General

Los Alamos National Laboratory

Environment, Safety, and Health Division
P.O. Box 1663, Mail Stop P538
Los Alamos, New Mexico 87545
(505) 667-4218 / FAX: (505) 665-3811

Ref: ESH-DO:01-031

March 16, 2001

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

James P. Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2044-A Galisteo Street
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Bearzi:

SUBJECT: SECOND RESPONSE TO FEBRUARY 12, 2001 NEW MEXICO HAZARDOUS WASTE ACT/RESOURCE CONSERVATION AND RECOVERY ACT REQUEST FOR INFORMATION, LOS ALAMOS NATIONAL LABORATORY, EPA ID No. 0890010515

The purpose of this letter is to provide the second portion of Los Alamos National Laboratory's ("LANL" or "the Laboratory") response to the New Mexico Environment Department's (NMED's) February 12, 2001, information request letter from Mr. James Bearzi, Hazardous Waste Bureau, to Dr. Browne and Mr. Gurulé. In the Laboratory's initial response to Information Request No. 18, dated March 1, 2001, the Laboratory indicated its intent to provide NMED under separate cover a copy of all analytical data currently available in the Laboratory's database for the 108 Potential Release Sites (PRSs) listed in Attachment A, Part 1 of NMED's letter. This submittal includes that data as approved by NMED's subsequent letter of March 13, 2001 from Mr. Bearzi to Dr. Browne and Mr. Gurulé. As requested by the NMED, the data set being submitted has not undergone the Laboratory's usual data quality checks. The enclosures to this letter include two (2) copies of this data set, in both the hard copy and electronic (on CD-ROM) formats requested in Part 2 of Attachment A of NMED's original request.

Data are included for any of the 108 potential release sites (PRSs) listed in Part 1 of Attachment A of the February 12 letter for which analytical data are available, although NMED's list includes several non-Hazardous and Solid Waste Amendment (HSWA)

PRSs; several PRSs (both HSWA and non-HSWA) that have been consolidated with other PRSs not included in the information request; one regulated unit currently undergoing closure under an approved closure plan; and two open burn/open detonation units otherwise regulated in the Laboratory's operating permit. As stated in the Laboratory's March 1, 2001 response, the data being requested in Information Request No. 18 falls into three categories: (1) data not previously submitted to NMED as part of published investigation reports; (2) electronic data supporting previous reports or as-yet unpublished investigation reports that were not previously submitted to NMED [Category 2]; and (3) field data, including logbooks, core logs, sample collection logs, field screening data, field survey/project scoping data, mobile laboratory data, etc. The data set enclosed herewith is Category 2 data.

The electronic data set consists of environmental sampling data retrieved from the Environmental Restoration (ER) Project database (ERDB). The data set contains approximately 490,000 data records that have been divided into 503 Excel 97 files. Electronic copies of the 503 Excel files are included on a single CD-ROM disk (two copies of the CD-ROM are enclosed). Sample data for Material Disposal Areas C and R taken after the Cerro Grande fire are not yet available in the ERDB. These remaining data records will be submitted to NMED on or before the latest submittal date agreed to in NMED's March 13, 2001 letter.

The data set consists primarily of analytical results for samples collected by the ER Project at 78 of the 108 PRSs, for which analytical data were found in the ERDB. (No sample data attributed to the remaining 30 PRSs were found in the database by the date this deliverable was compiled.) These environmental samples have been collected since 1991 in the course of conducting Resource Conservation and Recovery Act facility investigations (RFIs) at the PRSs; they typically were analyzed for organic chemicals (volatile organic compounds, semivolatile organic compounds, polychlorinated biphenyls, pesticides, and high explosives), inorganic chemicals, and/or radionuclides.

The data set includes analytical results, such as analytical method, date of analysis, analytical laboratory name, and data qualifier flags. The data set also includes information about each sample, such as collection date, depth, matrix, and location. In creating this electronic data set from the ERDB, the Laboratory included all samples associated with a PRS, where a relationship between an individual sample and a PRS exists in the database. Therefore, the electronic data set includes data for samples collected for investigation, waste characterization, and health and safety purposes. The qualifiers distinguishing between these different purposes have not yet been checked. For some PRSs the data set also includes data for samples collected from environmental media that have since been excavated, as occurs when a PRS has undergone remedial action.

Attachment A to this letter contains a more detailed description of how the electronic data set was created, as well as a data dictionary that describes each data field included in the

data submittal. The Laboratory has provided more data fields than requested in Part 2 of Attachment A to NMED's February 12, 2001 letter because the data records have not undergone the routine quality checks usually applied to a data set prior to reporting. The additional data fields provided are those that the Laboratory routinely reviews in the course of performing the quality checks, and may be of assistance to NMED personnel that are reviewing this data set. The electronic data set submitted with this letter does not include the focused data validation qualifier (Item #18 in the list in Part 2 of NMED's Attachment A). The focused data validation qualifier is not derived from the ERDB; it is assigned as part of the quality assurance process and cannot be provided until the data set has undergone review by Laboratory personnel. Similarly, the hard copy data submittal includes all the data fields requested in Part 2 of Attachment A of NMED's letter with the exception of the focused data validation qualifier (Item #9).

The maps requested by NMED do not currently exist. They cannot be created until the Location ID and Sample ID list for each PRS has been checked against hardcopy and electronic records. The maps will be provided under separate cover as they become available.

The Laboratory has been working diligently to compile the responses to all 23 questions included in NMED's February 12, 2001 letter. We will continue to keep you advised of our progress in completing the remaining responses. Please contact Jack Ellvinger at 667-0633 or Cathy Smith at 667-0113 if you have any questions regarding this response. Thank you for your cooperation in this matter.

Sincerely,

Dennis J. Erickson
Division Director for Environment, Safety, and Health Division
Los Alamos National Laboratory

Att.

Cc w/o attach:

Carl Will
LANL Permits Project Leader
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044-A Galisteo Street
Santa Fe, New Mexico 87502

John E. Kieling, Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044-A Galisteo Street
Santa Fe, New Mexico 87502

Robert S. (Stu) Dinwiddie, RCRA Advisor
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044-A Galisteo Street
Santa Fe, New Mexico 87502

David Neleigh, Chief (6PD-N)
New Mexico/Federal Facilities Section
Environmental Protection Agency – Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

J. Vozella, DOE/LAAO, MS A316
G. Turner, DOE/LAAO, MS A316
R. Burick, LANL, DLDOPS, MS A100
T. Gunderson, LANL, DLDOPS, MS A100
M. Baker, LANL, E-DO, MS J591
J. Canepa, LANL, EM/ER, MS M992
M. Kirsch, LANL, EM/ER, MS M992
D. McInroy, LANL, EM/ER, MS M992
E. Louderbough, LANL, LC-GL, MS A187
J. Ellvinger, LANL, ESH-19, MS K490
G. Bacigalupa, LANL, ESH-19, MS K490
IM-5, LANL, MS A150
ESH-DO File, LANL

ATTACHMENT A

Response #2 to Request for Information Pursuant to the New Mexico Hazardous Waste Act and the Resource Conservation and Recovery Act Los Alamos National Laboratory EPA ID No. 0890010515

18. For each Site listed in Part 1 of Attachment A, please submit all analytical data in LANL's possession that has not been previously submitted to NMED. Include data that was obtained under a RCRA Facility Investigation for the Site and for which an RFI Report has not been submitted to NMED. Submit the data in compliance with the format and content requirements set forth in Part 2 of Attachment A.

As stated in the Laboratory's March 1, 2001 letter, for the 108 PRSs listed in Attachment A, Part 1 of NMED's letter, data responsive to Question 18 falls into three general categories (defined here for purposes of this response only).

- **Category 1** data is data reported in documents previously published (by the Laboratory and others) that have not been previously submitted to the NMED. Some of this data might also be included in Category 2 (defined below), while other data may not. By nature, Category 1 data consists of hard copy records (i.e., published documents).
- **Category 2** data is electronic data currently contained in (or planned to be included in) the database housed in the Laboratory's Facility for Information Mapping, Analysis, and Display (FIMAD). This includes both data in published reports that have not been previously submitted to NMED (i.e., Category 1) and data not yet published in reports. Category 2 data, therefore, consists of both electronic and hard copy records.
- **Category 3** data is data not contained in FIMAD, but housed elsewhere in the form of field data records, core logs, geophysical logs, field logbook entries, sample collection logs, screening data, field survey/project scoping data, mobile laboratory data, filed screening samples, etc. (i.e., data described in Attachment A, Part 2 (page 3) of NMED's letter as "*other applicable data results*"). Category 3 data, therefore, consists primarily of hard copy (and, occasionally, electronic) records.

This submittal consists of all available Category 2 data responsive to this question, in both the electronic (on CD-ROM) and hard copy formats requested in Part 2 of Attachment A to request #18. These data are provided herein as Appendix A (electronic data) and Appendix B (hard copy data). The remaining Category 1 and 3 data not yet submitted to NMED will be submitted according to the schedule contained in the Laboratory's March 1, 2001 letter.

The Laboratory has reviewed the status of all available electronic analytical data associated with the 108 potential release sites (PRSs) listed in Part 1 of Attachment A. Electronic data sets have been prepared directly from the Environmental Restoration (ER) Project database (ERDB) housed in FIMAD. There are approximately 7,620 samples and 490,000 analytical data records in the ERDB associated with 78 of the 108 PRSs. Please note that no sampling data were found in the ERDB for 30 of the PRSs, and thus data sets for these PRSs are not included.

The electronic data submittal for each PRS is based on the following considerations.

- Data are included for sites that have been sampled subsequent to the last reporting date to NMED.

- Extraneous data on soils that have already been excavated and removed from the site are included today, at NMED's request, even though they no longer describe current conditions at the PRS.

- Data for sites that were reported prior to 1998 are being resubmitted in the format requested in Part 2 of Attachment A of NMED's letter. The majority of the documents submitted prior to 1998 did not include complete analytical data tables (at the administrative authority's request). LANL reports published prior to NMED's March, 1998, issuance of its standardized report format included only data summaries, not complete listings of all data as is currently being requested.

- The data for 112 pore gas monitoring samples at MDA C (PRS 50-009) and 307 samples at MDA R (PRS 16-019) collected after the Cerro Grande Fire are not yet available in the ERDB. These data are awaiting receipt from the analytical laboratory, undergoing routine validation, and/or undergoing authentication. The data sets will be submitted by July 1, 2001.

As requested by NMED, the data set being submitted today has not undergone the Laboratory's routine quality checks usually applied prior to reporting. The Laboratory will submit electronic and hard copy data sets for these PRSs to NMED in three phases over the next four months as retrievals and quality assurance checks are completed. The order of PRS listing in Appendix E of the Laboratory's March 1, 2001 letter indicates the approximate order in which these validated data sets will be submitted to NMED. The first validated data set will be submitted to NMED by May 1, 2001; the second by June 1, 2001; and the third by July 1, 2001, as approved in NMED's March 13, 2001 response to LANL's extension request. In the course of implementing the schedules provided previously for delivery of Category 1, 2, and 3 data, data in the process of being generated from current operations will subsequently be retrieved, verified, reproduced, and subjected to classification review as expeditiously as possible. This data will be used to supplement the Laboratory's responses to NMED in accordance with Instruction 5, page 3 of NMED's letter.

This schedule is based on currently available information, and may of necessity be amended as work proceeds in preparing the electronic data sets for NMED. In accordance with Instructions 4 and 5, page 3 of NMED's letter, the schedule was based on the following consideration. As directed by NMED, the data submittal provided today has not been validated, and cannot be certified in accordance with the Laboratory's Hazardous Waste Facility Permit requirements. Under normal circumstances, before submittal to NMED, electronic data sets prepared from the ERDB must undergo quality checks so that the data can be certified to be complete and accurate for each PRS.

The quality checks will be performed for analytical data and for field-specific information. Analytical data refers to the results that are reported by the analytical laboratories that the ER Project uses for analysis of samples. Field-specific information refers to information about sampling locations and samples, such as matrix, depth, and date of collection. The quality checks for Category 2 data were described briefly in the Laboratory's March 1, 2001 letter. The detailed quality assurance checks routinely applied to electronic data sets are described in the desk instruction ER-DI-4.28, Quality Assurance Checklist for Preparation of Data Sets from the ER Project Technical Database, which is available on the ER Project's external web site at http://erproject.lanl.gov/documents/procedures.html.

The Laboratory has provided more data fields in the electronic submittal than requested in Part 2 of Attachment A because the data records have not undergone the routine quality checks usually applied to a data set prior to reporting. The additional data fields provided are those that the Laboratory routinely reviews in the course of performing the quality checks, and may be of assistance to NMED personnel that are reviewing this data set. A data dictionary that describes each data field included in the data submittal is provided in Appendix C of this attachment. NMED

personnel should be aware that the following significant quality concerns may exist because certain data fields require additional verification:

- The Location ID and Sample ID list for each PRS has not been verified by checking hardcopy records and maps. It is possible that the assignment of samples to an individual PRS may be refined from the current assignment in the database as sample locations are reviewed.

- Analytical data for samples that represent environmental media that has subsequently been removed in a remedial action are included in the data set, pending review of the excavation status flag. The excavation status is indicated by the value found in the EXCAV_FLAG field. Values in that field that require verification with hardcopy records are identified by a value of "REVIEW" in the EXCAV_FLAG_QC field. Quality control codes of "REVIEW" mean that the hardcopy verification has not yet been performed.

- Analytical data for samples collected solely for the purposes of waste characterization, health and safety, field screening, background characterization, and quality control are included in the data set. The sample purpose is indicated by the sample usage code found in the SAMPLE_USAGE_CODE field. Values in that field that require verification with hardcopy records are identified by a value of "REVIEW" in the SAMPLE_USAGE_CODE_QC field.

- The field preparation for water samples (filtered or nonfiltered) is indicated by the field preparation code found in the FIELD_PREP field. Values in that field that require verification with hardcopy records are identified by a value of "REVIEW" in the FLD_PREP_CODE_QC field.

- The evaluation class, which is a description of the geologic unit or medium that the sample was collected from, is needed to perform comparisons with LANL-specific background values. The environmental medium is indicated by the evaluation class code found in the EVAL_CLASS_CODE field. Values in that field that require verification with hardcopy records are identified by a value of "REVIEW" in the EVAL_CLASS_CODE_QC field.

- Field quality control (QC) samples are collected and used for different purposes. FLD_QC_TYPE_CODE field for samples such as field blanks, rinsates, and field duplicates, is reviewed to determine the data use. Values in that field that require verification with hardcopy records are identified by a value of "REVIEW" in the FLD_QC_TYPE _CODE_QC field.

- Analytical results reported by mobile laboratories, which are regarded as screening-level data, are included in the same data set as the fixed-laboratory results. Checking values in the LAB_NAME or SUITE_NAME fields is necessary to ensure that mobile laboratory data are distinguished from fixed-laboratory data.

- Analytical results for diluted samples and reanalyzed samples are reported by the analytical laboratories along with the original sample results. Therefore, the data set may contain more than one set of analytical results for a single sample. These results for the original, diluted and reanalyzed samples are reviewed to determine which set of results most accurately reflects the concentrations in the sample. The original sample results are indicated by a SAMPLE_TYPE_CODE that is blank or has a value of "SAMPLE". Values of "REVAL" indicated in the SAMPLE_TYPE_CODE field, and the dilution factor that is in the DILUTION_FACTOR field identify diluted and reanalyzed samples that were reported.

- The focused data validation qualifier (item #18 in the list in Part 2 of Attachment A) is not provided in the data set. The focused data validation qualifier is not derived from the ERDB; it is assigned as part of the quality assurance process and cannot be provided until the data set has undergone review by Laboratory personnel. It is necessary to evaluate the

LAB_QUALIFIER and LANL_QUALIFIER fields together in order to determine the detect status of the analyte.

- For radionuclide analytes, the analytical laboratory provides information about the detection limit and measurement uncertainty in the LIMIT, LIMIT_TYPE, and UNCERTAINTY fields. These fields are evaluated in addition to the LAB_QUALIFIER and LANL_QUALIFIER fields to determine the detect status of the analyte.

  Radionuclide detect status may be determined in several ways depending on the date that the data were reported. For data reported since April 1995, radionuclide results that are less than or equal to the LIMIT value, or less than or equal to three times the UNCERTAINTY value are determined to be non-detected. For data reported by the Laboratory's Chemical Science and Technology (CST) division prior to April 1995, the LIMIT and LIMIT_TYPE fields were not provided. Rather, a non-detected value was indicated by reporting a "0" in the UNCERTAINTY field. In addition, if the CST-reported value is less than or equal to three times a non-zero UNCERTAINTY value it is determined to be non-detected.

APPENDIX A

Environmental Sampling Data
(Electronic Copy)