

*John - Don't say for questions, info, you can  
either call me or Tom Sullivan. Bill Zeitz*

Description of Information Provided by the DOE in Response to  
Informal Request from the NRC Staff  
August 14, 1995

The NRC staff has informally requested the following information  
from the YMSCO volcanism program:

- Lathrop Wells volcano sample locations and results.
- Lathrop Wells stereo air photo pairs, 1:4,000, annotated and unannotated.
- Data from the Lathrop Wells volcanic center.
- Copies of scientific information used to document the results of trenching at the Lathrop Wells volcanic center.
- Geochronological sample locations for Lathrop Wells.
- Geochemical data from the Lathrop Wells volcanic center.
- Sleeping Butte air photos.
- Maps which provide the basis for the tectonic models of the Yucca Mountain area.
- Photos of Lathrop Wells trenches.
- Examples of volume calculations.

The information items described below have been assembled to provide information to the NRC on-site representatives. The DOE cautions that the materials provided comprise examples of the information requested informally by the NRC staff; hence, this information is not a complete and comprehensive provision of all data requested by the NRC. The DOE believes that the materials provided will allow the NRC to examine samples of file materials of interest and better define their information needs. Once these information needs have been defined, the DOE is ready to assist the NRC in arranging for examination of the file information of interest and copying of specifically designated items in accordance with the provisions of the "Agreement Between the U.S. Department of Energy Office of Civilian Radioactive Waste Management and the Nuclear Regulatory Commission Division of High-Level Waste Management During Site Characterization Programs and Prior to the Submittal of an Application for Authorization to Construct a Repository." Information items in the Yucca Mountain Project Technical Database are available by contacting the Technical Data Manager. Items in the Participant Databases can be viewed in the various Participant offices. Arrangements for such viewings may be made by contacting the

DOE/YMSCO Assistant Manager for Suitability and Licensing or the  
DOE/YMSCO Licensing Team Leader.

The following is a description, on an item-by-item basis, of the information assembled and provided to the NRC on-site representative. Following this description, the information items have been indexed to the information requested by the NRC staff.

Information Item 1: One copy of record package  
LA000000000099.001 "Geochemistry of the Lathrop Wells  
Volcanic Center," by F. Perry and K. Straub. This report  
provides the results of geochemical sampling and analysis of  
samples of various lithostratigraphic units at the Lathrop  
Wells volcanic center.

Information Item 2: Two copies of six annotated aerial  
photographs of the Lathrop Wells volcanic center showing  
sample locations. These copies are series "B" (copies of  
copies) of the annotated aerial photographs of Lathrop Wells  
(1:4,000) used by F. Perry for sample location control.  
Photos are Lathrop Wells VC-Area 25 numbers 10, 12, 13, 22,  
28, and 29.

Information Item 3: Two copies each of six annotated aerial  
photographs of the Lathrop Wells volcanic center showing  
sample locations and geologic contacts. These are series  
"A" (copies of prints) of the annotated aerial photographs  
used by B. Crowe for sample location control and geologic  
field mapping. Photos are Lathrop Wells VC-Area 25 number  
4, 10, 11, 12, 18, and 30.

Information Item 4: One copy of an example of the data that  
will be in the Volcanism Status Report Technical Data  
Appendix and featuring references to information items in  
LANL field notebook number 7BMC has been included.

Information item 5: Two each unannotated prints of aerial  
photographs of the Lathrop Wells volcanic center at 1:4,000.  
These prints are identified as 8-18-87, 1:4,000, Lathrop  
Wells VC-Area 25, frames 1 through 32, inclusive.

Information Item 6: One copy each of examples of entries  
from Dr. Crowe's scientific notebook, Volcanic Notebook # 8,  
pages 1, 14, 15, 37 through 43, inclusive, have been  
provided to illustrate the level of detail available in the  
field notebooks.

Information Item 7: One copy of a sample of the information  
from the data binder from sample TWS-EES-13-LV-12-90-20 has  
been provided as an example of the raw data from  
thermoluminescence dating studies.

Information Item 8: One copy of M. Heizler's report on  $^{40}\text{Ar}/^{39}\text{Ar}$  age dating at the Lathrop Wells volcanic center has been provided as an example of the data from the  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronological studies at Lathrop Wells.

Information Item 9: One copy of example information from Dr. Wells' scientific notebook, Field Notebook # 1, pages i and ii, and pages 1 through 45, inclusive, has been provided.

Information Item 10: Two each unannotated prints of color aerial photographs of Sleeping Butte at 1:5,000 have been included. These photos are identified as EG&G 6615 frames 007 through 071, inclusive, dated 9-24-89, 1:4,975.

Information Item 11: Two series "A" copies (copies of prints) each of examples of color copies of the annotated photos have also been provided. These are copies of photos identified as EG&G 6615 frame numbers 037 and 043, 9-24-89, 1:4,975 which were used by B. Crowe during field mapping at Sleeping Butte.

Information Item 12: Two each of prints of photos of Lathrop Wells volcanic center trenches LW-1, LW-2, and LW-3 have been included. Captions, which explain the photographs, have been included with each set of prints.

Information Item 13: Two copies of an example of the scientific notebook entries from pages 14 through 19, inclusive, from B. Crowe's Volcanism Notebook # 1, TWS-EES-13-LV-11-89-08 for the period 11/17/89 through 5/21/93 documenting cone volume and lava volume calculations for Sleeping Butte, Little Black Peak Cone, and Lathrop Wells Cone.

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The list below identifies the information requested by the NRC in italics. Information item numbers following the italicized entries identify individual examples of information which DOE believes are relevant to the request. These numbers refer to numbers on individual information items. Information items that are relevant to more than one request are listed under each information request; however each information item is provided only once in this example data package.

- *Lathrop Wells volcano sample locations and results.*
  - Information Item 1
  - Information Item 2
  - Information Item 3
  - Information Item 4
- *Lathrop Wells stereo air photo pairs, 1:4,000, annotated and unannotated.*
  - Information Item 2
  - Information Item 3
  - Information item 5
- *Data from the Lathrop Wells volcanic center.*
  - Information Item 1
  - Information Item 4
  - Information Item 6
  - Information Item 7
  - Information Item 8
- *Copies of scientific information used to document the results of trenching at the Lathrop Wells volcanic center.*
  - Information Item 9
  - Information Item 4
- *Geochronological sample locations for Lathrop Wells.*
  - Information Item 2
  - Information Item 3
  - Information Item 7
  - Information Item 8
- *Geochemical data from the Lathrop Wells volcanic center.*
  - Information Item 1

The NRC also asked for duplicates of thin sections or copies of photomicrographs. Duplicates of thin sections do not exist; nor have photomicrographs been taken. The NRC may examine the thin sections of the Lathrop Wells volcanics that are maintained at Los Alamos National Laboratory by Dr. Perry. Arrangements for such examinations may be made through the DOE/YMSCO Licensing Team Leader.

- *Sleeping Butte air photos.*

Information Item 10  
Information Item 11

- *Maps which provide the basis for the tectonic models of the Yucca Mountain area.*

The development of tectonic models is outside the scope of the volcanism investigations. This work is being done by USGS investigators in Work Breakdown Structure (WBS) item 1.2.3.2.5.2: Tectonic Effects. The deliverable (3GTW500M) report: Provisional Results of Geophysical Investigations Pertaining to Volcanism, is due in October 1995. The DOE requests that the NRC defer further inquiries on this item until the deliverable is available.

- *Photos of Lathrop Wells trenches.*

Information Item 12

- *Examples of volume calculations.*

Information Item 13

Although the NRC has not requested any information describing the Technical Data Management (TDM) System, the DOE thought that information presented to the Advisory Committee on Nuclear Waste by the YMSCO Technical Data Manager on May 11, 1995 would be helpful to the NRC staff. Therefore, the DOE has enclosed a copy of that presentation with the example materials.

THIS PACKAGE FROM APRIL GIL, DOE, YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE, WAS SENT TO BILL BELKE IN OUR ON-SITE REP OFFICE IN LAS VEGAS, NV, ON AUGUST 14, 1995, THEN FORWARDED TO JOHN TRAPP HERE AT THE NRC IN TWFN (M/S T-7C6). RECEIVED AUGUST 29, 1995.

JOHN TRAPP WOULD LIKE TO BE NOTIFIED WHEN THE PROCESSING IS DONE SO HE CAN CHECK THE DOCUMENTS OUT FOR ANALYSIS. (415-8063)  
THANK YOU.

(ON-SITE REP OFFICE)

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