END OCT17 240000
N40004	I	Oct 20	1339	153	BEG GRF OCT18 000000 END OCT18 240000
N40005	I	Oct 20	1547	137	BEG GRF OCT19 000000 END OCT19 240000
N40006	I	Oct 22	1520	136	BEG GRF OCT20 000000 END OCT20 240000
N40007	I	Oct 23	1532	147	BEG GRF OCT21 000000 END OCT21 240000
N40008	I	Oct 23	1544	110	BEG GRF OCT22 000000 END OCT22 240000
N40010	R	Oct 25	0948	138	BEG GRF OCT20 000000 END OCT20 240000 RET OF N40006 AS REQUESTED
N40011	I	Oct 25	1436	151	BEG GRF OCT24 000000 END OCT24 240000
N40012	I	Oct 26	1702	236	BEG GRF OCT25 000000 END OCT25 240000
N40013	R	Oct 29	1532	139	BEG GRF OCT15 000000 END OCT15 240000 RET OF N40001 AS REQUESTED
N40014	R	Oct 29	1538	143	BEG GRF OCT19 000000 END OCT19 240000 RET OF N40005 AS REQUESTED
N40015	I	Oct 29	1810	25	BEG GRF OCT26 000000 END OCT26 240000
N40016	R	Oct 30	0807	111	BEG GRF OCT23 000000 END OCT23 240000 RET OF N40009 AS REQUESTED BY WASHIDC
N40017	I	Oct 30	1359	166	BEG GRF OCT27 000000 END OCT27 240000
N40018	I	Oct 30	1502	81	BEG GRF OCT28 000000 END OCT28 240000
N40019	I	Oct 31	0900	184	BEG GRF OCT29 000000 END OCT29 240000
N40020	I	Nov 1	0931	131	BEG GRF OCT30 000000 END OCT30 240000
N40021	I	Nov 1	133B	123	BEG GRF OCT31 000000 END OCT31 240000
N40023	I	Nov 3	1637	226	BEG GRF NOV02 000000 END NOV02 240000
N40026	R	Nov 6	1354	203	BEG GRF NOV01 000000 END NOV01 240000 RET OF N40022 AS REQUESTED BY MOSCIDC
N40027	I	Nov 6	1740	151	BEG GRF NOV05 000000 END NOV05 240000
N40028	I	Nov 8	1621	124	BEG GRF NOV06 000000 END NOV06 240000))
N40028	I	Nov 9	0815	123	BEG GRF NOV06 000000 END NOV06 240000))
N40029	I	Nov 9	1333	161	BEG GRF NOV07 000000 END GRF NOV07 240000))
N40030	I	Nov 9	1826	250	BEG GRF NOV08 000000 END NOV08 240000
N40031	R	Nov 11	1048	51	BEG GRF NOV03 000000 END NOV03 240000 RET OF N40024 AS REQUESTED BY WASHIDC
N40032	R	Nov 11	1103	113	BEG GRF NOV04 000000 END NOV04 240000 RET OF N40025 AS REQUESTED BY WASHIDC
N40033	I	Nov 11	1335	205	BEG GRF NOV09 000000 END NOV09 240000
N40034	I	Nov 12	1510	170	BEG GRF NOV10 000000 END NOV10 240000
N40035	I	Nov 13	0818	96	BEG GRF NOV11 000000 END NOV11 240000
N40036	I	Nov 14	0922	202	BEG GRF NOV12 000000 END NOV12 240000
N40037	I	Nov 14	1728	172	BEG GRA NOV13 000000 END NOV13 240000
N40038	I	Nov 15	1457	145	BEG GRF NOV14 000000 END NOV14 240000
N40039	I	Nov 16	1850	231	BEG GRF NOV15 000000 END NOV15 240000
N40040	I	Nov 19	0851	127	BEG GRF NOV16 000000 END NOV16 240000
N40041	I	Nov 20	1121	270	BEG GRF NOV17 000000 END NOV17 240000
N40042	I	Nov 20	1332	99	BEG GRF NOV18 000000 END NOV18 240000
N40043	I	Nov 20	160a	177	BEG GRF NOV19 000000 END NOV19 240000
N40044	I	Nov 22	1436	168	BEG GRF NOV20 000000 END NOV20 240000

N40045	I	Nov	22	1723	167	BEG GRF NOV21 000000 END NOV21 240000
N40046	I	Nov	23	1444	235	BEG GRF NOV22 000000 END NOV22 240000
N40047	I	Nov	26	1457	201	BEG GRF NOV23 000000 END NOV23 240000
N40048	I	Nov	26	1617	96	BEG GRF NOV24 000000 END NOV24 240000
N40049	I	Nov	26	1628	40	BEG GRF NOV25 000000 END NOV25 240000
N40050	I	Nov	27	112m	169	BEG GRF NOV26 000000 END NOV26 240000
N40051	I	Nov	28	095a	86	BEG GRF NOV27 000000 END NOV27 240000
N40052	I	Nov	29	141b	209	BEG GRF NOV28 000000 END NOV28 240000
						BEG GRF NOV28 000000 END NOV28 240000
N40053	I	Nov	30	1620	89	BEG GRF NOV29 000000 END NOV29 240000
N40054	R	Dec	3	1003	265	BEG GRF NOV17 000000 END NOV17 240000
						RET OF N40041 AS REQUESTED BY MOSCIDC
N40055	I	Dec	3	1101	89	BEG GRF NOV30 000000 END NOV30 240000
N40056	I	Dec	3	1432	70	BEG GRF DEC01 000000 END DEC01 240000
N40057	I	Dec	3	1656	173	BEG GRF DEC02 000000 END DEC02 240000
N40058	I	Dec	5	0959	266	BEG GRF DEC03 000000 END DEC03 240000
N40059	I	Dec	5	1311	237	BEG GRF DEC04 000000 END DEC04 240000
N40060	I	Dec	7	0910	161	BEG GRF DEC05 000000 END DEC05 240000
N40061	I	Dec	7	131a	156	BEG GRF DEC06 000000 END DEC06 240000
N40063	I	Dec	10	1500	152	BEG GRF DEC08 000000 END DEC08 240000
N40064	I	Dec	10	1544	72	BEG GRF DEC09 000000 END DEC09 240000
N40065	I	Dec	11	1404	150	BEG GRF DEC10 000000 END DEC10 240000
N40066	I	Dec	12	1359	159	BEG GRF DEC11 000000 END DEC11 240000
N40067	I	Dec	14	0909	152	BEG GRF DEC12 000000 END DEC12 240000
N40068	I	Dec	14	151b	189	BEG GRF DEC13 000000 END DEC13 240000
N40069	I	Dec	17	1506	196	BEG GRF DEC14 000000 END DEC14 240000
N40070	R	Dec	19	1102	249	BEG GRF DEC07 000000 END DEC07 240000
						RET OF N40062 AS REQUESTED BY WASHIDC
N47001	STA	Oct	31	1008	68	
N47002	R	Oct	31	1048	61	RET OF N47001 AS IT WAS GARBLED DURING SENDING
N47004	STA	Nov	14	1930	64	
N47005	STA	Nov	15	0724	62	
N47005	STA	Nov	27	1040	62	
N47006	STA	Nov	15	1018	11	
N47007	STA	Nov	20	0827	11	
N47008	STA	Nov	20	0830	11	
N47009	STA	Nov	26	0637	9	
N47012	STA	Nov	29	0712	16	
N47014	STA	Dec	4	1053	76	
N47015	STA	Dec	10	1013	13	
N47016	STA	Dec	12	1102	54	
N47017	STA	Dec	13	1031	17	
N47018	STA	Dec	17	0840	11	
N47019	R	Dec	19	1031	64	RET OF N47010
N47020	R	Dec	19	1037	16	RET OF N47011
N47021	R	Dec	19	1103	18	RET OF N47013
N47022	STA	Dec	20	0855	57	
N47023	STA	Dec	20	1040	30	
N420001	STA	Nov	9	1016	10	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Hungary
Sender's WMO/GTS header: SEHU1 HABP
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N4001	I	Oct 16	1640	65	BEG BUD OCT15 000000 END OCT15 240000
					BEG JOS OCT15 000000 END OCT15 240000
					BEG PSZ OCT15 000000 END OCT15 240000
N4002	I	Oct 17	1712	46	BEG BUD OCT16 000000 END OCT16 240000
					BEG JOS OCT16 000000 END OCT16 240000
					BEG PSZ OCT16 000000 END OCT16 240000
N40003	I	Oct 18	1556	70	BEG BUD OCT17 000000 END OCT17 240000
					BEG JOS OCT17 000000 END OCT17 240000
					BEG PSZ OCT17 000000 END OCT17 240000
N40004	I	Oct 19	1414	71	BEG BUD OCT18 000000 END OCT18 240000
					BEG JOS OCT18 000000 END OCT18 240000
					BEG PSZ OCT18 000000 END OCT18 240000
N40005	I	Oct 22	1507	79	BEG BUD OCT19 000000 END OCT19 240000
					BEG JOS OCT19 000000 END OCT19 240000
					BEG PSZ OCT19 000000 END OCT19 240000
N40006	I	Oct 22	1603	58	BEG BUD OCT20 000000 END OCT20 240000
					BEG JOS OCT20 000000 END OCT20 240000
					BEG PSZ OCT20 000000 END OCT20 240000
N40007	I	Oct 23	1434	76	BEG BUD OCT21 000000 END OCT21 240000
					BEG JOS OCT21 000000 END OCT21 240000
					BEG PSZ OCT21 000000 END OCT21 240000
N40009	I	Oct 24	1452	52	BEG BUD OCT23 000000 END OCT23 240000
					BEG JOS OCT23 000000 END OCT23 240000
					BEG PSZ OCT23 000000 END OCT23 240000
N40010	I	Oct 25	1401	64	BEG BUD OCT24 000000 END OCT24 240000
					BEG JOS OCT24 000000 END OCT24 240000
					BEG PSZ OCT24 000000 END OCT24 240000
N40011	I	Oct 26	1415	98	BEG BUD OCT25 000000 END OCT25 240000
					BEG JOS OCT25 000000 END OCT25 240000
					BEG PSZ OCT25 000000 END OCT25 240000
N40012	I	Oct 29	1604	57	BEG BUD OCT26 000000 END OCT26 240000
					BEG JOS OCT26 000000 END OCT26 240000
					BEG PSZ OCT26 000000 END OCT26 240000
N40013	I	Oct 29	1608	112	BEG BUD OCT27 000000 END OCT27 240000
					BEG JOS OCT27 000000 END OCT27 240000
					BEG PSZ OCT27 000000 END OCT27 240000
N40014	I	Oct 31	1237	47	BEG BUD OCT28 000000 END OCT28 240000
					BEG JOS OCT28 000000 END OCT28 240000
					BEG PSZ OCT28 000000 END OCT28 240000
N40015	I	Oct 30	1538	63	BEG BUD OCT29 000000 END OCT29 240000
					BEG JOS OCT29 000000 END OCT29 240000
					BEG PSZ OCT29 000000 END OCT29 240000
N40017	I	Oct 31	1410	113	BEG BUD OCT30 000000 END OCT30 240000
					BEG JOS OCT30 000000 END OCT30 240000
					BEG PSZ OCT30 000000 END OCT30 240000
N40018	I	Nov 1	1523	62	BEG BUD OCT31 000000 END OCT31 240000
					BEG JOS OCT31 000000 END OCT31 240000

					BEG PSZ OCT31 000000 END OCT31 240000
N40019	I	Nov 2	1403	91	BEG BUD NOV01 000000 END NOV01 240000
					BEG JOS NOV01 000000 END NOV01 240000
					BEG PSZ NOV01 000000 END NOV01 240000
N40020	R	Nov 2	1416	45	BEG BUD OCT28 000000 END OCT28 240000
					BEG JOS OCT28 000000 END OCT28 240000
					BEG PSZ OCT28 000000 END OCT28 240000
					RET OF N40014 AS REQUESTEDB MOSCIDS
N40021	I	Nov 5	1437	72	BEG BUD NOV02 000000 END NOV02 240000
					BEG JOS NOV02 000000 END NOV02 240000
					BEG PSZ NOV02 000000 END NOV02 240000
N40022	I	Nov 5	1441	47	BEG BUD NOV03 000000 END NOV03 240000
					BEG JOS NOV03 000000 END NOV03 240000
					BEG PSZ NOV03 000000 END NOV03 240000
N40023	I	Nov 6	1337	50	BEG BUD NOV04 000000 END NOV04 240000
					BEG JOS NOV04 000000 END NOV04 240000
					BEG PSZ NOV04 000000 END NOV04 240000
N40024	I	Nov 6	1338	55	BEG BUD NOV05 000000 END NOV05 240000
					BEG JOS NOV05 000000 END NOV05 240000
					BEG PSZ NOV05 000000 END NOV05 240000
N40025	I	Nov 7	1401	69	BEG BUD NOV06 000000 END NOV06 240000
					BEG JOS NOV06 000000 END NOV06 240000
					BEG PSZ NOV06 000000 END NOV06 240000
N40031	I	Nov 13	1417	62	BEG BUD NOV11 000000 END NOV11 240000
					BEG JOS NOV11 000000 END NOV11 240000
					BEG PSZ NOV11 000000 END NOV11 240000
N40032	I	Nov 13	1421	82	BEG BUD NOV12 000000 END NOV12 240000
					BEG JOS NOV12 000000 END NOV12 240000
					BEG PSZ NOV12 000000 END NOV12 240000
N40033	I	Nov 14	1405	46	BEG BUD NOV13 000000 END NOV13 240000
					BEG JOS NOV13 000000 END NOV13 240000
					BEG PSZ NOV13 000000 END NOV13 240000
N40034	R	Nov 14	1359	54	BEG BUD OCT22 000000 END OCT22 240000
					BEG JOS OCT22 000000 END OCT22 240000
					BEG PSZ OCT22 000000 END OCT22 240000
					RET OF N40008 AS REQUESTED BY STOCIDC
N40035	I	Nov 15	1403	86	BEG BUD NOV14 000000 END NOV14 240000
					BEG JOS NOV14 000000 END NOV14 240000
					BEG PSZ NOV14 000000 END NOV14 240000
N40036	I	Nov 16	1337	100	BEG BUD NOV15 000000 END NOV15 240000
					BEG JOS NOV15 000000 END NOV15 240000
					BEG PSZ NOV15 000000 END NOV15 240000
N40037	I	Nov 19	1423	61	BEG BUD NOV16 000000 END NOV16 240000
					BEG JOS NOV16 000000 END NOV16 240000
					BEG PSZ NOV16 000000 END NOV16 240000
N40039	I	Nov 20	1423	49	BEG BUD NOV18 000000 END NOV18 240000
					BEG JOS NOV18 000000 END NOV18 240000
					BEG PSZ NOV18 000000 END NOV18 240000
N40040	I	Nov 20	1329	38	BEG BUD NOV19 000000 END NOV19 240000
					BEG JOS NOV19 000000 END NOV19 240000
					BEG PSZ NOV19 000000 END NOV19 240000
N40041	I	Nov 21	1403	53	BEG BUD NOV20 000000 END NOV20 240000
					BEG JOS NOV20 000000 END NOV20 240000
					BEG PSZ NOV20 000000 END NOV20 240000
N40042	I	Nov 22	1400	33	BEG BUD NOV21 000000 END NOV21 240000
					BEG JOS NOV21 000000 END NOV21 240000

					BEG PSZ NOV21 000000 END NOV21 240000
N40046	I	Nov 27	142g	26	BEG BUD NOV25 000000 END NOV25 240000
					BEG JOS NOV25 000000 END NOV25 240000
					BEG PSZ NOV25 000000 END NOV25 240000
N40047	I	Nov 27	142h	32	BEG BUD NOV26 000000 END NOV26 240000
					BEG JOS NOV26 000000 END NOV26 240000
					BEG PSZ NOV26 000000 END NOV26 240000
N40048	R	Nov 27	142i	100	BEG BUD NOV17 000000 END NOV17 240000
					BEG JOS NOV17 000000 END NOV17 240000
					BEG PSZ NOV17 000000 END NOV17 240000
					RET OF N40038 AS REQUESTED BY STOCIDC
N40049	I	Nov 28	115a	53	BEG BUD NOV27 000000 END NOV27 240000
					BEG JOS NOV27 000000 END NOV27 240000
					BEG PSZ NOV27 000000 END NOV27 240000
N40050	I	Nov 29	1355	54	BEG BUD NOV28 000000 END NOV28 240000
					BEG JOS NOV28 000000 END NOV28 240000
					BEG PSZ NOV28 000000 END NOV28 240000
N40051	I	Nov 30	123a	32	BEG BUD NOV29 000000 END NOV29 240000
					BEG JOS NOV29 000000 END NOV29 240000
					BEG PSZ NOV29 000000 END NOV29 240000
N40052	R	Nov 30	1319	100	BEG BUD NOV17 000000 END NOV17 240000
					BEG JOS NOV17 000000 END NOV17 240000
					BEG PSZ NOV17 000000 END NOV17 240000
					RET OF N40038 AS REQUESTED BY MOSCIDC
N40054	I	Dec 3	1302	27	BEG BUD NOV30 000000 END NOV30 240000
					BEG PSZ NOV30 000000 END NOV30 240000
N40055	I	Dec 3	130d	18	BEG BUD DEC01 000000 END DEC01 240000
					BEG PSZ DEC01 000000 END DEC01 240000
N40056	I	Dec 4	1240	72	BEG BUD DEC02 000000 END DEC02 240000
					BEG JOS NOV30 000000 END DEC02 240000
					BEG PSZ DEC02 000000 END DEC02 240000
N40057	I	Dec 4	1241	51	BEG BUD DEC03 000000 END DEC03 240000
					BEG JOS DEC03 000000 END DEC03 240000
					BEG PSZ DEC03 000000 END DEC03 240000
N40058	R	Dec 5	1100	90	BEG BUD NOV22 000000 END NOV22 240000
					BEG JOS NOV22 000000 END NOV22 240000
					BEG PSZ NOV22 000000 END NOV22 240000
					RET OF N40043 AS REQUESTED BY MOSCIDC
					RET OF N40053 AS REQUESTED BY STOCIDC
N40059	I	Dec 5	1258	80	BEG BUD DEC04 000000 END DEC04 240000
					BEG JOS DEC04 000000 END DEC04 240000
					BEG PSZ DEC04 000000 END DEC04 240000
N40060	I	Dec 6	1314	56	BEG BUD DEC05 000000 END DEC05 240000
					BEG JOS DEC05 000000 END DEC05 240000
					BEG PSZ DEC05 000000 END DEC05 240000
N40061	I	Dec 7	1245	80	BEG BUD DEC06 000000 END DEC06 240000
					BEG JOS DEC06 000000 END DEC06 240000
					BEG PSZ DEC06 000000 END DEC06 240000
N40062	I	Dec 10	1300	73	BEG BUD DEC07 000000 END DEC07 240000
					BEG JOS DEC07 000000 END DEC07 240000
					BEG PSZ DEC07 000000 END DEC07 240000
N40063	I	Dec 10	1400	99	BEG BUD DEC08 000000 END DEC08 240000
					BEG BUD DEC08 000000 END DEC08 240000
					BEG JOS DEC08 000000 END DEC08 240000
					BEG JOS DEC08 000000 END DEC08 240000
					BEG PSZ DEC08 000000 END DEC08 240000

N40064	I	Dec 11 1231	18	BEG BUD DEC09 000000 END DEC09 240000
				BEG PSZ DEC09 000000 END DEC09 240000
N40065	I	Dec 11 1313	32	BEG BUD DEC10 000000 END DEC10 240000
				BEG JOS DEC09 000000 END DEC10 240000
				BEG PSZ DEC10 000000 END DEC10 240000
N40067	I	Dec 13 1300	38	BEG BUD DEC12 000000 END DEC12 240000
				BEG JOS DEC12 000000 END DEC12 240000
				BEG PSZ DEC12 000000 END DEC12 240000
N40067	I	Dec 13 1301	38	BEG BUD DEC12 000000 END DEC12 240000
				BEG JOS DEC12 000000 END DEC12 240000
				BEG PSZ DEC12 000000 END DEC12 240000
N40068	I	Dec 14 1032	44	BEG BUD DEC13 000000 END DEC13 240000
				BEG JOS DEC13 000000 END DEC13 240000
				BEG PSZ DEC13 000000 END DEC13 240000
N40069	I	Dec 17 1300	26	BEG BUD DEC14 000000 END DEC14 240000
				BEG JOS DEC14 000000 END DEC14 240000
				BEG PSZ DEC14 000000 END DEC14 240000
N40070	R	Dec 19 122a	75	BEG BUD DEC11 000000 END DEC11 240000
				BEG JOS DEC11 000000 END DEC11 240000
				BEG PSZ DEC11 000000 END DEC11 240000
				RET OF N40066 AS REQUESTED BY MOSCIDC
N47002	STA	Oct 19 1438	25	
N47003	STA	Oct 23 1200	23	
N47004	STA	Oct 26 1431	32	
N47005	STA	Oct 29 1607	18	
N47006	STA	Nov 2 1430	67	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): India
Sender's WMO/GTS header: SEIN1 DEMS
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
NRPPYQK	I	Dec 17	0520	64	BEG GBA DEC14 000000 END DEC14 240000
N40029	I	Nov 14	103a	45	BEG GBA NOV12 000000 END NOV12 240000
N40030	I	Nov 15	0616	56	BEG GBA NOV13 000000 END NOV13 240000
N40031	I	Nov 16	0819	38	BEG GBA NOV14 000000 EN
N40032	I	Nov 19	0848	54	BEG GBA NOV15 000000 END NOV15 240000
N40033	I	Nov 19	082b	39	BEG GBA NOV16 000000 END NOV16 240000
N40033	I	Nov 19	0835	39	BEG GBA NOV16 000000 END NOV16 240000
N40034	I	Nov 20	044a	178	BEG GBA NOV17 000000 END NOV17 240000
N40034	I	Nov 20	0516	178	BEG GBA NOV17 000000 END NOV17 240000
N40036	I	Nov 21	0722	47	BEG GBA NOV19 000000 END NOV19 240000
N40037	I	Nov 22	0825	64	BEG GBA NOV20 000000 END NOV20 240000
N40038	I	Nov 26	1033	42	BEG GBA NOV21 000000 END NOV21 240000
N40039	I	Nov 27	0533	117	BEG GBA NOV 22 000000 END NOV22 240000
N40040	I	Nov 27	0630	69	BEG GBA NOV23 000000 END NOV23 240000
N40041	I	Nov 27	0541	37	BEG GBA NOV24 000000 END NOV24 240000
N40042	I	Nov 27	0642	41	BEG GBA NOV25 000000 END NOV25 240000
N40044	I	Nov 29	0717	31	BEG GBA NOV27 000000 END NOV27 240000
N40045	I	Nov 30	0802	61	BEG GBA NOV28 000000 END NOV28 240000
N40046	I	Dec 4	0741	46	BEG GBA NOV29 000000 END NOV29 240000
N40047	I	Dec 4	0747	68	BEG GBA NOV30 000000 END NOV30 240000
N40048	I	Dec 4	0739	40	BEG GBA DEC01 000000 END DEC01 240000
N40050	I	Dec 5	1124	81	BEG GBA DEC03 000000 END DEC03 240000
N40051	I	Dec 6	0508	38	BEG GBA DEC04 000000 END DEC04 240000
N40052	I	Dec 7	0714	55	BEG GBA DEC05 000000 END DEC05 240000
N40053	I	Dec 10	0523	39	BEG GBA DEC06 000000 END DEC06 240000
N40054	I	Dec 10	0530	67	BEG GBA DEC07 000000 END DEC07 240000
N40055	I	Dec 10	053a	57	BEG GBA DEC08 000000 END DEC08 240000
N40056	I	Dec 11	0553	57	BEG GBA DEC09 000000 END DEC09 240000
N40056	I	Dec 11	0622	57	BEG GBA DEC09 000000 END DEC09 240000
N40057	I	Dec 12	0455	54	BEG GBA DEC10 000000 END DEC10 240000
N40058	I	Dec 13	1219	48	BEG GBA DEC11 000000 END DEC11 240000
N40059	I	Dec 14	0827	37	BEG GBA DEC12 000000 END DEC12 240000
N40060	I	Dec 17	0435	84	BEG GBA DEC13 000000 END DEC13 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Indonesia
Sender's WMO/GTS header: SEID1 WIIX
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N0012	I	Oct 29	0456	26	BEG JAY OCT 27 0002 END OCT 28 0001
					BEG KUG OCT 27 0002 END OCT 28 0001
					BEG PSI OCT 28 0002 END OCT 29 0001
N0012	I	Oct 29	0457	26	BEG JAY OCT 27 0002 END OCT 28 0001
					BEG KUG OCT 27 0002 END OCT 28 0001
					BEG PSI OCT 28 0002 END OCT 29 0001
N40001	I	Oct 15	0456	51	BEG AAI OCT 12 0002 END OCT 13 0004
					BEG JAY OCT 11 0009 END OCT 12 0006
					BEG KLI OCT 12 0002 END OCT 13 0004
					BEG PSI OCT 11 0002 END OCT 12 0004
					BEG PSI OCT 12 0003 END OCT 13 0004
N40008	I	Oct 23	0547	30	BEG AAI OCT 22 0006 END OCT 23 0002
					BEG JAY OCT 22 0009 END OCT 23 0003
					BEG PSI OCT 22 00 08 END OCT 23 00 02
N40008	I	Oct 23	0622	30	BEG AAI OCT 22 0006 END OCT 23 0002
					BEG JAY OCT 22 0009 END OCT 23 0003
					BEG PSI OCT 22 00 08 END OCT 23 00 02
N40009	I	Oct 24	0529	30	BEG JAY OCT. 23 00.04 END OCT. 24 00.06
					BEG KUG OCT. 23 00.04 END OCT. 24 00.06
					BEG PSI OCT 23 00.04 END OCT 24 00.06
					BEG TRT OCT .23 00.04 END OCT. 24 00.06
N40011	I	Oct 26	0534	40	BEG AAI OCT 25 0005 END OCT 26 0002
					BEG JAY OCT 24 0009 END OCT 25 0002
					BEG JAY OCT 25 0005 END OCT 26 0005
					BEG KUG OCT 25 0005 END OCT 26 0002
					BEG PSI OCT 25 0005 END OCT 26 0002
					BEG TRT OCT 25 0005 END OCT 26 0002
N40011	I	Oct 26	0535	40	BEG AAI OCT 25 0005 END OCT 26 0002
					BEG JAY OCT 24 0009 END OCT 25 0002
					BEG JAY OCT 25 0005 END OCT 26 0005
					BEG KUG OCT 25 0005 END OCT 26 0002
					BEG PSI OCT 25 0005 END OCT 26 0002
					BEG TRT OCT 25 0005 END OCT 26 0002
N40014	I	Oct 30	0514	37	BEG AAI OCT 29.00.02 END OCT 30 00.01
					BEG JAY OCT 29 00.02 END OCT.30 00.01
					BEG PSI OCT 29 00.02 END OCT 30 00.01
					BEG TRT OCT .29 00.02 END OCT 30 00.01
N40014	I	Oct 30	0515	37	BEG AAI OCT 29.00.02 END OCT 30 00.01
					BEG JAY OCT 29 00.02 END OCT.30 00.01
					BEG PSI OCT 29 00.02 END OCT 30 00.01
					BEG TRT OCT .29 00.02 END OCT 30 00.01
N40015	I	Oct 31	0515	41	BEG KUG OCT 29 0005END OCT 30 0002
					BEG KUG OCT 30 0005 END OCT 31 0002
					BEG PSI OCT 30 0003 END OCT 31 0002
					BEG TRT OCT 30 0005 END OCT 31 0002
N40017	I	Nov 2	0533	36	BEG JAY NOV 01 00.03 END NOV 02 00.01
					BEG KUG NOV 01 00.03 END NOV 02 00.01

					BEG PSI NOV 01 00.03 END NOV 02 00.01
					BEG TRT NOV 01 00.03 END NOV 02 00.01
N40018	I	Nov 3	0530	23	BEG PSI NOV 02 0003 END NOV 03 0001
					BEG TRT NOV 02 0003 END NOV 03 0001
N40019	I	Nov 5	0542	22	BEG AAI NOV 04 0002 END NOV 05 0001
					BEG TRT NOV 04 0002 END NOV 05 0001
N40019	I	Nov 6	0602	27	BEG AAI NOV 05 0004 END NOV 06 0001
					BEG KUG NOV 05 0005 END NOV 060002
N40022	I	Nov 9	0455	22	BEG AAI NOV 08 00.03 END NOV 09 00.01))
					BEG KUG NOV 08 00.03 END NOV 09 00.01))
					BEG TRT NOV 08 00.03 END NOV 09 00.01))
N40023	I	Nov 10	0640	15	BEG TRT NOV 09 0003 END NOV10 0001
N40024	I	Nov 12	0528	29	BEG AAI NOV 07 0003 END NOV 08 0001
					BEG AAI NOV 10 0003 END NOV 11 0001
					BEG AAI NOV 11 0003 END NOV 12 0001
					BEG KUG NOV 11 0003 END NOV 12 0001
					BEG TRT NOV 10 0003 END NOV 11 0001
N40025	I	Nov 13	0545	27	BEG AAI NOV120005 END NOV130002
					BEG KUG NOV12 0005 END NOV13 0002
					BEG TRT NOV12 0005 END NOV13 0002
N40026	I	Nov 14	0622	7	BEG AAI NOV 13 0005 END NOV 14 000
N40029	I	Nov 17	0616	12	BEG TRT NOV 16 0003 END NOV 17 0001
N40030	I	Nov 19	0557	47	BEG AAI NOV 16 0002 END NOV 17 0001
					BEG AAI NOV 17 0002 END NOV 18 0001
					BEG AAI NOV 18 0002 END NOV 19 0001
					BEG KUG NOV 14 0002 END NOV 15 0001
					BEG KUG NOV 17 0002 END NOV 18 0001
					BEG TRT NOV 17 0002 END NOV 18 0001
					BEG TRT NOV 18 0002 END NOV 19 0001
N40031	I	Nov 20	0538	21	BEG AAI NV 19 0005 END NOV 20 0002
					BEG KUG NOV 19 0004 END NOV 20 0002
					BEG TRT NOV 19 0005 END NOV 20 0002
N40033	I	Nov 23	0519	29	BEG PSI NOV 22 0003 END NOV 23 0001
					BEG PSI NOV 22 0003 END NOV 23 0001)
N40034	I	Nov 24	1157	25	BEG AAI NOV 23 0005 END NOV 24 0002
					BEG PSI NOV 23 0003 END NOV 24 0001
N40039	I	Nov 30	0524	19	BEG AAI NOV 28 0002 END NOV 29 0001
					BEG PSI NOV 29 0005 END NOV 30 0001
N40040	I	Dec 1	0638	20	BEG AAI NOV 30 0003 END DEC 01 0001
					BEG PSI NOV 30 0003 END DEC 01 0001
N40043	I	Dec 6	0653	33	BEG AAI DEC 05 0002 END DEC 06 0001
					BEG KSI DEC 04 0002 END DEC 05 0001
					BEG KSI DEC 05 0002 END DEC 06 0001
					BEG PSI DEC 04 0002 END DEC 05 0001
					BEG PSI DEC 05 0002 END DEC 06 0001
N40045	I	Dec 8	0550	28	BEG AAI DEC 07 0003 END DEC 08 0001
					BEG JAY DEC 07 0003 END DEC 08 0001
					BEG KSI DEC 07 0003 END DEC 08 0001
N40046	I	Dec 10	0550	62	BEG AAI DEC 08 0002 END DEC 09 0001
					BEG AAI DEC 09 0002 END DEC 10 0001
					BEG AAI DEC 09 0002 END DEC 10 0001
					BEG JAY DEC 08 0002 END DEC 09 0001
					BEG JAY DEC 09 0002 END DEC 10 0001
					BEG JAY DEC 09 0002 END DEC 10 0001
					BEG KSI DEC 09 0002 END DEC 10 0001
					BEG KSI DEC 09 0002 END DEC 10 0001

				BEG PSI DEC 07 0002 END DEC 08 0001
				BEG PSI DEC 09 0002 END DEC 10 0001
				BEG PSI DEC 09 0002 END DEC 10 0001
N40047	I	Dec 11 0542	22	BEG AAI DEC 09 0004 END DEC10 0002
				BEG AAI DEC 10 0004 END DEC 11 0001
				BEG JAY DEC 10 0005 END DEC 11 0002
				BEG PSI DEC 10 0004 END DEC 11 0002
N40048	I	Dec 12 0547	19	BEG AAI DEC 11 0003 END DEC 12 0001
				BEG PSI DEC 11 0005 END DEC 12 0001
N40049	I	Dec 13 0530	16	BEG AAI DEC 12 0004 END DEC 13 0001
				BEG KSI DEC 11 0004 END DEC 12 0001

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Iran
Sender's WMO/GTS header: None (telex)
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
	I	Oct 24	0831	136	
N40006	I	Oct 29	1144	29	
N40007	I	Oct 29	1145	16	
N40008	I	Oct 29	1146	22	
N40011	I	Nov 2	1404	28	
N40012	I	Nov 5	1131	49	
N40013	I	Nov 13	0800	49	
N40014	I	Nov 13	0801	39	
N40014	I	Nov 13	0802	38	
N40015	I	Nov 13	0810	37	
N40016	I	Nov 13	0807	50	
N40019	I	Nov 26	0833	55	
N40020	I	Nov 26	0834	47	
N40021	I	Dec 3	0901	44	
N40022	I	Dec 3	0854	41	
N40023	I	Dec 3	0900	44	
N40024	I	Dec 4	0813	41	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Ireland
Sender's WMO/GTS header: SEIE1 EIDB
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40004	I	Oct 25	105A	16	BEG DKM OCT24 000000 END OCT24 240000
N40005	I	Oct 26	1430	30	BEG DKM OCT25 000000 END OCT25 240000
N40006	I	Oct 29	1432	44	BEG DKM OCT26 000000 END OCT28 240000
N40007	I	Oct 30	123A	45	BEG DKM OCT29 000000 END OCT29 240000
N40011	I	Nov 5	1131	21	BEG DKM NOV02 000000 END NOV04 240000
N40012	I	Nov 6	1045	23	BEG DKM NOV05 000000 END NOV05 240000
N40013	I	Nov 7	1347	34	BEG DKM NOV06 000000 END NOV06 240000
N40014	I	Nov 8	1328	18	BEG DKM NOV07 000000 END NOV07 240000))
N40015	I	Nov 9	1220	13	BEG DKM NOV08 000000 END NOV08 240000))
N40016	I	Nov 12	1334	24	BEG DKM NOV09 000000 END NOV11 240000
N40017	I	Nov 13	1545	19	BEG DKM NOV 12 000000 END NOV 12 240000
N40018	I	Nov 14	1543	20	BEG DKM NOV13 000000 END NOV13 240000
N40019	I	Nov 15	124b	22	BEG DKM NOV14 000000 END NOV14 240000
N40020	I	Nov 16	1225	26	BEG DKM NOV15 000000 END NOV15 240000
N40021	I	Nov 19	1717	43	BEG DKM NOV16 000000 END NOV17 240000
N40023	I	Nov 21	1236	42	BEG DKM NOV20 000000 END NOV20 240000
N40024	I	Nov 22	1038	13	BEG DKM NOV21 000000 END NOV21 240000
N40025	I	Nov 23	1150	27	BEG DKM NOV22 000000 END NOV22 240000
N40026	R	Nov 23	1253	52	BEG DKM NOV18 000000 END NOV19 240000
					RET OF N40022 AS REQUESTED BY WASHIDC, SEUS10
N40028	I	Nov 27	1138	28	BEG DKM NOV26 000000 END NOV26 240000
N40029	I	Nov 28	1019	15	
N40031	I	Nov 30	125b	21	BEG DKM NOV29 000000 END NOV29 240000
N40032	I	Dec 3	134b	46	BEG DKM NOV30 000000 END DEC02 240000
N40033	I	Dec 4	122d	17	BEG DKM DEC03 000000 END DEC03 240000
N40034	R	Dec 4	1229	42	BEG DKM NOV23 000000 END NOV25 240000
					RET OF N40027 AS REQUESTED BY STOC IDC N42114
N40035	I	Dec 5	1549	41	BEG DKM DEC04 000000 END DEC04 240000
N40036	R	Dec 5	1550	49	BEG DKM NOV28 000000 END NOV28 240000
					BEG DKM NOV29 000000 END NOV29 240000
					RET OF N40030,N40031 AS REQUESTED BY MOSCIDC N4207
N40037	I	Dec 6	1222	16	BEG DKM DEC05 000000 END DEC05 240000
N40038	I	Dec 7	1721	26	BEG DKM DEC06 000000 END DEC06 240000
N40040	I	Dec 11	1318	14	BEG DKM DEC10 000000 END DEC10 240000
N40041	I	Dec 13	1441	31	BEG DKM DEC11 000000 END DEC12 240000
N40043	I	Dec 17	1242	9	BEG DKM DEC14 000000 END DEC14 240000
N40044	R	Dec 20	1239	20	BEG DKM DEC13 000000 END DEC13 240000
					RET OF N40042 AS REQUESTED BY MOSCIDC N42115
N47001	STA	Nov 5	1307	29	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N47002	STA	Nov 12	1331	23	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N47003	STA	Nov 19	1533	24	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N47004	STA	Nov 26	1128	25	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N47006	STA	Dec 3	1137	25	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N47008	STA	Dec 17	1250	26	STATUS SUMMARY OF MESSAGES RECEIVED IN IRELAND
N400010	I	Nov 2	1521	46	BEG DKM NOV01 000000 END NOV01 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Italy
Sender's WMO/GTS header: SEIY1 LIIB
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N0011	I	Oct 30	1059	36	BEG MNS OCT28 061900 END OCT29 061800) BEG RMP OCT28 075500 END OCT29 074000)
N40001	I	Oct 16	1251	32	BEG MNS COT 15 000000 END OCT15 240000 BEG RMP OCT15 000000 END OCT15 240000)
N40002	I	Oct 17	1710	25	BEG MNS OCT16 000000 END OCT16 240000) BEG RMP OCT16 000000 END OCT16 240000)
N40003	I	Oct 22	1153	31	BEG MNS OCT17 000000 END OCT18 063000) BEG RMP OCT17 000000 END OCT18 073000)
N40004	I	Oct 19	1324	55	BEG MNS OCT18 063000 END OCT19 064500) BEG RMP OCT18 075000 END OCT19 073000)
N40005	I	Oct 22	1157	49	BEG MNS OCT19 064500 END OCT20 06220 BEG RMP OCT19 073000 END OCT20 071000)
N40006	I	Oct 24	1246	95	
N40007	I	Oct 25	1249	53	BEG MNS OCT23 063400 END OCT24 065800) BEG RMP OCT23 073300 END OCT24 074500)
N40008	I	Oct 27	0851	37	BEG MNS OCT24 060000 END OCT25 062030) BEG RMP OCT24 075000 END OCT25 072300)
N40009	I	Oct 27	1421	64	BEG MNS OCT25 062300 END OCT26 061900)
N40012	I	Oct 30	1330	43	BEG MNS OCT29 061800 END OCT30 060000) BEG RMP OCT29 074000 END OCT30 065800)
N40013	I	Oct 31	2043	51	BEG MNS OCT30 060000 END OCT31 060500) BEG RMP OCT30 070000 END OCT31 074000)
N40014	I	Nov 2	1157	31	BEG MNS OCT31 060700 END NOV01 061900) BEG RMP OCT31 074100 END NOV01 061900)
N40015	I	Nov 3	1241	76	BEG MNS NOV01 061900 END NOV03 055000) BEG RMP NOV01 062000 END NOV01 070200)
N40016	I	Nov 5	1219	31	BEG MNS NOV03 055000 END NOV05 061200) BEG RMP NOV03 070200 END NOV05 073900)
N40016	I	Nov 7	1318	46	BEG MNS NOV05 061200 END NOV07 062800) BEG RMP NOV05 073900 END NOV07 075800)
N40019	I	Nov 8	1317	37	BEG MNS NOV07 063100 END NOV08 053300)) BEG RMP NOV07 080000 END NOV08 074300))
N40020	I	Nov 10	1120	45	BEG MNS NOV08 053500 END NOV09 055100) BEG RMP NOV08 074500 END NOV09 075300)
N40022	I	Nov 13	1227	58	BEG MNS NOV10 062100 END NOV13 055100) BEG RMP NOV10 074500 END NOV13 074400)
N40023	I	Nov 14	1222	10	BEG RMP NOV13 074500 END NOV14 071700)
N40024	R	Nov 15	1023	85	BEG MNS OCT26 062100 END OCT28 061700) BEG RMP OCT26 073500 END OCT28 075500) RET OF N40010 AND N40011)
N40024	R	Nov 16	0927	83	BEG MNS OCT28 061900 END OCT29 061800) BEG RMP OCT26 073500 END OCT28 075500) BEG RMP OCT28 075500 END OCT29 074000) RET OF N40010 AND N40011)
N40025	I	Nov 15	1358	25	BEG MNS NOV14 055300 END NOV15 060600) BEG RMP NOV14 071800 END NOV15 074500)
N40025	I	Nov 16	092a	25	BEG MNS NOV14 055300 END NOV15 060600)

					BEG RMP NOV14 071800 END NOV15 074500)
N40026	I	Nov 17	1121	20	BEG RMP NOV15074720 END NOV17 074100)
N40027	I	Nov 21	201a	90	BEG MNS NOV17 060400 END NOV19 054600)
					BEG RMP NOV17 074300 END NOV19 074000)
N40027	I	Nov 22	0732	89	BEG MNS NOV17 060400 END NOV19 054600)
					BEG RMP NOV17 074300 END NOV19 074000)
N40028	I	Nov 22	1256	31	BEG MNS NOV19 054800 END NOV 21 063000
					BEG RMP NOV19 074300 END NOV21 070500)
N40028	I	Nov 23	0744	31	BEG MNS NOV19 054800 END NOV 21 063000
					BEG RMP NOV19 074300 END NOV21 070500)
N40030	I	Nov 27	122a	38	BEG MNS NOV24 064300 END NOV27 063600)
					BEG RMP NOV24 074500 END NOV27 074700)
N40030	I	Nov 28	0930	30	BEG MNS NOV24 064300 END NOV27 063600)
					BEG RMP NOV24 074500 END NOV27 074700)
N40032	I	Dec 4	1224	47	BEG MNS NOV28 054900 END NOV30 240000)
					BEG RMP NOV27 075000 END NOV30 240000)
N40033	I	Dec 4	122b	56	BEG MNS DEC01 000000 END DEC03 061400)
					BEG RMP DEC01 000000 END DEC03 075000)
N40033	I	Dec 5	0752	45	BEG MNS DEC01 000000 END DEC03 061400)
					BEG RMP DEC01 000000 END DEC03 075000)
N40034	I	Dec 5	1542	21	BEG MNS DEDC03 061600 END DEC04 061400
					BEG RMP DEC03 075100 END DEC04 074000)
N40035	R	Dec 7	0817	92	BEG MNS NOV21 063000 END NOV24 063000)
					BEG RMP NOV21 070500 END NOV24 074300)
					RET OF N40029 AS REQUESTED)
N40036	I	Dec 7	081a	48	BEG MNS DEC04 061600 END DEC06 062500)
					BEG RMP DEC04 075100 END DEC06 074500)
N40037	I	Dec 7	1201	34	BEG MNS DEC06 062700 END DEC07 062100)
					BEG RMP DEC06 074700 END DEC06 075400)
N40038	I	Dec 10	1449	79	BEG MNS DEC07 062200 END DEC09 055700)
					BEG RMP DEC07 075500 END DEC09 074000)
N40038	I	Dec 11	0729	64	BEG MNS DEC07 062200 END DEC09 055700)
					BEG RMP DEC07 075500 END DEC09 074000)
N40039	I	Dec 12	0754	37	BEG MNS DEC09 055745 END DEC11 060800)
					BEG RMP DEC08 081500 END DEC11 073100)
N40040	I	Dec 12	1453	40	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40040	I	Dec 13	0741	32	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40040	I	Dec 13	074a	32	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40040	I	Dec 13	0752	32	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40040	I	Dec 13	0753	32	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40040	I	Dec 13	075a	32	BEG MNS DEC11 061000 END DEC12 060500)
					BEG RMP DEC11 073300 END DEC12 074500)
N40041	I	Dec 13	1338	34	BEG MNS DEC12 060600 END DEC12 054200)
					BEG RMP DEC12 074700 END DEC13 075000)
N40041	I	Dec 13	133c	34	BEG MNS DEC12 060600 END DEC12 054200)
					BEG RMP DEC12 074700 END DEC13 075000)
N40041	I	Dec 13	1344	27	BEG MNS DEC12 060600 END DEC12 054200)
					BEG RMP DEC12 074700 END DEC13 075000)
N40041	I	Dec 14	0736	27	BEG MNS DEC12 060600 END DEC12 054200)
					BEG RMP DEC12 074700 END DEC13 075000)
N40042	R	Dec 15	0937	13	BEG MNS NOV27 063800 END NOV28 054700)

					RET OF N40031 AS REQUESTED)
N40043	I	Dec 15	1335	34	BEG MNS DEC13 054300 END DEC14 240000)
					BEG RMP DEC13 075400 END DEC14 240000)
N40044	R	Jan 4	0732	35	BEG MNS DEC12 060600 END DEC13 054200)
					BEG RMP DEC12 074700 END DEC13 075000)
					RET OF N40041 AS REQUESTED BY MOSCIDC
N40069	I	Dec 17	1327	19	BEG JOS DEC14 000000 END DEC14 240000)
					BEG PSZ DEC14 000000 END DEC14 240000)
					BEGB UDDE 140000 0
N42003	RET	Oct 19	2256	18	RET REQUEST WASHIDC
N47001	STA	Oct 30	1000	33	
N47002	STA	Nov 5	1319	28	
N47003	STA	Nov 12	0927	18	
N47003	STA	Nov 12	092a	18	
N47003	STA	Nov 12	1011	19	
N47004	STA	Nov 20	0741	15	
N47005	STA	Nov 27	095b	13	
N47005	STA	Nov 28	093c	13	
N47006	STA	Dec 4	1003	12	
N47006	STA	Dec 5	0754	12	
N47007	STA	Dec 10	0726	19	
N47008	STA	Dec 17	0709	19	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Japan
Sender's WMO/GTS header: SEJP1 RJTD
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	0256	26	BEG OCT14000000 END OCT14240000
N40002	I	Oct 17	0109	23	BEG OCT15000000 END OCT15240000
N40003	I	Oct 18	0209	26	BEG OCT16000000 END OCT16240000
N40004	I	Oct 19	0108	27	BEG OCT17000000 END OCT17240000
N40005	I	Oct 20	0522	50	BEG OCT18000000 END OCT18240000
N40007	I	Oct 22	0530	50	BEG OCT20000000 END OCT20240000
N40008	I	Oct 23	0307	27	BEG OCT21000000 END OCT21240000
N40009	I	Oct 24	0204	32	BEG OCT22000000 END OCT22240000
N40010	I	Oct 25	0256	33	BEG OCT23000000 END OCT23240000
N40011	I	Oct 26	0306	42	BEG OCT24000000 END OCT24240000
N40013	I	Oct 26	125A	80	BEG OCT25000000 END OCT25240000
N40014	R	Oct 27	0610	51	BEG OCT18000000 END OCT18240000
					RET OF N40005 AS REQUESTED BY MOSCIDC
N40015	I	Oct 27	1231	86	BEG OCT26000000 END OCT26240000
N40016	I	Oct 28	1234	57	BEG OCT27000000 END OCT27240000
N40017	I	Oct 29	1258	92	BEG OCT28000000 END OCT28240000
N40018	R	Oct 30	0740	124	BEG OCT14000000 END OCT14240000
					BEG OCT15000000 END 15240000
					BEG OCT19000000 END19240000
					BEG OCT20000000 END 20240000
					RET OF N40001,2,6,7 AS REQUESTED
					RET OF N40012 AS REQUESTED
N40019	I	Oct 30	1240	107	BEG OCT29000000 END OCT29240000
N40020	I	Oct 31	124A	74	BEG OCT30000000 END OCT30240000
N40021	I	Nov 1	1319	31	BEG OCT31000000 END OCT31240000
N40022	I	Nov 2	1233	91	BEG NOV01000000 END NOV01240000
N40023	I	Nov 3	1239	84	BEG NOV02000000 END NOV02240000
N40024	I	Nov 4	1241	83	BEG NOV03000000 END NOV03240000
N40025	I	Nov 5	1222	54	BEG NOV04000000 END NOV04240000
N40026	I	Nov 6	1250	81	BEG NOV05000000 END NOV05240000
N40027	I	Nov 7	124A	99	BEG NOV06000000 END NOV06240000
N40029	I	Nov 9	1248	99	BEG NOV08000000 END NOV08240000))
N40030	I	Nov 10	1231	89	BEG NOV09000000 END NOV09240000
N40031	I	Nov 11	1235	82	BEG NOV10000000 END NOV10240000
N40032	I	Nov 12	130a	68	BEG NOV11000000 END NOV11240000
N40033	I	Nov 13	1244	98	BEG NOV12000000 END NOV12240000
N40034	I	Nov 14	1240	58	BEG NOV13000000 END NOV13240000
N40035	I	Nov 15	1241	62	BEG NOV14000000 END NOV14240000
N40036	I	Nov 16	1245	80	BEG NOV15000000 END NOV15240000
N40037	I	Nov 17	124a	24	BEG NOV16000000 END NOV16240000
N40039	I	Nov 19	1237	49	BEG NOV18000000 END NOV18240000
N40040	I	Nov 20	1315	75	BEG NOV19000000 END NOV19240000
N40042	I	Nov 22	1241	50	BEG NOV21000000 END NOV21240000
N40043	I	Nov 23	1254	91	BEG NOV22000000 END NOV22240000
N40044	I	Nov 24	1244	100	BEG NOV23000000 END NOV23240000
N40045	I	Nov 25	1253	61	BEG NOV24000000 END NOV24240000
N40046	R	Nov 26	063a	84	BEG NOV07000000 END NOV07240000

					RET OF N40028 AS REQUESTED BY WASHIDC
N40047	R	Nov 26	0648	142	BEG NOV17000000 END NOV17240000
					RET OF N40038 AS REQUESTED BY WASHIDC
N40048	I	Nov 26	1300	57	BEG NOV25000000 END NOV25240000
N40049	I	Nov 27	1219	30	BEG NOV26000000 END NOV26240000
N40050	R	Nov 28	0537	95	BEG NOV20000000 END NOV20240000
					RET OF N40041 AS REQUESTED
N40051	I	Nov 28	1238	40	BEG NOV27000000 END NOV27240000
N40052	I	Nov 29	1242	76	BEG NOV28000000 END NOV28240000
N40053	I	Nov 30	1246	81	BEG NOV29000000 END NOV29240000
N40054	I	Dec 1	1235	69	BEG OCT30000000 END OCT30240000
N40055	I	Dec 2	1242	61	BEG DEC01000000 END DEC01240000
N40056	I	Dec 3	123b	65	BEG DEC02000000 END DEC02240000
N40057	I	Dec 4	1243	70	BEG DEC03000000 END DEC03240000
N40058	I	Dec 5	125a	83	BEG DEC04000000 END DEC04240000
N40059	I	Dec 6	1235	55	BEG DEC05000000 END DEC05240000
N40060	I	Dec 7	1241	70	BEG DEC06000000 END DEC06240000
N40061	I	Dec 8	1221	109	BEG DEC07000000 END DEC07240000
N40063	I	Dec 10	1253	82	BEG DEC09000000 END DEC09240000
N40064	I	Dec 11	1237	64	BEG DEC10000000 END DEC10240000
N40065	I	Dec 12	1308	77	BEG DEC11000000 END DEC11240000
N40067	I	Dec 13	1233	67	BEG DEC12000000 END DEC12240000
N40068	I	Dec 14	131a	66	BEG DEC13000000 END DEC13240000
N40069	I	Dec 15	1239	50	BEG DEC14000000 END DEC14240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Netherlands
Sender's WMO/GTS header: SENL1 EHDB
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 17	1628	60	BEG DBN OCT15 000000 END OCT15 240000
					BEG ENN OCT15 000000 END OCT15 240000
N40002	I	Oct 17	1727	29	BEG DBN OCT16 000000 END OCT16 240000
					BEG ENN OCT16 000000 END OCT16 240000
N40003	STA	Oct 17	1728	17	
N40004	I	Oct 18	0902	51	BEG DBN OCT17 000000 END OCT17 240000
					BEG ENN OCT17 000000 END OCT17 240000
N40005	I	Oct 19	1253	35	BEG DBN OCT18 000000 END OCT18 240000
					BEG ENN OCT18 000000 END OCT18 240000
N40006	STA	Oct 22	1130	17	
N40007	I	Oct 22	1501	65	BEG DBN OCT19 000000 END OCT20 240000
					BEG ENN OCT19 000000 END OCT20 240000
N40008	I	Oct 23	0923	48	BEG DBN OCT21 000000 END OCT21 240000
					BEG ENN OCT21 000000 END OCT21 240000
N40009	I	Oct 23	1316	27	BEG DBN OCT22 000000 END OCT22 240000
					BEG ENN OCT22 000000 END OCT22 240000
N40011	R	Oct 25	0831	18	RET OF N40006 AS REQUESTED BY WASHIDC
					RET REQUEST TO SEAU10 COORD
N40012	R	Oct 25	0845	66	BEG DBN OCT19 000000 END OCT20 240000
					BEG ENN OCT19 000000 END OCT20 240000
					RET OF N40007 AS REQUESTED BY WASHIDC
N40013	I	Oct 25	1103	52	BEG DBN OCT24 000000 END OCT24 240000
					BEG ENN OCT24 000000 END OCT25 240800
N40014	I	Oct 26	1421	61	BEG ENN OCT25 080000 END OCT25 240000
N40015	I	Oct 30	0737	72	BEG DBN OCT26 000000 END OCT26 240000
					BEG ENN OCT26 075500 END OCT26 240000
N40016	I	Oct 30	0750	55	BEG DBN OCT27 000000 END OCT27 240000
					BEG ENN OCT27 000000 END OCT27 240000
N40017	I	Oct 30	1431	61	BEG DBN OCT28 000000 END OCT29 240000
					BEG ENN OCT28 000000 END OCT29 240000
N40018	I	Oct 31	1423	67	BEG DBN OCT30 000000 END OCT30 180000
					BEG ENN OCT30 000000 END OCT30 240000
N40019	I	Nov 1	1433	50	BEG DBN OCT30 180000 END OCT31 240000
					BEG ENN OCT31 000000 END OCT31 240000
N40020	I	Nov 2	1524	80	BEG DBN NOV01 000000 END NOV01 240000
					BEG ENN NOV01 000000 END NOV01 240000
N40021	I	Nov 5	1336	43	BEG DBN NOV02 000000 END NOV02 240000
					BEG ENN NOV02 000000 END NOV02 240000
N40022	I	Nov 6	0942	32	BEG DBN NOV03 000000 END NOV03 240000
					BEG ENN NOV03 000000 END NOV03 240000
N40023	I	Nov 6	1002	49	BEG DBN NOV04 000000 END NOV04 240000
					BEG ENN NOV04 000000 END NOV04 240000
N40024	I	Nov 6	1341	76	BEG DBN NOV05 000000 END NOV05 240000
					BEG ENN NOV05 000000 END NOV05 240000
N40025	I	Nov 7	1415	79	BEG DBN NOV06 000000 END NOV06 240000
					BEG ENN NOV06 000000 END NOV06 240000
N40027	I	Nov 9	1421	62	BEG DBN NOV08 000000 END NOV08 240000))

					BEG ENN NOV08 000000 END NOV08 240000))
N40028	I	Nov 12	1343	29	BEG DBN NOV09 000000 END NOV09 240000
					BEG ENN NOV09 000000 END NOV09 240000
N40029	I	Nov 13	0939	60	BEG DBN NOV10 000000 END NOV10 240000
					BEG ENN NOV10 000000 END NOV10 240000
N40030	I	Nov 13	0951	34	BEG DBN NOV11 000000 END NOV11 240000
					BEG ENN NOV11 000000 END NOV11 240000
N40031	I	Nov 13	1448	56	BEG DBN NOV12 000000 END NOV12 240000
					BEG ENN NOV12 000000 END NOV12 240000
N40032	I	Nov 14	1332	35	BEG DBN NOV13 000000 END NOV13 240000
					BEG ENN NOV13 000000 END NOV13 240000
N40033	I	Nov 15	1525	62	BEG DBN NOV14 000000 END NOV14 240000
					BEG ENN NOV14 000000 END NOV14 240000
N40034	I	Nov 16	1314	74	BEG DBN NOV15 000000 END NOV15 240000
					BEG ENN NOV15 000000 END NOV15 240000
N40035	I	Nov 19	0936	60	BEG DBN NOV16 000000 END NOV16 240000
					BEG ENN NOV16 000000 END NOV16 240000
N40036	I	Nov 20	1336	74	BEG DBN NOV17 000000 END NOV18 240000
N40037	I	Nov 20	1348	74	BEG ENN NOV17 000000 END NOV17 143000
N40038	I	Nov 20	1403	34	BEG ENN NOV17 143000 END NOV17 240000
N40039	I	Nov 22	1023	71	BEG ENN NOV18 000000 END NOV18 240000
N40040	I	Nov 22	135b	74	BEG DBN NOV19 000000 END NOV19 240000
					BEG ENN NOV19 000000 END NOV19 240000
N40041	I	Nov 23	0952	56	BEG DBN NOV20 000000 END NOV20 240000
					BEG ENN NOV20 000000 END NOV20 240000
N40042	I	Nov 23	1126	37	BEG DBN NOV21 000000 END NOV21 240000
					BEG ENN NOV21 000000 END NOV21 240000
N40043	I	Nov 23	1418	65	BEG DBN NOV22 000000 END NOV22 240000
					BEG ENN NOV22 000000 END NOV22 240000
N40044	I	Nov 26	1044	33	BEG DBN NOV23 000000 END NOV23 240000
					BEG ENN NOV23 000000 END NOV23 240000
N40045	I	Nov 26	1115	21	BEG DBN NOV24 000000 END NOV24 240000
					BEG ENN NOV24 000000 END NOV24 240000
N40046	I	Nov 27	1442	62	BEG DBN NOV25 000000 END NOV26 240000
					BEG ENN NOV25 000000 END NOV26 240000
N40047	I	Nov 28	1457	29	BEG DBN NOV27 000000 END NOV27 240000
					BEG ENN NOV27 000000 END NOV27 240000
N40048	I	Nov 30	0833	47	BEG DBN NOV28 000000 END NOV28 240000
					BEG ENN NOV28 000000 END NOV28 240000
N40049	I	Dec 3	0907	46	BEG DBN NOV29 000000 END NOV29 240000
					BEG ENN NOV29 000000 END NOV29 240000
N40050	I	Dec 3	1338	27	BEG DBN NOV30 000000 END NOV30 240000
					BEG ENN NOV30 000000 END NOV30 240000
N40051	I	Dec 3	134a	39	BEG DBN DEC01 000000 END DEC01 240000
					BEG ENN DEC01 000000 END DEC01 240000
N40052	I	Dec 3	1415	38	BEG DBN DEC02 000000 END DEC02 240000
N40053	I	Dec 3	1424	53	BEG ENN DEC02 000000 END DEC02 240000
N40054	I	Dec 4	1358	55	BEG DBN DEC03 000000 END DEC03 240000
					BEG ENN DEC03 000000 END DEC03 240000
N40055	I	Dec 5	1407	49	BEG DBN DEC04 000000 END DEC04 240000
					BEG ENN DEC04 000000 END DEC04 240000
N40056	I	Dec 6	1428	25	BEG DBN DEC05 000000 END DEC05 240000
					BEG ENN DEC05 000000 END DEC05 240000
N40057	I	Dec 7	1152	29	BEG DBN DEC06 000000 END DEC06 240000
					BEG ENN DEC06 000000 END DEC06 240000
N40058	I	Dec 10	134a	30	BEG DBN DEC07 000000 END DEC07 240000

N40059	I	Dec 10	1355	65	BEG ENN DEC07 000000 END DEC07 240000
N40060	I	Dec 10	1603	37	BEG DBN DEC08 000000 END DEC08 240000
					BEG ENN DEC08 000000 END DEC08 240000
N40061	I	Dec 11	0906	32	BEG DBN DEC09 000000 END DEC09 240000
					BEG ENN DEC09 000000 END DEC09 240000
N40062	I	Dec 11	1416	35	BEG DBN DEC10 000000 END DEC10 240000
					BEG ENN DEC10 000000 END DEC10 240000
N40063	I	Dec 12	1502	45	BEG DBN DEC11 000000 END DEC11 240000
					BEG ENN DEC11 000000 END DEC11 240000
N40064	I	Dec 13	1528	66	BEG DBN DEC12 000000 END DEC12 240000
					BEG ENN DEC12 000000 END DEC12 240000
N40065	I	Dec 14	1037	28	BEG DBN DEC13 000000 END DEC13 240000
					BEG ENN DEC13 000000 END DEC13 240000
N40066	I	Dec 17	1020	39	BEG DBN DEC14 000000 END DEC14 240000
					BEG ENN DEC14 000000 END DEC14 240000
N47001	STA	Oct 22	1256	33	
N47002	STA	Oct 22	1314	36	
N47003	STA	Nov 1	1009	23	
N47004	STA	Nov 1	141A	17	
N47005	STA	Nov 7	1440	16	
N47007	I	Nov 15	0907	68	BEG OCT15 000000 END NOV14 240000
N47008	R	Nov 15	1304	31	BEG DBN NOV09 000000 END NOV09 240000
					BEG ENN NOV09 000000 END NOV09 240000
					RET OF N40028 AS REQUESTED BY MOSCIDC
N47009	R	Nov 23	0738	70	BEG DBN NOV07 000000 END NOV07 240000
					BEG ENN NOV07 000000 END NOV07 240000
					RET OF N40026 AS REQUESTED BY WASHIDC
N47010	STA	Nov 30	1307	61	BEG NOV15 000000 END NOV30 120000
N47011	R	Dec 3	0823	70	BEG DBN NOV07 000000 END NOV07 240000
					BEG ENN NOV07 000000 END NOV07 240000
					RET OF N40026 AS REQUESTED BY WASHIDC
N47012	R	Dec 3	1009	74	BEG DBN NOV15 000000 END NOV15 240000
					BEG ENN NOV15 000000 END NOV15 240000
					RET OF N40034 AS REQUESTED BY MOSCIDC
N47013	R	Dec 13	0820	23	BEG DBN OCT23 000000 END OCT23 240000
					BEG ENN OCT23 000000 END OCT23 240000
					RET OF N40010 AS REQUESTED BY WASHIDC
N47014	R	Dec 13	0824	19	RET OF N47006 AS REQUESTED BY WASHIDC
N47015	R	Dec 19	1532	36	BEG DBN DEC10 000000 END DEC10 240000
					BEG ENN DEC10 000000 END DEC10 240000
					RET OF N40062 AS REQUESTED BY MOSCIDC
N47016	R	Dec 19	1533	67	BEG DBN DEC12 000000 END DEC12 240000
					BEG ENN DEC12 000000 END DEC12 240000
					RET OF N40064 AS REQUESTED BY MOSCIDC

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): New Zealand
Sender's WMO/GTS header: SENZ1 NZKL
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N4433	I	Nov 16	0318	13	BEG RQR NOV10 000000 END NOV 12 240000
N40002	I	Nov 15	032a	19	BEG WEL OCT 17 000000 END OCT 18 240000
N40003	I	Oct 24	0420	49	
N40004	I	Oct 24	0450	50	BEG SBA OCT17 000000 END OCT22 240000)
N40006	I	Oct 25	0407	50	BEGWEL OCT 22 000000 END OCT23 240000
N40030	R	Nov 15	0325	33	BEG SBA OCT 15 000000 END OCT 16 240000 BEG SBA OCT 15 000000 END OCT 16 240000 BEG WEL OCT 15 000000 END OCT 18 240000 RET OF SENZ1 N400041-2 AS REQUESTED B9YSTOCIDC
N40031	I	Nov 15	0334	15	BEG WEL NOV13 000000 END NOV 13 240000
N40031	I	Nov 15	0338	20	BEG WEL NOV13 000000 END NOV 13 240000
N40034	I	Nov 19	0306	22	
N40073	R	Dec 19	1807	70	BEG RAR OCT28 000000 END OCT30 240000 BEG SBA OCT23 000000 END OCT26 240000 BEG WEL OCT31 000000 END OCT31 240000 SEISMO N40014 SEISMO N40015 SEISMO N40016

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Norway
Sender's WMO/GTS header: SEN011 ENMI
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 17	1227	106	BEG NB2 OCT15 000000 END OCT15 240000
N40002	I	Oct 18	1118	95	BEG NB2 OCT16 000000 END OCT16 240000
N40003	I	Oct 19	1109	83	BEG NB2 OCT17 000000 END OCT17 240000
N40004	I	Oct 22	1715	98	BEG NB2 OCT18 000000 END OCT18 240000
N40005	I	Oct 23	0955	157	BEG NB2 OCT19 000000 END OCT20 240000
N40006	I	Oct 24	0948	46	BEG NB2 OCT21 000000 END OCT21 240000
N40007	I	Oct 24	1139	90	BEG NB2 OCT22 000000 END OCT22 240000
N40008	I	Oct 25	1356	121	BEG NB2 OCT23 000000 END OCT23 240000
N40009	I	Oct 26	1108	141	BEG NB2 OCT24 000000 END OCT24 240000
N40010	I	Oct 29	1410	123	BEG NB2 OCT25 000000 END OCT25 240000
N40011	I	Oct 30	1035	110	BEG NB2 OCT26 000000 END OCT26 240000
N40012	I	Oct 31	1019	91	BEG NB2 OCT27 000000 END OCT27 240000
N40013	I	Oct 31	1101	38	BEG NB2 OCT28 000000 END OCT28 240000
N40014	I	Nov 1	1405	148	BEG NAO OCT29 000000 END OCT29 240000
N40015	I	Nov 1	1503	105	BEG NAO OCT30 000000 END OCT30 240000
N40016	I	Nov 2	1121	84	BEG NAO OCT31 000000 END OCT31 240000
N40017	I	Nov 5	1256	103	BEG NAO NOV01 000000 END NOV01 240000
N40018	I	Nov 5	1457	76	BEG NAO NOV02 000000 END NOV02 240000
N40019	I	Nov 6	0844	64	BEG NAO NOV03 000000 END NOV03 240000
N40020	I	Nov 6	1154	56	BEG NAO NOV04 000000 END NOV04 240000
N40021	I	Nov 7	1111	94	BEG NAO NOV05 000000 END NOV05 240000
N40023	I	Nov 9	1136	61	BEG NAO NOV07 000000 END NOV07 240000)
					BEG NB2 NOV07 000000 END NOV07 240000)
N40024	I	Nov 12	0903	126	BEG NB2 NOV08 000000 END NOV08 240000
N40025	I	Nov 12	1231	82	BEG NB2 NOV09 000000 END NOV09 240000
N40026	I	Nov 12	1449	72	BEG NB2 NOV10 000000 END NOV10 240000
N40027	I	Nov 13	1122	67	BEG NB2 NOV11 000000 END NOV11 240000
N40028	I	Nov 14	1112	97	BEG NB2 NOV12 000000 END NOV12 240000
N40030	I	Nov 16	1145	142	BEG NB2 NOV14 000000 END NOV14 240000
N40031	I	Nov 19	081a	131	BEG NB2 NOV15 000000 END NOV15 240000
N40032	I	Nov 19	1230	86	BEG NB2 NOV16 000000 END NOV16 240000
N40033	I	Nov 20	0711	154	BEG NB2 NOV17 000000 END NOV17 240000
N40034	I	Nov 20	1130	128	BEG NB2 NOV18 000000 END NOV18 240000
N40036	I	Nov 22	1359	188	BEG NB2 NOV20 000000 END NOV20 240000
N40037	I	Nov 23	1249	90	BEG NAO NOV21 000000 END NA021 240000
N40039	I	Nov 26	1504	141	BEG NB2 NOV23 000000 END NB223 240000
N40040	I	Nov 27	0907	62	BEG NB2 NOV24 000000 END NB224 240000
N40041-	I	Nov 27	1150	58	BEG NB2 NOV25 000000 END NB2 NOV25 240000
N40042	I	Nov 28	111a	117	BEG NB2 NOV26 000000 END NB2 NOV26 240000
N40043	I	Nov 29	111a	89	BEG NB2 NOV27 000000 END NB2 NOV27 240000
N40044	I	Nov 30	1158	75	BEG NB2 NOV28 000000 END NB2 NOV28 240000
N40045	I	Dec 3	0818	127	BEG NB2 NOV29 000000 END NB2 NOV29 240000
N40046	I	Dec 3	1215	81	BEG NB2 NOV30 000000 END NB2 NOV30 240000
N40047	I	Dec 4	0842	80	BEG NB2 DEC01 000000 END NB2 DEC01 240000
N40048	I	Dec 4	1150	90	BEG NB2 DEC02 000000 END NB2 DEC02 240000
N40049	I	Dec 5	1203	123	BEG NB2 DEC03 000000 END NB2 DEC03 240000
N40050	I	Dec 6	1141	105	BEG NB2 DEC04 000000 END NB2 DEC04 240000

N40051	R	Dec 7	0912	88	BEG NAO NOVO6 000000 END NOVO6 240000
					RET OF N40022 AS REQUESTED
N40052	R	Dec 7	0929	100	BEG NB2 NOV13 000000 END NOV13 240000
					RET OF N40029 AS REQUESTED
N40053	R	Dec 7	0944	97	BEG NB2 NOV19 000000 END NOV19 240000
					RET OF N40035 AS REQUESTED
N40054	R	Dec 7	0955	167	BEG NAO NOV22 000000 END NA022 240000
					BEG NB2 NOV22 000000 END NB222 240000
					RET OF N40038 AS REQUESTED
N40055	I	Dec 7	1117	148	BEG NB2 DEC05 000000 END NB2 DEC05 240000
N40056	I	Dec 10	0856	98	BEG NB2 DEC06 000000 END NB2 DEC06 240000
N40057	I	Dec 10	1415	86	BEG NB2 DEC07 000000 END NB2 DEC07 240000
N40058	I	Dec 11	1029	65	BEG NB2 DEC08 000000 END NB2 DEC08 240000
N40059	I	Dec 11	1219	75	BEG NB2 DEC09 000000 END NB2 DEC09 240000
N40060	I	Dec 12	133d	55	BEG NB2 DEC10 000000 END NB2 DEC10 240000
N40061	I	Dec 13	1416	97	BEG NB2 DEC11 000000 END NB2 DEC11 240000
N40061	I	Dec 13	1417	97	BEG NB2 DEC11 000000 END NB2 DEC11 240000
N40062	I	Dec 14	0849	102	BEG NB2 DEC12 000000 END NB2 DEC12 240000
N40063	I	Dec 17	0957	76	BEG NB2 DEC13 000000 END NB2 DEC13 240000
N40064	I	Dec 17	152a	97	BEG NB2 DEC14 000000 END NB2 DEC14 240000
N40065	I	Dec 18	1104	144	BEG NB2 DEC15 000000 END NB2 DEC15 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Peru
Sender's WMO/GTS header: SEAG1 SABM
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40021	I	Nov 7	1920	48	BEG NNA NOV04 121800 END NOV06 110900
N40023	I	Nov 9	1727	25	BEG NNA NOV07 112400 END NOV08 111500
N40025	I	Nov 13	1748	26	BEG NNA NOV09 112000 END NOV11 112100
N40034	I	Nov 28	1458	21	BEG NNA NOV24 105200 END NOV27 111200
N40039	I	Dec 7	1818	40	BEG NNA DEC03 112900 END DEC05 112900

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Peru
Sender's WMO/GTS header: SEPR1 SPIM
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40011	I	Oct 24	1051	75	BEG NNA OCT21 121500 END OCT23 113000
N40012	I	Oct 25	1113	24	BEG NNA OCT23 113500 END OCT24 115000
N40015	I	Oct 30	1700	50	BEG NNA OCT26 112400 END OCT28 113000
N40016	STA	Oct 31	1618	33	
N40017	I	Nov 1	1628	77	BEG NNA OCT29 114900 END OCT31 113000
N40018	STA	Nov 2	0704	17	
N40027	I	Nov 15	0727	25	BEG NNA NOV13 111500 END NOV14 112100
N40029	I	Nov 17	0804	40	BEG NNA NOV15 123900 END NOV16 111500
N40029	I	Nov 17	1740	33	BEG NNA NOV15 123900 END NOV16 111500
N40031	I	Nov 21	1658	33	BEG NNA NOV18 122600 END NOV20 112000
N40032	I	Nov 22	1651	41	BEG NNA NOV20 112900 END NOV21 112600
N40036	STA	Nov 30	1133	9	
N40037	I	Dec 1	0859	60	BEG NNA NOV28 111400 END NOV30 112600
N40037	I	Dec 4	0957	38	BEG NNA NOV30 113000 END DEC02 111500
N40038	I	Dec 5	1608	53	BEG NNA DEC02 113500 END DEC03 112000
N40043	I	Dec 12	1644	26	BEG NNA DEC09 112400 END DEC11 112500
N40045	I	Dec 14	1050	32	BEG NNA DEC12 112900 END DEC13 111500
N40531	I	Nov 21	1659	33	BEG NNA NOV18 122600 END NOV20 112000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Romania
Sender's WMO/GTS header: SER01 YRBK
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N4003/	I	Dec 4	0914	58	BEG MLR DEC02 000000 END DEC03 240000
N40004	I	Oct 19	0939	35	BEG MLR OCT18 000000 END OCT18 240000
N40010	I	Oct 29	1131	101	BEG MLR OCT26 000000 END OCT27 240000
N40019	I	Nov 9	0943	40	BEG MLR NOV08 000000 END NOV08 240000)IPC121924.0
N40027	I	Nov 21	1008	54	BEG MLR NOV20 000000 END NOV20 240000
N40031	I	Nov 27	112e	50	BEG MLR NOV25 000000 END NOV26 240000
N40035	I	Dec 3	1356	91	BEG MLR NOV30 000000 END DEC01 240000
N40040	I	Dec 10	1307	101	BEG MLR DEC07 000000 END DEC08 240000
N40043	I	Dec 13	0917	61	BEG MLR DEC12 000000 END DEC12 240000
N40043	I	Dec 13	0918	61	BEG MLR DEC12 000000 END DEC12 240000
N40044	I	Dec 14	0944	26	BEG MLR DEC13 000000 END DEC13 240000
N40045	I	Dec 17	1019	61	BEG MLR DEC141 000000 END DEC14 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Sweden
Sender's WMO/GTS header: SESN1 ESWI
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	1824	99	BEG HFS OCT15 000000 END OCT16 114500
N40002	I	Oct 17	172C	73	BEG HFS OCT16 080000 END OCT17 093000
N40003	I	Oct 18	1614	84	BEG HFS OCT17 093000 END OCT18 082000
N40004	I	Oct 19	154A	105	BEG HFS OCT18 082000 END OCT18 180800
N40005	I	Oct 23	1033	103	BEG HFS OCT19 120000 END OCT21 120000 NM002
N40006	I	Oct 22	1951	85	
N40008	I	Oct 23	1651	92	
N40009	I	Oct 25	1633	84	BEG HFS OCT22 223500 END OCT24 121500 NM002
N40010	I	Oct 25	1628	44	
N40011	I	Oct 27	1144	89	BEG HFS OCT24 171700 END OCT26 081000 NM004
N40012	I	Oct 27	1138	80	
N40013	I	Oct 27	1158	90	
N40015	R	Oct 30	0940	86	RET OF N40006 AS REQUESTED
N40016	R	Oct 30	0945	99	BEG HFS OCT22 082100 END OCT22 223500 NM002 RET OF N40007 AS REQUESTED
N40017	I	Nov 1	1919	86	BEG HFS OCT26 081000 END OCT30 063300 NM007
N40018	I	Nov 1	1933	109	
N40019	I	Nov 1	2047	98	
N40020	I	Nov 1	1952	87	
N40021	I	Nov 1	2005	93	
N40022	I	Nov 1	2024	108	
N40023	I	Nov 1	2030	62	
N40024	R	Nov 2	1645	93	RET OF N40014 AS REQUESTED BY MOSCIDC
N40025	I	Nov 3	1330	90	BEG HFS OCT30 063300 END NOV01 071000 NM003
N40026	I	Nov 3	1336	96	
N40027	I	Nov 3	1343	68	
N40028	I	Nov 4	1228	84	BEG HFS NOV01 071000 END NOV02 060000 NM003
N40029	I	Nov 4	124A	77	
N40030	I	Nov 5	1150	69	
N40031	I	Nov 5	1229	87	BEG HFS NOV02 060000 END NOV03 083000 NM003
N40032	I	Nov 5	124A	93	
N40033	I	Nov 5	1242	46	
N40034	I	Nov 6	1259	87	BEG HFS NOV03 083000 END NOV04 130000 NM003
N40035	I	Nov 6	1314	92	
N40036	I	Nov 6	1313	17	
N40037	I	Nov 7	1259	88	BEG HFS NOV04 130000 END NOV05 070000 NM003
N40038	I	Nov 7	1305	91	
N40039	I	Nov 7	1321	64	
N40040	I	Nov 7	1426	87	BEG HFS NOV05 070000 END NOV06 073000 NM002
N40041	I	Nov 7	1419	57	
N40042	I	Dec 13	1314	76	BEG HFS NOV06 073000 END NOV07 073000 NM003
N40043	I	Dec 13	131c	67	
N40044	I	Dec 13	1315	10	
N40045	I	Nov 9	1308	83	BEG HFS NOV07 073000 END NOV08 070800 NM003))
N40046	I	Nov 9	1310	87	
N40047	I	Nov 9	1312	70	
N40048	I	Nov 9	1344	76	BEG HFS NOV08 070800 END NOV09 070000 NM003))

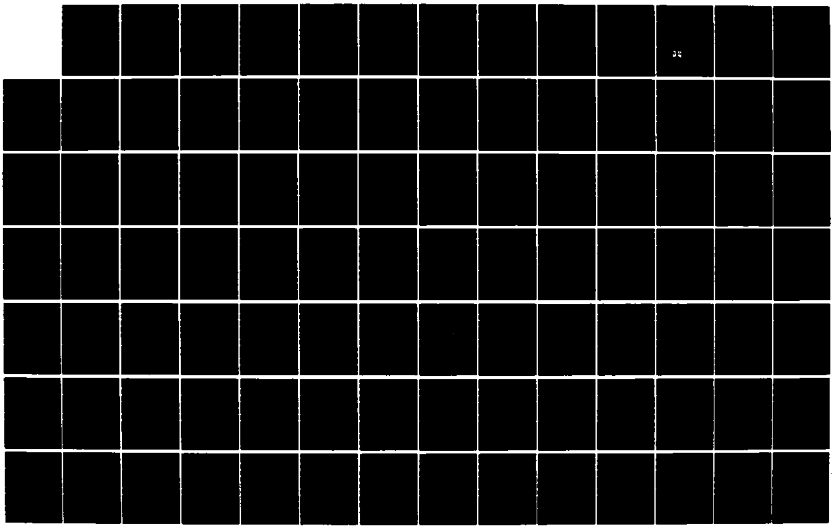
N40049	I	Nov 9	1352 83	
N40050	I	Nov 9	1347 48	
N40051	R	Nov 13	1027 65	BEG NOV02 020000 END NOV02 060000
				RET OF SESN1 N40030 AS REQUESTED BY MOSCIDC
N40052	R	Nov 13	1132 82	BEG HFS NOV03 083000 END NOV04 130000 NM001
				RET OF SESN1 N40034 AS REQUESTED BY MOSCIDC
N40053	R	Nov 13	1138 88	BEG NOV03 083000 END NOV04 130000 NM001
				RET OF SESN1 N40035 AS REQUESTED BY MOSCIDC)
N40054	R	Nov 13	1141 13	BEG NOV04 120000 END NOV04 130000 NM001
				RET OF SESN1 N40036 AS REQUESTED BY MOSCIDC)
N40055	I	Nov 13	1252 89	BEG HFS NOV09 070000 END NOV10 073000 NM002
N40056	I	Nov 13	1258 54	
N40057	I	Nov 13	153a 76	BEG HFS NOV10 073000 END NOV11 091700 NM003
N40058	I	Nov 13	1536 60	
N40059	I	Nov 13	1535 9	
N40060	I	Nov 13	1826 80	BEG HFS NOV11 091700 END NOV12 063000 NM003
N40061	I	Nov 13	1902 73	
N40062	I	Nov 13	190a 26	
N40063	I	Nov 14	0931 81	BEG HFS NOV12 063000 END NOV12 240000 NM003
N40064	I	Nov 14	0937 77	
N40065	I	Nov 14	0934 35	
N40066	I	Nov 15	1056 83	BEG HFS NOV13 000000 END NOV14 071000 NM004
N40067	I	Nov 15	1100 84	
N40068	I	Nov 15	1106 88	
N40069	I	Dec 13	1313 32	
N40069	I	Dec 13	131b 42	
N40069	I	Nov 15	1103 32	
N40069	I	Nov 23	1622 32	
N40070	I	Nov 16	1254 79	BEG HFS NOV14 071000 END NOV15 080000 NM004
N40071	I	Nov 16	1312 80	
N40072	I	Nov 16	1318 79	
N40073	I	Nov 16	1323 70	
N40074	I	Nov 16	1639 105	BEG HFS NOV15 080000 END NOV16 071200 NM002
N40075	I	Nov 16	1642 93	
N40076	I	Nov 20	1554 89	BEG HFS NOV16 071500 END NOV17 120500 NM004
N40077	I	Nov 20	1600 75	
N40078	I	Nov 20	1605 77	
N40079	I	Nov 20	1608 83	
N40080	I	Nov 20	1908 78	BEG HFS NOV17 120500 END NOV18 045000 NM003
N40081	I	Nov 20	1909 76	
N40082	I	Nov 20	1911 78	
N40083	I	Nov 21	1307 87	BEG HFS NOV18 045000 END NOV19 103000 NM002
N40084	I	Nov 21	1318 85	
N40085	I	Nov 21	2017 87	BEG HFS NOV19 103000 END NOV20 110000 NM004
N40086	I	Nov 21	2019 90	
N40087	I	Nov 21	201g 87	
N40088	I	Nov 21	201e 26	
N40089-	I	Nov 22	1831 142	BEG HFS NOV20 110000 END NOV21 075000 NM003
				BEG HFS NOV20 110000 END NOV21 075000 NM003
N40090	I	Nov 22	1834 86	
N40091	I	Nov 22	1833 83	
N40092	I	Nov 23	1348 74	BEG HFS NOV21 075000 END NOV22 083000 NM002
N40093	I	Nov 23	1351 51	
N40094	R	Nov 23	1605 84	BEG HFS NOV13 000000 END NOV14 071000 NM004
				RET OF SESN1 N40066 AS REQUESTED BY WASHIDC
N40095	R	Nov 23	1612 85	RET OF SESN1 N40067 AS REQUESTED BY WASHIDC

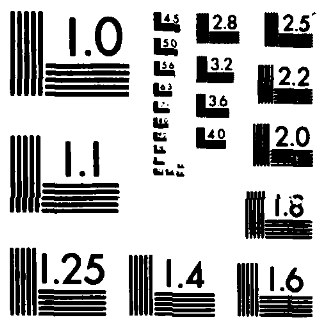
N40096	R	Nov	23	1617	89	RET OF SESN1 N40068 AS REQUESTED BY WASHIDC
N40098	R	Nov	23	1632	80	BEG HFS NOV14 071000 END NOV15 080000 NM004
						RET OF SESN1 N40070 AS REQUESTED BY WASHIDC
N40099	R	Nov	23	1636	81	RET OF SESN1 N40071 AS REQUESTED BY WASHIDC
N40100	R	Nov	23	1639	80	RET OF SESN1 N40072 AS REQUESTED BY WASHIDC
N40101	R	Nov	23	1644	71	RET OF SESN1 N40073 AS REQUESTED BY WASHIDC
N40102	R	Nov	23	1652	106	BEG HFS NOV15 080000 END NOV16 071200 NM002
						RET OF SESN1 N40074 AS REQUESTED BY WASHIDC
N40103	R	Nov	23	1655	94	RET OF SESN1 N40075 AS REQUESTED BY WASHIDC
N40104	I	Nov	23	1744	84	BEG HFS NOV22 083000 END NOV23 073300 NM004
N40105	I	Nov	23	1748	82	
N40106	I	Nov	23	1750	89	
N40107	I	Nov	23	1753	72	
N40108	I	Nov	27	095a	87	BEG HFS NOV23 073300 END NOV24 063000 NM004
N40109	I	Nov	27	0959	81	
N40110	I	Nov	27	1035	93	
N40111	I	Nov	27	103a	41	
N40112	I	Nov	27	123a	93	BEG HFS NOV24 063000 END NOV25 130000 NM002
N40113	I	Nov	27	1252	78	
N40114	I	Nov	27	142a	82	BEG HFS NOV25 130000 END NOV26 074000 NM003
N40115	I	Nov	27	1427	88	
N40116	I	Nov	27	1439	88	
N40117	I	Nov	28	1522	85	BEG HFS NOV26 074000 END NOV27 095500 NM003
N40117	I	Nov	28	154a	88	BEG HFS NOV26 074000 END NOV27 095500
N40118	I	Nov	28	1541	89	
N40119	I	Nov	28	1542	46	
N40120	I	Nov	29	1415	89	BEG HFS NOV27 095700 END NOV28 073000 NM002
N40121	I	Nov	29	141a	29	
N40122	I	Nov	30	1416	75	BEG HFS NOV28 073000 END NOV29 054500 NM003
N40123	I	Nov	30	1444	76	
N40124	I	Nov	30	1448	74	
N40125	I	Dec	3	1044	90	BEG HFS NOV29 072500 END NOV30 092800 NM003
N40126	I	Dec	3	1047	86	
N40127	I	Dec	3	1046	57	
N40128	I	Dec	4	1503	76	BEG HFS NOV30 092800 END DEC01 111300 NM004
N40129	I	Dec	4	1506	81	
N40130	I	Dec	4	1511	94	
N40131	I	Dec	4	1510	27	
N40132	I	Dec	4	1626	103	BEG HFS DEC 1 111300 END DEC 2 085000 NM002
N40133	I	Dec	4	1619	11	
N40134	I	Dec	5	1121	86	BEG HFS DEC 2 085000 END DEC 3 122500 NM004
N40135	I	Dec	5	1120	86	
N40136	I	Dec	5	112c	82	
N40137	I	Dec	5	1115	26	
N40138	I	Dec	5	172a	86	BEG HFS DEC03 122500 END DEC04 124000 NM004
N40139	I	Dec	5	1726	134	
N40140	I	Dec	5	173b	82	
N40141	I	Dec	5	1732	34	
N40142	I	Dec	6	1140	108	BEG HFS DEC 4 124000 END DEC 5 071000 NM003
N40143	I	Dec	6	114b	100	
N40144	I	Dec	6	114a	29	
N40145	I	Dec	6	1728	85	BEG HFS DEC 5 071000 END DEC 6 071500 NM004
N40146	I	Dec	6	1735	84	
N40147	I	Dec	6	173b	92	
N40148	I	Dec	6	1736	78	
N40149	I	Dec	7	1602	94	BEG HFS DEC 6 071500 END DEC 7 071000 NM003

N40150	I	Dec 7	160a	86	BEG HFS DEC 6 071500 END DEC 7 071000 NM003
N40151	I	Dec 7	160b	62	
N40152	I	Dec 10	1617	91	BEG HFS DEC 7 071000 END DEC 8 103000 NM002
N40153	I	Dec 10	1618	62	
N40154	I	Dec 11	1050	84	BEG HFS DEC 8 103000 END DEC 9 071900 NM003
N40155	I	Dec 11	1218	86	
N40156	I	Dec 11	1216	53	
N40157	I	Dec 11	1315	76	BEG HFS DEC 9 071900 END DEC10 071200 NM002
N40158	I	Dec 11	1319	77	
N40159	I	Dec 12	0936	82	BEG HFS DEC10 071200 END DEC11 094500 NM002
N40160	I	Dec 12	0931	28	
N40161	I	Dec 12	1531	71	BEG HFS DEC11 094500 END DEC12 071000 NM004
N40162	I	Dec 12	1534	75	
N40163	I	Dec 12	153b	85	
N40164	I	Dec 13	1256	34	
N40164	I	Dec 13	1258	34	
N40165	I	Dec 13	1744	86	BEG HFS DEC12 071000 END DEC13 072600 NM002
N40165	I	Dec 13	1745	93	BEG HFS DEC12 071000 END DEC13 072600 NM002
N40166	I	Dec 13	1748	84	
N40166	I	Dec 13	1749	91	
N40167	R	Dec 14	1036	77	BEG HFS NOV06 073000 END NOV07 073000 NM003 RET OF SESN1 N40042 AS REQUESTED BY WASHIDC
N40168	R	Dec 14	1041	95	RET OF SESN1 N40043 AS REQUESTED BY WASHIDC
N40169	R	Dec 14	1023	11	RET OF SESN1 N40044.DAT AS REQUESTED BY WASHIDC
N40170	R	Dec 14	1404	33	RET OF SESN1 N40097 AS REQUESTED BY WASHIDC
N40171	I	Dec 17	173a	79	BEG HFS DEC13 072600 END DEC14 240000 NM005
N40172	I	Dec 17	173c	84	
N40173	I	Dec 17	1740	85	
N40174	I	Dec 17	174a	82	
N40175	I	Dec 17	1757	82	
N40176	R	Dec 21	0959	87	BEG HFS DEC12 071000 END DEC13 072600 NM002 RET OF SESN1 N40165 AS REQUESTED BY MOSCIDC

AD-A164 281 PLANNING AND CONDUCTING AN INTERNATIONAL SEISMIC DATA EXCHANGE EXPERIMENT..(U) SCIENCE APPLICATIONS INTERNATIONAL CORP ARLINGTON VA C ROMNEY ET AL. 3/4

UNCLASSIFIED 31 JAN 86 SAIC-86/1025 MDA903-84-C-0020 F/G 8/11 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): United Kingdom
Sender's WMO/GTS header: SEUK1 EGRR
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 16	1439	134	BEG EKA OCT15 000000 END OCT15 240000
N40002	I	Oct 17	1721	133	BEG EKA OCT16 000000 END OCT16 240000
N40004	I	Oct 19	1741	94	BEG EKA OCT18 000000 END OCT18 240000
N40005	I	Oct 22	1606	159	BEG EKA OCT19 000000 END OCT19 240000
N40006	I	Oct 22	1613	71	BEG EKA OCT20 000000 END OCT20 240000
N40007	I	Oct 22	1619	71	BEG EKA OCT21 000000 END OCT22 000030
N40009	R	Oct 24	0845	167	BEG EKA OCT17 000000 END OCT17 240000 RET OF N40003 AS REQUESTED
N40010	I	Oct 24	1355	135	BEG EKA OCT23 000000 END OCT23 240000
N40011	R	Oct 25	0841	161	BEG EKA OCT19 000000 END OCT19 240000 RET OF N40005 AS REQUESTED
N40012	R	Oct 25	0847	73	BEG EKA OCT20 000000 END OCT20 240000 RET OF N40006 AS REQUESTED))
N40013	R	Oct 25	0849	73	BEG EKA OCT21 000000 END OCT22 000030 RET OF N40007 AS REQUESTED
N40014	R	Oct 25	0853	107	BEG EKA OCT22 000030 END OCT22 240000 RET OF N40008 AS REQUESTED
N40015	I	Oct 25	1306	116	BEG EKA OCT24 000000 END OCT24 240000
N40016	I	Oct 26	0826	107	BEG EKA OCT22 000030 END OCT22 240000
N40017	I	Oct 26	1520	197	BEG EKA OCT25 000000 END OCT25 240000
N40018	I	Oct 29	1600	164	BEG EKA OCT26 000000 END OCT26 240000
N40019	I	Oct 29	1616	119	BEG EKA OCT27 000000 END OCT27 240000
N40020	I	Oct 29	1620	36	BEG EKA OCT28 000000 END OCT28 240000
N40021	I	Oct 30	1428	126	BEG EKA OCT29 000000 END OCT30 001000
N40022	I	Oct 31	1608	135	BEG EKA OCT30 001000 END OCT30 240000)
N40023	I	Nov 1	1040	108	BEG EKA OCT22 000030 END OCT22 240000
N40024	I	Nov 1	1437	95	BEG EKA OCT31 000000 END OCT31 240000
N40025	I	Nov 1	1517	87	BEG EKA OCT31 000000 END OCT31 240000
N40026	I	Nov 2	1529	108	BEG EKA NOV01 000000 END NOV01 240000
N40030	I	Nov 6	123A	113	BEG EKA NOV05 000000 END NOV05 240000
N40031	I	Nov 7	1519	125	BEG EKA NOV06 000000 END NOV06 240000
N40032	I	Nov 8	1503	90	BEG EKA NOV07 000000 END NOV07 240000))
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N40034	I	Nov 12	1033	104	BEG EKA NOV02 000000 END NOV02 240000
N40035	I	Nov 12	103b	25	BEG EKA NOV03 000000 END NOV03 240000
N40036	I	Nov 12	1036	47	BEG EKA NOV04 000000 END NOV04 240000
N40037	I	Nov 12	1620	111	BEG EKA NOV09 000000 END NOV09 240000
N40038	I	Nov 12	1625	128	BEG EKA NOV10 000000 END NOV10 240000
N40039	I	Nov 12	1626	48	BEG EKA NOV11 000000 END NOV12 003000
N40040	I	Nov 13	1214	120	BEG EKA NOV12 003000 END NOV12 240000
N40041	I	Nov 14	1354	104	BEG EKA NOV13 000000 END NOV13 240000
N40042	I	Nov 15	1344	101	BEG EKA NOV14 000000 END NOV14 240000
N40044	I	Nov 19	1542	91	BEG EKA NOV16 000000 END NOV16 240000
N40045	I	Nov 19	1549	123	BEG EKA NOV17 000000 END NOV18 000200
N40046	I	Nov 19	1550	38	BEG EKA NOV18 000200 END NOV18 240000
N40047	I	Nov 20	1428	151	BEG EKA NOV19 000000 END NOV20 000400
N40048	I	Nov 21	2018	148	BEG EKA NOV20 000400 END NOV20 240000

N40049	I	Nov 22	1501	75	BEG EKA NOV21 000000 END NOV21 240000
N40050	I	Nov 23	0918	104	BEG EKA NOV14 000000 END NOV14 240000
N40051	R	Nov 23	0921	108	BEG EKA NOV15 000000 END NOV15 240000
					RET OF N40043 AS REQUESTED BY
N40052	I	Nov 23	144a	152	BEG EKA NOV22 000000 END NOV22 240000
N40053	I	Nov 26	1453	131	BEG EKA NOV23 000000 END NOV23 240000
N40054	I	Nov 26	1454	36	BEG EKA NOV24 000000 END NOV24 240000
N40055	I	Nov 26	145a	43	BEG EKA NOV25 000000 END NOV25 240000
N40056	I	Nov 27	1238	131	BEG EKA NOV26 000000 END NOV26 240000
N40057	I	Nov 28	1155	31	BEG EKA NOV27 000000 END NOV27 240000
N40058	I	Nov 29	145b	76	BEG EKA NOV28 000000 END NOV28 240000
N40059	I	Nov 30	1523	109	BEG EKA NOV29 000000 END NOV29 240000
N40060	I	Dec 3	1440	114	BEG EKA NOV30 000000 END NOV30 240000
N40061	I	Dec 3	1443	57	BEG EKA DEC01 000000 END DEC01 240000
N40062	I	Dec 3	144a	71	BEG EKA DEC02 000000 END DEC02 240000
N40063	I	Dec 4	123g	147	BEG EKA DEC03 000000 END DEC03 240000
N40065	R	Dec 5	1415	134	BEG EKA NOV23 000000 END NOV23 240000
					RET OF N40053 - LISTED AS GARBLED IN SERS1
N40066	R	Dec 5	1416	39	BEG EKA NOV24 000000 END NOV24 240000
					RET OF N40054 - LISTED AS MISSING IN SERS1
N40067	R	Dec 5	1419	46	BEG EKA NOV25 000000 END NOV25 240000
					RET OF N40055 - LISTED AS MISSING IN SERS1
N40068	I	Dec 6	1440	132	BEG EKA DEC05 000000 END DEC05 240000
N40069	I	Dec 7	1414	74	BEG EKA DEC06 000000 END DEC06 240000
N40070	I	Dec 10	1505	98	BEG EKA DEC07 000000 END DEC07 240000
N40071	I	Dec 10	1506	78	BEG EKA DEC08 000000 END DEC08 240000
N40072	I	Dec 10	1507	45	BEG EKA DEC09 000000 END DEC09 240000
N40074	I	Dec 12	1442	108	BEG EKA DEC11 000000 END DEC12 001300
N40075	I	Dec 13	1525	64	BEG EKA DEC12 001300 END DEC13 001900
N40076	I	Dec 14	1122	69	BEG EKA DEC13 001900 END DEC13 240000
N40078	I	Dec 20	1148	115	BEG EKA DEC10 000000 END DEC10 240000
N47001	R	Nov 1	1048	93	RET OF N47001, OCT26 , AS REQUESTED BY
N47001	STA	Oct 26	1633	90	
N47003	STA	Nov 12	1739	76	
N47004	STA	Nov 20	122a	71	
N47005	STA	Nov 27	1153	71	
N47006	STA	Dec 3	1614	71	
N47007	STA	Dec 11	1612	71	
N47008	STA	Dec 20	1600	73	

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): U.S.S.R.
Sender's WMO/GTS header: SERS1 RUMS
Time Period: Day 1 (Oct 15) -- Day 94 (Jan 16)

Message No.	Msg. Type	Rec. Date	(UTC) Time	No. of Lines	Comment
N40001	I	Oct 17	1022	42	BEG OBN OCT15 000000 END OCT15 240000
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N40003	I	Oct 19	1004	20	BEG OBN OCT17 000000 END OCT17 240000
N40004	I	Oct 22	1031	32	BEG OBN OCT18 000000 END OCT18 240000
N40005	I	Oct 22	1033	36	BEG OBN OCT19 000000 END OCT19 240000
N40006	I	Oct 22	1035	36	BEG OBN OCT20 000000 END OCT20 240000
N40007	I	Oct 23	1112	25	BEG OBN OCT21 000000 END OCT21 240000
N40008	I	Oct 24	1010	22	BEG OBN OCT22 000000 END OCT22 240000
N40009	I	Oct 25	100B	29	BEG OBN OCT23 000000 END OCT23 240000
N40010	R	Oct 25	1010	43	BEG OCT15 000000 END OCT15 240000 RET OF N40001 AS REQUESTED
N40012	I	Oct 29	1030	36	BEG OBN OCT25 000000 END OCT25 240000
N40013	I	Oct 29	1034	84	BEG OBN OCT26 000000 END OCT26 240000
N40014	I	Oct 29	1040	48	BEG OBN OCT27 000000 END OCT27 240000
N40015	I	Oct 30	103B	23	BEG OBN OCT28 000000 END OCT28 2400
N40016	I	Oct 31	1022	46	BEG OBN OCT29 000000 END OCT30 001300
N40017	R	Oct 31	1107	21	BEG OBN OCT24 000000 END OCT24 240000 RET OF N40011 AS REQUESTED
N40018	I	Nov 1	1157	56	BEG OBN OCT30 000000 END OCT30 240000
N40019	I	Nov 2	1227	32	BEG OBN OCT31 000000 END OCT31 240000
N40020	I	Nov 5	1007	62	BEG OBN NOV01 000000 END NOV01 240000
N40021	I	Nov 5	1012	50	BEG OBN NOV02 000000 END NOV03 240000
N40023	I	Nov 10	1028	34	BEG OBN NOV06 000000 END NOV06 240000
N40024	I	Nov 11	1019	36	BEG OBN NOV07 000000 END NOV08 240000
N40025	I	Nov 11	1021	26	BEG OBN NOV09 000000 END NOV09 240000
N40026	I	Nov 12	1042	22	BEG OBN NOV10 000000 END NOV10 240000
N40027	I	Nov 13	1007	27	BEG OBN NOV11 000000 END NOV11 240000
N40028	I	Nov 14	103a	27	BEG OBN NOV12 000000 END NOV12 240000
N40029	I	Nov 16	1004	21	BEG OBN NOV13 000000 END NOV14 240000
N40030	I	Nov 19	1026	36	BEG OBN NOV15 000000 END NOV15 240000
N40031	I	Nov 19	1032	102	BEG OBN NOV16 000000 END NOV17 240000
N40032	I	Nov 21	1006	55	BEG OBN NOV18 000000 END NOV19 240000
N40033	I	Nov 22	1014	38	BEG OBN NOV20 000000 END NOV20 240000
N40034	I	Nov 23	1016	40	BEG OBN NOV21 000000 END NOV21 240000
N40039	I	Nov 27	112a	14	BEG OBN NOV25 000000 END NOV25 240000
N40040	R	Nov 29	1001	25	BEG OBN OCT23 000000 END OCT23 240000 RETRANSMISSIN OF SERS1 RUMS N40009
N40042	R	Nov 29	100b	57	BEG OBN NOV18 000000 END NOV19 240000 RET OF SERS1 RUMS N40032
N40043	I	Nov 29	1013	17	BEG OBN NOV27 000000 END NOV28 010000
N40046	I	Dec 4	1236	40	BEG OBN DEC02 000000 END DEC02 240000
N40047	I	Dec 5	1241	14	BEG OBN DEC02 083000 END DEC02 091000
N40048	I	Dec 5	1247	37	BEG OBN DEC03 000000 END DEC03 240000
N40049	R	Dec 6	1018	108	BEG OBN NOV22 000000 END NOV22 240000 BEG OBN NOV23 000000 NOV23 240000 BEG OBN NOV24 000000 END NOV24 240000 RET OF N40022

						RET OF SERS1 RUMS
N40050	I	Dec	6	1021	23	BEG OBN DEC04 000000 END DEC04 240000
N40051	I	Dec	7	1003	20	BEG OBN DEC05 000000 END DEC05 240000
N40052	I	Dec	10	1040	38	BEG OBN DEC06 000000 END DEC07 240000
N40053	I	Dec	10	104a	31	BEG OBN DEC08 000000 END DEC08 240000
N40054	I	Dec	11	1004	15	BEG OBN DEC09 000000 END DEC09 240000
N40056	I	Dec	14	1004	24	BEG OBN DEC12 000000 END DEC12 240000
N40057	R	Dec	14	1017	68	BEG OBN NOV04 000000 END NOV05 240000
						BEG OBN NOV28 010000 END NOV28 240000
						BEG OBN NOV29 000000 END DEC01 240000
						RET OF SERS1 RUMS
						SEISMO N40022)) ((GSETT SERS1
						SEISMO N40044)) ((GSETT SERS1
						SEISMO N40045)) ((GSETT SERS1
N40058	I	Dec	17	103c	16	BEG OBN DEC13 000000 END DEC13 240000
N40059	I	Dec	17	1041	26	BEG OBN DEC14 000000 END DEC14 240000

Received by (Country): U.S.A.
Receiver's WMO/GTS header: SEUS10 KWBC
Sender (Country): Zambia
Sender's WMO/GTS header: SEZB1 FLLS
Time Period: Day 1 (Oct 15) -- Day 92 (Jan 14)

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N40021	I	Dec 19	080a	55	BEG LSZ NOV04 000000 END NOV04 240000
N40022	I	Dec 19	0802	44	BEG LSZ NOV05 000000END NOV05 240000
N40025	I	Dec 19	0806	74	BEG LSZ NOV07 000000 END NOV07 240000
N40026	I	Dec 19	081b	7	BEG LSZ NOV08
N40027	I	Dec 19	0813	121	BEG LSZ NOV09 000000 END NOV09 240000
					BEG LSZ NOV10 000000 END NOV10 240000
N40030	I	Dec 19	081a	46	BEG LSZ NOV14 000000 END NOV14 240000
N40031	I	Dec 19	0814	24	BEG LSZ NOV15 000000 END NOV15 240000
N40032	I	Dec 19	0857	35	BEG LSZ NOV16 000000 END NOV16 240000
N40033	I	Dec 19	0928	91	BEG NOV17 000000 END NOV17 240000
N40034	I	Dec 19	0905	73	BEG LSZ NOV18 000000 END NOV18 240000
N40040	I	Dec 19	1130	56	BEG LSZ NOV23 000000 END NOV23 240000
N40041	I	Dec 19	114a	65	BEG LSZ NOV24 000000 END NOV24 240000
N40042	STA	Dec 19	1149	38	
N40043	STA	Dec 19	1155	29	
N40044	I	Dec 19	1159	65	BEG LSZ NOV25 000000 END NOV25 240000
N40046	I	Dec 19	1211	68	BEG LSZ NOV28 000000 END NOV28 240000
N40047	I	Dec 19	1219	79	BEG LSZ NOV29 000000 END NOV29 240000
N40048	I	Dec 19	1221	60	BEG LSZ NOV30 000000 END NOV30 240000
N40049	I	Dec 19	1224	45	BEG LSZ DEC01 000000 END DEC01 240000
N40050	I	Dec 19	1403	58	
N40052	I	Dec 19	140a	30	BEG LSZ DEC03 000000 END DEC03 240000
N40053	I	Dec 19	140c	39	BEG LSZ DEC04 000000 END DEC04 240000
N40054	I	Dec 19	1406	31	BEG LSZ DEC05 000000 END DEC05 240000
N40055	I	Dec 19	140e	17	BEG LSZ DEC06 000000 END DEC06 240000
N40056	I	Dec 19	1409	57	BEG LSZ DEC07 000000 END DEC07 240000
N40057	I	Dec 19	1411	44	BEG LSZ DEC08 000000 END DEC08 240000
N40058	I	Dec 11	1424	49	BEG LSZ DEC09 000000 END DEC09 240000
N40058	I	Dec 19	1426	49	BEG LSZ DEC09 000000 END DEC09 240000
N40059	I	Dec 19	141a	18	BEG LSZ DEC10 000000 END DEC10 240000

APPENDIX D MEASUREMENT AND REPORTING OF LEVEL I DATA

TABLE OF CONTENTS

Measurement and Reporting of
Level I Data

I. INTRODUCTION

This report describes the procedures used by the United States for collecting and analyzing seismic recordings, and for measuring and reporting Level I data during the 1984 Technical Test sponsored by the Group of Scientific Experts (GSETT). Station characteristics are presented for consideration by the *Ad Hoc* Group to evaluate seismological stations and station networks. Preliminary evaluations of the procedures and results are included for consideration by the *Ad Hoc* Group. The information in this report conforms to guidelines described in the "Instructions for Analyzing/Evaluating GSETT" (Conference Room Paper 134/Rev.1, Appendix 9, Item 2).

Section II of this report contains information on the US National Data Center (NDC), its computing resources, and a brief description of the flow of data into and out of the NDC.

The U.S. National Data Center (NDC) contributed Level I parameters from six designated stations identified in Section III of this report. In addition, the U.S. contributed conventional data reports from two additional US stations to improve remote area coverage. The U.S. NDC also received and retransmitted data from stations in seven countries that wished to participate in the GSETT, but did not have adequate connections into the WMO/GTS.

The procedures implemented for detecting seismic signals and extracting Level I parameters varied according to the local resources at the station sites. These procedures are outlined and compared in Section IV. A detailed description of the analysis conducted at the U.S. NDC is presented in Appendix II.

Procedures for handling reports of Level I data from designated U.S. stations, and statistics on the volume and types of data reported during the GSETT are described in sections V and VI, respectively.

Finally, comments and conclusions on the procedures employed and experience gained in the accumulation, review and dispatch of WMO messages are presented in section VII.

II. THE U.S. NATIONAL DATA CENTER

The U.S. National Data Center was established at the Center for Seismic Studies in Arlington, Virginia. The Center was developed by the U.S. over a period of several years to serve as a test bed for conducting just such data management and analysis projects as were required by the GSETT. Both the NDC and the Washington International Data Center were collocated, and shared the resources of the Center for Seismic Studies.

The system configuration is shown in Figure 1, which identifies the principal computers at the Center. Those employed in executing the NDC functions are indicated by the shaded portions. Briefly, a PDP 11/44 handled all WMO/GTS communications, as well as digital waveform data received from three US designated seismic stations. The primary data base formation and management functions were handled by a VAX 11/780, designated as "HUGO" on Figure 1. A second VAX 11/780, designated as "SEISMO", handled Telex and computer-to-computer communications with the three other designated US stations, and served as the general purpose machine. The third VAX was available as a backup computer.

A recent addition to the system, the SUN microprocessor, was specially developed for the GSETT to serve as a prototype National Data Center System. This system was the main computer at the NDC used interactively by an analyst in measuring Level I parameters from the digital waveform data from three seismic stations. It also contained error detecting and correcting functions, and automatically formed messages ready for transmission over WMO/GTS in GSETT prescribed format.

The general flow of data from the designated stations through the US National Data Center to the WMO/GTS is illustrated in Figure 2. Continuous Level II data were sent via satellite from transmitters at three stations (RSNY, RSDN and RSSD) directly to a receiver at the National Data Center. The seismic data channels were searched automatically for all signals. Level I data for all signals were then measured using the prototype NDC System described in the preceding paragraph. Data from the other three sites, LTX, LAC and FBAS/FBAL were telemetered from the seismometer sites to local processing centers where Level I parameters were extracted. These Level I parameters were placed into a computer file at the local processing centers and were electronically transmitted periodically to the National Data Center. The Level I data reported from all six stations were merged at the National Data Center where daily messages were prepared and transmitted to the participating International Data Centers using the WMO/GTS.

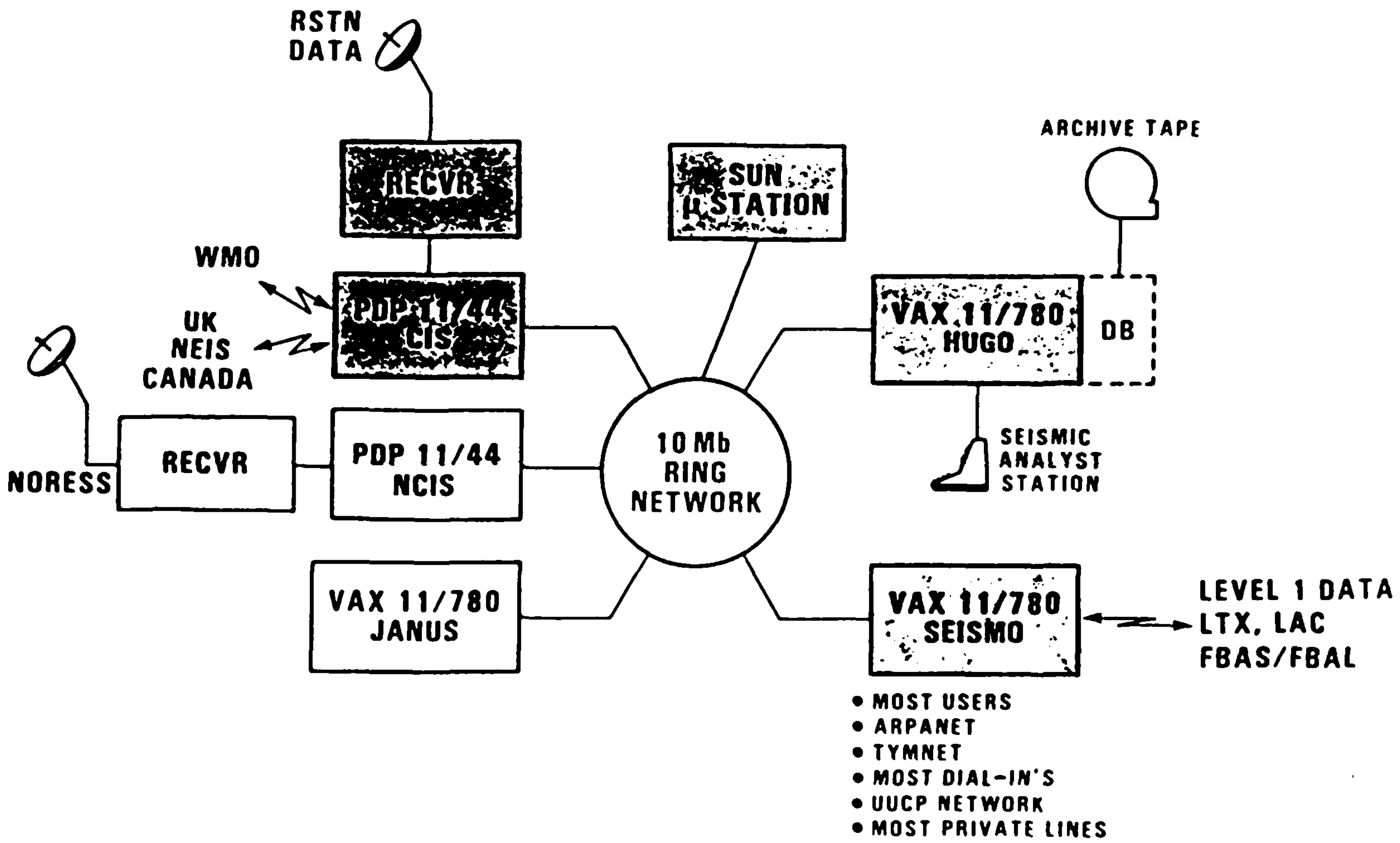

Figure 1. Computer Configuration

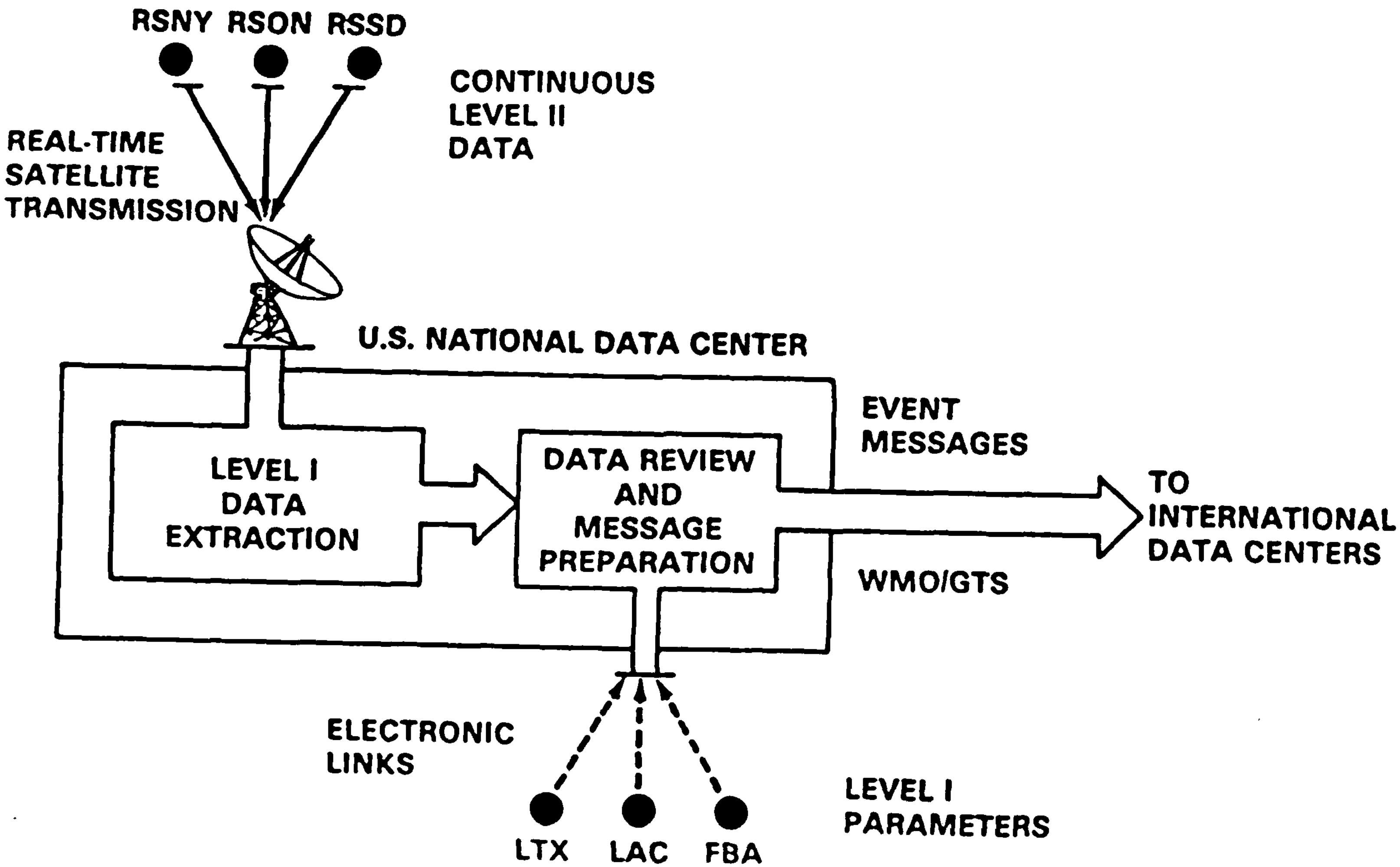

Figure 2. Seismic Data Flow at the U. S. National Data Center.

III. CONTRIBUTING STATIONS

1. Designated Seismic Stations

During the 1984 GSE Technical Test, the U.S. contributed Level I parameters extracted from seismic events recorded at six seismic stations: FBA (FBAS/FBAL), LAC, LTX, RSNY, RSON and RSSD. Locations of the six stations are shown on a map of North America in Figure 3, and the coordinates of the seismometers are presented in Table 1 along with the types of sensors and components of motion derived from each station. Except for LAC which has its seismometer placed in a mine, all of the remaining seismometers are emplaced in boreholes at varying depths beneath the surface to enhance the quality of the recorded signals. All six stations produce short and long period digital recordings; although, analog signals were used at some stages of the processing of data for individual stations. Some additional detail is provided in Appendix I.

2. Additional Stations

In addition to the six primary stations described in the preceding paragraph, the U.S. contributed data from the South Pole, Antarctica, station SPA, and from the station at Shemya, Alaska, SMY. Data from these additional stations were submitted to improve the geographical distribution of the GSETT station network. Unlike the primary stations, from which readings were submitted according to GSE procedures, reports from these two additional stations were submitted in conventional earthquake reporting format. However, these reports did contain six to nine of the GSE minimum Level I parameters.

Six additional countries asked to participate in the GSETT, but lacked suitable connections into the WMO/GTS. They did, however, have means for submitting data telegraphically. By mutual agreement, the U.S. NDC acted in their behalf by receiving their telegraphic reports, reformatting them, and transmitting the Level I data over the WMO/GTS. The countries that participated in the GSETT through this mechanism were Argentina, Bolivia, Colombia, Kenya, Pakistan and Thailand.

Figure 3. Location of the U. S. Seismic Stations that Participated in the 1984 GSE Technical Test.

TABLE 1

DESIGNATED U.S. SEISMIC STATIONS

Seismic Station	Sensor Location	Channels Analyzed
FBA: Fairbanks, Alaska FBAS	64.77 N lat. 146.89 W long. 400.2 m elev.	3-component SP
FBAL	64.91 N lat. 147.45 W long. 365.8 m elev.	3-component LP
LAC: Landers, California	34.39 N lat. 116.41 W long. 792.0 m elev.	1-component SZ 1-component LZ
LTX: Lajitas, Texas	29.33 N lat. 103.67 W long. 1013.5 m elev.	1-component SZ 3-component LP
RSNY: Adirondack, New York	44.55 N lat. 74.53 W long. 356.9 m elev.	3-component SP 3-component MP 3-component LP
RSON: Redlake, Ontario	50.86 N lat. 93.70 W long. 303.3 m elev.	3-component SP 3-component MP 3-component LP
RSSD: Black Hills, S. Dakota	44.12 N lat. 104.04 W long. 1950.7 m elev.	3-component SP 3-component MP 3-component LP

IV. ANALYSIS PROCEDURES

Because of differences in the form of the data and in the analytical aids available, procedures for analysis differed among the designated US seismic stations. Analysis was most highly automated at the NDC, where data from RSNY, RSON and RSSD were analyzed. Procedures at the NDC, and at the other recording sites, are outlined separately in the following. More complete details are contained in Appendix II.

1. Procedures for Stations RSNY, RSON, RSSD

The processing sequence used at the U.S. NDC for extracting Level I parameters during the GSE Technical Test is illustrated in Figure 4. On-line recordings of continuous digital waveform data from these stations were accumulated in four-hour blocks, which were then automatically scanned for seismic events. The onset time for each detected signal was recorded in computer "arrival" files, which were designed to store all of the anticipated signal measurements, including the full set of Level I parameters. The detected signals were then analyzed by a sequence of two processes that served to refine the computer estimate for signal onset and to automatically measure several of the short period Level I parameters. These measurements were stored in the arrival files for subsequent analyst review.

At this stage in the processing, the waveform data was transferred to the prototype National Data Center System for an analyst's review. The automatic computer measurements were refined interactively when necessary. Additional measurements were then made of other significant waveform features using an interactive graphics system that was designed to expedite the extraction of Level I parameters. The prototype NDC system next automatically reviewed the measurements for each seismic event and noted incomplete or inconsistent parameters with respect to GSE procedures. Finally, the NDC system automatically created a Level I data message in the GSETT specified format (see Appendix III for a sample message). The methods used to measure individual Level I parameters are summarized below.

OPERATIONS AT THE U.S. NATIONAL DATA CENTER

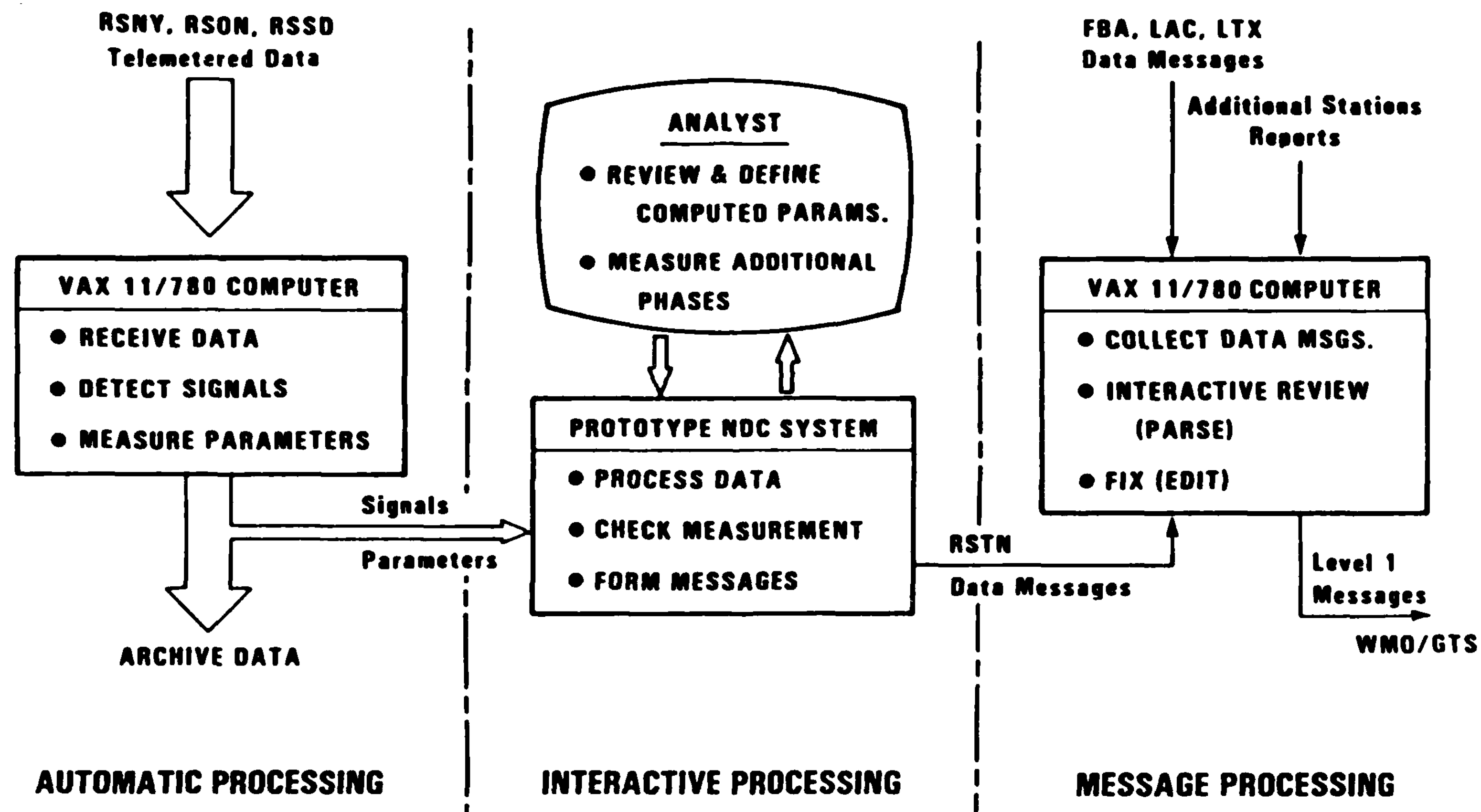

Figure 4.

WAVEFORM FEATURE	EXTRACTION METHOD	COMMENTS
Initial Phase	automatic	Automatic signal detection
phase name	automatic	Analyst generally determined clarity
first motion	automatic	Frequently accepted by analyst
arrival time	automatic	Frequently accepted by analyst
M1X	automatic	Generally modified by analyst; M3X & M4X removed from automation
NSZ	automatic	Generally modified by analyst. Appropriate frequencies difficult to find
Secondary Phases	computer interactive	Computer-aided timing, amplitude and period measurements
Long Period	computer interactive	Computer graphics and parameter filing

The resources used during the GSETT to perform data analysis at the NDC are summarized below.

Form of Data:

- short, mid and long period recordings sampled at the rate of 40, 4 and 1 sample per second, respectively.

Computing Systems:

- (See Section II)

Computer Software:

- On-line data collection
- signal detection
- post-detection processing
- Level I parameter extraction
- review of completeness and consistency of parameter measurements
- generation of WMO messages
- data management
- Interactive parameter measurement

Staff:

- Computer operator
- one full-time seismic analyst with some assistance to extract Level I parameters
- and two half-time analysts to assemble, review and edit all U.S. Level I WMO messages (Section IV, below).

2. Procedures for Station LTX

Seismic recordings from the Lajitas, Texas station were received in real time and passed through an analog to digital converter. The digital data were processed by a computer/software system designed to monitor seismic signals, detect seismic events, and record them for further processing. Header files were produced to record the detected events. Each morning during the GSETT, an analyst would read the header files and display the computer-detected signals on a high-resolution graphics system. Detections that were accepted as true seismic events were then analyzed, and Level I parameters were measured using interactive software on the graphics system. The measured parameters were entered into the computer using a menu system that performs instrument corrections and forms Level I data messages. The resources used to extract Level I parameters and send data messages to the U.S. NDC are summarized below.

Form of Data:

- 4 channels of multiplexed FM signal that is sampled at 40 Hz to produce digital recordings.

Computer Systems:

- PDP 11/23 computer used for the on-line Seismic Event Detector
- VAX 11/750 computer used for filing the detected signals, signals, supporting the interactive graphics and forming data messages
- and a G-80 Vector Graphics system for measuring signal parameters.

Computing Software:

- Seismic Event Detector
- data filing processes
- interactive graphics for measuring signal parameters
- and message preparation routines.

Staff:

- Two analysts performing about 8 analyst-hours of work per day.

3. Procedures for Station FBA (FBAL/FBAS)

Digital recordings were converted to analog film (develocorder) for manual data analysis. The resources used to extract Level I parameters and send data messages to the U.S. NDC are summarized below.

Form of Data:

- 4 channels of digital data converted to analog film.

Computer Systems:

- PET computer used to generate data messages.

Computer Software:

- Text editor.

Staff:

- Six analysts, rotating shifts, about eight hours total per day.

4. Procedures for Station LAC

Broadband digital recordings were filtered into short period and long period bands and displayed in analog form on a Helicorder for analyst detection of seismic events. The Level I parameters were then extracted from the digital data using interactive graphics procedures, which automatically formatted the measured parameters into data messages. The resources used to extract Level I parameters and send data messages to the U.S. NDC are summarized below.

Form of Data:

- 3-component broadband used to form short period and long period channels.

Computer Systems:

- HP 1000 computer for handling on-line data; and Prime 750 computer with a high-resolution graphics terminal used for interactively extracting Level I parameters and for forming Level I data messages.

Computing Software:

- On-line data filing
- Seismic Analysis Code (SAC)
- Interactive parameter measurements with automatic message generation.

Staff:

- 1 analyst with assistance working 2 to 3 analyst-hours per day.

V. NDC REPORTING PROCEDURES

Each work day, by about noon local time (1700 UT), Level I messages had been obtained containing data extracted from recordings made the previous day at the six U.S. stations. These messages were accumulated in computer files labeled by station name and date. New reports from the additional stations (SPS and SMY) were also accumulated in computer files at the U.S. NDC.

The messages were edited daily to perform the following functions:

- combine split or segmented messages for a single station;
- assign message numbers and make entry in a log book of outgoing Level I messages as specified in the "Instructions for Analysing/ Evaluating the GSETT" (Conference Room Paper 134/Rev.1, Appendix 9, Table 1, p 7);
- remove headers and other extra characters that resulted from internal-U.S. communications or from joining segmented messages;
- review and amend message descriptors including message number, GSETT identification, reporting interval ((BEG ... END ...)), and missing times within the reporting interval ((OUT ... TO ...)); and
- review message content and reporting formats, and fix any problems that are found. Direct communications with the analyst who prepared the Level I data was sometimes required to remedy message ambiguities.

After completing these manual editing functions, the messages were decoded using the message parser developed for use by the U.S. International Data Center (IDC). This automated operation provided a further means for identifying improper phase and parameter names, ambiguous reported times, imbalanced parenthesis, and other erroneous information in the message content. The most common errors that were detected by this automated review procedure resulted from the presence of spurious characters in the messages. Any noted errors were then manually fixed, and reprocessed through the parser to confirm the fixes. Additional information on the message parser is provided in US/GSE/38, "Data Management and Analysis at the Washington International Data Center".

At this stage in the message preparation, the daily accumulations of messages were printed for final review by an independent analyst not involved in the prior review and editing functions. This final review usually took place about 1600 local time (2100 UT). Following acceptance at this final review, the messages were transferred to the Communications Interface System (Illustrated in Figure 1) and dispatched over a 1200 bits-per-second line to the U.S. WMO/GTS node in Suitland, Maryland.

VI. RESULTS

1. NDC Messages Transmitted Over the WMO/GTS

Table 2 shows the number of messages transmitted by the U.S. and the additional stations over the WMO/GTS during the GSETT. A total of 518 Level I messages were transmitted and 313 of these were retransmitted. Although there were actually 61 data days during the GSETT, the Level I data reports for some of these days were too long to be transmitted in a single message. For example, RSNY required two extra, or 63 WMO/GTS messages.

TABLE 2 - SUMMARY OF LEVEL I MESSAGE TRANSMISSIONS

STATION	1ST TRANSMISSION	RETRANSMISSION
FBAL	61	39
FBAS	90	58
LAC	61	37
LTX	59	33
RSNY	63	38
RSON	64	37
RSSD	66	39
Additional	54	32
Total	518	313

2. Reported Events

US stations detected and reported Level I data from 0 to a maximum of 46 seismic events per day. TABLE 3 shows the minimum, maximum and average number for each of the 6 designated stations.

TABLE 3 - NUMBER OF EVENTS PER DAY

STATION	MIN/DAY	MAX/DAY	AVE/DAY
FBAS	10	46	22.08
LAC	0	33	8.06
LTX	6	31	17.23
RSNY	1	18	7.51
RSON	2	40	8.56
RSSD	7	40	14.95

TABLE 4 gives a preliminary estimate of the average short period noise, NSZ, normalized to a period of 1 second. It also shows the total number of events analyzed and reported by each station, and the approximate number of these reported events that were subsequently located and included in the Final Event Bulletin of WASHIDC.

TABLE 4 - NOISE LEVELS; REPORTED EVENTS ASSOCIATED WITH FEB

STATION	NOISE (nm/s)	EVENTS REPORTED	EVENTS LOCATED
FBAS	2.1	1347	586
LAC	2.1	492	165
LTX	0.8	1051	354
RSNY	7.3	458	116
RSON	4.3	522	225
RSSD	3.1	912	286

TABLE 5 shows the number of each type of event, as determined from the "qualitative remarks" in the data messages. Included at the bottom of this table are the number of events reported using the abbreviated reporting format.

TABLE 5 - EVENT TYPES

STA	LA	LB	R	TA	TB	TC	QB	ME	DD	NO REMARK
FBAS	15	61	260	632	328	27	0	2	0	2
LAC	4	123	66	4	21	0	0	0	0	274
LTX	26	152	361	234	253	25	7	0	2	0
RSNY	0	239	50	67	93	9	0	0	0	0
RSON	2	184	23	107	155	5	44	1	0	0
RSSD	0	257	231	154	171	8	91	0	0	0
RSON*							792			
RSSD*		4	8				400			

where:
LA=very local, LB=local, R=regional, TA=teleseismic weak, TB=teleseismic multiple, TC=teleseismic complex, QB=quarry blast, ME=mixed, DD=double, *= abbreviated reports.

3. Reported Phases and Waveform Features

TABLE 6 gives the number of events, and the total number of phase arrivals and other waveform features measured from each station. It also gives the average number of arrivals and other features measured per event, and the average number of Level I parameters per event.

TABLE 6 - PHASES AND OTHER MEASURED FEATURES

STATION	EVENTS REPORTED	PHASES & WAVEFORM FEATURES TOTAL	PHASES & WAVEFORM FEATURES AVE./EVENT	PARAMETERS AVE./EVENT
FBA*	1347	8104	6.02	16.66
LAC	492	1581	3.21	8.87
LTX	1051	4151	3.95	11.67
RSNY	458	2984	6.52	16.55
RSON	522	2915	5.58	14.00
RSSD	912	4748	5.21	12.93

(*) = FBAL and FBAS parameters and arrivals added together.

TABLE 6 shows a fairly high average level of reporting per event. RSNY, which was selected by the US for reporting complete Level I parameters, had the highest average number of measurements. On weak teleseisms, only the onset of P, M1X and NSZ were measurable. Accordingly, three phases and waveform features constituted the minimum report. When all phases and features associated with the minimum set of Level I parameters were measurable, LR, MLRZ and N2LZ were also reported. In this case six phases and waveform features (associated with 13 parameters) would be reported. Table 6 indicates that frequently the analysts were unable to detect the phases and features associated with the minimum set of Level I parameters.

TABLE 7 shows the breakdown of the waveform features for which Level I parameters were reported.

TABLE 7 - DETAILS OF MEASURED WAVEFORM FEATURES

FEATURE	FBAL	FBAS	FBA	LAC	LTX	RSNY	RSON	RSSD
NSZ	0	1301	1301	491	1028	445	516	888
M1X	0	1324	1324	491	1032	448	517	904
M2X	0	683	683	0	276	385	3	5
M3X	0	529	529	0	129	2	1	1
M4X	0	332	332	0	172	0	0	0
MSSE	0	60	60	0	0	180	84	320
MSSN	0	289	289	0	0	62	17	132
N2LZ	194	0	194	37	52	158	248	320
M2L	39	0	39	0	2	31	18	17
M3L	5	0	5	0	0	45	38	25
M4L	0	0	0	0	0	37	24	18
MPLZ	40	0	40	0	28	9	3	5
MLRZ	229	0	229	35	46	98	157	174
MLQE	48	0	48	0	0	14	27	13
MLQN	84	0	84	0	0	27	34	20
MSLE	15	0	15	0	0	19	45	31
MSLN	26	0	26	0	0	28	34	23

4. Minimum Set of Level I Parameters

TABLE 8 shows the number of measurements, by station, of the 14 parameters in the minimum Level I set specified for the GSETT. The greatly reduced numbers associated with the long period parameters (except noise) reflect the poorer detection capabilities for long period signals relative to short period signals. The direction of first motion (sign) and clarity of the arrival were typically not equally measurable by the analysts, hence they are shown separately.

TABLE 8 - MEASURED MINIMUM SET LEVEL I PARAMETERS

	PARAMETER		FBA	LAC	LTX	RSNY	RSON	RSSD
1.	First Arrival:	time	1347	492	1051	458	522	912
2.a		clarity	1343	492	1039	454	518	909
2.b		sign	1220	492	1006	108	175	375
3.	M1X:	amplitude	1324	491	1032	448	517	904
4.		time	1324	491	1032	448	517	904
5.		period	1324	491	1032	448	517	904
6.	NSZ:	amplitude	1301	491	1028	445	516	888
7.		period	1301	491	1028	445	516	888
8.	Qual. Remarks		1325	218	1051	458	521	912
9.	LR:	time	229	35	46	98	157	174
10.	MLRZ:	amplitude	229	35	46	98	157	174
11.		time	229	35	46	98	157	174
12.		period	229	35	46	98	157	174
13.	N2LZ:	amplitude	194	37	52	158	248	320
14.		period	194	37	52	158	248	320

5. Station Outages

TABLE 9 shows station or data outages, measured in hours, and recording as a percentage of the entire experiment (61 days). The large outage time reported for LAC reflects a 3 day failure over a weekend, of data acquisition mass storage equipment at the data archiving facility. Calibration intervals were counted as outages.

TABLE 9 - OUTAGES

STATION	OUTAGES (HOURS)	% RECORDED
FBAL	18.8	98.72
FBAS	20.1	98.63
LAC	136.1	90.71
LTX	0.	100.0
RSNY	16.9	98.85
RSON	30.6	97.91
RSSD	18.8	98.72

VII. COMMENTS AND CONCLUSIONS

1. Communications Between Designated Stations and NDC

Electronic transmissions from the stations to the US NDC, both of continuous digital waveform data and of Level I reports, were highly reliable during the test. However, there were occasional transmission errors or ambiguities in the Level I reports received at the NDC, necessitating telephone calls to the stations, often after normal working hours. This problem did not exist for stations that transmitted waveform data to the NDC -- discrepancies could be readily resolved by reviewing the signals in question.

2. Automatic and Computer-Aided Analysis

Automatic detection of seismic events was attempted for four of the US designated stations with high success. Thresholds were adjusted to insure that valid signals were not missed, and interactive processing provided the analysts with an easy means for rejecting false alarms.

Although automatic measurements of amplitudes and periods (NSZ, M1X etc.) were not always accepted by the analyst, they were accepted frequently enough to make them worthwhile.

All of the automatic data management and error correcting processes were highly successful. These automatic functions included: forming waveform files for the analyst's review; automatically recording all measurements; prompting the analyst to measure Level I parameters that were missing; forming messages in WMO/GTS format; and checking messages for errors.

Interactive computer-aided analysis was an essential element of the test, as conducted by the US. The ability to change time and amplitude scales to optimize measurement of waveform features was rapidly and easily done, and improved the quality of analysis. Once measured, there were no transcription errors. Instrument response corrections were automatically made to convert to true ground amplitude. Use of the prototype system for a National Data Center enabled a single analyst to report data from three stations on most days.

3. Analysis Problems Encountered

The greatest procedural difficulty involved the analysis and reporting of local events. The shear number of locals caused a serious analysis problem. Even the abbreviated reporting (described in conf. paper 134/Rev.1) consumed a disproportionate amount of time. A procedure adopted to facilitate timely processing of RSON and RSSD data was to identify sets of local events that appeared to have common characteristics. The first such local was analyzed and reported according to GSE procedures, and the others were simply counted and reported in the qualitative remarks. This method reduced analysis time by as much as three hours per day.

Automatic processing was crucial to timely analysis and reporting. However, the parameter definitions did not always permit seismologically sound descriptions of the recorded signals. In particular, M1X--M4X were not defined adequately for automation. Typically the specified time interval included a later phase (eg. Pg, Lg, PcP, pP) that could be identified, and more appropriately should have been reported as such by the analyst.

NSZ was often difficult to measure because the noise in the 30 second interval before P was outside of the specified frequency band.

The onset of the Rayleigh wave train was often difficult to find. The time of MLRZ, by contrast, is usually unambiguous, as are M2L, M3L when reportable.

4. Labor Requirements

After the initial preparatory phase of the GSETT, October 15 through October 26, labor requirements at the designated stations and at the U.S. NDC were approximately as shown in TABLE 10.

TABLE 10 - LABOR REQUIREMENTS

STATION ANALYSIS	COMPUTER OPS. (hrs/data day)	ANALYST (hrs/data day)	NDC MSG PREP & DISPATCH (hrs/data day)
FBA	-	8	-
LAC	1	2	-
LTX	2	6	-
RSNY	-	2	-
RSON	-	2	-
RSSD	-	3.5	-
NDC	3	-	9
Total	6	23.5	9

APPENDIX I

DESIGNATED SEISMIC STATIONS

Each of the three RSTN stations operated two three-component seismometers, installed in boreholes at depths of about 100 meters. RSON and RSNY sit directly on the Canadian Shield Precambrian rocks composed of granite and granite gneiss with metamorphosed volcano-clastic belts. RSSD sits on Paleozoic sediments ranging in composition from carbonates to shales and sandstones. These Paleozoic sediments are underlaid by the Precambrian rocks of the Canadian Shield. The broadband Teledyne-Geotech model KS36000 seismometer is filtered on site to produce all three pass bands: long-, mid- and short-period which are digitized at the rate of one, four and forty samples per second, respectively. The short period data channel from the KS36000 serves as backup for the primary short period sensor, an S750, which has an instrument response within a fraction of a percent of the KS3600 short period channel for frequencies below 10 Hz. The digitization rate for the S750 is also forty samples per second. The digital recordings from the three RSTN stations are multiplexed along with timing signals and sent directly to the U.S. National Data Center via satellite communications links.

The station (LTX) at LaJitas, Texas is equipped with two sensors located at slightly different depths in the same borehole located in a massive lower Cretaceous limestone formation. The short period instrument is a Teledyne-Geotech Model 29602, which records short period vertical motion only. The long period instrument is a three component Teledyne-Geotech Model KS-36000. The digital data are converted to frequency modulated analog signal and sent, via leased phone line, to Southern Methodist University in Dallas, Texas for subsequent analysis and extraction of Level I parameters.

The station (LAC) at Landers, California uses a Sprengnether Model S5100 broadband instrument that is flat to ground velocity over the frequency band from .03 to 10 Hz. The output is digitally filtered into short period (1-5 Hz) and long period (.03-.1 Hz) bands that are comparable to WWSSN SP and LP bands. These data were recorded onto magnetic tape and displayed on helicorder records for visual signal detection. The station is located in a mine in a large Precambrian gneiss complex.

The station (FBA) at Fairbanks, Alaska has instruments deployed at two sites about 25 kilometers apart. FBAS, the short period site, is equipped with a Teledyne-Geotech KS-36000 instrument and is sampled at 20 samples per second. FBAL, the long period site, is also equipped with a Teledyne-Geotech KS-36000, and is sampled at one sample per second. These data were recorded onto magnetic tape and displayed on a develocorder for visual signal detection and analysis. FBA is located on a moderately metamorphosed schist.

APPENDIX II

DESCRIPTION OF PROCEDURES USED TO EXTRACT LEVEL I PARAMETERS

1. PROCEDURES AT THE U.S. NATIONAL DATA CENTER

a. System Overview

The systems configuration used for extracting Level I parameters at the Center for Seismic Studies (Center) was presented in Figure 1. The major system components consist of:

- a satellite antenna on the roof of the building for receiving the continuous stream of telemetered recordings from the RSTN stations: RSNY, RSON, RSSD;
- a small computer (PDP 11/44) for data reception, signal verification, temporary storage, and format preparation (this same computer sends and receives WMO messages);
- a computer (VAX 11/780) for data accumulation, seismic event detection, automatic parameter extraction, and data archival;
- a small computer (SUN) with a high-resolution graphics terminal for for performing NDC functions. This prototype system was used for analyst review of automatic event detections, refinement of automatic additional parameters, automatic review of the completeness and consistency of measured parameters with respect to GSE procedures, and automatic message preparation; and
- a high-speed local area network (Proteon) that connects the computers at the Center with transfer rates of about one megabyte (one million characters) per second.

b. Automatic Signal Detection and Parameter Extraction

The short period vertical recordings were used for automatic signal detection and parameter extraction during the Technical Test. These 40-sample-per-second recordings were processed on a VAX 11/780 using a sequence of three processes: Detection Processor, Post Detection Processor and Level I Parameter Processor. The detection and post-detection processors were used to routinely process data at the Center. The third processor was developed for use during the Technical Test to automatically extract several of the Level I parameters.

Signal detection was designed to recognize, mark and characterize seismic wave arrivals in the ground motion recordings. Signals are detected by noting an increase in power. The detection algorithm actually used is based on the "Z" statistic of Snell and Swindell, which is designed to adapt to gradual variations in the grouond noise level. The algorithm computes the ratio of the average power over 2 seconds of recording to the average power over the preceding 60 seconds of ground noise. This power ratio is normalised by a continuously updated computation of the variance of the power ratio to form the "Z" statistic. The normalisation by the variance of the power ratio tends to stabilise the detector (as compared with a simple power ratio) and produce a more uniform rate of false alarms.

A signal is declared to be detected when the normalized power ratio exceeds a specified threshold. The detection of actual signals is enhanced by preprocessing the data using a time domain bandpass filter to enhance the signal-to-noise ratio, and a single point deglitcher. Reset delays and logic are activated when a signal is encountered to prevent additional detections of the same signal. Additional logic is included to protect the long-term average power from signal contamination

The detector program is driven by a parameter file that allows the user to tailor the algorithm for special applications. The U.S. conducted a preliminary test of seismic data exchange in January, 1984 (US/GSE/29 , February 27,1984) in which a low detection threshold and a wide passband prefilter (.5 to 4 Hz) was used. This resulted in a large percentage of false alarms, and the detector parameters were reevaluated. The data recorded during this preliminary test was used as representative of noise conditions anticipated for the GSETT, which was to take place at nearly the same time of year. The selection of suitable detection parameters for use in the GSETT was based on two criteria. First, no valid seismic signals should be overlooked, and second, the number of false alarms should be minimum. This study resulted in a 30 percent increase in the detection threshold and more stringent removal of the mid-period microseisms using a prefilter passband of .7 to 4 Hz. Both of these modifications reduced the number of false detections without eliminating any valid detections of seismic events.

During October, at the beginning of the Technical Test, noise conditions were changing rapidly, and the need was identified to further suppress the mid-period microseisms to enhance the signal-to-noise ratios. Additional studies were performed, and the lower corner of the prefilter was raise from .7 Hz to .9 Hz with the detection threshold held constant. These settings were implemented on November 1, 1984 and used for the duration of the Test.

The detection process produced computer files, termed "arrival" records, to store the onset times of detected signals. These files were designed to store station reports of seismic events, including all of the Level I parameters. The sequence of operations that are performed to extract Level I parameters use the arrival records to locate the detected signals in the continuous recordings of ground motion and to accumulate measured parameters.

The Post Detection Processor read the arrival records and further analyzed those signals identified by the Detection Processor. It refined the computer estimates for the onset time, determined first motion clarity (impulsive or emergent), estimated the direction of first motion (if sufficiently impulsive), provided an approximate categorization for source distance, and measured the signal amplitude and corresponding dominant period. Spectral ratios were used as an approximate means for identifying local and teleseismic events and for setting coefficients in the filter bandpass to enhance signal-to-noise in the filtered data.

The Level I Parameter Processor was developed for extracting selected Level I parameters during the GSE Technical Test. It used. the previously generated times of signal onset. The program defined time windows before and after the onset time within which the largest amplitude and associated period were measured and recorded in the arrival records using GSE notations. The amplitude and period of pre-signal noise on the short-period vertical channel (NSZ) were measured in the 30 seconds before the arrival onset. The three parameters -- time, amplitude and period -- were measured in the time windows defined for M1X, M2X, M3X and M4X ("Technical Instructions for the Extraction of Level I Data", Appendix 4, Conference Room Paper 134/Rev. 1).

This procedure represents an initial effort to automatically extract the amplitude and period parameters specified by the GSE. The algorithm simply removed the mean from the waveform data within the time window of interest and locates the largest absolute signal amplitude. The waveform was then searched forward and backward in time for the largest adjacent excursions of opposite sign from which amplitudes and periods were derived in accordance with GSE procedures. As a result of signal complexity, the analyst rejected the majority of these computer-generated measurements that were encountered during the GSETT, although a significant portion of the computer measurements that were replaced by analyst picks were close to the values actually reported. The most common cause for rejecting the computer-generated measurements of signal amplitude and period was that secondary phases had arrived within the time window specified for M1X, etc., invalidating the measurement. This occurred so frequently that the automatic extraction of M3X and M4X was dropped about two weeks after the Technical Test began.

Following the automatic parameter extraction, the waveform data were written to magnetic tape for subsequent analyst review on the prototype system for a National Data Center. The continuous short- and mid-period recordings were compressed at this stage by writing only the waveform segments that include the detected signals. Three tapes were written daily, with each tape covering data recorded over a nine-hour period. This provided one hour of overlap between tapes of adjacent time periods. The tapes were generated within a few hours of the last data to be recorded on the tape, which enabled the analyst to begin work on data for the current day by about noon local time. Additional automatic or machine-aided analysis was performed on the prototype National Data Center System. This system is described below in the section on "Analyst-Computer Interactive Parameter Extraction".

c. Analyst-Computer Interactive Parameter Extraction

A prototype system for performing analysis appropriate to a National Data Center was used at the U.S. NDC for analyzing signals and extracting Level I parameters from data recorded by the three RSTN stations: RSNY, RSON and RSSD. The interactive system was developed using the Sun micro computer with high-resolution graphics to aid in the performance of NDC functions. As developed the system has the capability to detect signals and perform the automatic parameter extraction described above. However, the system was used during the GSE Technical Test primarily to review the detected signals, eliminate the false alarms, refine the computer-generated parameters for the valid signals, identify seismic phases and extract additional parameters.

All this was made possible through the use of a very sophisticated program that allows an analyst to graphically review and interactively make measurements on waveforms selected by the detection algorithm. Using this system the analyst was able to pick any signal detected during the day and display all nine channels of data within a few seconds. Once the waveforms were reviewed those that were accepted could be further analysed, allowing secondary phases and signal amplitudes to be read and filed away. The system also checked the analyst's work for each seismic event and indicated additional parameter measurements that were needed to comply with GSE procedures.

Once the analyst was satisfied with the analysis of the nine-hour segment of recorded data, other sophisticated programs were used to check the signal measurements for consistency with GSE procedures, and to form WMO messages. Computer algorithms were developed and used to perform the last two functions rapidly and automatically. If the review program found the data to be inconsistent with GSE procedures or with simple rules developed to reflect common seismological practice, a warning message is printed that identifies the offending data and the analyst is instructed to take corrective measures before WMO message generation. Once the consistency checker was satisfied, the WMO message formatter was run and messages were generated. During this last step frequency-dependent instrument response was removed from the measured parameters, relieving the analyst of yet another manual task. The resulting messages were then transferred to the VAX 11/780 where they were accumulated along with messages generated from recordings at the other U.S. stations. Procedures used to further review these messages, edit their contents and dispatch them over the WMO are described in Section IV of the accompanying report.

2. PROCEDURES FOR ANALYZING LTX DATA

The analysis of data from LTX was also highly automated or computer-assisted. Procedures were similar to those used by the U.S. NDC, and will not be described in detail. Important differences were that signals were automatically detected by a Walsh Transform detector described by Goforth and Herrin*, and all parameters were measured by an analyst using a light-pen on a computer terminal display. These measurements were then transmitted via computer-to-computer connection to the NDC.

3. PROCEDURES FOR ANALYZING FBA AND LAC DATA

All data from FBAS/FBAL and LAC were analyzed manually from analog recordings. Both stations were aided by computers in preparing and transmitting Level I reports to the NDC.

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*Goforth, T. and E. Herrin, Bull. Seism. Soc. Am., 71, 1351-1360.

APPENDIX III.

SAMPLE LEVEL I MESSAGE AUTOMATICALLY FORMED ON U. S. PROTOTYPE NATIONAL DATA CENTER SYSTEM

```
SEISMO N40783 ((GSETT SEUS2))

((BEG RSNY DEC10 000000 END DEC10 240000))

RSNY DEC10
EP 033950.0
M1X 3950.7 TO.8 A7.8
M2X 3959.4 TO.7 A6.5
NSZ TO.5 A1.0
N2LZ T14 A132
SLE 4615
MSLE 4645 T27 A223
LRLZ 5221
MLRZ 5655 T24 A1022
M3L 5526 T33 A444
M4L 5405 T41 A433
((TB))

RSNY DEC10
EP 103202.0
M1X 3204.4 TO.9 A93.6
M2X 3213.6 TO.9 A31.0
NSZ TO.4 A1.0
N2LZ T15 A81
SLN 4049
MSLN 4119 T27 A770
LQLE 4612
MLQE 5023 T38 A1254
LRLZ 4858
MLRZ 5505 T32 A1855
M2L 5843 T22 A1570
M4L 5308 T40 A1380
((TB))

RSNY DEC10
(E)P 154713.5
M1X 4714.5 TO.2 A1.6
M2X 4722.6 TO.2 A0.5
NSZ TO.3 A0.7
SSE 4730.9
MSSE 4731.7 TO.2 A2.0
((LB))

RSNY DEC10
(E)P 172934.1
M1X 2935.7 TO.2 A1.1
M2X 2944.1 TO.2 A0.5
NSZ TO.2 A0.5
SSE 2949.2
MSSE 2949.6 TO.3 A3.1
((LB))

RSNY DEC10
(E)P 183012.6
M1X 3013.0 TO.1 A0.8
M2X 3021.2 TO.2 A0.5
NSZ TO.4 A1.5
SSE 3032.0
MSSE 3032.5 TO.2 A1.1
((LB))

RSNY DEC10
(E)P 194453.4
M1X 4453.8 TO.1 A0.4
M2X 4502.9 TO.2 A0.6
NSZ TO.3 A0.6
SSE 4506.9
MSSE 4508.8 TO.1 A1.9
((LB))
STOP
```

APPENDIX E DATA MANAGEMENT AND ANALYSIS AT THE WASHINGTON INTERNATIONAL DATA CENTER

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Data Management and Analysis at

the Washington International Data Center

INTRODUCTION

The procedures used, and experiences gained in employing these procedures, by the Washington International Data Center (WASHIDC) during the GSE Technical Test, are described in this report. Procedures were based on the instructions contained in Conference Room Paper (CRP) 134/Rev.1, Appendix 7. Evaluations are based on instructions contained in CRP 134, Appendix 9.

Section I of this report contains information on the Washington International Data Center, its computing resources, and a brief description of how these resources were used in support of the Technical Test.

Section II discusses procedures employed in managing the large volumes of data received during the test, and contains various summaries of the numbers and types of messages received and dispatched over circuits of the WMO/GTS.

Procedures used for analysis of the data to determine the locations and other characteristics of reported events, and for producing and reconciling event lists with other International Data Centers, are outlined in Section III.

Finally, preliminary comments and conclusions on various aspects of the test, as derived from the participation of the Washington IDC, are discussed in Section IV.

I. THE U.S. INTERNATIONAL DATA CENTER

1. Facilities

The U.S. International Data Center was established at the Center for Seismic Studies in Arlington, Virginia. The Center was developed by the U.S. over a period of several years to serve as a test bed for conducting just such data management and analysis projects as were required by the GSETT. Both the Washington International Data Center (WASHIDC) and the U.S. National Data Center were collocated, and shared the resources of the Center for Seismic Studies.

The system configuration is shown in Figure 1, which identifies the principal computers at the Center. Those employed in executing the WASHIDC functions are indicated by the shaded portions. Their functions during the Technical Test are described briefly in the following paragraphs.

2. Communications

The Center is connected to the local node of the WMO/GTS located in Suitland Maryland, via a dedicated telephone line with a communications modem on both ends. The modem at the Center is connected to a serial computer line into the Communications Interface System (identified as "CIS" in Figure 1). The Communications Interface has several other functions besides monitoring the WMO message traffic, including the collection of digital seismic waveform data on a continuing basis at a volume of about 250 Megabytes (MB) per day. The WMO message traffic contributed about 100 Kilobytes (KB) on a typical day, and thus was not a major load on the Communications Interface.

Prior to November 7, 1984, a standard WMO/GTS communications link was in place. This resulted in about a seven characters/second throughput. Also, the line was half-duplex, meaning that the communication occurred only in one direction. This was inadequate, and on about November 7 a 1200 baud, full-duplex line was installed which significantly shortened the transmission time for messages. It is clear in retrospect that the 75 baud line would not have been able to handle all of the message traffic on some of the higher volume days of the GSETT. Coincidentally, the higher speed line required a slightly different message delimiter and header protocol, and this necessitated some software changes.

3. Level I Data Management and Processing

Each day the GSETT messages were transferred to a VAX 11/780 computer, identified as "SEISMO" in Figure 1, where all filing, parsing, formation of data bases, and preparation of messages took place. This computer also served as the general purpose computer for the GSETT. A second VAX, identified as "JANUS" in Figure 1, was used for the automatic association and computation of event parameters for the epicenter lists and bulletins. The third VAX was available as a backup.

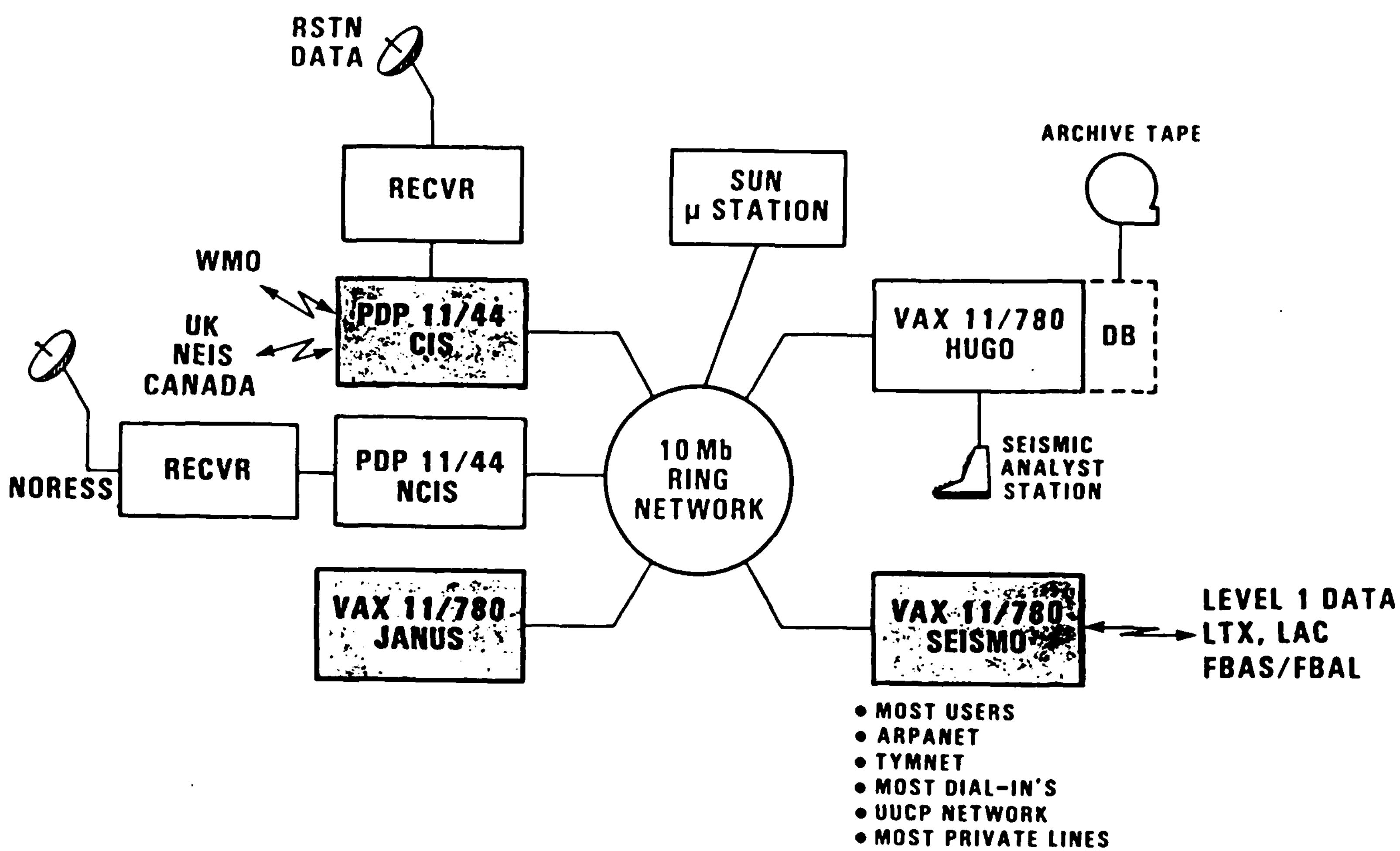


Figure 1. Computer Configuration

II. WMO/GTS MESSAGES

1. Procedures for Receiving Messages

The Communications Interface maintained a constant "listening" state, attached via software and hardware to the physical line connecting the Center to the local office of the WMO/GTS. A simple protocol had been established whereby a unique start-of-header (SOH) character was transmitted at the start of every message and an end-of-transmission (ETX) character signaled the conclusion of every message. Upon receipt of the SOH, a new message file name was created by appending the current UT time to the character string "wmo". The transmitted characters were copied into this file, omitting the ETX. Obviously this protocol required that the characters SOH and ETX never appear in the actual seismic reports. Because the WMO line carried meteorological messages as well as seismic messages, it was necessary to recognize key character strings within the message to determine exactly what type of message was being received. If these key strings (e.g. GSETT) were garbled or destroyed during transmission, it was impossible to recognize and retain a valid seismic message. Also, if either of the SOH or ETX characters were garbled or lost, it was possible that two or more messages were mixed together. Line noise was an additional problem that probably resulted in lost messages.

A log entry was placed in a monitor file for every message coming into the Center containing the WMO sequence number, time and date of the message, the local file name, and the number of characters contained in it. Also, all outages due to loss of carrier signal were reported in the monitor file.

All incoming messages, regardless of the type, were accumulated in a staging area on disk. Once per hour those containing the "GSETT" designator were automatically selected for retention, and the remainder were then deleted from the staging area.

2. Message Distribution Procedures.

Every morning the GSETT messages stored on the Communications Interface were searched by a semi-automatic procedure to select those that arrived between the previous day at 0600 UT and the current day at 0600 UT. This cutoff time was prescribed in Appendix 7 of the GSETT procedures. The collective messages were then moved into a daily directory on the general purpose computer. The daily directory contained all of the messages: Level I, PEL, FEB, etc., as well as duplicates. Messages were left intact, without any changes in the daily directory, and constitute a complete archive of all messages received.

The next step was to separate the messages according to content and country of origin, and place them in organized files for further processing. The basic functions performed in this distribution process were the following:

- Messages were examined to determine whether they were in conformance with GSETT instructions on format, headers, etc. If they were, further processing was automatic; if not, a human had to try to correct the message.
- Duplicates were purged. If two or more messages were found to match in country code and sequence number, the message with the largest number of characters was retained on the assumption that the other had been truncated in transmission.

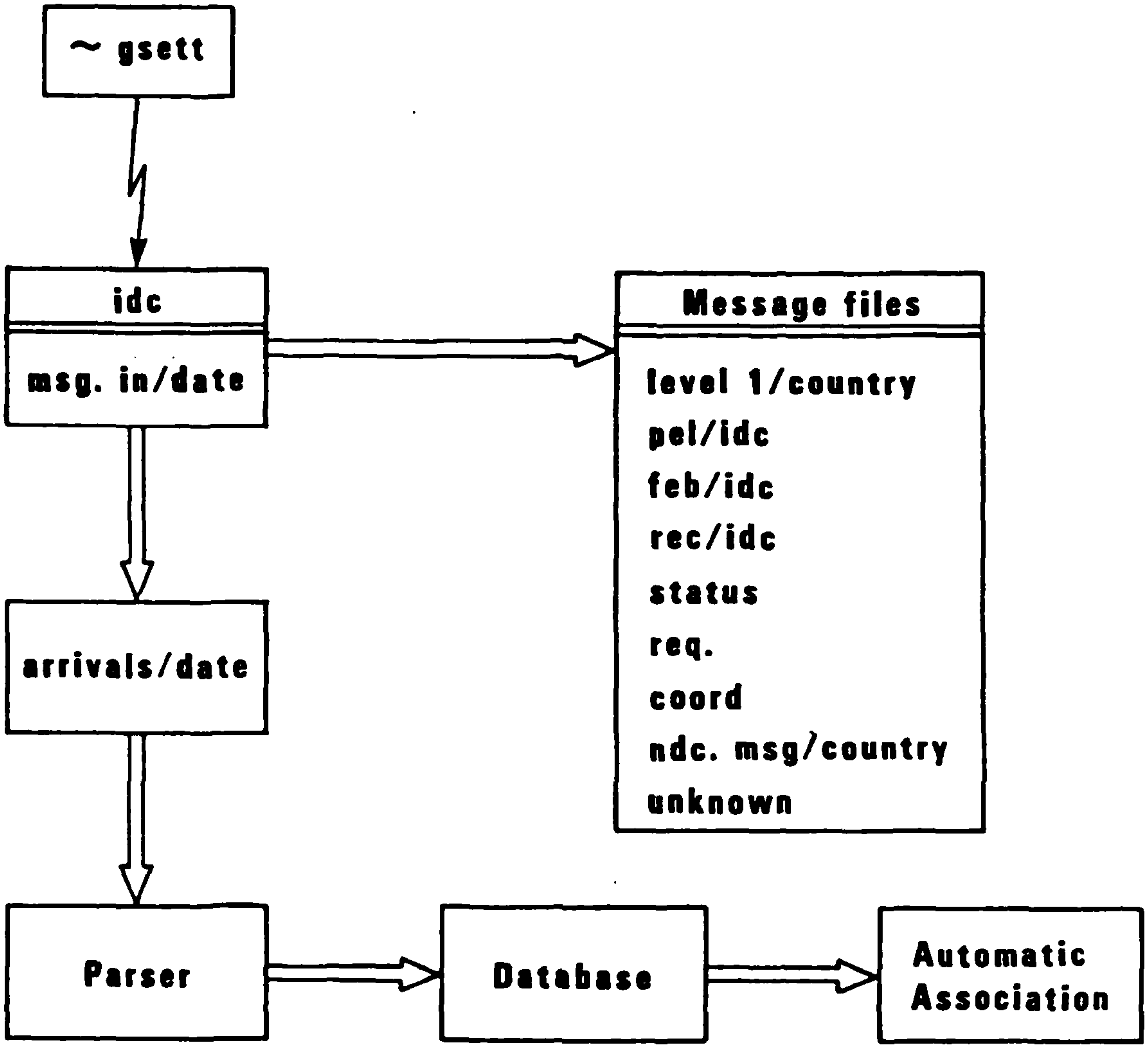

~ gsett
idc
msg. in/date
Message files
level 1/country
pel/idc
feb/idc
rec/idc
status
req.
coord
ndc. msg/country
unknown
arrivals/date
Parser
Database
Automatic
Association

Figure 2

- Messages were separated into directories according to message type and content, e.g., Level I, FEB, STATUS etc. Figure 2 shows the basics of the directory and file system used by WASHIDC.
- Information from headers and other parts of the messages were separately compiled for statistical purposes.

The individual pieces of the distribution software are described in Appendix I.

3. Procedures for Preparing Messages

The preparation of messages to be transmitted over the WMO/GTS took place on the general purpose computer where most of the GSETT functions were performed. This preparation included constructing the text of the message, i.e., all information between the "SEISMO" and the "STOP" lines. The assignment of the message numbers was done by hand with one person as the control point in order to avoid errors. Messages were then transferred to the Communications Interface.

Three types of WMO message headers were used: Test Message, the NDC header (SEUS2) and the IDC header (SEUS10). As a matter of course, at least once per hour a Test Message was sent to the WMO Center and back, establishing that the line was open. The automatic software monitored the time the test message was sent and if it was not received within a specified time interval an error indicator appeared signifying that corrective action should be taken.

The NDC and the IDC messages were "stamped" with the appropriate header information, including the date-time-group, a six-digit number representing the day of the month, hour of the day and the minute of the hour. This header was automatically generated at the time the message was sent out. A Test Message was also sent out as the very first message just to make sure that the line was still operating properly. A copy of each message was filed electronically before and after transmission. A log or journal was also maintained electronically containing the date and time and other descriptive information to aid in the tracking of messages. This log entry was maintained even for test messages.

4. Messages Transmitted and Received

As an example for a typical day of the GSETT, the following table details part of the message statistics that were generated on a daily basis as part of the message distribution procedures at WASHIDC. The statistics presented below were obtained from the summary of the daily reports.

Table I. WMO messages received on dec04 (339), day 51 of the GSETT					
Country	WMO/GTS Code	Messages		Characters	
Unknown	?????????	0	0.00%	0	0.00%
Australia	SEAU1 AMMC	5	4.90%	6858	5.84%
Australia	SEAU10 AMMC	0	0.00%	0	0.00%
Bulgaria	SEBU1 LZSC	1	0.98%	275	0.23%
Belgium	SEBX1 EBBR	2	1.96%	1357	1.16%
Brazil	SEBZ1 SBBR	0	0.00%	0	0.00%
Canada	SECN1 CWTO	3	2.94%	3092	2.64%
Czechoslovakia	SECZ1 OKPR	6	5.88%	6550	5.58%
German Dem Rep	SEDD1 ETPD	2	1.96%	670	0.57%
German Fed Rep	SEDL1 EDZW	2	1.96%	5632	4.80%
Denmark	SEDN1 EKMI	0	0.00%	0	0.00%
Egypt	SEEG1 HECA	0	0.00%	0	0.00%
Finland	SEFI1 EKFL	2	1.96%	3384	2.88%
France	SEFR1 LFPW	3	2.94%	2199	1.87%
Hungary	SEHU1 HAPB	4	3.92%	2888	2.46%
Indonesia	SEID1 WIIX	0	0.00%	0	0.00%
Ireland	SEIE1 EIDB	2	1.96%	751	0.64%
India	SEIN1 DEMS	3	2.94%	2806	2.39%
Italy	SEIY1 LIIB	9	8.82%	3865	3.29%
Japan	SEJP1 RJTD	1	0.98%	824	0.70%
Netherlands	SENL1 EHDB	1	0.98%	819	0.70%
Norway	SENO11 ENMI	4	3.92%	3982	3.39%
New Zealand	SENZ1 NZKL	0	0.00%	0	0.00%
Austria	SEOS1 LOWM	2	1.96%	338	0.29%
Fr. Polynesia	SEPF01 NTAA	0	0.00%	0	0.00%
Peru	SEPR1 SPIM	1	0.98%	511	0.44%
Romania	SERO1 YRBK	2	1.96%	1564	1.33%
U.S.S.R.	SERS1 RUMS	12	11.76%	16276	13.87%
Sweden	SESN1 ESWI	18	17.65%	30196	25.73%
United Kingdom	SEUK1 EGRR	1	0.98%	1577	1.34%
United States	SEUS10 KWBC	4	3.92%	4307	3.67%
United States	SEUS2 KWBC	12	11.76%	16620	14.16%
Zambia	SEZB1 FLLS	0	0.00%	0	0.00%

Total: 24 Countries, 102 messages, 117341 characters

Messages were received over WMO/GTS circuits from 32 countries at one time or another during the GSETT. Reports from a maximum of 26 countries were received on November 14, 1984; the minimum number was one on December 25.

There were a total of 4579 messages received and processed by WASHIDC. The numbers received on one day ranged from 2 on December 8 to 212 on December 10. The average was 58.7 messages per day. These messages contained 5,302,628 characters, averaging 67,982 per day, or 1,158 per message. The highest character count of 286,054 occurred on day 56 (Dec. 9, 1984) of the GSETT. Both the highest character count and the highest number of messages were the result of over 300 messages being retransmitted by the U. S. in response to a request by MOSCIDC.

The daily breakdown of the received messages is shown in Figures 3, 4 and 5. Figure 3 shows the number of countries reporting per day, Figure 4 shows the number of messages received at WASHIDC and Figure 5 shows the total character volume per day. All of these clearly point out the weekly cycle of message activity. The lower portion of the bars in Figure 4 and 5 show the message volume originating from the U.S. NDC; the unusually large volume on days 56 and 57 of the experiment were a consequence of the previously mentioned retransmission request from the Moscow IDC.

Table II, reproduced here from US/GSE/36, shows the summary of messages received at WASHIDC. This table details the messages received after the duplicates have been eliminated, in contrast with the summary derived from Figure 3 which shows the total message volume, including duplicates. The comparison reveals that nearly 30% of the messages arriving at WASHIDC were duplicates.

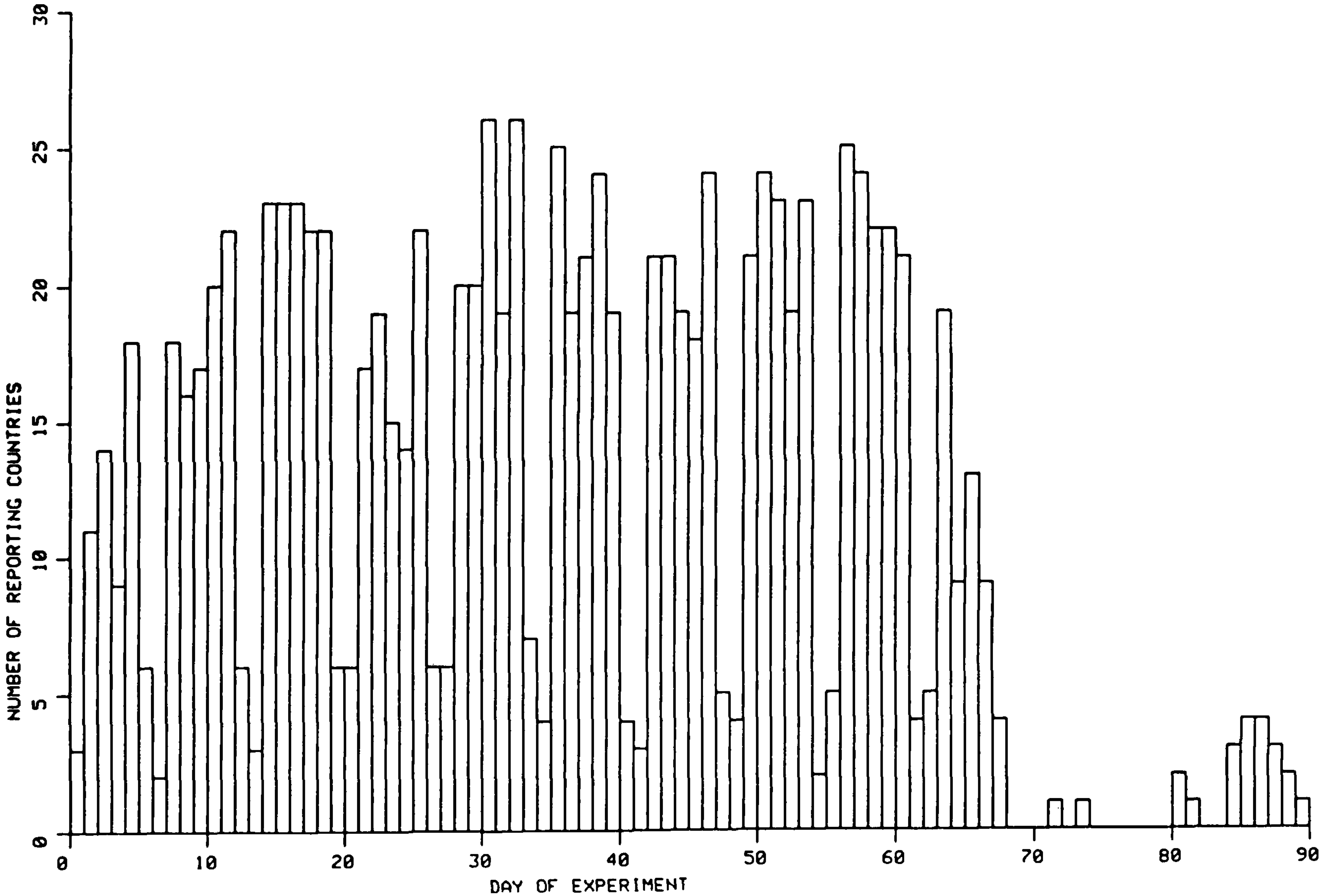


Figure 3

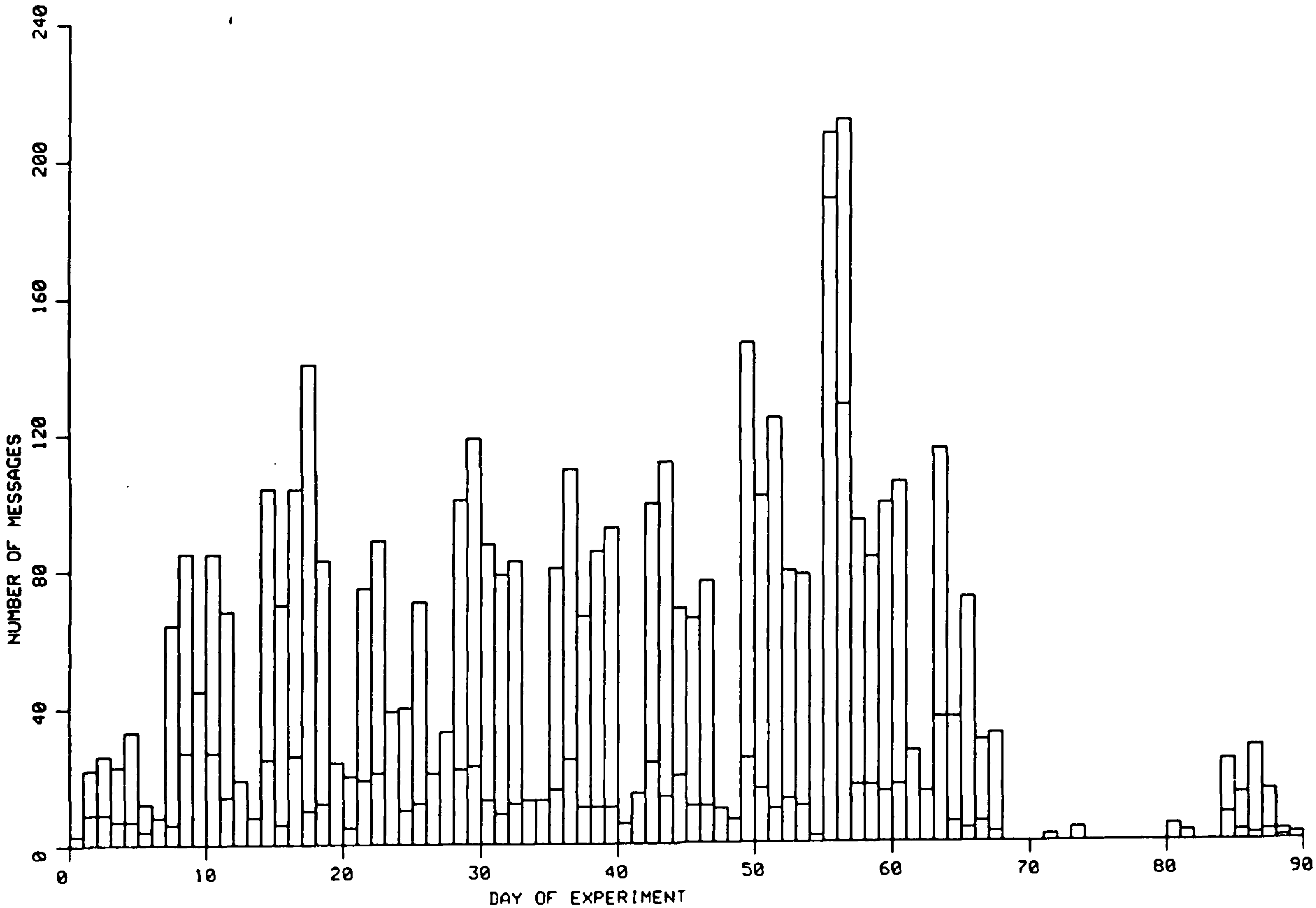
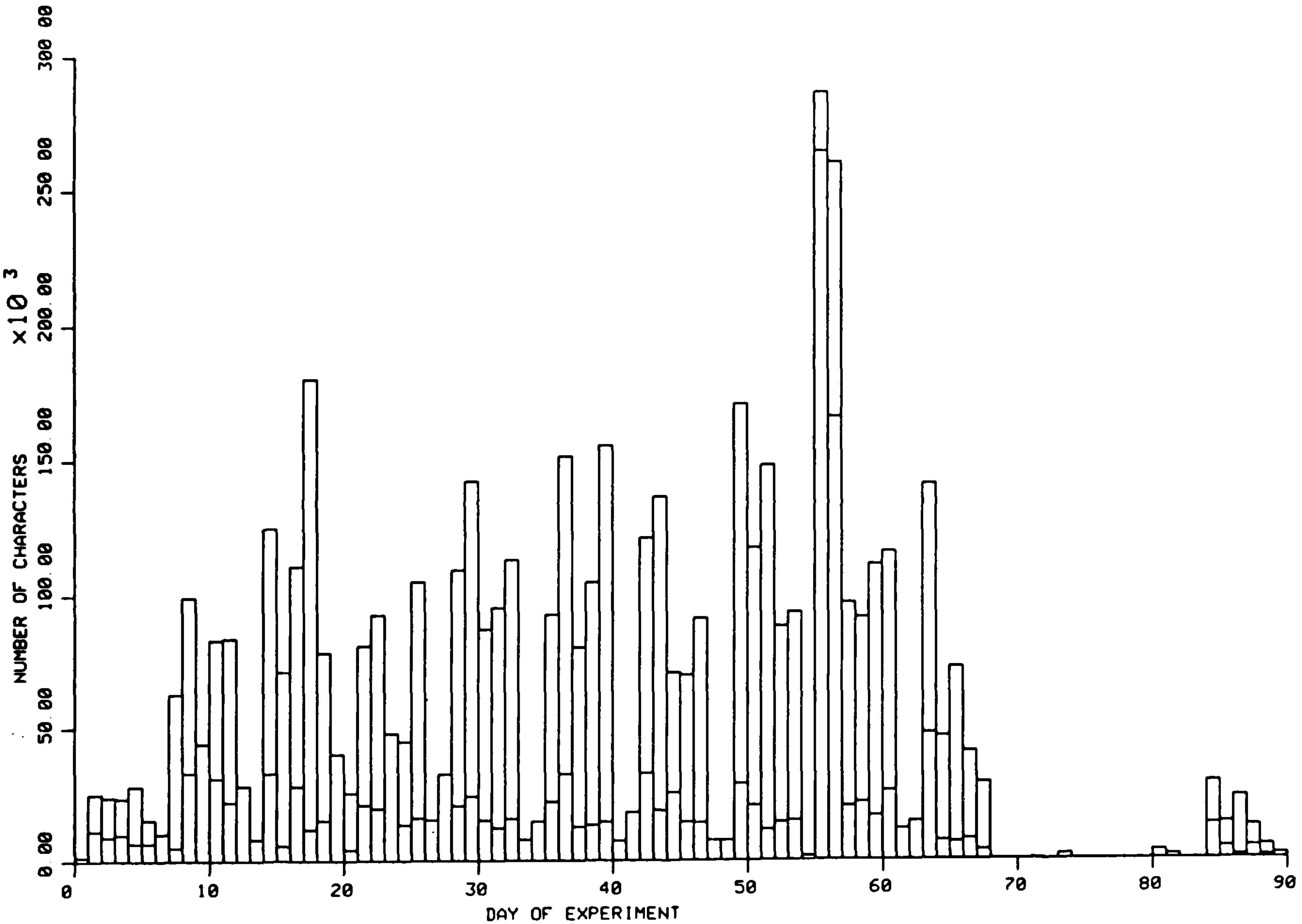

240
200
160
120
80
40
0
NUMBER OF MESSAGES
0
10
20
30
40
50
60
70
80
90
DAY OF EXPERIMENT

Figure 4



NUMBER OF CHARACTERS
×10 3
0.00
50.00
100.00
150.00
200.00
250.00
300.00
0
10
20
30
40
50
60
70
80
90
DAY OF EXPERIMENT

Figure 5

Table II. Summary of Messages Received at WASHIDC					
WMO/GTS Code	Total No. of Msgs Rec'd	Highest No. Received	No. Missing 1st Trans.	Ret. Rec'd	No. Missing After Ret.
SEAU10	23	N42028	5 (15%)	1	2
SEAU1	276	N40302	26 (9%)	56*	8
	60	N49081	21 (26%)	13	3
	1	N47001	0	0	0
SEBU1	39	N40049	10 (20%)	9	9
SEBX1	32	N40038	6 (16%)	6	2
	9	N47011	2 (18%)	1	1
SEBZ and SEBZ1	19	N40058	39 (67%)	0	39
SECN1	204	N40234	30 (13%)	59	4
	4	N47004	0	0	0
SECO1	1	N40003	?	0	?
SECZ1	70	N40079	13 (9%)	22	0
	1	N47001	0	0	0
SEDD1	36	N40047	11 (23%)	2	7
	11	N47016	5 (31%)	0	5
SEDL1	64	N40070	6 (9%)	9	0
	19	N47023	4 (17%)	4	1
SEDN1	22	N40033	11 (33%)	1	10
	2	N50002	0	2	0
SEEG1 (from MOSCIDC)	1	N40013	?	0	?
SEFI1	46	N40048	2 (4%)	3	0
	3	N47003	0	0	0
SEFR1	76	N40117	41 (35%)	41	12
	1	N47001	0	0	0
SEHU1	57	N40070	13 (19%)	6	8
	5	N47006	1 (16%)	0	1
SEID1	28	N40049	21 (43%)	0	21
SEIE1	34	N40044	10 (23%)	4	6
	6	N47008	2 (25%)	0	2
SEIN1	30	N40061	31 (51%)	0	31
SEIR (Telex)	16	N40024	8 (33%)	0	8
SEIY1	36	N40043	7 (16%)	4	3
	8	N47008	0	0	0

Table II. Summary of Messages Received at WASHIDC (Cont'd)					
WMO/GTS Code	Total No. of Msgs Rec'd	Highest No. Received	No. Missing 1st Trans.	Ret. Rec'd	No. Missing After Ret.
SEJP1	62	N40069	7 (10%)	5	2
SENL1	64	N40066	2 (3%)	2	0
	15	N47016	1 (6%)	7	0
SENO11	61	N40065	4 (6%)	4	0
SENZ1	9	N40073	64 (88%)	2	59
SEOS1	37	N40039	2 (5%)	10	0
	18	N47018	0	2	0
SEPF01 and SEPF02	6	N40018	12 (67%)	0	12
SEPR1 and SEAG1	20	N40045	25 (56%)	0	25
SERO1	11	N40045	34 (76%)	0	34
SERS1	49	N40059	10 (17%)	6	1
	111	N42128	17 (14%)	17	2
	24	N52031	7 (28%)	13	4
SESN1	173	N40176	3 (2%)	21	0
	174	N42182	8 (4%)	34	0
	9	N52009	0	1	0
SEUK1	70	N40078	8 (10%)	9	1
	7	N47008	1 (13%)	1	1
SEUS2	831	N40831	0	313	0
	2	N47002	0	0	0
SEUS10	197	N42197	0	29	0
	17	N52017	0	0	0
SEZB1	29	N40059	30 (51%)	0	30
Totals	3236 85%	3806	560 15%	719 19%	354 9%

* - Many of these retransmissions contained messages of the N49 series.

III. DATA ANALYSIS

The analysis of the data received at the WASHIDC involved several steps of automatic processing and review. After preparation of data four kinds of event lists were prepared :

- PEL (Preliminary Event List)
- REC (Reconciliation bulletin)
- FEB (Final Event Bulletin)
- Detailed FEB (Mailed version containing station reports and complete results of calculations)

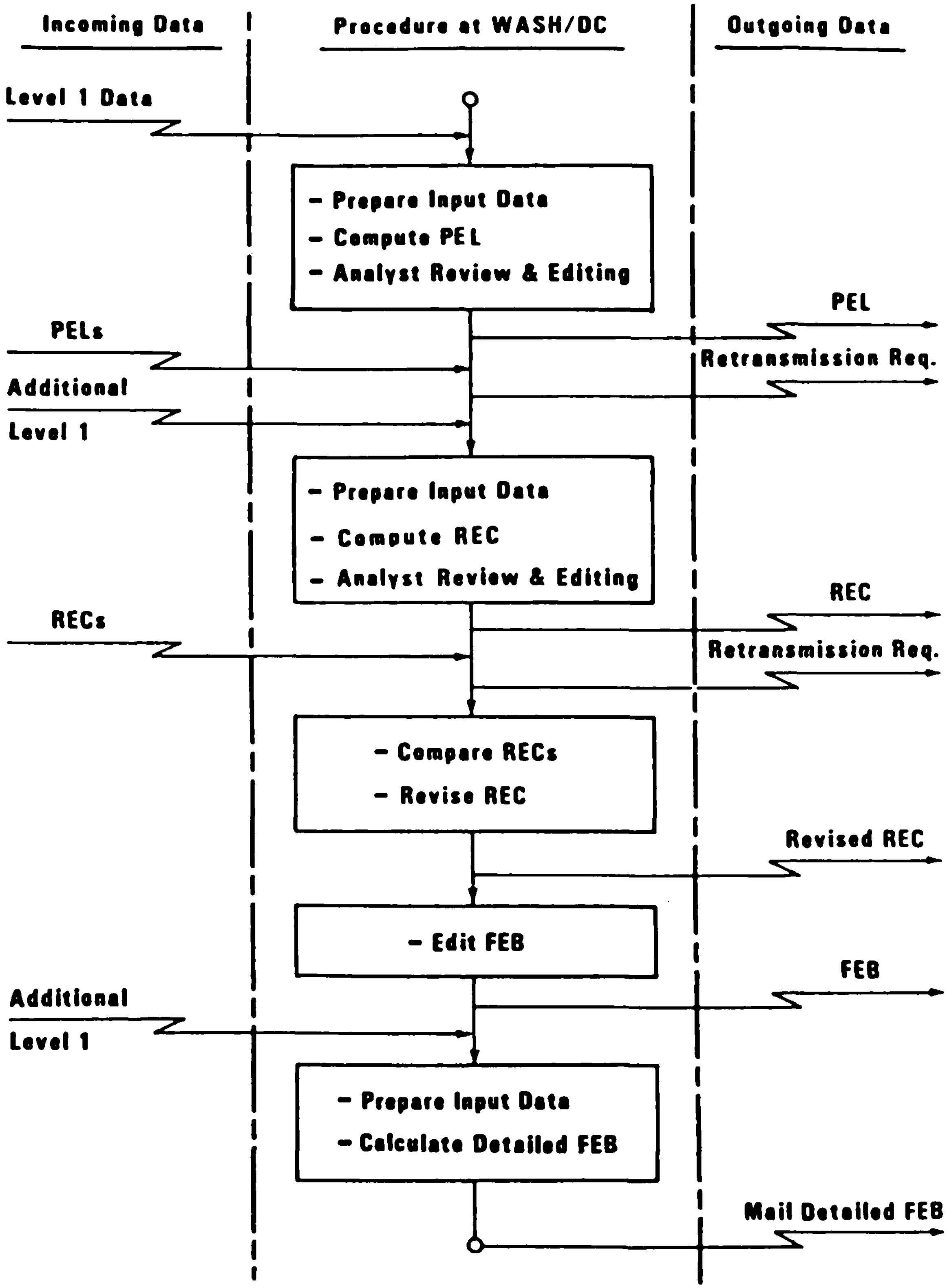
The flow diagram in Figure 6 shows the steps involved in the preparation of the bulletins. The preparation of each kind of event list involved :

- preparation of input data
- automatic calculation of event list
- analyst review and editing

1. Data Preparation

After the Level I messages had been culled of their duplicates and distributed into a directory based on their reception day, they were ready to parse. Parsing is the process of dissecting a message into its component parts (e.g., named phases, their times of arrival, their amplitudes, noise measurements, comments, etc.,) so that all data may be stored in a logical, well defined, and consistent internal format. This step is essential for computer retrieval of the proper parts of the data to be used in subsequent calculations. For example, arrival times are used in the epicentral calculations, amplitudes and periods are used in calculating magnitudes, etc., and the computer must be able to find the correct information for each specific calculation. The internal database format has provisions for all seismic data contained in a WMO message (conventional or Level I). The parsing step also does unit conversions where necessary, and it writes the information out into files. Information is represented as records in different types of files. The records are linked across files by identification numbers unique to a given event and station.

As previously described in Section I.2, once Level I messages were purged of all duplicates arriving on a given day and corrected to correspond to GSETT rules, they were sent through the parser and loaded into a database containing all data *received* on that day regardless of the date of the events being reported. The automatic association program, however, requires data *originating* on a particular day. Since data from events occurring on any one day streamed into the Data Center over many days, or even a few weeks, many day's worth of Level I messages had to be searched when a single day's worth of arrivals was desired. The logically formed database created by the parser provided the ability to do this efficiently. Once the data was copied out of the database it went through one more step before it could be used in the automatic association program. Although duplicate messages received on the same day had been caught before the parse stage, subsequent retransmissions of previously received messages often introduced duplicate data into the database. Accordingly, the arrival file that was retrieved from the database was processed again to cull the duplicate arrivals while preserving the contextual grouping as seen in the original Level I message. Once cleared of all duplicates the arrival file was ready to be used for locating sources of seismic events.



DATA FLOW FOR PREPARATION OF EVENT LISTS

Figure 6

2. Automatic calculation of event lists

The computer program described in the study group working paper GSE/SG5/8 ("A Program for Automatic Association and Location of Seismic Events") was used for the automatic calculation of the event bulletins.

The input arrival file described in the previous section was transformed to a working data base to comply with the data format used by the automatic association program.

Numerical values of the so called input parameters and station characteristics used by the program are listed in Table III and IV. The two parameters "SMSTS" and "SMEVS" in Table III, used in the amplitude consistency check procedure were, after the initial two weeks, given the values -1.0 and -99.0 since only approximate station noise amplitudes were available. The station noise values listed in Table IV were, in general, obtained from CRP 134/Rev.1. Stations not listed in CRP 134/Rev.1 were arbitrarily assigned a 10 nm noise level. The standard deviations of the noise were given the value 0.2 (logarithmic scale) for all stations.

After the initial two weeks, during which time procedures were being refined and revised, the calculations usually followed the time schedule for the test (CRP 134/Rev.1), in all cases observing the cut off time of input Level I data as specified.

3. Analyst review and editing

The result of the automatic association or AA program was stored in various output files which were reviewed by an analyst. The files consisted of a summary list of events in time order, a detailed listing for each event with defining and associated observations, and an event list in appropriate WMO/GTS message format. Events based on common defining observations were grouped together in the summary listing.

Examples of such automatically computed event lists are shown in Appendix II and Appendix III.

An event was either accepted or rejected when reviewed by analyst. Rejected events fell into three categories:

- defining observations fit more than one event according to the computer program ("multiple" event)

- defining observations were concluded by the analyst to fit another event, even if not indicated by the computer program ("split" event)

- inconsistencies were found between signal characteristics and those implied by the automatic association

The AA program allows any acceptable phase arrival time to be used in conjunction with others to define more than one event, and this was a common occurrence that the analyst had to resolve. Multiple events that use one or more common defining

TABLE III
INPUT PARAMETERS FOR AA PROGRAM

Parameter	Value	Comment
NTII	16	used in combinatorial search
DMIN	0.0	used for proposing defining observations
SDTT	1.0	a priori standard deviation for teleseismic P
SDSL	3.0	a priori standard deviation for slowness
SDAZ	10.0	a priori standard deviation for azimuth
SDRE	3.0	a priori standard devation for local P
DTMX	1.5	factor for final residuals
NKST	4	used for initiating events
NKOB	5	used for initiating events
ASMX	10.0	limit for association
TRT	'JB'	travel time table (Jeffrey-Bullen)
MBCU	VC	body wave magnitude formula (Veith-Clawson)
PERS	1.0	standard wave period ; used in amplitude consitency check (ACC)
SIGS	0.5	standard deviation of logarithm of signal amplitudes (in ACC)
SMSTS	-1.0	minimum acceptable station likelihood (in ACC)
SNRS	1.5	minimum signal-to-nosie ration for detection (in ACC)
SMEVS	-99.	minimum acceptable total plausibility (in ACC)
AMPA	.TRU	true if amplitude consistency check (ACC) used
SILO	1.0	standard deviation of logarithm of signals recorded within 25 degrees
SIPK	1.5	standard deviation of logarithm of signals recorded between 110-180 degrees
KRAS	3	maximum number of defining observations to be truncated in ACC
NPR1	1	initial epicenter procedure =1 ; an array obs. with > 8 obs. used
NPR2	2	initial epicenter procedure =2 ; an array obs. used
NPR3	3	initial epicenter procedure =3 ; local obs. used
NPR4	4	initial epicenter procedure =4 ; combination of 3 arrivals used
NLFA	16	maximum number of phase types tested for association of phases

TABLE IV
STATIONS AND NOISE USED IN AA COMPUTATIONS

CODE	NAME	LOCATION		ARRAY	NOISE	
-	-	Lat	Long	-	mean(nm)	std
AAI	AMBON	-3.70	128.17	0	10.0	0.20
APO	APPELBO	60.54	13.93	0	2.0	0.20
ASPA	ALICE SPRINGS	-23.67	133.90	0	3.0	0.20
BAA	BUENOS AIRES	-34.59	-58.48	0	10.0	0.20
BAO	BRASILIA	-15.63	-47.99	0	10.0	0.20
BDF	BRASILIA	-15.66	-47.90	0	10.0	0.20
BMA	BARRA MANSA	-22.69	-44.15	0	10.0	0.20
BOG	BOGOTA	4.62	-74.07	0	10.0	0.20
BUD	BUDAPEST	47.48	19.02	0	17.0	0.20
BUL	BULAWAYO	-20.14	28.61	0	10.0	0.20
CHG	CHIENGMAI	18.79	98.98	0	10.0	0.20
COP	COPENHAGEN	55.68	12.43	0	25.0	0.20
CTAO	CHARTERS TOWERS	-20.09	146.25	0	5.0	0.20
DAG	DANMARKSHAVN	76.77	-18.65	0	12.0	0.20
DBN	DE-BILT	52.10	5.18	0	10.0	0.20
DKM	KILMASHOHUE	53.26	-6.26	0	10.0	0.20
DOU	DOURBES	50.10	4.59	0	10.0	0.20
EKA	ESKDALEMUIR	55.33	-3.16	1	8.0	0.20
ENN	EPEN	50.77	5.92	0	10.0	0.20
FBAL	FAIRBANKS	64.91	-147.45	0	10.0	0.20
FBAS	FAIRBANKS	64.77	-146.89	0	10.0	0.20
GAC	GLEN ALMOND	45.70	-75.48	0	2.0	0.20
GBA	GAURIBIDANUR	13.60	77.44	1	3.0	0.20
GDH	GODHAVN	69.25	-53.53	0	16.0	0.20
GRA1	GRAFENBERG	49.69	11.22	1	2.0	0.20
GRB1	GRAFENBERG	49.39	11.65	1	2.0	0.20
GRC1	GRAFENBERG	49.00	11.52	1	2.0	0.20
HFS	HAGFORS	60.13	13.70	1	2.0	0.20
HLW	HELWAN	29.86	31.34	0	15.0	0.20
HUA	HUANCAYO	-12.04	-75.32	0	13.2	0.20
IR2	ILPA, IRAN	35.66	50.90	0	10.0	0.20
IR4	ILPA, IRAN	35.24	50.90	0	10.0	0.20
IR7	ILPA, IRAN	34.75	51.39	0	10.0	0.20
ITR	ITAPARICA	-8.76	-38.42	0	10.0	0.20
JAY	JAYAPURA	-2.50	140.67	0	23.6	0.20
JOS	JOSVAFO	48.50	20.54	0	10.7	0.20
KBA	AUSTRIA	47.08	13.34	0	10.0	0.20
KHC	KASPERSKE HORY	49.13	13.59	0	3.0	0.20
KSI	KAPAHIANG	-3.65	102.58	0	10.0	0.20
KUG	KUPANG	-10.18	123.67	0	10.0	0.20
LAC	LANDERS	34.39	-116.41	0	10.0	0.20
LOR	LORMES	47.27	3.85	0	10.0	0.20
LPB	LA-PAZ	-16.53	-68.10	0	10.0	0.20
LSZ	KAPOPO	-15.28	28.19	0	10.0	0.20
LTX	LAJITAS	29.33	-103.67	0	10.0	0.20
MAT	MATSUSHIRO	36.54	138.21	1	10.0	0.20
MAW	MAWSON	-67.60	62.87	0	10.0	0.20
MBC	MOULD BAY	76.24	-119.36	0	6.0	0.20

TABLE IV
STATIONS AND NOISE USED IN AA COMPUTATIONS

CODE	NAME	LOCATION		ARRAY	NOISE	
-	-	Lat	Long	-	mean(nm)	std
MLR	MUNTELE ROSU	45.49	25.94	0	2.0	0.20
MNS	MONT'ASOLA	42.39	12.68	0	10.7	0.20
MOX	MOXA	50.65	11.62	0	4.0	0.20
NAI	NAIROBI	-1.27	36.80	0	10.0	0.20
NAO	NORSAR SITE 01A	61.82	10.83	1	0.8	0.20
NB2	NORSAR SITE 02B	61.04	11.21	1	0.8	0.20
NNA	NANA	-11.99	-76.84	0	44.8	0.20
NUR	NURMIJARVI	60.51	24.65	0	4.9	0.20
NWAO	NARROGIN	-32.93	117.23	0	6.0	0.20
OBN	OBNINSK	55.12	36.60	0	6.0	0.20
PMO	POMARIORIO	-15.00	-147.90	0	10.0	0.20
PPT	PAPEETE	-17.57	-149.58	0	10.0	0.20
PRU	PRUHONICE	49.99	14.54	0	10.0	0.20
PSI	PARAPAT	2.69	98.92	0	9.6	0.20
PSZ	PISZKESTETO	47.92	19.89	0	14.8	0.20
QUE	QUETTA	30.19	66.95	0	10.0	0.20
RAR	RAROTONGA	-21.21	-159.77	0	93.3	0.20
RDJ	RIO DE JANERIO	-22.90	-43.22	0	10.0	0.20
RMP	ROME (MONTE PORZIO)	41.81	12.71	0	10.0	0.20
RSNY	ADIRONDACK	44.55	-74.53	0	10.0	0.20
RSON	RED LAKE	50.86	-93.70	0	10.0	0.20
RSSD	BLACK HILLS	44.12	-104.04	0	10.0	0.20
SBA	SCOTT BASE	-77.85	166.76	0	11.5	0.20
SLL	STOLLET	60.48	13.32	0	2.0	0.20
SMY	SHEMYA ISLANDS	52.73	174.10	0	10.0	0.20
SOB	SOBRADINHO	-9.27	-41.16	0	10.0	0.20
SPA	SOUTH POLE	-90.00	0.00	0	10.0	0.20
SUF	SUMIAINEN	62.72	26.15	1	2.0	0.20
TBY	TORSBY	60.08	12.83	0	3.0	0.20
TRT	TRETES	-7.70	112.64	0	10.0	0.20
UCC	UCCLE	50.80	4.36	0	35.5	0.20
VAO	VALINHOS	-23.00	-46.97	0	10.0	0.20
VTS	VITOSHA	42.60	23.20	0	10.0	0.20
WEL	WELLINGTON	-41.29	174.77	0	30.0	0.20
YKA	YELLOWKNIFE	62.49	-114.61	1	3.0	0.20

arrival times are often close in space and time. The number of defining observations, particularly those that applied uniquely to one of the multiple events, and the estimated errors of the hypocenter parameters were usually the chief pieces of information the analyst used to select the valid events from among such "multiple" events.

So called "split" events often result from the many detectable phases from a large event. Some of the phase arrival times that really originate from such a large event are not included in the AA logic or do not appear to be associated because of errors in the estimated hypocentral parameters. These unexplained phases may appear to fit together to make up another event without being multiply defining. This also was a common occurrence during the test. A "split" event usually had source parameters similar to those of the large event, which helped the analyst to recognize their occurrence.

The third category of events was rejected on the basis of inconsistency between the reported characteristics of the measured phases and those expected from an event at the calculated location. If, for example, an arrival used to help define an event within a few degrees of a station was reported as a PKP by that station, the event could be rejected, especially if there were only a small number of defining observations for the event in question. Qualitative remarks, secondary phases and periods reported in the Level I data were particularly helpful in eliminating spurious epicenters.

After reviewing the event list a message number was assigned and the list was transmitted over the WMO/GTS.

4. PELs

A total of 1079 epicenters were calculated between 15 October and 14 December 1984. 204 of these were rejected by the analysts at WASHIDC leaving 875 "AOK" events. The review of .he PELs was mostly made fairly brief with a "generous" attitude toward accepting the automatically defined events.

5. RECs

For reasons mentioned in the following description, the reconciliation procedures for the GSETT were not followed exactly as described in the CRP 134/Rev. 1.

The reconciliation procedures actually applied at the Washington IDC included the following steps:

- automatic calculation and transmission of a PEL during the first few days after the data day

- automatic calculation of a second event bulletin approximately 11-15 days after the data day

- analyst review of the calculated bulletin (this reviewed bulletin was called a reconciliation bulletin or REC)

- transmission of REC over the WMO/GTS

- receipt of RECs from other IDCs

- revision of REC based on comparison with RECs from other IDCs

- transmission of revised REC on WMO/GTS

- editing and transmission of FEB

The diagram in Figure 6 shows how the procedures relate to incoming and outgoing bulletins.

The basis for the reconciliation was thus the automatic calculation of the FEBs rather than of the PELs as originally planned, since it was observed during the early part of the GSETT that the PELs of the IDCs differed significantly, apparently due primarily to differences in the data available at the different IDCs. These differences were reduced subsequently as more reports were retransmitted from the NDCs, and as retransmissions were received.

Reconciliation of event bulletins during the GSETT was limited to the period covering data for the interval December 1 to 14. The time schedule used at the Washington IDC for calculation and transmission of the RECs and FEBs is shown in Table V.

An example of a REC is shown in Appendix IV. Summaries of statistics of accepted and rejected events are given in Table VI and in Table VII. In Table VI no distinction is made between events based on common multiply defining observations and events based on uniquely defining observations. This distinction is made in Table VII, however, where events based on common multiply defining observations have been grouped together as hypotheses for one event.

A revised REC was prepared if RECs from other IDCs were received early enough to permit a second iteration in the reconciliation process. Nine such revised RECs were prepared according to the time schedule in Table V.

The first step in the revision of the RECs was a comparison between available RECs. Initially this comparison was made manually from hard copies of the RECs. In order to simplify the comparison a computer process was developed that transformed the different IDC RECs into a merged file. An example of a complete merged REC file is shown in Appendix V.

On the basis of the merged file a revised REC was prepared and transmitted. The revised REC was an updated REC which had additional comments and modifications of the events which had been edited into the first REC.

Comments were made only on major differences and included the following:

- differences in hypocenters
- events not reported by other IDCs
- events rejected after comparison
- events modified after comparison
- "new" events defined after comparison

Table VIII summarizes the relative numbers of these kinds of comments.

Large differences in hypocenter parameters were pointed out in comments. It was also noted if the differences were within estimated uncertainties or if there were

TABLE V TIME TABLE FOR RECONCILIATION BULLETINS			
Data day	Transmittal date		
-	REC	Revised REC	FEB
Dec 01	Dec 12	Dec 12	Dec 14
Dec 02	Dec 13	Dec 15	Dec 17
Dec 03	Dec 14		Dec 17
Dec 04	Dec 14		Dec 18
Dec 05	Dec 14		Dec 18
Dec 06	Dec 17		Dec 19
Dec 07	Dec 18	Dec 20	Dec 20
Dec 08	Dec 19	Dec 20	Dec 21
Dec 09	Dec 20	Jan 07	Jan 08
Dec 10	Dec 20	Jan 08	Jan 08
Dec 11	Dec 21	Jan 08	Jan 09
Dec 12	Dec 21	Jan 08	Jan 09
Dec 13	Jan 07		Jan 10
Dec 14	Jan 08	Jan 08	Jan 11

TABLE VI REVIEW OF RECONCILIATION BULLETINS ACCEPTED AND REJECTED EVENTS			
Data day	Accepted events	Poor locations	Rejected events
Dec 1	14	0	1
Dec 2	16	3	5
Dec 3	20	1	4
Dec 4	17	0	12
Dec 5	25	2	4
Dec 6	18	3	7
Dec 7	11	1	3
Dec 8	11	3	0
Dec 9	16	2	7
Dec 10	15	2	9
Dec 11	10	1	5
Dec 12	10	2	2
Dec 13	19	4	3
Dec 14	20	6	7
Mean	15.9	2.1	4.9

TABLE VII								
REVIEW OF RECONCILIATION BULLETIN								
ACCEPTED AND REJECTED SINGLE AND MULTIPLE EVENTS								
Date	Single			Multiple			Total	
-	Accepted	Rejected		Accepted	Rejected		Accepted	Rejected
-	-	split	incons	-	split	incons	-	-
Dec 1	14	1	0	0	0	0	14	0
Dec 2	15	2	0	1	0	1	16	3
Dec 3	15	0	0	3	0	0	18	0
Dec 4	12	1	1	4	2	0	16	4
Dec 5	21	1	0	3	0	0	24	1
Dec 6	15	1	0	4	0	0	19	1
Dec 7	10	1	1	1	0	0	11	2
Dec 8	11	0	0	0	0	0	11	0
Dec 9	12	0	0	4	0	0	16	0
Dec 10	13	0	1	2	0	0	15	1
Dec 11	8	0	0	2	0	1	10	1
Dec 12	10	0	0	0	0	1	10	1
Dec 13	18	0	0	1	1	0	19	1
Dec 14	16	1	1	3	0	0	19	2
Mean	13.6	0.6	0.3	2.0	0.2	0.2	15.6	1.3

split="split" event

incons = inconsistency between reported and associated observation

TABLE VIII
COMMENTS AND CHANGES DURING REVISION OF REC'S

DATE	COMPARED WITH	TYPE OF COMMENTS		CHANGES OF EVENTS		
-		Not other EIDC	Hypo.diff	Rejected	Modified	New
Dec 1	STOC	1	2	1	1	1
Dec 2	STOC	3	3	0	0	0
Dec 7	STOC	4	1	0	0	0
Dec 8	STOC	1	1	1	0	0
Dec 9	MOSC/STOC	2	3	0	2	0
Dec 10	MOSC/STOC	5	1	0	0	0
Dec 11	STOC	3	1	0	0	0
Dec 12	MOSC/STOC	3	1	0	0	0
Dec 14	MOSC/STOC	9	1	1	0	0

differences in the set of defining stations.

For events not reported in RECs by other IDCs a check of stations defining the event in the Washington REC was made. If any of the defining stations were not found anywhere in the other IDCs REC the station codes and associated arrival times were added to the comment. For additional remarks on events not reported by other IDCs see section IV.3.

Events rejected during the revision of the REC were removed on the basis of inconsistent reported observations (two cases) and for a "split" event.

Modification of events (in three cases) were made by deleting arrival times, correcting reported phases in input data, and using arrivals from a "split" event.

A new event was generated by correcting phases of the input files in one case.

Although the number of changes of the originally reported REC were smaller than one event per day for the nine days for which the revised RECs were produced, it appears that access to the RECs of the other IDCs indeed improved upon the final bulletin and contributed to finding errors in the data handling procedure.

An example of a revised REC is shown in Appendix VI.

For the modification of events and definition of new events an interactive version of the AA program mentioned previously was used. This version allowed the analyst to select the input arrival times and change the so called computational input parameters.

6. FEBs

Altogether, 909 events (or about 15 per day) were reported during the period of the test (15 Oct - 14 Dec). The map in Figure 7 shows the geographical distribution of the epicenters of the events for the entire period as reported in the WASHIDC FEBs. The geographical distribution of the events is in general agreement with the pattern of global seismicity, dominated by the activity along the Circum-Pacific Belt. The relatively large number of small magnitude events in Northern Europe reflects the dense station distribution in that part of the world.

During the reconciliation period the FEB was obtained from the REC, or revised REC, by manual editing of rejected and modified events in an automatically prepared event file.

7. Detailed FEBs

Nine detailed weekly FEBs containing complete information on defined events and supporting Level I data were prepared and mailed to GSETT participants. There are minor differences between the contents of these detailed FEBs and of the FEBs transmitted via WMO/GTS, because additional data received after calculation of the FEBs contributed to the detailed FEBs.

8. Workload, Automation and Manual Interaction

The automation and manual interaction involved in the procedures to carry out the reconciliation work are summarised in the diagram of Table IX. Workloads and computer times are also indicated in the table.

The automatic processing was carried out by different types of program: AA, communication program and methods to transform and compare files. The bulk of the

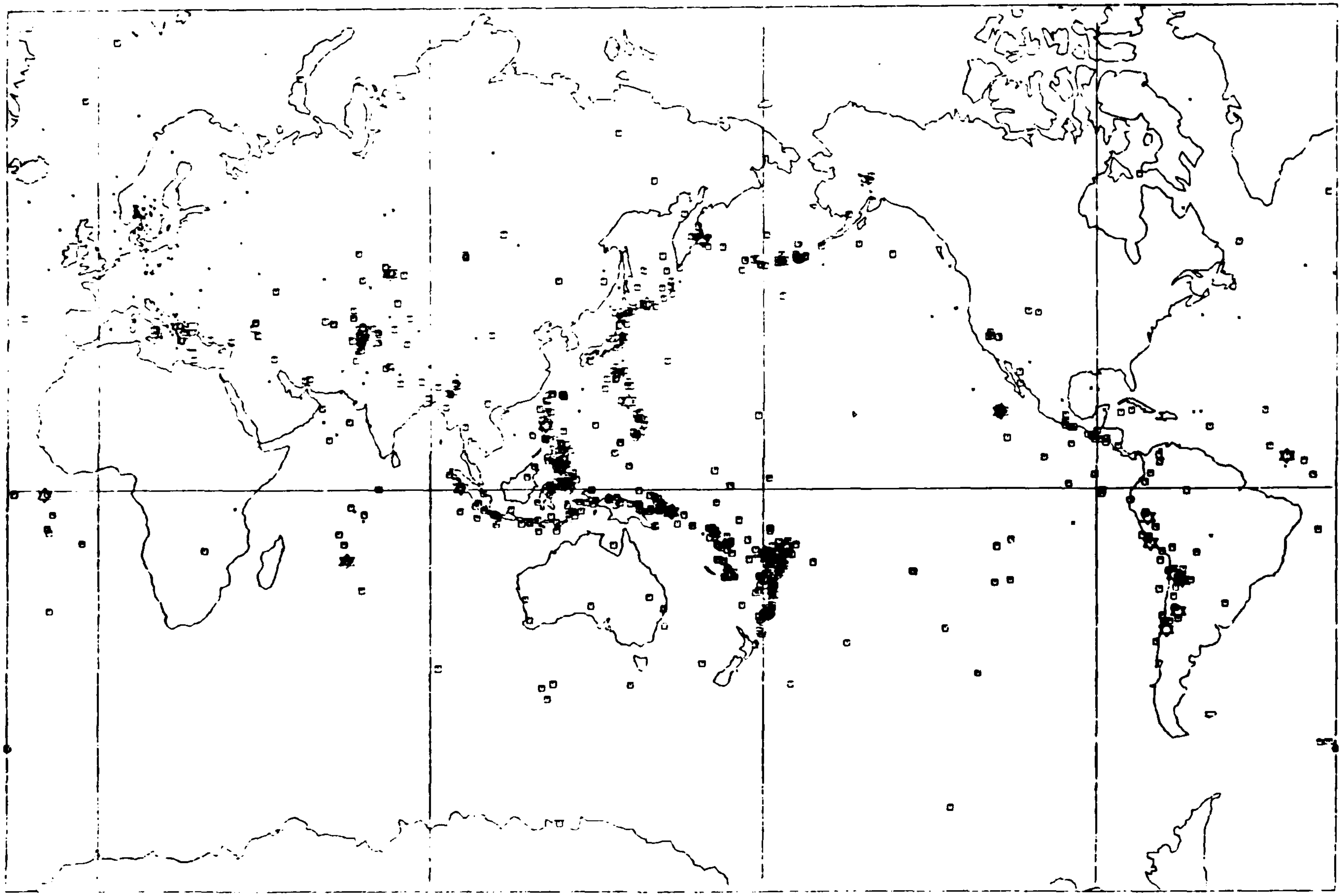


Figure 7 Epicenters located by Washington IDC, 15 October - 14 December 1984. Events with body wave magnitude, m_b , less than 4.0, between 4.0 and 5.49, and 5.5 or greater are indicated by crosses, squares, and stars respectively.

TABLE IX WORKLOAD,AUTOMATIC AND MANUAL INTERACTION				
PROCEDURE	AUTOMATION		MANUAL INTERACTION	
-	Software	Computer time	Type of work	Time
REC calculation	AA	˜ 1 hour	-	-
Analyst review	-	-	Seismological evaluation and editing	˜ 1 hour ˜ minutes
Transm. of REC	Communication	˜ minutes	-	-
Retrieval of IDC REC's	Communication	-	-	-
Revision of REC	Scripts for merge "interactive" AA	˜ minutes ˜ minutes	- Editing and seismological evaluation	- ˜ 2 hours - -
Transm. of REC	Communication	˜ minutes	-	-
FEB preparation	-	-	Editing	˜ minutes

˜ n hours indicates about n hours
˜ minutes indiactes a few minutes, rarely exceeding 10 minutes

computer time was spent on the automatic association processing.

The manual interaction consists of work that does and does not involve subjective judgement and evaluation. Initiating computer runs and editing files belong to the latter category; whereas seismological review of the output of the AA program involves subjective judgements. During the preparation of the REC the seismological evaluation consists of accepting or rejecting the events defined by the AA program.

Since the input parameters for the station noise and detection thresholds were only partly known during the GSETT, it is difficult to estimate the capability of the automatic procedures applied to define and locate events.

IV. CONCLUSIONS AND COMMENTS

1. WMO/GTS Message Traffic

a. On a typical day about 100 messages containing about 100 KBytes of information were received by the Washington IDC. To handle this traffic, the IDC relied heavily on automatic processing. This method worked well when messages were received in the prescribed GSE formats, and contained the prescribed information. However, it was found in practice that large volumes of information did not arrive in the form expected, necessitating many hours of human intervention to properly handle the data. Nearly half of all messages received contained some type of irregularity. The sources of these problems are described in the following.

b. Problems that appeared to be due to lack of adherence to the procedures, (although in some cases errors may have been introduced by transmission on the WMO/GTS), were:

(1) Message numbers did not contain the proper number of digits. Instead of the prescribed five digits, in some cases four or six were observed.

(2) Message numbers contained non-numeric characters or blanks.

(3) The first digit following the "N" was not a "4", thus the parser could not interpret the year of the message.

(4) The same message number was used to contain different information, e.g. long messages were sometimes split into several parts, but each part was given the same number. Since a significant percentage of the messages were transmitted more than once, (24 times was observed in one case!) it was necessary to develop some simple means to cull out duplicates. When the same message number was repeated, the later messages were, at least in the beginning of the GSETT, misplaced and did not get included in the PEL.

(5) Retransmission requests from NDCs were not uniformly labeled. Some arrived numbered N40xxx and some as N47xxx. Some were included in "comments" in Level I reports.

(6) Retransmitted messages did not follow a uniform pattern. Some NDCs used a different message number than the original - this was the most common practice. Other retransmissions used the same number as the original. Still others used the N47xxx or N49xxx series. At times, several responses for retransmission were combined into a single message. This was manageable when the messages were of the same type, e.g. all Level I, but when different types of messages were mixed, automated processing was impossible.

(7) Some WMO/GTS headers changed during the course of the GSETT. If WASHIDC received prior notification, it was not a problem but when the change occurred without notice, it created special problems.

(8) Level I messages contained several characteristic errors:
- Events were not delimited by station name and/or date,
- Numeric digits were mistakenly transposed to alphabetic characters as in the case of the letter "O" versus the number sero, or the letter "I" versus the number "1".

- In some instances, dates for subsequent events had a digit dropped and then added, as in the following sequence: "OCT 24 ... OCT 4 ... OCT 24 ..." .

(9) Comments were not delimited by the proper double "((..))".

c. The following difficulties were observed which can be attributed to problems or lack of message transfer protocol on the WMO/GTS:

(1) Messages were lost in transit. WMO placed a three-digit sequence number on all incoming messages to WASHIDC. This number simply reflected the order of the message relative to other messages. It was evident from the incoming message log that several times during the day there was a gap in the sequence number. Since the WMO does not have a store-and-forward system and it does not maintain a record of the sequence numbers, there was no way to recover obviously missing messages.

(2) Messages contained transmission errors. The number of messages falling into this category are difficult to quantify for the following reasons. If the beginning or the end of the message was garbled then the message was likely to have been either unrecognizable or it was mixed in with a non-GSETT message and lost. Similarly, if the line containing the "GSETT" string was garbled then the message could have been lost. If a Level I message contained internal errors, it was not always obvious whether the message was garbled in transit or not properly prepared at the source. The consensus at WASHIDC is that about 2-3 messages on a typical day contained transmission errors.

(3) Messages were replicated. The percentage of replications varied between 0% (no replication) to 50% (half of the messages were duplicates) on a daily basis. The high extreme was the result of a single message arriving 24 times. The daily average was about 30% duplicates.

d. The header line of every message contains the transmission date-time-group (DTG). The elapsed times between transmission and receipt showed that, most of the messages arrived within two or three to thirty minutes. Some anomalies were observed where the elapsed time varied anywhere between negative five hours, (meaning that the message arrived five hours before it's DTG), to more than nineteen hours. Not all of the clocks of the GSETT participants were synchronized, but another plausible explanation is that the DTG was prepared and put on the message based on the time when the message was expected to be sent out and thus has no real correlation with the time the message was actually sent.

2. Level I Data Format and Parsing

Given an exact set of rules that is adhered to strictly, it is possible to parse all messages without human intervention. Given the problems introduced by occasional communication errors, or more commonly by human failure to transcribe data accurately or failure to follow the rules of message preparation, messages often contained errors that could not be handled by the computer, and required manual intervention. Several countries were in violation of one or more of the GSETT rules throughout the test, necessitating hours per day of manual editing at the IDC. Below is a table describing some common errors.

INCORRECT	CORRECT
TO.n	T0.n
0CT	OCT
MIX	M1X
NILZ	N1LZ
N5Z	NSZ
AZI	AZ
ERG	ELGLZ or ELGSZ
EP!	EPC or EPD
ES!	ES
IS!	IS
MLGSE	LGSE
MLGSN	LGSN
MLR	MLRZ
LRZ	MLRZ or LRLZ
MLP	MPLZ
NAn.n NTn.n	NSZ An.n Tn.n
NLPAn NLPTn	N2LZ An Tn
MSN	MSSN
MSE	MSSE

3. Preparation of Event Bulletins

a. Parameters for AA Program

Provisional station noise values and detection thresholds provided by the GSE instructions were not accurate. The performance of the AA program was limited by this fact since it uses an amplitude consistency check procedure which is supposed to minimize the manual interaction of the analyst's review. However, Level I data reported during the Technical Test can be used to revise the noise and detection threshold parameters. A preliminary analysis of the data available at the WASHIDC was made with such revised values. Experiments on two weeks of data indicated that the number of rejected and so called "multiple" events could be reduced by at least a factor of two as compared with the results obtained during the Technical Test.

b. Content and Format of Event Lists

The contents and formats of the event lists were basically identical among the IDCs. There were, however, minor differences. Stations with defining and associated observations were indicated slightly differently in the PEL/RECs. The WASHIDC listed stations with both associated and defining observations in order to indicate as completely as possible the stations used to prepare the event lists. There were also minor differences in the layout and format of the PEL/RECs and in the accuracies with which the event solutions were given.

Identical format and content simplify and facilitate comparison and data handling. Since differences in input data seem to cause most of the differences in the bulletins of the IDCs it may be useful to include both defining and associated stations in the PEL/REC bulletin. It may even be valuable to include a list of the message numbers that were used to prepare the input data.

c. Timeliness of Input Data for PELs and FEBs

Computational experiments were performed to assess the impact of the time of receipt of Level I data on the event lists. Analysis were made of the completeness of an event list based on the cumulative set of Level I data received at the WASHIDC at noon (UT) on each of the ten days following the data day.

Data days December 1, which was a Saturday, and December 4, which was a Tuesday were studied. December 1 would represent maximum reporting delay for many stations since the data would not be analyzed until the following Monday. It was found that about 90 percent of the eventually defined events were obtained after a delay of 3.5 (for December 4) and 4.5 (for December 1) days. About 90 and 80 percent respectively of the finally received amount of Level I data had been received with these delays. No analysis has yet been made of the comparative quality of these event lists.

d. Differences between PELs and FEBs

The difference in input data for the computations of the different kinds of event lists and bulletins is illustrated by Table X showing a daily log of number of stations used for the PELs, the FEBs, and the detailed FEBs, labeled "FINAL" in Table X.

Figure 8 shows the number of stations used for the detailed FEBs as a function of data day for the Technical Test. This number varies between 36 and 59.

Figure 8 also shows the difference in number of stations used for computations of PELs and FEBs. The figure clearly shows how the difference was gradually reduced during the test from about fifteen during the preparatory first two weeks to about five or less during the last two weeks of the test.

A comparison of the content of the PELs and FEBs for the last two weeks of the test, i.e. December 1 to December 14, shows that about 52 per cent of the events in the FEBs appeared with identical hypocenter and magnitude estimates in the PELs. About 75 per cent of the events in the FEBs appear in the PELs with small or no differences in location (less than 100 km). In all about 85 per cent of the events in the FEBs appeared also in the PELs. In other words about fifteen per cent of the events in the FEBs were "new" and not defined in the PELs. Moreover an average of 1.5 events per day reported in the PELs did not appear in the FEBs, that is, they were rejected in the final review of the FEBs. The daily average of events in the FEBs for this period of the test was 15.5.

e. Schedule for Transmitted PELs and FEBs

During the initial two week period of the test a number of programming and procedural problems were discovered and corrected. Most of the PELs were transmitted later than the schedule called for during this time--usually by one working day.

For the remainder of the test the PELs were transmitted essentially on schedule on all but four days. For each case computer problems delayed the preparation of the PELs by one working day. Seven PELs were affected.

The histograms in Figure 9 show the transmission schedule for the PELs (upper figure) and the FEBs (lower figure) actually sent from WASHIDC during the GSETT in relation to the schedule of the procedures in CRP 134/Rev.1.

Because the time schedule for transmitting FEBs was less stringent than for PELs and because most of the procedural and programming problems were discovered and corrected while producing PELs during the early days of the test, all FEBs except one

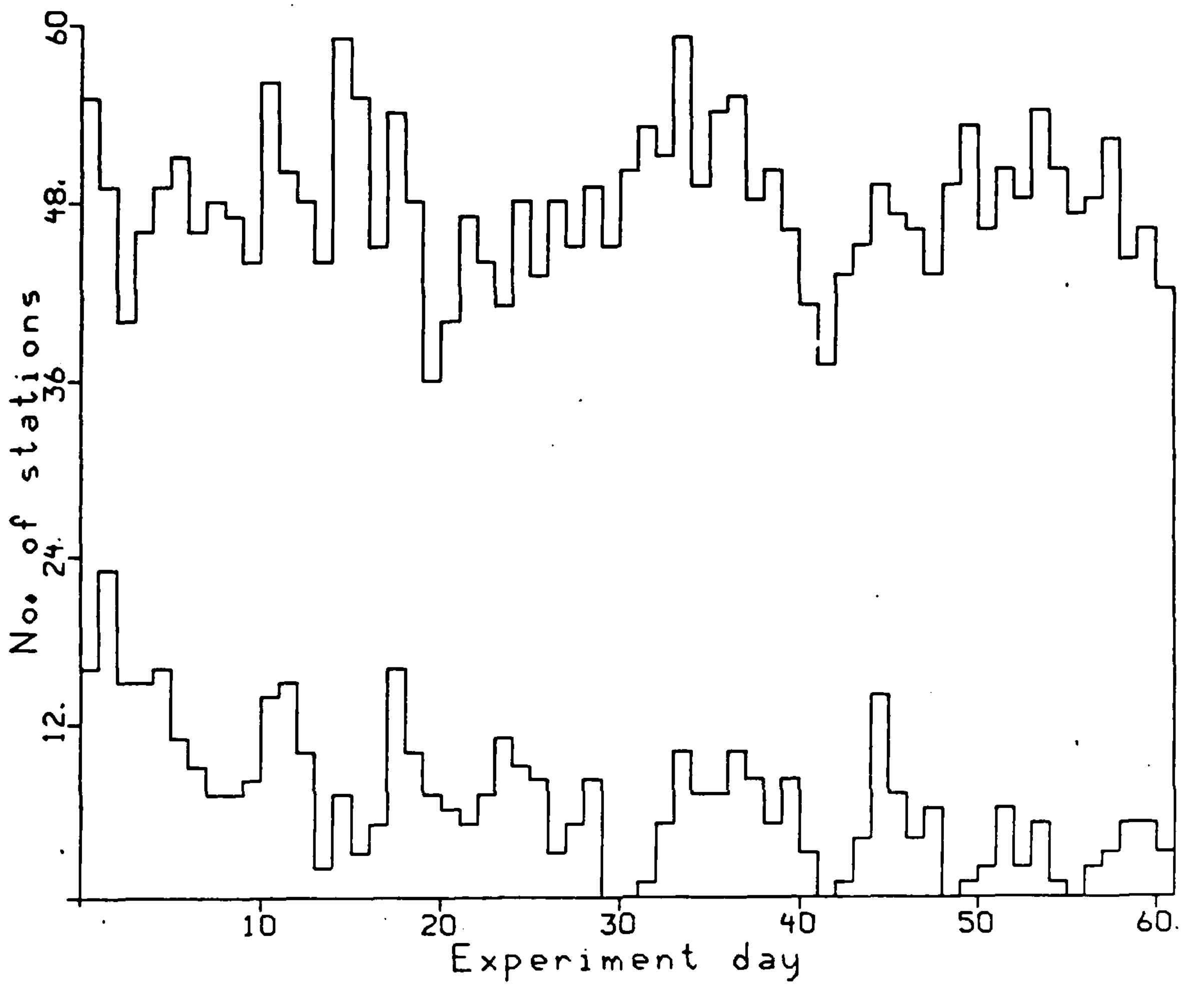


Figure 8 Number of stations used by Washington IDC for event list preparation.

-upper curve: detailed Final Event Bulletins

-lower curve: difference between Final Event Bulletin and Preliminary Event List

The curves show the number of stations and difference in number of stations as a function of data day.

TABLE X
DAILY LOG OF NUMBER OF STATIONS

Exp Day	Year Day	Date		Number of stations PEL	FEB	FINAL
1	289	Oct	15	28	44	55
2	290	T	16	20	43	49
3	291	W	17	25	40	40
4	292	T	18	31	46	46
5	293	F	19	28	44	49
6	294	S	20	34	45	51
7	295	S	21	33	42	46
8	296	M	22	34	41	48
9	297	T	23	39	46	47
10	298	W	24	36	44	44
11	299	T	25	40	54	56
12	300	F	26	30	45	50
13	301	S	27	34	44	48
14	302	S	28	41	43	44
15	303	M	29	48	55	59
16	304	T	30	50	53	55
17	305	W	31	38	43	45
18	306	Nov	1	34	50	54
19	307	F	2	36	46	48
20	308	S	3	29	36	36
21	309	S	4	32	38	40
22	310	M	5	40	45	47
23	311	T	6	37	44	44
24	312	W	7	26	37	41
25	313	T	8	38	47	48
26	314	F	9	35	43	43
27	315	S	10	45	48	48
28	316	S	11	40	45	45
29	317	M	12	40	48	49
30	318	T	13	43	43	45
31	319	W	14	46	46	50
32	320	T	15	49	50	53
33	321	F	16	46	51	51
34	322	S	17	48	58	59
35	323	S	18	42	49	49
36	324	M	19	46	53	54
37	325	T	20	44	54	55
38	326	W	21	38	46	48
39	327	T	22	36	41	50
40	328	F	23	35	43	46
41	329	S	24	36	39	41
42	330	S	25	37	37	37
43	331	M	26	42	43	43
44	332	T	27	41	45	45
45	333	W	28	34	48	49
46	334	T	29	39	46	47
47	335	F	30	42	46	46

TABLE X
DAILY LOG OF NUMBER OF STATIONS

Exp Day	Year Day	Date		Number of stations PEL	FEB	FINAL
48	336	Dec	1	36	42	43
49	337	S	2	48	48	49
50	338	M	3	51	52	53
51	339	T	4	43	45	46
52	340	W	5	43	49	50
53	341	T	6	45	47	48
54	342	F	7	45	50	54
55	343	S	8	48	49	50
56	344	S	9	47	47	47
57	345	M	10	44	46	48
58	346	T	11	48	51	52
59	347	W	12	38	43	44
60	348	T	13	41	46	46
61	349	F	14	39	42	42

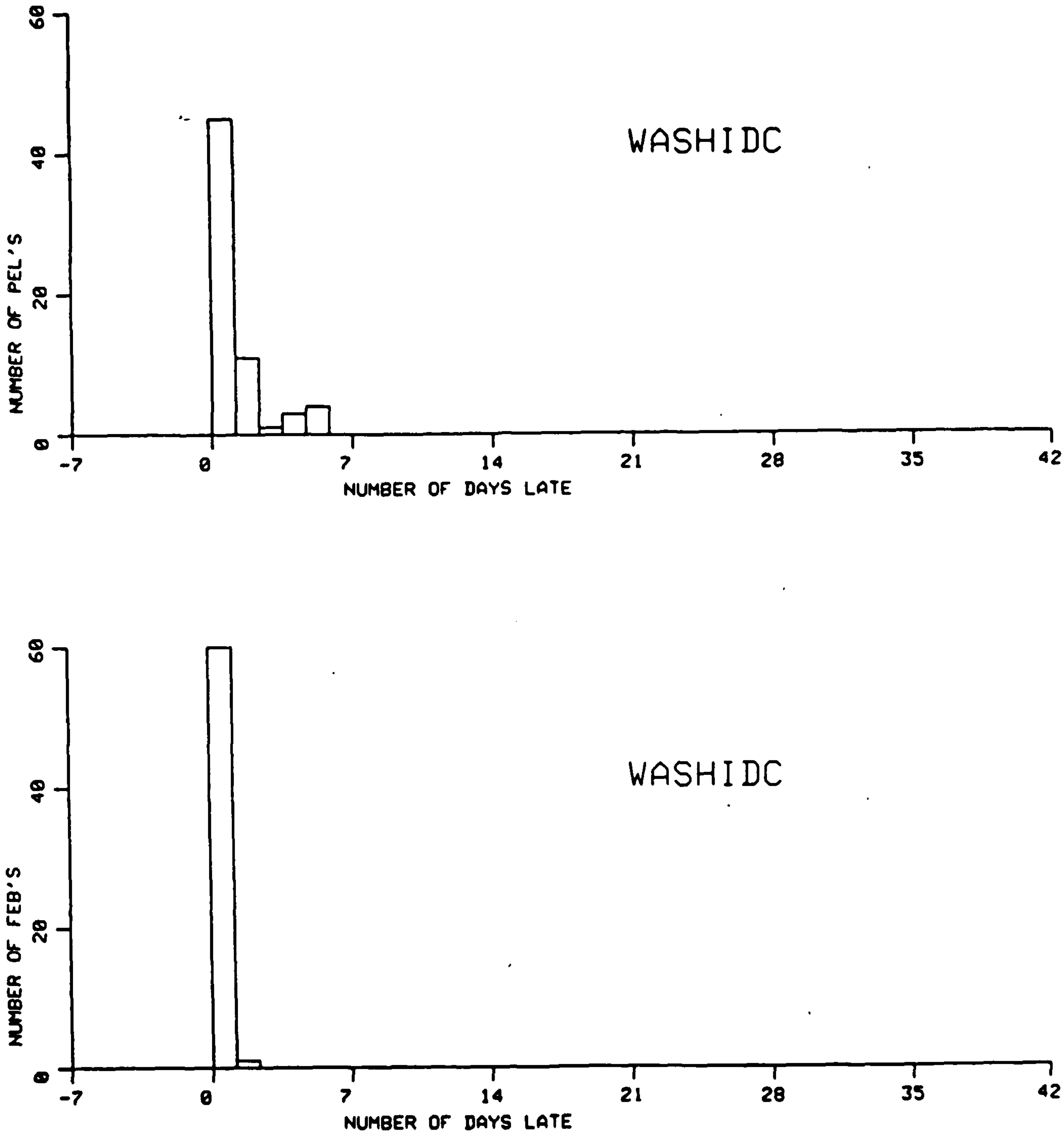


Figure 9 Time schedule actually used by Washington IDC for *transmission* of event lists. The number of PEL's is shown in the upper diagram, and the number of FEB's is shown in the lower diagram, in relation to the schedule specified in the procedures for GSETT (Conference Room Paper 134/Rev. 1). A delay of sero days means that the event list was sent on schedule.

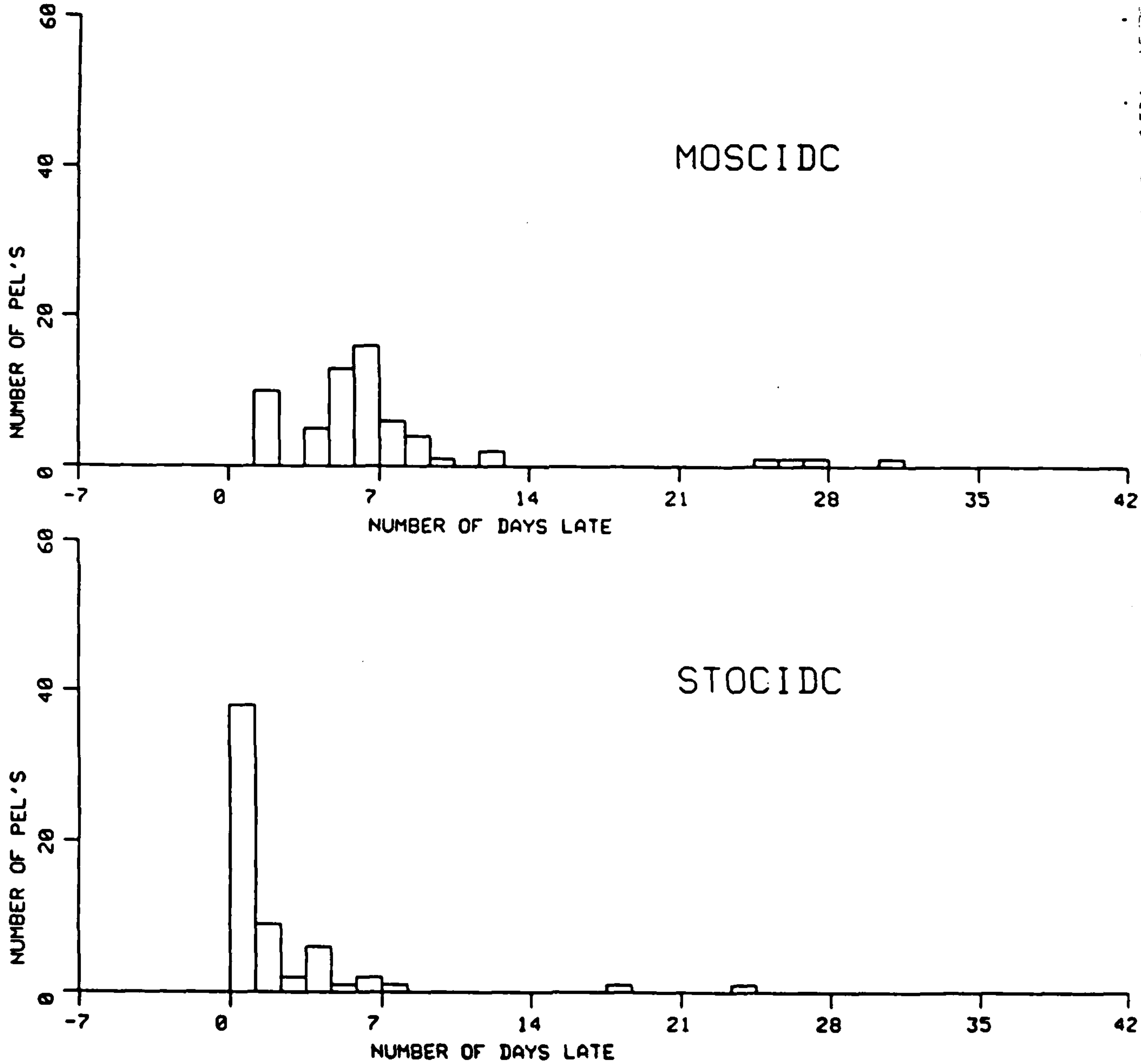


Figure 10 Time delays of Preliminary Event Lists, PEL's, as *received* at the Washington IDC in relation to the *transmission* schedule specified in the procedures for the GSETT (conference Room Paper 134/Rev. 1). The upper and lower diagrams show the delays for PEL's transmitted from Moscow and Stockholm IDC's respectively. A delay of zero days for a PEL means that it was *received* the day it should have been *transmitted* according to the schedule for the GSETT.

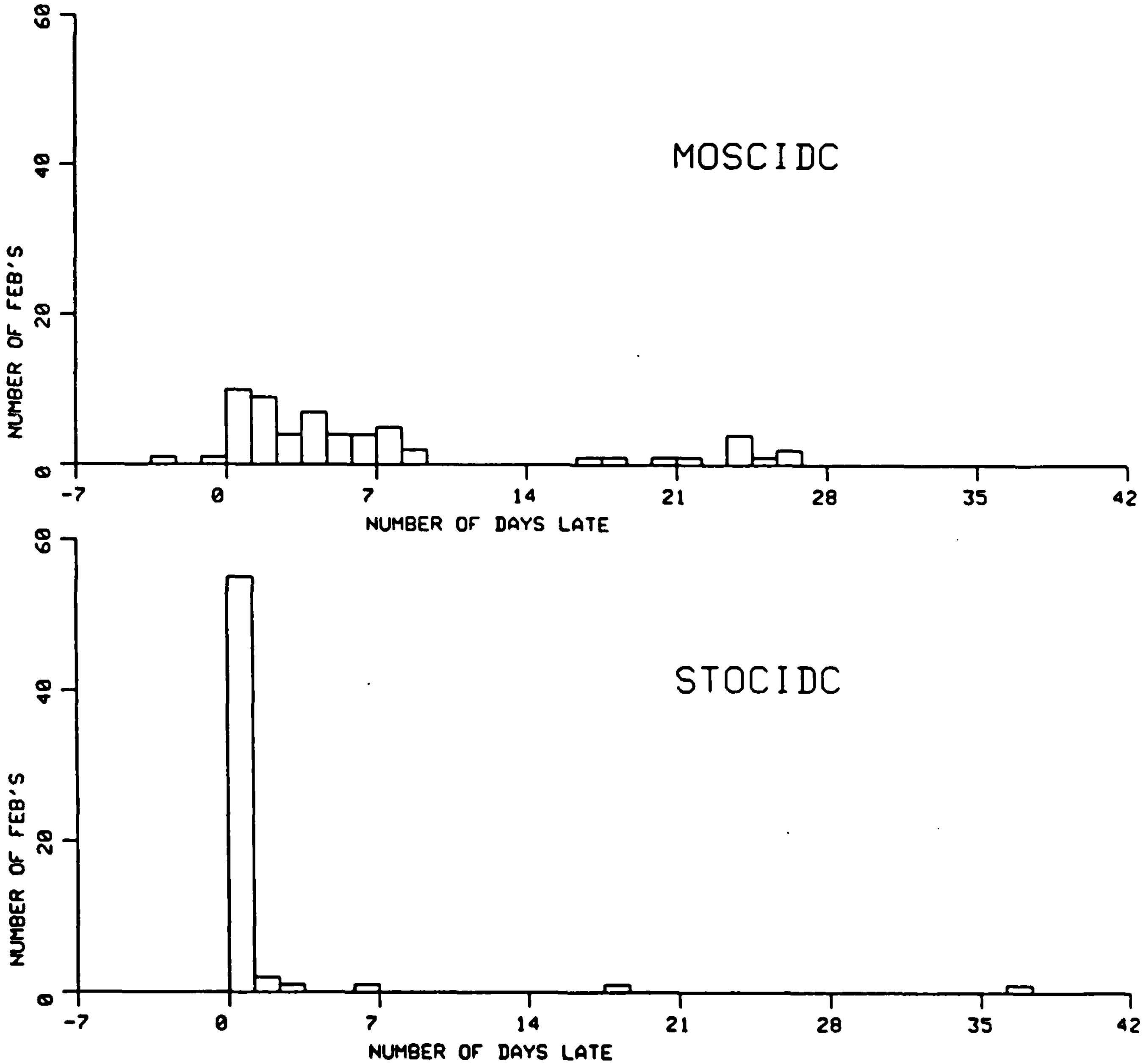


Figure 11 Time delays of Final Event Bulletins , FEB's, as *received* at the Washington IDC in relation to the *transmission* schedule specified in the procedures for the GSETT (conference Room Paper 134/Rev. 1). The upper and lower diagrams show the delays for FEB's transmitted from Moscow and Stockholm IDC's respectively. A delay of zero days for a FEB means that it was *received* the day it should have been *transmitted* according to the schedule for the GSETT.

were transmitted on time.

f. Time Table of Received PELs and FEBs from other IDCs

The histograms in Figure 10 show the delay of *received* PELs from other IDCs compared with the *transmission* schedule. It can be seen that all received PELs from MOSCIDC are delayed in relation to the transmission schedule. Most PELs from MOSCIDC were delayed five days. A few messages were not received until more than twenty days after transmission schedule and were the result of retransmission requests.

The PELs from STOCIDC were mostly received on the transmission day according to the schedule. About one third of the STOCIDC PELs were received with a delay of one to a few days after transmission schedule.

The histograms in Figure 11 illustrate the delays for the *received* FEBs as compared to the transmission schedule. Most of the FEBs from MOSCIDC were received within about five days of the scheduled time. transmission according to the schedule. A few FEBs were also received prior to the transmission schedule. Eight FEBs were not received until about twenty days after the transmission schedule, and these appeared as retransmitted messages.

With four exceptions all FEBs from STOCIDC were received at WASHIDC on the day of transmission according to the schedule.

g. Reconciliation of Event Lists

As previously discussed in Section III.5, reconciliation procedures in CRP 134/Rev. 1, were not tested in the manner originally planned, nor were they tested throughout the GSETT. Moreover the principal automatic computer program had to be based on approximate values for some of its computational input parameters. In addition the time schedule was too tight to actually "negotiate" towards a common final event bulletin. For some days it was not even possible to make a revised REC. All this limits the conclusions that might be derived from the reconciliation procedures tested on the GSE system.

The procedures did, however, demonstrate the value of bulletin reconciliation. Improvements and modifications were made as a result of the revised RECs. Moreover as shown below, comparisons of FEBs among the IDCs throughout the technical test show that the most consistent results were obtained during the reconciliation period.

h. Consistency of Event Lists Among IDCs

Tables XIa to XIc compare the FEBs for three periods of the GSETT, the initial preparatory phase (Oct. 15 to Oct. 26), the main period (Oct. 27 to Nov. 30), and the reconciliation test (Dec. 1 to Dec. 14). The relative number of common events increased throughout the test, and is highest for the reconciliation period. The number of events located by the IDCs is comparable to the numbers located by the U.S. National Earthquake Information Service (NEIS), even though NEIS had substantially greater numbers of stations reporting to it.

A comparison of events common with MOSCIDC and STOCIDC for the period December 1 to December 14 shows that WASHIDC usually used slightly more defining stations than the other IDCs. The mean difference is 1.5 and 0.5 respectively.

TABLE XIa COMMON EVENTS AMONG IDC FEB'S PREPARATORY PHASE, OCT 15 TO OCT 26										
Date	Total	MSW	MS	MW	SW	M	S	W	NEIS	Common
Oct 15	19	5	0	0	6	0	7	1	18	12
Oct 16	10	2	0	0	2	0	5	1	9	8
Oct 17	18	2	1	0	3	0	10	2	11	8
Oct 18	15	3	0	0	6	0	6	0	11	9
Oct 19	23	6	0	0	6	0	4	7	20	16
Oct 20	11	5	0	0	2	0	2	2	10	7
Oct 21	11	4	0	0	3	0	3	1	18	6
Oct 22	18	8	0	0	1	1	6	2	15	8
Oct 23	24	4	0	0	10	2	8	0	21	13
Oct 24	18	3	1	0	7	1	3	3	18	8
Oct 25	23	7	1	0	10	2	2	1	23	15
Oct 26	23	10	0	1	4	1	4	3	15	14
mean	17.8	4.9	0.3	0.1	5.0	0.6	5.0	1.9	15.8	10.3

The GSETT IDC's are denoted as follows:
M=MOSCIDC , S=STOCIDC, W=WASHIDC.
"MSW" means number of events common to all IDC's.
"MS" means number of events common to MOSCIDC and STOCIDC and not reported by WASHIDC.
"M" means number of events reported by MOSCIDC only and so on.

"NEIS" denotes the total number of events reported in the NEIS Preliminary Epicenter Lists and "Common" is the number of NEIS defined events common with events defined by any of the GSETT IDC's.

TABLE XIb
COMMON EVENTS AMONG IDC FEB'S
MAIN PERIOD, OCT 27 TO NOV 30

Date	Total	MSW	MS	MW	SW	M	S	W	NEIS	Common
Oct 27	18	6	0	0	8	0	4	0	16	13
Oct 28	6	0	0	2	0	1	0	3	9	3
Oct 29	22	6	0	2	5	3	5	1	17	10
Oct 30	19	4	1	0	2	1	8	3	15	8
Oct 31	12	3	0	0	4	3	1	1	14	3
Nov 01	13	6	0	0	2	0	4	1	10	7
Nov 02	24	7	0	0	6	2	6	3	10	9
Nov 03	18	3	1	0	4	1	6	3	14	9
Nov 04	17	5	0	0	6	0	2	4	8	4
Nov 05	21	5	0	0	5	1	6	4	9	7
Nov 06	15	3	0	0	3	1	6	2	6	6
Nov 07	19	5	1	0	3	1	6	3	6	6
Nov 08	25	8	0	0	14	0	2	1	17	14
Nov 09	19	4	0	0	7	2	2	4	13	6
Nov 10	21	8	1	0	7	1	2	2	11	10
Nov 11	12	2	0	0	8	0	2	0	12	6
Nov 12	21	9	0	0	8	3	0	1	15	12
Nov 13	23	4	0	0	12	1	2	4	11	7
Nov 14	17	8	0	1	6	0	2	0	11	10
Nov 15	26	8	0	0	10	0	4	4	13	9
Nov 16	14	4	0	0	6	1	0	3	7	7
Nov 17	28	14	0	1	9	0	3	1	17	17
Nov 18	20	7	0	0	7	1	2	3	15	8
Nov 19	19	7	0	0	4	7	0	1	10	8
Nov 20	28	8	0	0	11	1	3	5	21	11
Nov 21	12	6	0	1	1	0	2	2	10	7
Nov 22	29	8	2	0	10	0	4	5	23	14
Nov 23	34	9	1	0	10	0	5	9	18	15
Nov 24	16	4	0	0	6	0	2	4	4	1
Nov 25	16	9	0	0	3	1	1	2	15	11
Nov 26	19	5	2	0	8	0	3	1	20	9
Nov 27	12	5	0	0	2	0	2	3	13	6
Nov 28	13	9	0	0	2	0	1	1	11	8
Nov 29	25	10	0	0	11	0	1	3	19	13
Nov 30	18	7	0	0	6	0	3	2	11	7
mean	19.2	6.2	0.3	0.2	6.2	0.9	2.9	2.5	12.9	8.6

The GSETT IDC's are denoted as follows:
M=MOSCIDC , S=STOCIDC, W=WASHIDC.
"MSW" means number of events common to all IDC's.
"MS" means number of events common to MOSCIDC and STOCIDC and not reported by WASHIDC.
"M" means number of events reported by MOSCIDC only and so on.

"NEIS" denotes the total number of events reported in the NEIS Preliminary Epicenter Lists and "Common" is the number of NEIS defined events common with events defined by any of the GSETT IDC's.

TABLE XIc
COMMON EVENTS AMONG IDC FEB'S
RECONCILIATION PERIOD, DEC 1 TO DEC 14

Date	Total	MSW	MS	MW	SW	M	S	W	NEIS	Common
Dec 01	14	12	0	0	1	0	0	1	10	8
Dec 02	17	8	0	0	5	0	1	3	11	7
Dec 03	23	13	0	0	6	2	1	1	14	10
Dec 04	18	12	0	0	5	0	1	0	9	7
Dec 05	25	18	0	0	5	0	1	1	13	9
Dec 06	17	8	0	0	7	0	0	2	7	6
Dec 07	14	7	2	0	0	0	1	4	6	5
Dec 08	10	9	0	0	0	0	0	1	9	9
Dec 09	17	11	0	1	3	0	1	1	10	7
Dec 10	16	10	0	0	1	0	1	4	9	6
Dec 11	15	7	0	1	1	0	5	1	5	5
Dec 12	14	5	2	1	2	0	2	2	7	4
Dec 13	19	13	0	0	3	1	0	2	13	10
Dec 14	24	9	0	2	4	0	5	4	14	8
mean	17.4	10.1	0.3	0.4	3.1	0.2	1.4	1.9	9.8	7.2

The GSETT IDC's are denoted as follows:
M=MOSCIDC , S=STOCIDC, W=WASHIDC.
"MSW" means number of events common to all IDC's.
"MS" means number of events common to MOSCIDC and STOCIDC and not reported by WASHIDC.
"M" means number of events reported by MOSCIDC only and so on.

"NEIS" denotes the total number of events reported in the NEIS Preliminary Epicenter Lists and "Common" is the number of NEIS defined events common with events defined by any of the GSETT IDC's.

The estimated epicenters usually agreed within 100 km if fifteen or more defining stations were used. For about 80 per cent of the events based on less than fifteen defining stations and common with STOCIDC the epicentral differences were still less than 100 km. The corresponding percentage for MOSCIDC was about 65.

Estimated focal depths also agreed well among the IDCs if there were more than fifteen defining stations. For events based on less than fifteen defining stations the depth differences were less than 20 km for about 75 per cent of the events in common with STOCIDC and for about 50 per cent of the events in common with MOSCIDC.

The estimated body wave magnitudes agreed on the average with those reported by STOCIDC; whereas the values reported by MOSCIDC were systematically about 0.3 units higher.

Table XII list the events that were defined by WASHIDC and not by the other IDCs during the reconciliation period. It appears that most of these events are based on the additional stations relayed through the U.S. NDC, and not used by the other IDCs. The remaining events (about ten) are probably due to other differences in input data and in the computational parameters listed in Table III and IV.

1. Interaction Between IDCs

Interaction between IDCs during the GSETT was mainly limited to the reconciliation period when reconciliation event lists or RECs were exchanged via the WMO/GTS.

There were also a few other instances involving IDC interaction for the relaying and retransmission of Level I data. For example, Level I data messages from Egypt were, at the specific request of WASHIDC retransmitted via MOSCIDC, since the retransmission requests from WASHIDC to Egypt apparently never reached their intended destination. This case illustrates the usefulness of IDC interaction for the compilation of as complete Level I data sets as possible. Rather than requesting retransmission of Level I data from the originating country, it may be as convenient to ask other IDCs for a missing message. Requests for Level I data through IDCs may also reduce the traffic load on the WMO/GTS.

TABLE XII

EVENTS REPORTED BY WASHIDC ONLY

Date	Origintime	Epicenter		Depth	mb	Defining stations	Comments
Dec 1	200629.9	41.2N	51.7W	1	3.8	BUL LAC LTX MAW RSSD	
Dec 2	90629.0	29.2N	96.9E	22	3.8	APO FBAS HFS SLL	
Dec 2	92516.1	25.7S	68.6W	13	4.3	BUL LPB LTX RSSD	Rept NEIS
Dec 2	95150.2	36.2N	70.3E	256	3.9	APO HFS NB2 QUE RSON SLL	
Dec 3	4103.7	12.9S	59.0W	33	3.6	GBA LPB LTX	
Dec 5	51158.2	56.8N	16.9E	1	3.3	APO CHG HFS SLL	
Dec 6	120502.9	2.3S	140.0E	143	4.2	ASPA CHG CTAO KBA	
Dec 6	94255.0	24.4S	117.3W	1	4.4	APO ASPA CHG HFS LAC	
Dec 7	102135.4	37.5N	102.0E	1	3.8	CHG FBAS GBA MBC	
Dec 7	151923.0	16.4N	99.3E	21	4.0	APO HFS QUE SLL	
Dec 7	212317.0	30.2N	66.1E	26	3.7	APO HFS QUE SLL	
Dec 7	15531.6	35.3N	141.6E	1	3.7	GBA MAT	
Dec 8	234658.1	24.5N	95.0E	70	3.8	APO CHG GBA HFS SLL	
Dec 10	151351.1	9.6S	96.1W	5	3.8	KHC PRU YKA	
Dec 10	180942.3	14.2S	175.7W	1	4.2	ASPA FBAS KHC PRU	ARJ STOC
Dec 10	193911.3	54.4N	164.5W	211	3.6	BUL LTX YKA	
Dec 10	30650.9	19.9N	63.9W	46	3.8	FBAS RSON YKA	
Dec 11	74313.7	7.1S	158.5E	301	4.2	ASPA CTAO FBAS LOR	
Dec 12	232830.3	20.1N	62.0W	45	3.7	ASPA MBC YKA	
Dec 12	45056.5	62.7N	153.0W	31	3.4	FBAS MBC YKA	Rept NEIS
Dec 13	173239.7	3.7S	131.9E	626	4.6	ASPA CHG CTAO GBA SPA	
Dec 13	42218.0	17.1S	63.0W	57	4.1	LPB RSSD YKA	Rept NEIS
Dec 14	104734.6	11.8S	166.8E	257	4.3	CTAO FBAS GBA SPA	
Dec 14	211502.0	8.7S	71.8E	5	3.9	GBA NUR QUE SUF	
Dec 14	233725.8	42.8N	20.3E	52	2.7	KHC NB2 VTS	
Dec 14	3401.3	32.9S	67.9W	1	4.5	LPB RSNY RSON RSSD	Rept NEIS

APPENDIX I

Message Distribution Details

APPENDIX I
Message Distribution Details

1. Distribution of daily messages

Newly received messages were first scanned to determine the country code of the originator of the message. Then the sequence number and size of the message were determined. This triple was then placed in a temporarry file to be used later in removing duplicate messages. The first two characters of the sequence number were then removed (N4 or N5) to get the message number.

If at any time a message could not be successfully parsed, the message was copied into a file called *msg.in/unknown* where a human could correct the syntax errors in the message and restart the distribution process on the corrected data, or send the message to the proper directory by hand. Such manual intervention was only necessary when the originator of the message did not conform to the agreed upon format. Any message that followed the format specified in Appendix 5, Instructions for Preparing WMO/GTS Messages, was handled with no human intervention.

If the message number was < 2000 or > 9000 then the message was copied to the directory msg.in/level1/*country-code*. It was also copied to the directory idc/arrivals/*current-date*.

If the message number was ⩾ 2000 and < 3000 the message was copied to one of several subdirectories under msg.in depending on the type of message and the originating IDC. Rules employed were:

If it is a message from the coordinator, it is copied to *msg.in/coord.*
If it is a PEL, it is copied to msg.in/pel/*IDC.*
If it is a FEB, it is copied to msg.in/feb/*IDC.*
If it is a REC, it is copied to msg.in/rec/*IDC.*
If it is a REQUEST, it is copied to msg.in/req/

If the message number was ⩾ 7000 and < 8000, the message was copied to the directory msg.in/ndc.msg/*country*

Any other message numbers were invalid and the messages were copied to msg.in/unknown for later human intervention.

Duplicates were rejected by comparing country codes and sequence numbers of different messages. If they matched, the message with the smaller number of characters was presumed to be truncated and was deleted. This admittedly simplistic approach worked in every case we tested. It was impossible to detect duplicates by cross-comparing the messages because the WMO inserts a different header for each message, so all files would test as unique.

2. Daily Summary of WMO Message Traffic

In addition to the distribution program, it was necessary to maintain statistics of incoming messages and their contents. This process started with making a file summarizing the messages received on a given date. The file was then sorted by country-code and sequence number. The complete file consisted of the sequence number, the date and time it was received, the elapsed time since it was sent and the number of characters in the message. This was useful as a quick check to determine if messages were lost or duplicated.

A summary of the number of messages and characters received from each country was also produced. The following table provides an example of this daily summary for a typical day of the GSETT.

Incoming WMO messages for dec04 (339), day 51 of the GSETT					
Country	WMO/GTS Code	Messages		Characters	
Unknown	????????	0	0.00%	0	0.00%
Australia	SEAU1 AMMC	5	4.90%	6858	5.84%
Australia	SEAU10 AMMC	0	0.00%	0	0.00%
Bulgaria	SEBU1 LZSC	1	0.98%	275	0.23%
Belgium	SEBX1 EBBR	2	1.96%	1357	1.16%
Brazil	SEBZ1 SBBR	0	0.00%	0	0.00%
Canada	SECN1 CWTO	3	2.94%	3092	2.64%
Czechoslovakia	SECZ1 OKPR	6	5.88%	6550	5.58%
German Dem Rep	SEDD1 ETPD	2	1.96%	670	0.57%
German Fed Rep	SEDL1 EDZW	2	1.96%	5632	4.80%
Denmark	SEDN1 EKMI	0	0.00%	0	0.00%
Egypt	SEEG1 HECA	0	0.00%	0	0.00%
Finland	SEFI1 EKFL	2	1.96%	3384	2.88%
France	SEFR1 LFPW	3	2.94%	2199	1.87%
Hungary	SEHU1 HAPB	4	3.92%	2888	2.46%
Indonesia	SEID1 WIIX	0	0.00%	0	0.00%
Ireland	SEIE1 EIDB	2	1.96%	751	0.64%
India	SEIN1 DEMS	3	2.94%	2806	2.39%
Italy	SEIY1 LIIB	9	8.82%	3865	3.29%
Japan	SEJP1 RJTD	1	0.98%	824	0.70%
Netherlands	SENL1 EHDB	1	0.98%	819	0.70%
Norway	SENO11 ENMI	4	3.92%	3982	3.39%
New Zealand	SENZ1 NZKL	0	0.00%	0	0.00%
Austria	SEOS1 LOWM	2	1.96%	338	0.29%
Fr. Polynesia	SEPF01 NTAA	0	0.00%	0	0.00%
Peru	SEPR1 SPIM	1	0.98%	511	0.44%
Romania	SERO1 YRBK	2	1.96%	1564	1.33%
U.S.S.R.	SERS1 RUMS	12	11.76%	16276	13.87%
Sweden	SESN1 ESWI	18	17.65%	30196	25.73%
United Kingdom	SEUK1 EGRR	1	0.98%	1577	1.34%
United States	SEUS10 KWBC	4	3.92%	4307	3.67%
United States	SEUS2 KWBC	12	11.76%	16620	14.16%
Zambia	SEZB1 FLLS	0	0.00%	0	0.00%

Total: 24 Countries, 102 messages, 117341 characters

3. Arrival Statistics

After the parsing of Level I messages was completed for a given day, statistics were collected on the number of "arrivals" on a country basis. An "arrival" here is defined as an independent measurement from a waveform. For example, a noise measurement containing a period and an amplitude constitutes an arrival for this purpose. Similarly, a seismic phase along with its time, period and amplitude is an "arrival." The result is a table giving the number of "arrivals" for a given country broken out by applicable data days along with a two-way summary for the given data collection day and country.

4. Parameter-Driven Statistics

An additional file was prepared containing a summary of the messages received from each country in a given date interval. This is similar to the daily summary table except that the country code(s) and time interval for the statistics can be specified. The table was first sorted by country-code and sequence number. The result was a listing of the sequence number, the date and time it was received, the elapsed time since it was sent and the number of characters in the message. This was useful as a quick check to determine if messages were being lost or duplicated and also to generate weekly or bi-weekly status reports.

5. Event Statistics

A table containing the number of events per day vs. countries was prepared. An event in this sense is defined as a related arrival group presumed to belong to the same event based on the criteria embedded in the parser of the Level I messages. This was straightforward for the stations which used the station name as the delimiter between events. For the other stations, certain heuristic criteria involving elapsed time between measurements was used.

APPENDIX II

SAMPLE OF EVENT SUMMARY LIST OUTPUT OF AA-PROGRAM

APPENDIX II
SAMPLE OF EVENT SUMMARY LIST OUTPUT OF AA-PROGRAM

-	Event no	Date	Time		Epicenter				Depth		mb	Plaus	No stns
	1	841209	22920.7	1.2	29.8N	0.1	72.6E	0.1	10	6	3.9	-2.64	6
	2	841209	30110.3	0.9	37.3N	0.1	138.7E	0.1	5	3	4.2	-2.81	9
	3	841209	42304.5	93.9	62.8N	1.7	151.5W	1.4	1	477	3.4	-6.43	4
	4	841209	65245.8	6.0	20.4N	0.2	115.9W	0.1	63	49	4.3	-3.59	8
	5	841209	71627.6	1.1	40.2N	0.2	122.1E	0.2	172	10	3.9	-4.27	5
m	6	841209	80319.9	6.2	32.3N	0.3	116.5W	0.4	63	42	3.6	-8.84	5
m	7	841209	80919.8	54.0	39.1N	0.4	112.3E	0.7	33	424	3.9	-6.28	4
m	8	841209	81618.8	50.2	73.4N	0.2	69.0W	0.6	1	327	3.5	-5.66	4
	9	841209	100442.8	84.9	6.0S	0.9	69.5E	1.2	1	532	3.8	-4.26	4
m	10	841209	144426.6	72.9	12.3N	1.6	39.6W	1.4	33	506	3.9	-4.82	4
m	11	841209	144531.9	1.1	7.0N	0.1	73.0W	0.1	176	9	4.4	-3.14	11
	12	841209	151513.6	1.1	55.3N	0.1	162.4E	0.2	31	6	3.8	-3.45	4
	13	841209	164444.0	38.6	39.1N	0.2	86.7E	0.3	1	217	3.7	-2.44	3
	14	841209	193959.8	1.1	37.3N	0.1	116.4W	0.1	5	6	5.4	-0.95	30
m	15	841209	202508.6	7.1	59.9N	0.9	15.1E	0.7	70	98	2.9	-4.05	5
m	17	841209	203247.3	5.4	9.4S	0.3	116.5E	0.3	10	35	3.8	-5.46	5
	16	841209	203229.7	1.3	3.8S	0.2	119.5E	0.4	47	5	4.7	-1.69	6
m	18	841209	220203.1	81.3	10.3S	0.3	73.2W	1.8	30	517	4.4	-3.07	4
m	19	841209	220514.9	87.4	57.9N	0.7	156.0W	0.1	13	549	4.0	-3.36	4
m	21	841209	221201.4	45.8	8.9S	0.4	116.6E	0.5	1	272	4.3	-2.68	4
m	22	841209	221356.5	40.7	65.3N	0.2	22.7E	2.3	33	452	3.5	-3.90	5
	20	841209	220714.2	0.7	56.2N	0.1	109.7E	0.1	31	3	4.5	-2.83	15
	23	841209	224111.9	8.1	14.4N	0.1	92.4W	0.3	223	63	4.3	-4.11	11

m indicates that the event is based on multiply defining observations. Each event and group of "multiple" events are delimited by a horisontal line in the list above.

Plaus denotes the total plausibility measure used in the amplitude consistency check procedure and is a measure of the likelihood of the event wiht regard to detecting and non-detecting stations and reported amplitude values.

Numbers immediately following *Time*, latitude and longitude of *Epicenter*, and *Depth* are estimated errors.

APPENDIX III

SAMPLE EVENT OUTPUT LIST OF AA-PROGRAM WITH ASSOCIATED OBSERVATIONS

APPENDIX III

SAMPLE EVENT LIST FROM AA - PROGRAM WITH ASSOCIATED STATION OBSERVATIONS

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	2:29:20.7	29.9N	72.6E	INDIA-PAKISTAN BORDER REGION	10	6	3.9
	+- 1.2	+-0.1	+-0.1		+- 6		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
GBA	P	(P)	2:33:20.5	3.5	*	16.8	163.6	345.4	1.0	12.69	12.30	3.0	0.50	4.2
NAI	P	(P)	2:37:46.0	-0.7	*	46.1	234.3							
APO	P	(P)	2:38:10.6	-0.3	*	49.2	326.1					2.9	0.60	4.3
MFS	P	(XP)	2:38:14.2	-1.4		49.2	325.5					69.5	1.50	
MFS	P	(AP)	2:38:14.2	-0.1	*	49.2	325.5					69.5	1.50	4.4
MFS	P	(P)	2:38:11.5	0.4	*	49.2	325.5					3.6	0.70	4.4
SLL	P	(P)	2:38:13.1	0.1	*	49.5	325.9					2.9	0.80	4.2
NB2	P	(P)	2:38:21.9	0.2	*	50.6	326.4	99.1	99.0	7.61	7.50	5.8	0.90	4.5

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	3: 1:10.3	37.3N	138.7E	NEAR WEST COAST OF HONSHU, JAPAN	5	9	4.2
	+- 0.9	+-0.1	+-0.1		+- 3		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
MAT	P	( )	3: 1:27.3	0.6	*	0.9	205.8							
FBAS	P	(P)	3:10:10.6	-0.2	*	50.4	32.4					4.0	0.80	4.4
GBA	P	(P)	3:11:13.4	-0.2	*	59.1	263.6	54.6	59.0	6.94	5.00	11.0	0.90	4.8
YKA	P	(AP)	3:11:48.0	-5.0		64.7	29.5					4.7	1.20	
YKA	P	(P)	3:11:48.0	-3.3		64.7	29.5					4.7	1.20	
SUF	P	(P)	3:12: 4.8	0.2	*	66.7	332.4							
APO	P	(XP)	3:12:42.5	-0.1	*	72.5	334.8					10.0	1.00	4.5
APO	P	(P)	3:12:39.6	-0.5	*	72.5	334.8					2.7	0.60	4.5
APO	P	(AP)	3:12:42.5	0.7		72.5	334.8					10.0	1.00	
SLL	P	(XP)	3:12:43.5	-0.5		72.8	335.0					27.7	1.20	
SLL	P	(AP)	3:12:43.5	0.2	*	72.8	335.0					27.7	1.20	0.
SLL	P	(P)	3:12:41.2	-0.4	*	72.8	335.0							
HFS	P	(XP)	3:12:43.8	-1.0		72.9	334.6					54.2	1.60	
HFS	P	(AP)	3:12:43.8	-0.2	*	72.9	334.6					54.2	1.60	0.
HFS	P	(P)	3:12:41.9	-0.4	*	72.9	334.6							
NB2	P	(P)	3:12:43.2	-0.0	*	73.1	336.2	41.4	47.0	5.86	5.90	2.0	0.60	4.3
KMC	P	(P)	3:13:29.5	1.4	*	81.1	327.0							
LPB	P	(PKP)	3:20:58.0	3.4		148.6	56.0							

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	4:23: 4.5	62.8N	151.5W	CENTRAL ALASKA	1	4	3.4
	+-93.9	+-1.7	+-1.4		+-477		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
FBAS	PG	(P)	4:23:51.0	-0.6	*	2.8	43.9					***********		5.5
YKA	P	(P)	4:27: 3.0	0.6	*	16.8	74.6					3.9	0.90	4.1
MBC	P	(P)	4:27: 7.3	0.4	*	17.1	25.6					3.0	0.60	4.1
RSON	P	(P)	4:29:39.6	-0.0	*	32.6	84.2					0.1	0.20	3.4

```
                                                                     DEPTH NO.     MB
  DATE      ORIGINTIME      EPICENTER      REGION                     (KM) STA (MAXLIKE)
-----------------------------------------------------------------------------------------
84/12/ 9     6:52:45.8   20.4N 115.9W EAST CENTRAL PACIFIC OCEAN         63   8     4.3
               +- 6.0  +-0.2  +-0.1                                   +- 49


STA      PHASE        TIME    RESID DEF DIST  AZ      AZ(STA-EV)  SLOWNESS     AMPL   PER  MB
     REPT  ASSOC              (SEC)     (DEG)(EV-STA) CALC  REPT  CALC  REPT
LAC  P     (P    )  6:56: 4.2  2.1   *  14.0 358.3                              149.8 1.30 5.6
LTX  P     (P    )  6:56: 4.0 -1.6   *  14.2  48.8                               28.7 1.30 4.9
RSSD P     (P    )  6:58:12.7  1.1   *  25.7  20.0                               12.6 0.90 4.7
RSON P     (P    )  6:59:34.3 -0.5   *  35.1  24.6                               21.7 1.10 4.9
YKA  AP    (PCP  )  7: 2:29.6  2.2      42.1   0.9                                5.8 1.00
YKA  P     (PCP  )  7: 2:26.3 -1.1      42.1   0.9
YKA  P     (P    )  7: 0:31.4 -1.9      42.1   0.9                               10.9 1.30
FBAS P     (P    )  7: 1:27.0 -0.2   *  43.9 343.0                                5.6 0.80 4.5
MBC  P     (P    )  7: 2:18.5 -1.1   *  55.9 359.0                                9.0 0.70 4.8
LPB  P     (P    )  7: 2:44.7 -0.4   *  59.6 124.5                               36.0 1.00 5.3
GBA  P     (PKP  )  7:12:13.4  0.6     143.8 337.7    21.5  32.0  3.82  2.20      7.0 0.70
GBA  P     (PKP  )  7:12:13.4 -0.6     143.8 337.7    21.5  32.0  1.70  2.20      7.0 0.70
LSZ  P     (PKP  )  7:12:19.0  2.2   * 145.5  87.5



                                                                     DEPTH NO.     MB
  DATE      ORIGINTIME      EPICENTER      REGION                     (KM) STA (MAXLIKE)
-----------------------------------------------------------------------------------------
84/12/ 9     7:16:27.6   40.2N 122.1E NORTHEASTERN CHINA                172   5     3.9
               +- 1.1  +-0.2  +-0.2                                   +- 10


STA      PHASE        TIME    RESID DEF DIST  AZ      AZ(STA-EV)  SLOWNESS     AMPL   PER  MB
     REPT  ASSOC              (SEC)     (DEG)(EV-STA) CALC  REPT  CALC  REPT
MAT  P     (P    )  7:19:29.0 -0.2   *  13.2 100.9                               10.6 0.60 4.8
CHG  P     (P    )  7:22:14.5  0.0   *  29.1 229.7
FBAS P     (P    )  7:25:43.2  0.5   *  54.9  31.6                                9.0 1.00 4.7
MBC  P     (AP   )  7:26:41.5 -0.0   *  57.6  14.4                               16.0 1.20 4.8
YKA  P     (P    )  7:27:10.1 -0.5   *  63.1  24.7                                4.9 1.00 4.5
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DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	8: 3:19.9	32.3N	116.5W	CALIFORNIA-MEXICO BORDER REGION	63	5	3.6
	+- 6.2	+-0.3	+-0.4		+- 42		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LAC	P	(P)	8: 3:50.9	-2.0	*	2.1	1.5					103.9	0.80	4.5
RSSD	P	(P)	8: 6:57.3	4.1	*	15.3	36.0					3.3	0.70	4.2
RSON	P	(P)	8: 8:39.4	-0.9	*	25.0	35.5					4.8	0.70	4.3
FBAS	P	(P)	8:10:29.2	0.2	*	37.5	339.1					2.4	0.80	4.1
BUL	P	(PKP)	9:22:52.7	0.0	2	146.6	77.4					2.7	0.60	4.7

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	9: 9:19.8	39.1N	112.3E	NORTHEASTERN CHINA	33	4	3.9
	+-54.0	+-0.4	+-0.7		+-424		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
MBC	P	(P)	9:19:29.2	1.1	2	60.4	12.5					2.0	0.40	4.4
DAG		(PP)	9:21:49.0	5.1		60.4	348.5							
DAG	P	(P)	9:19:28.0	-0.4	2	60.4	343.5							
YKA	P	(P)	9:20:41.3	-0.8	*	72.0	20.9					3.2	0.90	4.4
BUL	P	(P)	8:22:52.7	0.1	2	97.7	250.5					2.7	0.60	5.2

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                                                                                      DEPTH NO.    MB
 DATE      ORIGINTIME      EPICENTER      REGION                                      (KM) STA (MAXLIKE)
--------------------------------------------------------------------------------------------------------
84/12/ 9    8:16:18.8    73.4N  69.0W BAFFIN BAY                                         1    4    3.5
                +-50.2   +-0.2   +-0.6                                                +-327

STA     PHASE        TIME     RESID DEF DIST   AZ      AZ(STA-EV)  SLOWNESS     AMPL  PER   MB
     REPT  ASSOC              (SEC)     (DEG)(EV-STA) CALC   REPT  CALC   REPT
DAG  P     (P   )  8:19:28.0 -0.0  2   13.0   51.8
MBC  P     (P   )  8:19:29.2 -0.2  2   13.1  305.9                                  2.0 0.40 4.3
RSON P     (P   )  8:21:44.0 -1.3  *   25.0  218.8                                  3.8 0.80 4.1
RSSD P     (P   )  8:23: 1.6  0.2  *   33.5  228.5                                  3.0 0.60 4.4
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                                                                                      DEPTH NO.    MB
 DATE      ORIGINTIME      EPICENTER      REGION                                      (KM) STA (MAXLIKE)
--------------------------------------------------------------------------------------------------------
84/12/ 9   10: 4:42.8     6.0S  69.5E CHAGOS ARCHIPELAGO REGION                          1    4    3.8
                +-84.9   +-0.9   +-1.2                                                +-532

STA     PHASE        TIME     RESID DEF DIST   AZ      AZ(STA-EV)  SLOWNESS     AMPL  PER   MB
     REPT  ASSOC              (SEC)     (DEG)(EV-STA) CALC   REPT  CALC   REPT
LSZ  P     (P   ) 10:12:34.1 -0.0  *   41.6  253.8                                  4.2 1.00 4.2
PRU  P     (P   ) 10:16:16.0 -1.1  *   73.2  326.5
KMC  P     (P   ) 10:16:18.7  1.1  *   73.3  325.4                                  6.7 1.10 4.6
YKA  P     (PKP ) 10:23:42.1  0.0  *  123.5    2.3                                  2.4 1.20 4.4
```

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	14:44:26.6	12.3N	39.6W	NORTH ATLANTIC OCEAN	33	4	3.9
	+-72.9	+-1.6	+-1.4		+-506		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
RSNY	P	(P)	14:52:32.1	0.5	*	43.9	323.8					4.9	0.50	4.6
GAC	P	(P)	14:52:40.8	-0.5	2	45.1	324.5					9.1	0.60	4.8
LTX	P	(P)	14:54:42.9	-0.0	*	61.6	296.7					5.8	1.00	4.5
FBAS	P	(P)	14:57: 5.7	0.0	2	86.1	335.8					4.8	0.80	4.7

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	14:45:31.9	7.0N	73.0W	NORTHERN COLOMBIA	176	11	4.4
	+- 1.1	+-0.1	+-0.1		+- 9		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LPB	S	(SN)	14:54:31.0	1.0		23.8	168.3							
LPB	S	(S)	14:54:31.0	1.0	*	23.8	168.3							
LPB	P	(P)	14:50:32.0	2.0	*	23.8	168.3							
LTX	P	(PCP)	14:54:42.9	0.6		36.5	311.4					5.8	1.00	
LTX	P	(P)	14:52:21.4	-0.3	*	36.5	311.4					13.5	0.60	5.0
RSNY	P	(P)	14:52:32.1	2.0		37.5	358.2					4.9	0.50	
GAC	P	(P)	14:52:40.8	0.8	2	38.7	357.2					9.1	0.60	4.8
RSSD	P	(P)	14:53:39.4	1.0	*	45.9	328.8					8.5	0.70	4.7
RSON	P	(P)	14:53:47.3	-0.0	*	47.0	342.2					41.6	0.60	5.5
LAC	P	(P)	14:53:57.6	-0.3	*	48.4	310.5					12.4	1.10	4.7
YKA	P	(P)	14:55:41.5	-1.9		63.2	339.8					23.6	0.60	
MBC	P	(P)	14:56:47.8	-0.3	*	73.7	349.6					14.0	0.60	5.2
FBAS	P	(P)	14:57: 5.7	-0.5	2	76.9	335.0					4.8	0.80	4.6
NB2	P	(P)	14:57:29.3	0.3	*	81.1	29.3	268.3	268.0	5.22	5.20	4.5	0.70	4.7
SLL	P	(P)	14:57:34.0	-0.3	*	82.2	29.9					3.3	0.60	4.6
HFS	P	(AP)	14:58:18.4	-0.5	*	82.4	30.3					43.5	1.40	4.5
HFS	P	(P)	14:57:34.8	-0.5	*	82.4	30.3					3.1	0.70	4.5
GBA	P	(PKP)	15: 4:45.9	-0.3		144.2	55.2	303.0	302.0	2.65	2.20			
GBA	P	(PKP)	15: 4:45.9	-1.0		144.2	55.2	303.0	302.0	1.69	2.20			
ASPA	P	(PKP)	15: 5: 0.0	4.8		149.3	234.3					4.8	0.80	
ASPA	P	(PCP)	15: 1:40.0	2.2		149.3	234.3					5.0	1.00	
CHG	P	(PKP)	15: 5:10.5	9.6		153.2	17.1							

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	15:15:13.6	55.3N	162.4E	NEAR EAST COAST OF KAMCHATKA	31	4	3.8
	+- 1.1	+-0.1	+-0.2		+- 6		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
FBAS	PP	(XP)	15:21: 1.3	-0.0	*	26.3	48.4					7.2	0.90	4.4
FBAS	P	(P)	15:20:48.8	0.3	*	26.3	48.4					4.8	0.80	4.4
FBAS	PP	(AP)	15:21: 1.3	4.3		26.3	48.4					7.2	0.90	
YKA	P	(P)	15:22:52.1	-0.4	*	40.6	45.0					1.6	0.80	3.9
SUF	P	(P)	15:25: 2.3	0.2	*	57.5	337.8					3.5	0.50	4.6
GBA	P	(P)	15:26:59.7	-0.2	*	76.1	273.8	36.0	32.0	5.63	4.40	6.0	0.80	4.7

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	16:44:44.0	39.1N	86.7E	SOUTHERN SINKIANG PROV., CHINA	1	3	3.7
	+-38.6	+-0.2	+-0.3		+-217		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
SUF	P	(P)	16:52:45.0	0.1	*	42.8	323.8							
NB2	P	(P)	16:53:41.0	-0.2	*	49.9	322.0	79.9	77.0	7.65	7.50	1.8	0.60	4.1
YKA	AP	(XP)	16:56:51.5	9.0		77.3	9.9					3.2	0.80	
YKA	AP	(AP)	16:56:51.5	9.3		77.3	9.9					3.2	0.80	
YKA	AP	(PCP)	16:56:51.5	-1.6		77.3	9.9					3.2	0.80	
YKA	P	(P)	16:56:42.1	0.2	*	77.3	9.9	343.2	335.0	5.55	5.70	2.1	1.10	4.1

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	19:39:59.8	37.3N	116.4W	SOUTHERN NEVADA	5	30	5.4
	+- 1.1	+-0.1	+-0.1		+- 6		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LAC	P	(P)	19:40:47.1	-1.1	*	3.0	180.4					885.1	0.90	5.5
RSSD	P	(P)	19:42:49.0	0.7	*	11.5	50.3					65.1	0.80	5.5
LTX	P	(P)	19:43:14.3	2.6	*	13.3	123.3					55.0	1.30	5.2
RSON	P	(P)	19:44:47.6	0.7	*	21.0	42.9					313.3	1.40	5.5
YKA	P	(P)	19:45:26.7	-1.1	*	25.2	1.9					92.3	1.00	5.4
GAC	P	(P)	19:46:24.3	0.1	*	31.5	61.6					90.6	1.00	5.6
RSNY	P	(P)	19:46:31.4	1.2	*	32.1	63.7					66.0	1.10	5.4
FBAS	PCP	(PCP)	19:49:20.9	-0.8		32.9	336.4					12.0	0.80	
FBAS	P	(P)	19:46:37.2	0.8	*	32.9	336.4					******	0.90	9.7
MBC	P	(P)	19:47:30.0	1.0	*	39.0	358.9					43.0	0.70	5.4
DAG	P	(XP)	19:49:37.3	-4.8		55.7	16.0					16.0	0.70	
DAG	P	(AP)	19:49:37.3	-4.0		55.7	16.0					16.0	0.70	
DAG	P	(P)	19:49:37.3	-2.3		55.7	16.0					16.0	0.70	
NNA	P	(P)	19:50:19.0	-1.1	*	61.5	134.9					40.0	1.00	5.3
LPB	P	(P)	19:51:16.5	0.5	*	70.3	130.5					70.0	1.00	5.6
EKA	P	(P)	19:51:22.8	-1.0	*	71.6	33.6	309.5	292.0	5.97	6.20	56.0	1.30	5.4
NB2	P	(P)	19:51:31.8	-1.0	*	73.1	23.8	318.7	320.0	5.96	6.20	14.0	0.80	5.1
SLL	P	(P)	19:51:38.2	-1.0	*	74.2	23.3					52.8	1.20	5.5
APO	P	(P)	19:51:38.9	-1.1	*	74.3	23.0					22.8	0.80	5.3
TBY	P	(P)	19:51:39.1	-1.0	*	74.3	23.8					26.4	1.10	5.2
HFS	P	(P)	19:51:40.4	-1.0	*	74.6	23.4					29.5	0.80	5.4
SUF	P	(P)	19:51:48.0	-0.7	*	75.8	16.8	330.0	326.0	5.66	5.40	12.9	0.90	5.0
UCC	P	(XP)	19:52: 2.0	-1.1		78.0	33.9							

AD-A164 281 PLANNING AND CONDUCTING AN INTERNATIONAL SEISMIC DATA EXCHANGE EXPERIMENT..(U) SCIENCE APPLICATIONS INTERNATIONAL CORP ARLINGTON VA C ROMNEY ET AL. 4/4

UNCLASSIFIED 31 JAN 86 SAIC-86/1025 MDA903-84-C-0020 F/G 8/11 NL

END
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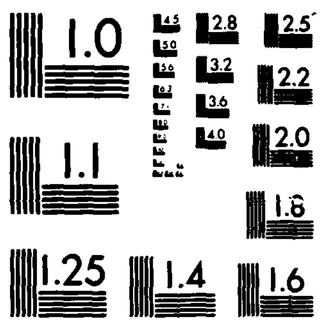

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

UCC	P	(AP	) 19:52: 2.0	-0.3	*	78.0	33.9							
UCC	P	(P	) 19:52: 1.6	1.0	*	78.0	33.9							
DOU	P	(P	) 19:52: 4.3	0.4	*	78.6	34.3					63.9	1.00	5.6
ENN	P	(P	) 19:52: 4.5	0.0	*	78.7	33.2					89.5	1.30	5.7
LOR	P	(P	) 19:52:13.6	0.6	*	80.3	35.7	315.7	315.0	5.33	5.30**********			6.9
MOX	P	(P	) 19:52:18.0	0.2	*	81.2	30.5					34.0	1.30	5.3
GRB1	P	(P	) 19:52:23.9	0.9	*	82.2	31.3					16.0	0.90	5.1
PRU	P	(P	) 19:52:26.5	-0.1	*	82.9	29.4					25.3	1.30	5.2
KHC	P	(P	) 19:52:28.5	0.4	*	83.2	30.5					30.0	1.20	5.3
KBA	P	(P	) 19:52:36.1	0.3	*	84.7	31.9					30.0	1.30	5.3
JDS	P	(P	) 19:52:44.6	0.5	*	86.3	27.1					48.5	1.50	5.5
GBA	P	(PKP	) 19:59: 7.2	0.7	*	127.7	342.9							
LSZ	P	(PKP	) 19:59:29.4	-3.3		141.7	64.5					9.7	1.00	
BUL	P	(PKP	) 19:59:39.6	1.1	*	145.1	70.4					45.0	1.00	5.7
MAW	P	(PKP	) 19:59:51.0	5.2		149.7	179.4					41.8	1.20	

```
                                                                              DEPTH NO.      MB
  DATE      ORIGINTIME      EPICENTER      REGION                              (KM) STA (MAXLIKE)
------------------------------------------------------------------------------------------------
84/12/ 9   20:25: 8.6    59.9N  15.1E SWEDEN                                     70   5      2.9
                +- 7.1  +-0.9  +-0.7                                          +- 98

STA      PHASE       TIME    RESID DEF DIST  AZ      AZ(STA-EV)  SLOWNESS    AMPL  PER  MB
     REPT  ASSOC             (SEC)    (DEG)(EV-STA) CALC  REPT   CALC  REPT
MFS  PKP  (P   ) 20:25:26.1  1.5  *   0.8 286.2                              4.4 0.40 1.9
APO  PKP  (P   ) 20:25:24.7 -1.2  *   0.9 315.7                              2.0 0.50 1.6
SLL  PKP  (P   ) 20:25:25.4 -3.0  *   1.1 301.8                              3.0 0.50 2.0
TBY  PKP  (P   ) 20:25:26.6 -2.8  *   1.2 278.3                              2.6 0.50 2.1
PSI  P    (P   ) 20:37:35.0 -0.1  2  84.6  94.0


                                                                              DEPTH NO.      MB
  DATE      ORIGINTIME      EPICENTER      REGION                              (KM) STA (MAXLIKE)
------------------------------------------------------------------------------------------------
84/12/ 9   20:32:29.7     3.8S 119.5E SULAWESI                                   47   6      4.7
                +- 1.3  +-0.2  +-0.4                                          +-  5

STA      PHASE       TIME    RESID DEF DIST  AZ      AZ(STA-EV)  SLOWNESS    AMPL  PER  MB
     REPT  ASSOC             (SEC)    (DEG)(EV-STA) CALC  REPT   CALC  REPT
KSI  P    (P   ) 20:36:21.0 -3.1  *  16.9 270.0
JAY  P    (P   ) 20:37:11.3 -1.8  *  21.2  87.1
ASPA P    (P   ) 20:37:39.8 -2.5  *  24.1 146.1                             47.9 1.00 5.0
CTAO P    (XP  ) 20:39: 2.1  1.0  *  30.7 124.0                             28.0 1.00 5.1
CTAO P    (AP  ) 20:39: 2.1  6.7     30.7 124.0                             28.0 1.00
NAI  P    (PCP ) 20:44:57.0  1.8     82.6 269.2                             13.4 0.80
NAI  P    (P   ) 20:44:57.0  7.6     82.6 269.2                             13.4 0.80
BUL  P    (P   ) 20:45:24.0  0.7  *  89.5 250.0                            114.3 2.80 5.7
LSZ  P    (XP  ) 20:45:45.7 -0.6  *  90.3 254.8                             14.0 0.70 5.4
LSZ  P    (AP  ) 20:45:45.7  5.0     90.3 254.8                             14.0 0.70
LSZ  P    (PCP ) 20:45:29.2  0.7     90.3 254.8
LSZ  P    (P   ) 20:45:29.2  2.5     90.3 254.8
YKA  P    (PP  ) 20:51:27.2 -1.4    109.3  23.5  301.1 306.0  7.28  2.10
LPB  P    (PKP ) 20:53: 8.0  9.4    158.4 159.8
```

DATE	ORIGINTIME	EPICENTER	REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	20:32:47.3	9.4S 116.5E	SUMBAWA ISLAND REGION	10	5	3.8
	+- 5.4	+-0.3 +-0.3		+- 35		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
PSI	P	(P)	20:37:35.0	-0.6	2	21.2	303.5							
ASPA	S	(SN)	20:41:39.0	0.1		21.9	132.6							
ASPA	S	(SN)	20:41:36.5	-2.4		21.9	132.6							
ASPA	S	(S)	20:41:36.5	-2.4		21.9	132.6							
ASPA	S	(S)	20:41:39.0	0.1	*	21.9	132.6							
NWAO	S	(SN)	20:42:10.0	2.7		23.4	178.5							
NWAO	S	(S)	20:42:10.0	2.7	*	23.4	178.5							
NWAO	P	(P)	20:37:57.0	-0.5	*	23.4	173.5					9.0	0.60	4.5
CTAO	P	(AP)	20:39: 2.1	-4.8		30.6	113.7					28.0	1.00	
NAI	P	(XP)	20:44:57.0	-3.9		79.6	270.4					13.4	0.80	
NAI	P	(AP)	20:44:57.0	-2.5		79.6	270.4					13.4	0.80	
BUL	P	(XP)	20:45:24.0	-4.0		84.9	250.5					114.3	2.80	
BUL	P	(AP)	20:45:24.0	-2.6		84.9	250.5					114.3	2.80	
BUL	P	(PCP)	20:45:24.0	-3.9		84.9	250.5					114.3	2.80	
LSZ	P	(XP)	20:45:29.2	-4.3		86.0	255.3							
LSZ	P	(AP)	20:45:29.2	-2.9		86.0	255.3							
LSZ	P	(PCP)	20:45:29.2	-3.5		86.0	255.3							
RSSD	P	(PKP)	20:51:59.2	0.1	*	130.7	38.1					4.8	1.00	4.7
RSON	P	(PKP)	20:52: 1.1	0.1	*	131.7	25.3					5.3	0.80	4.9
LPB	P	(PKP)	20:53: 8.0	5.9		153.9	169.9							

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22: 2: 3.1	10.3S	73.2W	PERU	30	4	4.4
	+-81.3	+-0.3	+-1.8		+-517		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LAC	P	(P)	22:12:11.3	-0.0	2	60.4	319.4					3.8	0.50	4.6
DAG	P	(XP)	22:15:23.0	-1.8		92.4	10.8					30.0	1.10	
DAG	P	(PCP)	22:15:23.0	9.9		92.4	10.8					30.0	1.10	
DAG	P	(AP)	22:15:23.0	1.6		92.4	10.8					30.0	1.10	
NB2	P	(XP)	22:15:43.3	0.9		96.2	29.2	260.2	55.0	4.52	7.10	13.4	0.90	
NB2	P	(AP)	22:15:43.3	3.7		96.2	29.2	260.2	55.0	4.52	7.10	13.4	0.90	
TBY	P	(PCP)	22:15:37.4	4.9		96.9	30.2					9.8	0.80	
TBY	P	(P)	22:15:37.4	5.0		96.9	30.2					9.8	0.80	
SLL	P	(AP)	22:15:40.4	-3.4		97.2	29.9					12.7	0.50	
SLL	P	(PCP)	22:15:40.4	6.6		97.2	29.9					12.7	0.50	
SLL	P	(P)	22:15:33.9	0.2	3	97.2	29.9					11.2	0.70	5.7
MFS	P	(AP)	22:15:40.9	-3.5		97.3	30.3					9.3	0.70	
MFS	P	(PCP)	22:15:40.9	6.5		97.3	30.3					9.3	0.70	
MFS	P	(P)	22:15:34.2	-0.2	2	97.3	30.3					27.3	1.20	5.9
NWAO	P	(PKP)	22:21:21.4	0.0	*	135.9	192.7					17.0	0.60	5.5

DATE	ORIGINTIME	EPICENTER	REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22: 5:14.9	57.9N 156.0W	ALASKA PENINSULA	13	4	4.0
	+-87.4	+-0.7 +-0.1		+-549		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LAC	P	(P)	22:12:11.9	-0.1	2	35.4	114.4					3.8	0.50	4.5
NB2	P	(XP)	22:15:43.3	7.5		60.9	7.1	352.2	55.0	6.79	7.10	13.4	0.90	
NB2	P	(AP)	22:15:43.3	9.3		60.9	7.1	352.2	55.0	6.79	7.10	13.4	0.90	
SLL	P	(XP)	22:15:40.4	-0.0		61.6	6.0					12.7	0.50	
SLL	P	(AP)	22:15:40.4	1.7		61.6	6.0					12.7	0.50	
SLL	P	(P)	22:15:33.9	-0.6	3	61.6	6.0					11.2	0.70	4.9
HFS	P	(XP)	22:15:40.9	-2.0		62.0	5.8					9.3	0.70	
HFS	P	(AP)	22:15:40.9	-0.2		62.0	5.8					9.3	0.70	
HFS	P	(P)	22:15:34.2	-2.7		62.0	5.8					27.3	1.20	
TBY	P	(P)	22:15:37.4	0.4	2	62.0	6.3					9.8	0.80	4.8
ENN	P	(PCP)	22:16:53.8	0.5		70.6	12.1					12.0	1.00	
MOX	P	(XP)	22:16:37.0	-5.0		71.3	8.3					25.9	1.00	
MOX	P	(AP)	22:16:37.0	-3.2		71.3	8.3					25.9	1.00	
GRB1	P	(AP)	22:16:43.4	-4.2		72.5	8.4					22.1	1.10	
CTAO	P	(P)	22:18:21.0	-0.1	2	91.2	232.7							
LSZ	P	(PKP)	22:24:45.8	7.3		137.3	354.0							

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22: 7:14.2	56.2N	109.7E	LAKE BAIKAL REGION	31	15	4.5
	+- 0.7	+-0.1	+-0.1		+- 3		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
OBN	P	(P)	22:14:41.5	-2.1		39.5	300.2					17.0	0.90	
DAG	P	(P)	22:15:23.0	7.5		43.4	344.9					30.0	1.10	
DAG	P	(AP)	22:15:23.0	-2.0	*	43.4	344.8					30.0	1.10	5.1
FBAS	PCP	(XP)	22:15:52.2	1.7	*	46.1	35.4					20.0	1.00	4.9
FBAS	PCP	(AP)	22:15:52.2	5.6		46.1	35.4					20.0	1.00	
FBAS	P	(P)	22:15:40.4	3.3		46.1	35.4					8.9	0.80	
SLL	P	(P)	22:15:40.4	0.6	*	46.4	317.2					12.7	0.50	5.1
MFS	P	(P)	22:15:40.9	0.5	*	46.5	316.7					9.3	0.70	4.8
NB2	P	(P)	22:15:43.3	0.2	*	46.8	318.7	49.3	55.0	7.85	7.10	13.4	0.90	4.8
PRU	P	(P)	22:16:29.0	-1.8		53.1	306.5							
MOX	P	(P)	22:16:37.0	0.1	*	53.9	308.7					25.9	1.00	5.1
PSI	P	(XP)	22:16:47.0	-4.2		54.0	193.4							
PSI	P	(AP)	22:16:47.0	-0.3	*	54.0	193.4							
KMC	P	(P)	22:16:35.7	-2.9		54.1	306.3					19.0	1.20	
GRB1	P	(P)	22:16:43.4	-0.1	*	54.8	307.7					22.1	1.10	5.0
EKA	P	(P)	22:16:53.7	0.1	*	56.2	320.7	38.3	22.0	7.15	6.20	24.0	0.90	5.1
ENN	P	(P)	22:16:53.8	0.0	*	56.2	312.1					12.0	1.00	4.8
YKA	P	(P)	22:16:56.6	-0.7	*	56.7	22.8	332.1	334.0	7.11	6.30	2.4	0.80	4.2
LOR	P	(P)	22:17:17.9	-0.9	*	59.8	310.7					11.0	1.10	4.7
RSON	P	(P)	22:18:33.7	-0.6	*	71.6	15.4					5.7	0.80	4.7
RSSD	P	(P)	22:19: 1.3	0.8	*	76.1	24.4					4.1	0.90	4.5
RSNY	P	(XP)	22:19:32.9	-0.2	*	79.6	3.1					15.4	1.00	5.0
RSNY	P	(AP)	22:19:32.9	3.7		79.6	3.1					15.4	1.00	
RSNY	P	(PCP)	22:19:32.9	4.6		79.6	3.1					15.4	1.00	
LSZ	P	(PP)	22:24:45.8	-4.0		97.9	254.5							

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22:12: 1.4	8.9S	116.6E	SUMBAWA ISLAND REGION	1	4	4.3
	+-45.8	+-0.4	+-0.5		+-272		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
AAI	P	(PP)	22:15:22.5	7.8		12.6	66.7							
ASPA	S	(SN)	22:20:57.0	-3.5		22.2	133.6							
ASPA	S	(S)	22:20:57.0	-3.5		22.2	133.6							
ASPA	P	(P)	22:16:56.5	-4.0	*	22.2	133.6					15.7	0.60	4.6
CTAO	P	(P)	22:18:21.0	0.6	2	30.3	114.5							
LSZ	P	(P)	22:24:45.8	0.2	*	86.2	255.2							
YKA	P	(PKP)	22:30:43.5	-0.8	*	115.0	23.5	301.8	298.0	1.90	1.90			

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22:13:56.5	65.3N	22.7E	SWEDEN	33	5	3.5
	+-40.7	+-0.2	+-2.3		+-452		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
SUF	P	(P)	22:14:43.2	0.0	*	3.0	148.6							
SLL	P	(P)	22:15:33.9	1.7	3	6.5	225.7					11.2	0.70	4.5
HFS	P	(P)	22:15:34.2	-0.4	2	6.7	222.6					27.3	1.20	4.6
TBY	P	(P)	22:15:37.4	-1.3	2	7.0	225.3					9.8	0.80	4.4
RSON	P	(P)	22:23:21.7	-0.0	*	54.3	315.7					1.2	0.20	4.5

DATE	ORIGINTIME	EPICENTER		REGION	DEPTH (KM)	NO. STA	MB (MAXLIKE)
84/12/ 9	22:41:11.9	14.4N	92.4W	NEAR COAST OF CHIAPAS, MEXICO	223	11	4.3
	+- 9.1	+-0.1	+-0.3		+- 63		

STA	PHASE REPT	PHASE ASSOC	TIME	RESID (SEC)	DEF	DIST (DEG)	AZ (EV-STA)	AZ(STA-EV) CALC	AZ(STA-EV) REPT	SLOWNESS CALC	SLOWNESS REPT	AMPL	PER	MB
LTX	P	(P)	22:45: 9.5	-0.7	*	19.2	326.9					12.9	0.90	4.4
RSSD	P	(P)	22:47:13.6	0.7	*	31.3	343.8					4.0	0.70	4.4
RSNY	P	(P)	22:47:34.3	0.3	*	33.7	23.3					4.1	0.60	4.5
RSON	P	(P)	22:47:56.4	-0.5	*	36.4	358.6					3.9	0.70	4.4
LPB	P	(PCP)	22:50:27.0	2.7		39.0	141.1							
YKA	P	(P)	22:49:48.3	-0.9	*	50.6	346.9	151.7	147.0	7.50	7.90			
FBAS	P	(P)	22:51:13.3	0.5	*	62.4	336.8					11.7	0.90	4.9
MBC	P	(P)	22:51:20.7	0.3	*	63.5	353.0					4.0	0.60	4.6
EKA	P	(P)	22:52:45.2	-1.4	*	77.3	35.8	277.7	292.0	5.45	6.20	7.0	0.60	4.9
SLL	P	(P)	22:53:24.7	0.4	*	85.2	28.6					2.3	0.70	4.4
APO	P	(P)	22:53:25.8	0.3	*	85.5	28.4					5.3	0.70	4.8
MFS	P	(P)	22:53:25.9	0.1	*	85.5	28.8					2.2	0.60	4.5
CMG	P	(PKP)	23: 0:27.5	1.8		145.2	340.8							
CMG	P	(PKP)	23: 0:27.5	4.5		145.2	340.5							

APPENDIX IV
SAMPLE OF REC MESSAGE

```
SEISMO N42190 ((GSETT SEUS10 WASHIDC))
((REC))
((FOR MOSCIDC AND STOCIDC))
((BEG DEC09 000000 END DEC09 240000))
::AOK
 022920.7 29.84N  72.62E DEP10  MB3.9
 APO GBA HFS NAI NB2 SLL
::AOK
 030110.3 37.30N 138.66E DEP5   MB4.2
 APO FBAS GBA HFS KHC LPB MAT NB2 SLL SUF YKA
::AOK
 042304.5 62.81N 151.45W DEP1   MB3.4
 FBAS MBC RSON YKA
::AOK
 065245.8 20.36N 115.91W DEP63  MB4.3
 FBAS GBA LAC LPB LSZ LTX MBC RSON RSSD YKA
::AOK
 071627.6 40.18N 122.06E DEP172 MB3.9
 CHG FBAS MAT MBC YKA
::AOK
 080319.9 32.31N 116.48W DEP63  MB3.6
 BUL FBAS LAC RSON RSSD
::ARJ
 080919.8 39.08N 112.30E DEP33  MB3.9
 BUL DAG MBC YKA
((ARRIVAL AT BUL FIT PREVIOUS EVENT))
::AOK
 081618.8 73.37N  69.02W DEP1   MB3.5
 DAG MBC RSON RSSD
((POOR LOCATION CONTROL))
::AOK
 100442.8  5.96S  69.52E DEP1   MB3.8
 KHC LSZ PRU YKA
((POOR LOCATION CONTROL))
::ARJ
 144426.6 12.34N  39.57W DEP33  MB3.9
 FBAS GAC LTX RSNY
((DEFINING ARRIVALS FIT NEXT EVENT))
::AOK
 144531.9  6.96N  72.98W DEP176 MB4.4
 ASPA CHG FBAS GAC GBA HFS LAC LPB LTX MBC NB2 RSNY RSON RSSD SLL YKA
::AOK
 151513.6 55.28N 162.42E DEP31  MB3.8
 FBAS GBA SUF YKA
::AOK
 164444.0 39.09N  86.66E DEP1   MB3.7
 NB2 SUF YKA
::AOK
 193959.8 37.35N 116.38W DEP5   MB5.4
 APO BUL DAG DOU EKA ENN FBAS GAC GBA GRB1 HFS JOS KBA KHC LAC LOR LPB
```

APPENDIX IV

LSZ LTX MAW MBC MOX NB2 NNA PRU RSNY RSON RSSD SLL SUF TBY UCC YKA
::ARJ
202508.6 59.93N 15.15E DEP70 MB2.9
APO HFS PSI SLL TBY
((ARRIVALS AT APO, SLL, AND HFS REPORTED AS PKP))
::AOK
203229.7 3.81S 119.51E DEP47 MB4.7
ASPA BUL CTAO JAY KSI LPB LSZ NAI YKA
::ARJ
203247.3 9.37S 116.51E DEP10 MB3.8
ASPA BUL CTAO LPB LSZ NAI NWAO PSI RSON RSSD
((DEFINING ARRIVALS FIT PREVIOUS EVENT))
::ARJ
220203.1 10.27S 73.24W DEP30 MB4.4
DAG HFS LAC NB2 NWAO SLL TBY
((ARRIVALS AT HFS AND SLL FIT EVENT AT 220714.2))
::ARJ
220514.9 57.94N 155.99W DEP13 MB4.0
CTAO ENN GRB1 HFS LAC LSZ MOX NB2 SLL TBY
((ARRIVAL AT CTAO FITS EVENT AT 221201.4))
::AOK
220714.2 56.18N 109.73E DEP31 MB4.5
DAG EKA ENN FBAS GRB1 HFS KHC LOR LSZ MOX NB2 OBN PRU PSI RSNY RSON
RSSD SLL YKA
::AOK
221201.4 8.87S 116.57E DEP1 MB4.3
AAI ASPA CTAO LSZ YKA
::ARJ
221356.5 65.33N 22.73E DEP33 MB3.5
HFS RSON SLL SUF TBY
((ARRIVALS AT HFS,SLL, AND TBY FIT EVENT AT 220714.2))
::AOK
224111.9 14.35N 92.42W DEP223 MB4.3
APO CHG EKA FBAS HFS LPB LTX MBC RSNY RSON RSSD SLL YKA
STOP

APPENDIX V

SAMPLE OF MERGED IDC REC'S

APPENDIX V

SAMPLE OF MERGED IDC REC'S

mos=MOSCIDC, stoc=STOCIDC, wdc=WASHIDC

```
*****  RECONCILIATION BULLETINS FOR DEC-09  *****
-----------------------------------------------------
mos ::AOK    22919.5  30.35N   73.59E     3   4.5
        APO  GBA  HFS  NB2  SLL
wdc ::AOK    22920.7  29.84N   72.62E    10   3.9
        APO  GBA  HFS  NB2  SLL  NAI
stoc ::AOK   22921.1  30.10N   72.80E     6   3.9
        APO  GBA  HFS  NB2  SLL
_____________________________________________
wdc ::AOK    30110.3  37.30N  138.66E     5   4.2
             FBAS GBA  HFS  KHC  LPB  MAT  NB2
        SLL  SUF  YKA
stoc ::AOK   30111.2  37.50N  138.40E     1   4.1
        APO  FBAS GBA  HFS  KHC  LPB       NB2
        SLL  SUF
mos ::AOK    30111.9  36.87N  139.11E    33   4.5
        APO  FBAS GBA  HFS  KHC            NB2
        SLL  SUF  YKA
_____________________________________________
stoc ::AOK   42304.5  62.80N  151.40W     1   3.2
        FBAS MBC  RSON YKA
wdc ::AOK    42304.5  62.81N  151.45W     1   3.4
        FBAS MBC  RSON YKA
mos ::AOK    42311.8  62.98N  150.98W    33   3.4
        FBAS MBC  RSON YKA
_____________________________________________
stoc ::ARJ   65239.8  65.90N   18.50E    33   3.5
        APO  FBAS HFS  NB2  SLL
        ((HFS,APP,SLL REPORTED TELESEISMIC EVENT))
_____________________________________________
mos ::AOK    65231.1  19.45N  115.94W     3   4.8
        FBAS LAC  LTX  MBC  RSON RSSD

stoc ::AOK   65243.6  20.30N  116.10W    53   4.4
        FBAS LAC  LTX  MBC  RSON RSSD LPB  YKA

wdc ::AOK    65245.8  20.36N  115.91W    63   4.3
        FBAS LAC  LTX  MBC  RSON RSSD LPB  YKA
        GBA  LSZ
_____________________________________________
wdc ::AOK    71627.6  40.18N  122.06E   172   3.9
        CHG  FBAS MAT  MBC  YKA
```

APPENDIX V

stoc ::AOK 71634.9 22.40N 146.50E 646 4.1
FBAS LPB MBC YKA

mos ::AOK 80315.4 32.09N 116.82W 33 4.1
FBAS LAC RSON RSSD
wdc ::AOK 80319.9 32.31N 116.48W 63 3.6
FBAS LAC RSON RSSD BUL
stoc ::AOK 80320.0 32.30N 116.50W 64 3.6
FBAS LAC RSON RSSD BUL

wdc ::ARJ 80919.8 39.08N 112.30E 33 3.9
BUL DAG MBC YKA
((ARRIVAL AT BUL FIT PREVIOUS EVENT))

wdc ::AOK 81618.8 73.37N 69.02W 1 3.5
DAG MBC RSON RSSD
((POOR LOCATION CONTROL))
mos ::AOK 81636.7 72.63N 76.41W 3 4.1
MBC RSON RSSD YKA
stoc ::AOK 81638.3 72.60N 77.40W 1 3.5
MBC RSON RSSD YKA

wdc ::AOK 100442.8 5.96S 69.52E 1 3.8
KHC LSZ PRU YKA
((POOR LOCATION CONTROL))
mos ::AOK 100443.3 5.95S 69.46E 3 4.6
KHC LSZ PRU YKA

wdc ::ARJ 144426.6 12.34N 39.57W 33 3.9
FBAS GAC LTX RSNY
((DEFINING ARRIVALS FIT NEXT EVENT))

mos ::AOK 144517.8 6.19N 73.03W 86 4.5
FBAS GAC GBA HFS LAC MBC NB2 RSNY
RSON RSSD SLL YKA

wdc ::AOK 144531.9 6.96N 72.98W 176 4.4
FBAS GAC GBA HFS LAC MBC NB2 RSNY
RSON RSSD SLL YKA ASPA CHG LPB LTX
SPA
stoc ::AOK 144544.1 6.90N 73.20W 294 4.6
FBAS GAC HFS LAC MBC NB2 RSNY
RSON RSSD SLL YKA LPB LTX

stoc ::AOK 151513.3 55.20N 162.40E 31 3.9
FBAS GBA SUF YKA
mos ::AOK 151513.5 55.09N 162.47E 33 4.4
FBAS GBA SUF YKA
wdc ::AOK 151513.6 55.28N 162.42E 31 3.8
FBAS GBA SUF YKA

wdc ::AOK 164444.0 39.09N 86.66E 1 3.7
NB2 SUF YKA

APPENDIX V

---

stoc ::AOK 164510.8 42.00N 36.10E 21 3.4
APO HFS MLR NB2 SLL YKA

---

stoc ::AOK 193959.3 37.40N 116.40W 3 5.2
APO BUD BUL DOU EKA ENN FBAS GAC
GBA GRB1 HFS KBA KHC LAC LPB LTX
MBC MLR MOX NB2 NNA PRU RSNY RSON
RSSD SLL SUF TBY UCC YKA

wdc ::AOK 193959.8 37.35N 116.38W 5 5.4
APO BUL DOU EKA ENN FBAS GAC
GBA GRB1 HFS KBA KHC LAC LPB LTX
MBC MOX NB2 NNA PRU RSNY RSON
RSSD SLL SUF TBY UCC YKA DAG JOS
LOR LSZ MAW

---

mos ::ARJ 200653.6 17.56S 117.92E 33 4.6
APO CTAO HFS SLL TBY

---

stoc ::ARJ 202341.0 56.30N 24.60E 33 3.1
APO HFS KSI SLL TBY
((HFS,APO,SLL,TBY REPORTED PKP))
wdc ::ARJ 202508.6 59.93N 15.15E 70 2.9
APO HFS SLL TBY PSI
((ARRIVALS AT APO, SLL, AND HFS REPORTED AS PKP))

---

wdc ::AOK 203229.7 3.81S 119.51E 47 4.7
ASPA BUL CTAO JAY KSI LPB LSZ NAI
SPA YKA

---

wdc ::ARJ 203247.3 9.37S 116.51E 10 3.8
ASPA BUL CTAO LPB LSZ NAI NWAO PSI
RSON RSSD SPA
((DEFINING ARRIVALS FIT PREVIOUS EVENT))
stoc ::AOK 203251.4 9.20S 116.50E 39 4.3
BUL LSZ NWAO PSI
RSON RSSD KSI YKA
mos ::AOK 203252.5 9.76S 119.67E 33 5.1
LSZ NWAO
RSON RSSD YKA

---

stoc ::ARJ 203512.5 37.40S 95.70E 1 4.6
BUL RSON RSSD YKA
((ARRIVAL AT BUL FIT PREVIOUS EVENT))

---

wdc ::ARJ 220203.1 10.27S 73.24W 30 4.4
DAG HFS LAC NB2 NWAO SLL TBY
((ARRIVALS AT HFS AND SLL FIT EVENT AT 220714.2))
stoc ::ARJ 220213.0 10.10S 73.30W 110 4.9
HFS LAC NWAO SLL FBAS
((REPORTED AZ AND SLOW FROM HFS DO NOT FIT))

---

wdc ::ARJ 220514.9 57.94N 155.99W 13 4.0
CTAO ENN GRB1 HFS LAC LSZ MOX NB2

APPENDIX V

```
       SLL  TBY
       ((ARRIVAL AT CTAO FITS EVENT AT 221201.4))
----------------------------------------------------------
stoc ::AOK   220713.7  56.90N  109.40E    1   4.5
       EKA  ENN  FBAS GRB1 HFS  MOX  OBN  PRU
       PSI  RSON RSSD SLL  TBY  YKA

wdc ::AOK   220714.2  56.18N  109.73E   31   4.5
       EKA  ENN  FBAS GRB1 HFS  MOX  OBN  PRU
       PSI  RSON RSSD SLL       YKA  DAG  KHC
       LOR  LSZ  NB2  RSNY
mos ::AOK   220720.3  57.92N  108.64E    3   5.0
       EKA  ENN  FBAS GRB1 HFS  MOX  OBN  PRU
            RSON RSSD SLL  TBY  YKA       KHC
                 NB2       SUF
----------------------------------------------------------
wdc ::AOK   221201.4  8.87S  116.57E    1   4.3
       AAI  ASPA CTAO LSZ  SPA  YKA
stoc ::AOK  221229.7  9.50S  116.80E  235   4.2
       AAI       CTAO LSZ       YKA
----------------------------------------------------------
wdc ::ARJ   221356.5  65.33N  22.73E   33   3.5
       HFS  RSON SLL  SUF  TBY
       ((ARRIVALS AT HFS,SLL, AND TBY FIT EVENT AT 220714
----------------------------------------------------------
stoc ::AOK  224111.1  14.30N  92.40W  217   4.4
       APO  EKA  FBAS HFS  LTX  MBC  RSNY RSON
       RSSD SLL  YKA
wdc ::AOK   224111.9  14.35N  92.42W  223   4.3
       APO  EKA  FBAS HFS  LTX  MBC  RSNY RSON
       RSSD SLL  YKA  CHG  LPB
mos ::AOK   224126.3  15.69N  92.14W  280   4.2
       APO  EKA  FBAS HFS  LTX  MBC  RSNY RSON
       RSSD SLL  YKA            GBA
----------------------------------------------------------
```

APPENDIX VI

SAMPLE OF REVISED REC MESSAGE

APPENDIX VI
SAMPLE OF REVISED REC MESSAGE

SEISMO N52001 ((GSETT SEUS10 WASHIDC))
((REC))
((REVISED REC BASED ON COMPARISON WITH MOSCIDC AND STOCIDC REC))
((COMMENTS ON MAJOR DIFFERENCES))
((FOR MOSCIDC AND STOCIDC))
((BEG DEC09 000000 END DEC09 240000))
::AOK
022920.7 29.84N 72.62E DEP10 MB3.9
APO GBA HFS NAI NB2 SLL
::AOK
030110.3 37.30N 138.66E DEP5 MB4.2
APO FBAS GBA HFS KHC LPB MAT NB2 SLL SUF YKA
::AOK
042304.5 62.81N 151.45W DEP1 MB3.4
FBAS MBC RSON YKA
::AOK
065245.8 20.36N 115.91W DEP63 MB4.3
FBAS GBA LAC LPB LSZ LTX MBC RSON RSSD YKA
::AOK
071627.6 40.18N 122.06E DEP172 MB3.9
CHG FBAS MAT MBC YKA
((NOT REPORTED BY MOSCIDC))
((STOCIDC/WASHIDC EPICENTER DIFFERENCE MAY BE RESULT OF))
((USE AT WASHIDC OF ARRIVAL TIMES AT MAT AND CHG 072214.5))
::AOK
080319.9 32.31N 116.48W DEP63 MB3.6
BUL FBAS LAC RSON RSSD
::ARJ
080919.8 39.08N 112.30E DEP33 MB3.9
BUL DAG MBC YKA
((ARRIVAL AT BUL FIT PREVIOUS EVENT))
::ARJ
081618.8 73.37N 69.02W DEP1 MB3.5
DAG MBC RSON RSSD
((POOR LOCATION CONTROL))
((REJECTED DURING REVISION SEE EVENT AT 081638.3))
::AOK
081638.3 72.60N 77.30W DEP1 MB3.5
YKA MBC RSON RSSD
((REVISION OF EVENT AT 081618.8))
((BASED ON P ARRIVAL AT YKA AND P AND S AT MBC RATHER))
((THAN P AT MBC AND AT DAG))
::AOK
100442.8 5.96S 69.52E DEP1 MB3.8
KHC LSZ PRU YKA
((POOR LOCATION CONTROL))
((NOT REPORTED BY STOCIDC))
::ARJ
144426.6 12.34N 39.57W DEP33 MB3.9
FBAS GAC LTX RSNY
((DEFINING ARRIVALS FIT NEXT EVENT))

APPENDIX VI

::AOK
144531.9 6.96N 72.98W DEP176 MB4.4
ASPA CHG FBAS GAC GBA HFS LAC LPB LTX MBC NB2 RSNY RSON RSSD SLL YKA
::AOK
151513.6 55.28N 162.42E DEP31 MB3.8
FBAS GBA SUF YKA
::AOK
164444.0 39.09N 86.66E DEP1 MB3.7
NB2 SUF YKA
((NOT REPORTED BY MOSCIDC))
((STOCIDC/WASHIDC EPICENTER DIFFERENCE MAY BE RESULT OF))
((USE AT WASHIDC OF SLOWNESS AND AZIMUTH VALUES AT YKA AND NB2))
::AOK
193959.8 37.35N 116.38W DEP5 MB5.4
APO BUL DAG DOU EKA ENN FBAS GAC GBA GRB1 HFS JOS KBA KHC LAC LOR LPB
LSZ LTX MAW MBC MOX NB2 NNA PRU RSNY RSON RSSD SLL SUF TBY UCC YKA
((NOT REPORTED BY MOSCIDC))
::ARJ
202508.6 59.93N 15.15E DEP70 MB2.9
APO HFS PSI SLL TBY
((ARRIVALS AT APO, SLL, AND HFS REPORTED AS PKP))
::ARJ
203229.7 3.81S 119.51E DEP47 MB4.7
ASPA BUL CTAO JAY KSI LPB LSZ NAI YKA
((REJECTED DURING REVISION SEE EVENT AT 203246.3))
::AOK
203246.3 9.30S 116.70E DEP7 MB4.7
ASPA BUL CTAO LSZ NAI NWAO PSI KSI YKA RSSD RSON
((REVISION OF EVENT AT 203229.7 BY NOT USING ARRIVAL AT JAY))
::ARJ
203247.3 9.37S 116.51E DEP10 MB3.8
ASPA BUL CTAO LPB LSZ NAI NWAO PSI RSON RSSD
((DEFINING ARRIVALS FIT PREVIOUS EVENT))
::ARJ
220203.1 10.27S 73.24W DEP30 MB4.4
DAG HFS LAC NB2 NWAO SLL TBY
((ARRIVALS AT HFS AND SLL FIT EVENT AT 220714.2))
::ARJ
220514.9 57.94N 155.99W DEP13 MB4.0
CTAO ENN GRB1 HFS LAC LSZ MOX NB2 SLL TBY
((ARRIVAL AT CTAO FITS EVENT AT 221201.4))
::AOK
220714.2 56.18N 109.73E DEP31 MB4.5
DAG EKA ENN FBAS GRB1 HFS KHC LOR LSZ MOX NB2 OBN PRU PSI RSNY RSON
RSSD SLL YKA
::AOK
221201.4 8.87S 116.57E DEP1 MB4.3
AAI ASPA CTAO LSZ YKA
((NOT REPORTED BY MOSCIDC))
((STOCIDC/WASHIDC DEPTH DIFFERENCE WITHIN ESTIMATED))
((UNCERTAINTY))
::ARJ
221356.5 65.33N 22.73E DEP33 MB3.5
HFS RSON SLL SUF TBY
((ARRIVALS AT HFS,SLL, AND TBY FIT EVENT AT 220714.2))

APPENDIX VI

::AOK
224111.9 14.35N 92.42W DEP223 MB4.3
APO CHG EKA FBAS HFS LPB LTX MBC RSNY RSON RSSD SLL YKA
STOP

END

FILMED

3-86

DTIC