

REPORT

HIGH PRESSURE DATA CENTER

The following is a report of the activities of the High Pressure Data Center from October 1, 1965, to January 31, 1966.

PERSONNEL:

H. Tracy Hall, Director, High Pressure Data Center

Leo Merrill, Assistant to the Director

Mrs. Alice Lopez, Secretary

Miss Sandra Case, Typist

Leo Merrill was hired as Assistant to the Director and arrived here on October 1, 1965. His previous employer was Phillips Petroleum Company, Atomic Energy Division, Idaho Falls, Idaho, where he was employed as a solid state physicist. On January 12, 1966, he received an appointment to membership on the ASME Subcommittee on High Pressure Technology by Dr. A. A. Giardini, Chairman.

Mrs. Alice Lopez was hired as secretary on October 11, 1965. She has had very good experience as well as secretarial qualifications (shorthand - 100 wpm; types - 95 wpm), having previously been employed as a secretary for four years by Hercules Powder Company and two years by the Department of Agriculture, Salt Lake City, Utah.

During the course of the bibliography search it was found that a large percentage of time was being used to properly verify the accuracy of the information we were gathering. It was decided to hire a student to work about

20 hours a week. On December 1, 1965, Sandra Case, a sophomore majoring in mathematics, was hired. She has had chemistry and two years of German which are an asset to the center. Below are listed the jobs she has worked on to date:

1. Verify accuracy of bibliographies.
2. Check new bibliographic acquisitions against our holdings to prevent duplication.
3. Prepare card file of journals which we reference.
 - a. Full name of publication.
 - b. Standard abbreviation (from Chem. Abstracts).
 - c. Translation of title (foreign language journal).
4. Provide each reference in our file with standard journal abbreviation.
5. Search for author's addresses.
6. General Filing.
7. German to English Translations of titles and table of contents.

CONTRACT:

According to our contract, the objectives and progress inclusive of January 31, 1966, of our first year of operation are summarized below:

1. Survey literature up to 1960.
2. Fill gaps in our present file from 1960 to present.
3. Expand subject heading file.
4. Obtain reprints or copies of all published high pressure literature.
5. Translate foreign literature--at least an English abstract.

1.&2. SURVEY LITERATURE UP TO PRESENT.

In order to make a thorough search of all high pressure literature published to date, a letter was sent to all high pressure researchers and requested a complete bibliography of their contributions to the high pressure literature. This letter was sent to about 1100 researchers throughout the world. In addition to bibliographies, lists of laboratory personnel with brief resumes of their research were requested.

To date replies have been received from about 260 researchers representing about 125 laboratories. In addition 400 reprints from 165 researchers and bibliographies from 85 authors have been received. One hundred twenty letters were returned and new addresses have been obtained for about 50 of them. Additional letters will be sent to a selected list of researchers who did not reply. From this effort, 1000 new titles have been

added to the file. From current literature 200 titles have been added, plus an additional 300 from searches in the library, conferences and published bibliographies. A total of 1500 new titles have been added to the 2300 obtained from Dr. H. T. Hall's file. It is expected that another 800 to 1200 will be added by March 1, 1966, at which time the total holdings should be in excess of 4500 titles.

In keeping up with the current literature, Chemical Titles is heavily relied upon plus use of about 10 other "Abstract" in the Brigham Young University Library in addition to making periodic checks in numerous journals. Using four selected "Abstracts" a search of the literature from 1965 to 1955 is being conducted in an attempt to pick up titles overlooked. In a recent search of four volumes of Solid State Abstracts (1964), and one volume of Chemical Abstracts (1965), 65 new entries not in the files were found.

3. EXPAND SUBJECT HEADING FILE.

Work on this will begin about February 14, 1966. The 1965 cards will be key punched and a KWICK listing made on the computer. From a study of the subject headings printed out by the computer, a recommendation for organizing this file will be presented.

4. REPRINT FILE.

Reprints are presently being requested on all current literature. By March 1st it is expected that the bibliographic search will be 90% complete, and present plans are to concentrate on securing reprints or copies of high pressure literature at that time.

Where bound volumes exist as reviews or proceedings of conferences, etc., they are purchased. Presently 31 volumes have been ordered of which 22 have been received.

5. TRANSLATIONS.

Translation of some Russian material is already underway while arrangements are still in progress for the German language papers.

TRAVEL:

On November 9, 10, and 11, 1965, Leo Merrill attended a symposium on technical information centers at Battelle Memorial Institute, Columbus, Ohio. Several aspects of this meeting were extremely helpful. Contact was made with directors of several information centers which have high pressure information in their files. One of the advantages of these centers is that they have very complete files on reports that are never published in literature. While there he met with representatives of the National Referral Center of the Library of Congress and the Science Information Exchange. The Science Information Exchange has on file all research being sponsored by any U. S. Government agency.

Another aspect of the trip which was very useful was a tour of Chemical Abstracts Service.

BUDGET: (Status as of January 31, 1966)

	<u>Budget</u>	<u>Expended</u>	<u>Balance</u>
Salaries			
Asst. to Principal Investigator	10,000.00	2,900.00	7,100.00
Secretarial	3,960.00	1,260.00	2,700.00
Travel	500.00	290.00	210.00
Supplies			
Office Supplies	300.00	182.00	118.00
Telephone	100.00	----	100.00
Microfilm and Xerox	500.00	2.00	498.00
Translation	6,000.00	----	6,000.00
Subscriptions and Bound Volumes	500.00	440.00	60.00
Total (Supplies)	7,400.00	624.00	6,776.00

POSSIBLE FUTURE ACTIVITIES:

There are three areas of activity which should enter into our planning of future activity.

A. Organization of Files.

In addition to maintaining well indexed bibliography and reprint files, there are several other categories of information which, if classified, would certainly be an asset to the operation as a Data Center. A summary of some of the more important ones is given below:

1. Bibliography.
 - a. Author index completely cross-referenced with copy of abstract on card of first author.
 - b. Subject index.
2. Card file of journals referenced by bibliography file.
3. Address file of all active researchers.
4. Directory of high pressure laboratories.
 - a. Address.
 - b. Director.
 - c. List of personnel.
 - d. Resume of research.
 - e. Apparatus - temperature and pressure range.
5. Reprint file.

6. There are other areas to consider:
 - a. A file of all transitions occurring as a result of pressure.
 - b. Also a file of all new high pressure structural determinations.
7. File of available computer programs for the handling of data.
 - a. Pressure scale and calibration studies.
 - b. Powder pattern analysis.
 - c. Melting curve.
8. Calibration Studies.
9. Apparatus and patents.

B. Computer Services.

There are two areas where the computer can be of service to the Data Center. The bibliography cards of 1965 will be keypunched in order to study various ways in which the computer can be used. One item already mentioned is a study of the subject heading index.

The most important use of computer services pertains to the job of data evaluation.

C. Services.

While the major function of the Data Center is to evaluate data, many letters have been received from high pressure researchers inquiring how they can obtain information from our files.

It is recommended that consideration be given to putting out a quarterly list of new bibliographic acquisitions. This office presently has on file the addresses of all high pressure researchers and work is progressing on a

directory of high pressure laboratories. This type of information is very difficult to keep current. It is also necessary to write for most of the reprints in the files.

Such a service should be of great assistance to the Data Center by establishing substantial line of communication which would also provide a feedback of both information and reprints to the Center. It could be performed at a nominal cost to the recipient and minimum use of Center personnel by using the computer for its preparation.

Other services may be a copy of the total listings on magnetic tape, a computer produced card file or a page listing of bibliographies.

Conditions for these services are that they should require a minimum of time and pay for costs of computer, printing and mailing.