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## Environmental Programs Waste & Environmental Services

for **NOTEBOOK AND LOGBOOK DOCUMENTATION FOR ENVIRONMENTAL DIRECTORATE TECHNICAL AND FIELD ACTIVITIES**

### APPROVAL SIGNATURES:

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## 1.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) describes the responsibilities and process that the Environmental Programs Directorate (EP) personnel and subcontractors used for documenting technical work and field activities at Nuclear Environmental Sites (NES) and non-NES in a notebook or logbook. This procedure also describes the maintenance, protection, and disposition of the notebooks and logbooks as records.

This procedure applies to all Los Alamos National Laboratory (LANL), Environmental Programs (EP) Directorate personnel and contractor personnel work that requires documentation of work performance with a notebook or logbook.

## 2.0 BACKGROUND AND PRECAUTIONS

### 2.1 Background

This procedure has been developed to be consistent with the requirements of the Compliance Order on Consent (March 1, 2005), hereafter referred to as the Consent Order. Field personnel collecting samples under this procedure are effectively in compliance with the requirements of the Consent Order by following the actions specified within this procedure.

Field personnel are responsible for using notebooks and logbooks in accordance with this procedure. The LANL Facility-Wide Monitoring Project Leader overseeing these sampling activities is responsible for ensuring the requirements of the Consent Order are met, and technical best practice requirements are properly incorporated in this procedure.

### 2.2 Notebook and Logbook Use

2.2.1 Management will determine if a notebook or logbook is most appropriate for the work being performed based on the nature of the work and other support documentation in use.

#### 2.2.2 Notebook and Logbook Protection and Maintenance

Notebooks comprise the primary objective evidence for the work performed, and as such are irreplaceable one-of-a-kind records subject to loss, damage, or destruction until they are submitted as final records to the Records Processing Facility (RPF). Printed copies of electronic data are maintained in accordance with EP-DIR-SOP-4003, Records Management.

Logbooks are useful to record chronological information and intentional may be duplicate information and may be supported by other documentation. As an example, Logbooks are useful in sample collection and instrument calibration and maintenance. A logbook is not to be used as a record of an experiment, a research and development activity, developing environmental monitoring wells, or a patentable product that requires the rigor associated with these activities. Logbooks will be submitted as final records to the Records Processing Facility (RPF).

- Each Notebook and Logbook shall be assigned a unique number.
- A Notebooks and Logbooks shall not be altered by obliterating any data (i.e., by tearing or folding of page edges, hole punching, and using white-out, correction tape, or any other means that may obliterate data).
- Notebooks and Logbooks may be altered by single line through of data with identification of the person making the change and date of the change (per LANL Conduct of Operations Manual).
- Electronic entries shall be printed at the end of each day, providing there is a new entry added.

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- Data should be promptly recorded at as near the real time of observations and events to avoid incomplete or inaccurate entries.
- Notebook and Logbook Owners shall photocopy notebook records quarterly and as they are completed, and shall submit these copies to the RPF.
- Owners shall photocopy logbook records on a periodic schedule, and shall submit these copies to the RPF.
- The RPF shall maintain notebook and logbook photocopies and file them in a fireproof filing cabinet until the final, completed original notebook record is submitted for processing.

#### 2.2.1 Incomplete or Illegible Data

- An incomplete or illegible entry shall be corrected by enhancing, regenerating, and/or transcribing only the illegible information per LANL Conduct of Operations requirements.

#### 2.2.2 Procedure Change

- When a procedure change is necessary to avoid procedural noncompliance, and make a notebook or logbook entry to describe the conditions that require the change.
- A person or field team shall not continue working before the procedure change is finalized either as an Immediate Procedure Change (IPC) or as a permanent change to the procedure.

#### 2.2.3 Design Change

- A person or field team shall not continue working before a design change, (which affects work) is finalized in accordance with the following method. A design basis change shall be:
  - Made in accordance with the *Engineering Processes Manual*;
  - Documented in a notebook *or* logbook entry with a description of the conditions that require a design change; and
  - Processed in accordance with the *Document Control Procedure*

### 2.3 DEFINITIONS

2.3.1 **Consumable Calibration Standard** – a secondary standard used by laboratory and field personnel to calibrate or verify the calibration (function check) of Measurement and Test Equipment (M&TE).

2.3.2 **Contractor** – a vendor or subcontractor that performs work for LANL.

2.3.3 **Enhancing** – making a notebook or logbook entry clearer or more legible.

2.3.4 **Logbook** – a book that can be used to record a field recording of information such as sample collection and handling, instrument usage, temperature monitoring, water quality monitoring, equipment use and performance, calibration, maintenance, and similar applications. A logbook is not a record of an experiment, research and development activity, or patentable product that requires the rigor and effort associated with these other meticulous activities.

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- 2.3.5 **Nonconformance** – any deficiency in a physical characteristic, documentation, or procedure rendering the quality of an item or service unacceptable or indeterminate.
- 2.3.6 **Notebook** – a quality record that is hand-written and/or an electronic printout (i.e., hardcopy) that is comprised of field, laboratory, or log (i.e., “logbook”) information which is the legal record and objective evidence of work investigations performed. This includes methodology, observations, results and information that validate the results.
- 2.3.7 **Record** – a document that is identified as the first in a series of documents that will be submitted as a record (e.g., first notebook in a series of notebooks).
- 2.3.8 **Record** – a book, paper, map, photograph, machine-readable material, or other documentary material, regardless of physical form or characteristics, made or received by the EP project in connection with the transaction of business. Said material is preserved or appropriate for preservation by the EP project, or its legitimate successor. The material serves as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the EP project or because of the information value of data in them. [Adopted from 44 U.S.C. 3301]
- 2.3.9 **Regenerating** – a notebook entry is re-created by re-writing the entry. When word processing using a computer, the original entry is preserved and a note in the margin of the original entry points to the location of the regenerated entry.
- 2.3.10 **Supervisor** – a Los Alamos National Security (LANS) employee assigned to a project who has the authority and responsibility to direct and authorize project activities.
- 2.3.11 **Technical Activity Investigation** – an observation, identification, description, experimental study, or analysis and explanation of information and/or data (e.g., site investigations and field activities).
- 2.3.12 **Transcribing** – the process of writing or computer word-processing an exact copy of an original notebook entry.
- 2.3.13 **Unqualified Data** – notebook *or* logbook data that results from one or more of the conditions stated below and requires validation before the data are accepted as qualified:
- Data that were not collected in accordance with the Standard Operating Procedure(s) or methods specified in a project Investigation Work Plan (IWP) and/or Integrated Work Document (IWD);
  - Data that were not part of the associated notebook by reference or as an entry to the notebook; and
  - Data results from analytical samples that lack a defensible chain-of-custody in accordance with EP-ERSS-SOP-5085, Chain-of-Custody for Analytical Data Record Packages.
- 2.3.14 **Validation** – confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. [EPA QA/R-5, *EPA Requirements for Quality Assurance Plans*, March 2001, p. B-4]

### 3.0 EQUIPMENT AND TOOLS

None

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## 4.0 STEP-BY-STEP PROCESS DESCRIPTION

### 4.1 Notebook and Logbook Acquisition

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|-------------------------------|----|--|
| Project Manager               | 1. | Determine if notebooks or logbooks will be used to record activities and record the decision in project documents.   |
| Logbook/<br>Notebook<br>Owner | 2. | Decide how many notebooks or logbooks will be used and whether the notebook will be a bound notebook or a loose-leaf notebook kept in a 3-ring binder.                     |
|                               | 3. | Maintain a separate notebook or logbook for each different project and/or task because notebooks are project-specific and logbooks may be instrument or activity specific. |

### 4.2 Other Requirements

- |                               |    |  |
|-------------------------------|----|--|
| Logbook/<br>Notebook<br>Owner | 1. | Use bound notebooks with blank, sequentially-numbered pages.   |
|                               | 2. | When using a loose-leaf notebook or logbook kept in a 3-ring binder with blank, sequentially-numbered pages, ensure all entries, including daily hard-copy printouts from electronic notebooks (i.e., computers), are maintained to preclude the loss and/or manipulation of data.                 |
|                               | 3. | Ensuring protection and maintenance of the notebook(s) and logbook(s) throughout the life of the project or activity until all information has been submitted to the Records Processing Facility for storage   |
|                               | 4. | Notify the Supervisor or a qualified alternate identified by and acting for the Supervisor to perform a review, including its attachments, when notebook or logbook is closed out and before its disposition to the Records Processing Facility. <i>(Note: periodic reviews are also required)</i> |

### 4.3 Table of Contents or Index Entries for Notebooks and Logbooks

- |                               |    |   |
|-------------------------------|----|---|
| Logbook/<br>Notebook<br>Owner | 1. | Leave the necessary number of pages blank to complete the table of contents or the index. |
|                               | 2. | Cross out pages that are not used with a single line, initial, and date.                  |

### 4.4 Recording Entries in Notebooks

- |                   |    |  |
|-------------------|----|--|
| Notebook<br>Owner | 1. | Record information promptly at or near the time events and observations occur to avoid errors in the completeness or accuracy of notebook records. |
|-------------------|----|--|

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Notebook  
Owner  
(cont.)

2. Enter the following information into the notebook, as applicable, on the first numbered pages:
  - Printed name and title of all individuals who are authorized to make notebook entries, and each individual's sample signature and initials;
  - Statement of purpose and objectives;
  - Description of the work to be performed:
  - Enter a statement that describes the proposed work to be performed, or reference the study plan, other planning documents, or implementing documents that describe the work to be done. The description may include reference to other notebooks, manuals, texts, etc. For field investigations, describe the location where the field activities are to take place, and make reference to a map or photograph that shows the location of the site.
  - This entry should be made at the beginning of the notebook. If the proposed work requirements and/or processes change, entry must be made to address the change.
  - List major equipment (include property or serial number), including Measuring and Test Equipment (M&TE), and any special materials to be used, as specified by the responsible Project Leader;
  - Reference to the pertinent sampling plan or work plan and how samples are uniquely identified, as applicable in accordance with the associated work plan, when appropriate;
  - Qualitative and/or quantitative data acceptance criteria, as applicable in accordance with the associated work plan;
  - Table of contents or an index that lists the major sections of the notebook, and the associated page numbers, and any applicable attachments to the notebook (e.g., Attachment 1, 22 pages);
  - Attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the notebook. Identify an attachment to the notebook by using the attachment number and the page number (sequential), and total pages on each page of the attachment and title.

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3. Make entries with indelible ink that can be clearly photocopied to ensure they are readable, clear, and distinct.

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4. When making an enhancement (e.g., darkening a faint, illegible character), consider it a change and initial and date the entry.

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5. If a Nonconformance Report (NCR), as per ISD-330-6, *Nonconforming Reporting*, is issued for any items or work activities covered by the notebook, include a specific reference to the NCR number as an entry.

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Notebook Owner (cont.)	6.	Number notebook pages sequentially using alpha or numerical characters, or a combination of both.
	7.	Make entry corrections by drawing a single line through the incorrect information, inserting or indicating the correct information, and initialing and entering the date the correction was made in close proximity of the correction.
	8.	Initial and date pasted or otherwise attached entries (e.g., figures, tables, computer-generated information, photographs, etc.) such that the initials and date are entered on the entry.
	9.	Enter the date at the beginning of each shift as required by Conduct of Operations Manual.
	10.	Enter the time of the entry (0830 and/or 8:30 a.m.) at the beginning of each entry.
	11.	Ensure all individuals authorized to make notebook entries print his/her name, and sign and date the entries no less frequently than at the end of each day that the information is entered into the notebook.
	12.	For work governed by an EP project procedure, make entries that contain the following information: <ul style="list-style-type: none"> <li>• All applicable procedures, including the identification number and revision of a procedure being used (e.g., LANL-EP-ERSS-SOP-5059) and other applicable documents (e.g., Statement of Work, Field Implementation Plan, Readiness Review Checklist, Investigation Work Plan, Certificate of Conformance, or a form, etc.) shall be identified as a one-time entry on the initial pages of the notebook.</li> <li>• Information pertaining to calibration of equipment and/or use of standards, as applicable in accordance with the <i>Laboratory Calibration Program</i>.</li> </ul>
	13.	If computer software has been used to generate data, document the name of the software and any associated reference number documenting a SQA.  <b>NOTE:</b> Commercial or government off-the-shelf software is exempt from qualification unless it is modified.
	14.	Identify data references (e.g., standards, regulations, journals, handbooks, documented personal communications, laboratory notebooks, or other sources) and enter into the notebook.  <b>NOTE:</b> A one-time entry at the beginning of the notebook or at first use may be made.
	15.	Enter the following information on and/or adjacent to all photographs pasted into and/or made as an attachment to a notebook: <ul style="list-style-type: none"> <li>• Location where photograph was taken, and orientation to north, south, east, and west, etc.;</li> </ul>



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Notebook  
Owner  
(cont.)

- Description of photograph content;
- Name of individual who took the photograph;
- Date and time photograph was taken; and
- Purpose of the photograph (e.g., SOW requirement, additional information to address a process and/or need, etc.).

16. Enter the names of all personnel working on site for each day and the time they arrived and departed.

17. Track visitors' names and organizations and the date and times they arrived and departed in the notebook or separately in a separate notebook.

18. At the conclusion of the work, state conclusions or observations, addressing whether the original referenced objectives as stated in the initial entry (reference notebook page entry) were achieved.

19. Incorporate deviations from the original approach into the conclusion work entry.

#### 4.5 Documentary Consumables Standards Entries in Notebooks

Notebook  
Owner

1. Document the following information for each consumable standard, as applicable, in the notebook, or incorporate by reference:
  - The unique identifier (e.g., a lot number for a chemical, a purchase request number, or an alphanumeric identifier using date);
  - The description, both physical form (e.g., solid, powder, or gas) and chemical formula, if applicable;
  - The supplier or source (e.g., National Institute for Standards and Technology (NIST) or XYZ Chemical Company);
  - The date received;
  - The storage location (e.g., the subcontractor's name, city and state, or the Laboratory technical area designation, building and room number(s));
  - The designated usage in the EP project (e.g., for calibration of a pH meter or ion chromatography system or submission as a blind sample to provide a quality check of results from outside analytical laboratories);
  - The certified value and its uncertainty;
  - The certification information, including: a) a certificate that shows the accuracy and tolerance or stated physical or chemical value, and traceability to NIST or other nationally recognized standard, or b) if standard is not traceable to NIST or equivalent, describe the basis for using the standard (e.g., published reports or articles as a basis for certification such as geo-standards);
  - Any special handling and storage instructions (e.g., for solutions: tightly capped or refrigerated);
  - The expiration date;



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- Notebook Owner (cont.)
- The assigned custodian;
  - The supervisor's name; and
  - The documentation of standards usage.

#### 4.6 Measuring and Test Equipment Entries in Notebooks

- Notebook Owner
1. Calibrate measuring and test equipment (M&TE) in accordance the *Laboratory Calibration Program*. When performing a calibration at a minimum the following information is to be recorded in the notebook:
    - A file number or unique identification
    - The item name
    - The date the verification was performed
    - The date the verification expires\*.
    - The condition of the item before any adjustments were made (in or out of tolerance)\*.
    - The condition of the item after all adjustments were made (in or out of tolerance)\*.
    - The calibration procedure used (or a brief description of the calibration method)
    - A description of test results obtained.
    - Name (signature, when possible) of the person performing the verification.
    - The certified or verified M&TE or standard used to perform the calibration.
    - Reference to any action taken with respect to out-of calibration or nonconforming M&TE, including evaluation of results for acceptability.

*\*Omit for items that are calibrated at the time of use.*

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  2. Identify potential sources of error or uncertainty that will be measured or controlled that could affect the results or conclusions.

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  3. Identify any suspect conditions that may adversely affect the results

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  4. To identify M&TE calibrated on a set frequency:
    - Record the identification number shown on the associated M&TE report or the identification number on the M&TE label;
    - Record the calibration due date or expiration date is on the M&TE label.

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  5. To identify M&TE calibrated on a set frequency:
    - Use the identification number shown on the applicable M&TE Report or the identification number on the M&TE label;
    - Ensure the calibration due date or expiration date is on the M&TE label.

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#### 4.7 Attachment Entries in Notebooks

Notebook Owner	1.	Identify attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the notebook.
	2.	Record the attachment number, title and the sequential page numbers of the attachment, and total pages on each page.
	3.	Before submitting the notebook and the attachment(s) as a record, the total number of pages, note the attachment number in the notebook Table of Contents or index.
	4.	Submit documents (e.g., chain-of-custody forms, sample collection forms, tailgate safety forms, etc.) to the Records Processing Facility in the following ways: as an attachment to a notebook, as a notebook, or as part of a records package).

#### 4.8 Notebook Supervisory Review

Notebook Owner's Supervisor	1.	Review and ensure completeness of data values and entries contained in the notebook.
	2.	Perform a notebook review according to the duration of the ER project work: <ul style="list-style-type: none"> <li>• Duration &lt; 2 weeks – once a week;</li> <li>• Duration &gt; 2 weeks to 6 months – once every two weeks; and</li> <li>• Duration &gt; 6 months or longer – monthly.</li> </ul>
	3.	Ensure notebook entries meet the following criteria: <ul style="list-style-type: none"> <li>• Sufficient detail is provided such that another Supervisor could retrace the investigation and confirm the results, or could repeat the investigation and achieve comparable results without communicating with the original Supervisor;</li> <li>• Entries are correct, accurate, technically adequate, and complete.</li> </ul>
	4.	Identify rejected data by entering "Rejected Data" next to the data, or by entering a statement in the notebook that identifies the unacceptable data and provides an explanation for rejection, followed by a signature or initials and date.
	5.	Ensure the data are evaluated by a qualified individual if he/she has reason to believe data entry or entries may be suspect or may have been compromised because of equipment malfunction (e.g., M&TE accuracy) or failure during routine daily analysis or experimentation.
	6.	Inspect (evaluate) data that is suspect because M&TE or standards are not documented in the notebook, are lost, are out-of-calibration, or could not be calibrated to determine acceptability.

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|-----------------------------------|----|---|
| Notebook<br>Owner's<br>Supervisor | 7. | Ensure that unqualified data is not used to document EP project work.   |
|                                   | 8. | <p>Enter the statement below on the notebook page after the last entry reviewed or in a section he/she reviewed and follows this entry by printed name, signature, and date:</p> <p style="padding-left: 40px;">“I have reviewed the entries on pages (enter page number) through (enter page number) and they meet the requirements described in SOP-5181, <i>Notebook and Logbook Documentation for Environmental Directorate Technical and Field Activities</i>. All review comments have been corrected and/or resolved.”</p> |

#### 4.9 Notebook QA Specialist Entry for a Review

- |                  |    |   |
|------------------|----|---|
| QA<br>Specialist | 1. | Perform a review of a project notebook, including its attachments and/or data, if applicable, to ensure the entries are legible and the configuration of the notebook meets the requirements of this procedure and required reviews were performed and documented.  |
|                  | 2. | <p>Enter a statement, as follows, on the notebook page after the last entry reviewed or in a section designated for review and follow this entry with printed name, signature, and date:</p> <p style="padding-left: 40px;">“I have reviewed the entries on pages (enter page number) through (enter page number) and they meet the requirements described in SOP-5181, <i>Notebook and Logbook Documentation for Environmental Directorate Technical and Field Activities</i>. All review comments have been corrected and/or resolved.”</p> |

#### 4.10 Records

- |                   |    |   |
|-------------------|----|---|
| Notebook<br>Owner | 1. | <p>Submit the following records generated by this procedure to the Records Processing Facility:</p> <ul style="list-style-type: none"> <li>• Completed, reviewed notebook;</li> <li>• Notebook attachments and/or data, as applicable;</li> <li>• Complete the Record Transmittal Form as stated in the Records Transmittal and Retrieval Process.</li> </ul> |
|-------------------|----|---|

### 5.0 LOGBOOK USE - STEP-BY-STEP PROCESS DESCRIPTION

#### 5.1 Recording Entries in Logbooks

- |                  |    |   |
|------------------|----|---|
| Logbook<br>Owner | 1. | Record information promptly at or near the time events and observations occur to avoid errors in the completeness or accuracy of logbook records. |
|------------------|----|---|

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Logbook Owner (cont.)	2.	<p>Enter the following information into the logbook, as applicable, on the first numbered pages:</p> <ul style="list-style-type: none"> <li>• Printed name and title of all individuals who are authorized to make logbook entries,</li> <li>• Each individual's sample signature and initials;</li> <li>• Statement of purpose and objectives;</li> <li>• Description of the work to be performed;</li> <li>• List major equipment (include property or serial number), including Measuring and Test Equipment (M&amp;TE), and any special materials to be used, as specified by the responsible Project Leader;</li> <li>• Reference, if pertinent to sampling plan;</li> <li>• How samples are uniquely identified, as applicable in accordance with the associated work plan;</li> <li>• Qualitative and/or quantitative data acceptance criteria, as applicable in accordance with the associated work plan;</li> <li>• Table of contents or an index that lists the major sections of the logbook, and the associated page numbers, and any applicable attachments to the logbook (e.g., Attachment 1, 22 pages); leave blank pages at start of logbook to allow for this.</li> <li>• Attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the logbook. Identify an attachment to the logbook by using the attachment number and the page number (sequential), and total pages on each page of the attachment and title.</li> </ul>
	3.	Make entries that can be photocopied to ensure they are readable, clear, and distinct.
	4.	When making an enhancement (e.g., darkening a faint, illegible character), consider it a change and initial and date the entry.
	5.	If a Nonconformance Report (NCR), as per the <i>Nonconforming Reporting Procedure</i> , is issued for any items or work activities covered by the logbook include the NCR number as an entry.
	6.	Number Logbook pages sequentially using alpha or numerical characters, or a combination of both.
	7.	Make entry corrections by drawing a single line through the incorrect information, inserting or indicating the correct information, and initialing and entering the date the correction was made in close proximity of the correction.

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Logbook Owner (cont.)	8.	Explain any removal and/or deletion of text (e.g., pages removed or deleted, etc.) in a logbook entry.
	9.	Initial and date pasted or otherwise attached entries (e.g., figures, tables, computer-generated information, photographs, etc.) such that the initials and date are entered on the entry.
	10.	Enter the date at the beginning of each shift.
	11.	Ensure all individuals authorized to make logbook entries print his/her name, and sign and date the entries no less frequently than at the end of each day or when the information is entered into the logbook.
	12.	For work governed by an EP project procedure, make entries that contain the following information: <ul style="list-style-type: none"> <li>All applicable procedures, including the identification number and revision of a procedure being used, and other applicable documents (e.g., Statement of Work, Field Implementation Plan, Readiness Review Checklist, Investigation Work Plan, Certificate of Conformance, or a form, etc.) shall be identified as a one-time entry on the initial pages of the logbook.</li> <li>Information pertaining to calibration of equipment and/or use of standards, as applicable in accordance with the Laboratory Calibration Program.</li> </ul>
	13.	Make entries that address calibration of equipment or use of standards in accordance with this procedure and as applicable, the Laboratory Calibration Program.
	14.	If computer software has been used to generate data, document the name of the software and any associated reference number documenting a SQA.  <b>NOTE:</b> Commercial or government off-the-shelf software is exempt from qualification unless it is modified.
	15.	Identify unique data references (e.g., standards, regulations, journals, handbooks, documented personal communications, laboratory logbooks, or other sources by date) and enter into the logbook.  <b>NOTE:</b> A one-time entry at the beginning of the logbook or at first use may be made.
	16.	Enter the following information on and/or adjacent to all photographs pasted into and/or made as an attachment to a logbook: <ul style="list-style-type: none"> <li>Location where photograph was taken, and orientation to north, south, east and west, etc.;</li> </ul>

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|-----------------------------|--|
| Logbook<br>Owner<br>(cont.) | <ul style="list-style-type: none"> <li>• Description of photograph content;</li> <li>• Name of individual who took the photograph;</li> <li>• Date and time photograph was taken; and</li> <li>• Purpose of the photograph (e.g., SOW requirement, additional information to address a process and/or need, etc.). Record information promptly at or near the time events and observations occur to avoid error in the completeness or accuracy of logbook records.</li> </ul> |
|-----------------------------|--|

17. Enter the names of all personnel working on site for each day.

## 5.2 Consumables Standards Entries in Logbooks

- |                  |  |
|------------------|--|
| Logbook<br>Owner | <p>1. Document the following information for each consumable standard, as applicable, in the logbook or incorporate by reference:</p> <ul style="list-style-type: none"> <li>• The unique identifier (e.g., a lot number for a chemical, a purchase request number, or an alphanumeric identifier using date);</li> <li>• The designated usage in the project (e.g., for calibration of a pH meter or ion chromatography system or submission as a blind sample to provide a quality check of results from outside analytical laboratories);</li> <li>• The certification information, including: a) a certificate that shows the accuracy and tolerance or stated physical or chemical value, and traceability to NIST or other nationally recognized standard, or b) if standard is not traceable to NIST or equivalent, describe the basis for using the standard (e.g., published reports or articles as a basis for certification such as geo-standards);</li> <li>• Any special handling and storage instructions (e.g., for solutions: tightly capped or refrigerated);</li> <li>• The expiration date;</li> <li>• Filing of certifications, if traceable to work being performed may be sufficient. These certifications will become records.</li> </ul> |
|------------------|--|

## 5.3 Measuring and Test Equipment Entries in Logbooks

- |                  |   |
|------------------|---|
| Logbook<br>Owner | <p>1. Calibrate measure and test equipment (M&amp;TE) in accordance with the LANL <i>Laboratory Calibration Program</i>. When performing a calibration at a minimum the following information is to be recorded in the logbook:</p> <ul style="list-style-type: none"> <li>• A file number or unique identification;</li> <li>• The item name;</li> <li>• The date the verification was performed;</li> <li>• The date the verification expires;</li> <li>• The condition of the item before any adjustments were made (in or out of tolerance);</li> </ul> |
|------------------|---|

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Logbook  
Owner  
(cont.)

- The condition of the item after all adjustments were made (in or out of tolerance and if out of tolerance the action taken);
- Reference to any action taken with respect to out-of calibration or nonconforming M&TE, including evaluation of results for acceptability;
- The calibration procedure used (or a brief description of the calibration method, *this may only be required one time if used for one instrument*);
- A description of test results obtained;
- Name (signature, when possible) of the person performing the verification.

*\*Omit for items that are calibrated at the time of use*

2. Identify any suspect conditions that may adversely affect the results.
3. To identify M&TE calibrated on a set frequency:
  - Record the identification number shown on the associated M&TE report or the identification number on the M&TE label;
  - Record the calibration due date or expiration date is on the M&TE label.

#### 5.4 Attachment Entries in Logbooks

Logbook  
Owner

1. Identify attachments (e.g., forms, maps, photographs, charts, graphs, computer printouts, data binders, optical disk, or electronic media) traceable to the Logbook.
2. Record the attachment number, title and the sequential page numbers of the attachment, and total pages on each page (e.g., WES2006-0005, Attachment 2, "Equipment Calibration", Page 194 of 294, Total Pages: 100).
3. Before submitting the Logbook and the attachment(s) as a record, the total number of pages, note the attachment number in the logbook Table of Contents or index.
4. Submit documents (e.g., chain-of-custody forms, sample collection forms, tailgate safety forms, etc.) to the Records Processing Facility in the following ways: as an attachment to a logbook, as a logbook, or as part of a records package).

#### 5.5 Logbook Supervisory Review

Logbook  
Owner's  
Supervisor

1. Review and ensure completeness of data values and entries contained in the logbook.
2. Perform a logbook review according to the duration of the ER project work:
  - Duration < 2 weeks – once a week;
  - Duration > 2 weeks to 6 months – once every two weeks; and
  - Duration > 6 months or longer – monthly.
  - As an alternative, Logbooks should be reviewed after each completed cycle(e.g., each watershed )



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Logbook Owner's Supervisor (cont.)	3.	Ensure logbook entries meet the following criteria: <ul style="list-style-type: none"> <li>Sufficient detail is provided such that another qualified person or Supervisor could retrace the investigation and confirm the results, or could repeat the investigation and achieve comparable results without communicating with the original Supervisor;</li> <li>Entries are correct, accurate, technically adequate, and complete.</li> </ul>
	4.	Identify rejected data by entering "Rejected Data" next to the data, or by entering a statement in the logbook that identifies the unacceptable data and provides an explanation for rejection, followed by a signature or initials and date.
	5.	Ensure the data are evaluated by a qualified individual if he/she has reason to believe data entry or entries may be suspect or may have been compromised because of equipment malfunction (e.g., M&TE accuracy) or failure during routine daily analysis or experimentation.
	6.	Inspect (evaluate) data that is suspect because M&TE or standards are not documented in the logbook, are lost, are out-of-calibration, or could not be calibrated to determine acceptability.
	7.	Ensure that unqualified data is not used to document EP project work.
	8.	Enter a statement in the logbook page after the last entry reviewed or in a section he/she reviewed and follows this entry by printed name, signature, and date.

### 5.6 Logbook QA Specialist Entry for a Review

QA Specialist	1.	Perform a review of a Logbook, including its attachments and/or data, if applicable, to ensure the entries are legible and the configuration of the logbook meets the requirements of this procedure and required reviews were performed and documented.
	2.	Enter a statement on the logbook page after the last entry reviewed or in a section designated for review and follow this entry with printed name, signature, and date.

### 5.7 Records

Logbook Owner	1.	Submit the following records generated by this procedure to the Records Processing Facility: <ul style="list-style-type: none"> <li>Completed, reviewed Logbook;</li> <li>Attachments and/or data, as applicable;</li> <li>Complete the Record Transmittal Form as stated in the records Transmittal and Retrieval Process, EP-DIR-SOP-4004.</li> </ul>
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## REVISION HISTORY

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0	4/7/08	New procedure; supersedes QP-5.7 and MAQ-011-R2.	T/E
1	3/4/10	Added specific instructions for Logbooks; break out logbooks as a specific tool; changed title to address logbooks.	T/E

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**Attachment A, This document is now numbered P315**

*Conduct of Operations Manual  
Los Alamos National Laboratory*

**Section 16.1 Attachment 3 - Procedure Change Request**

<b>Procedure Change Request</b>				
<b>Section #1 - Type of Request</b>				
Manual/Procedure No. (if known): SOP-5181			Revision: 1	
Title: Notebook and Logbook Documentation for Environmental Directorate Technical and Field Activities				
Detailed description of requested change (Attach additional sheets if needed. Number additional sheets): Supercedes SOP-5181, R0 Add specific instructions for Logbooks; Break out logbooks as a specific tool; Change title to address logbooks.				
Requestor Signature: <i>Margaret Casaus</i>	Print Name: Margaret Casaus	Phone: 7-4220	Date: 1/13/10	
<b>Section #2 - Procedure Owner Supervisor Approval for Processing</b>				
<input type="checkbox"/> New Procedure	<input checked="" type="checkbox"/> Major Revision	<input type="checkbox"/> Minor Revision	<input type="checkbox"/> Special Procedure	
<input type="checkbox"/> IPC	<input type="checkbox"/> Deactivation	<input type="checkbox"/> Cancellation	<input type="checkbox"/> IPC Rollup	
<input checked="" type="checkbox"/> Approved		<input type="checkbox"/> Disapproved (Return to originator)		Priority: High
Procedure Owner Supervisor Signature: <i>Alison Dorries</i>		Print Name: Alison Dorries	Date: 1/14/10	
<b>Section #3 - Review and Concurrence</b>				
IPC #: N/A	IPCs Incorporated: N/A	Affected Pages: N/A		
Other affected facilities or N/A: <u>N/A</u> Obtain Concurrence all facilities/organizations affected by this change: N/A				
Review and Concurrence: Review organizations (N/A if not required); document additional review organizations, if needed, on continuation sheet. CSE approval required for all technical procedures except minor revisions, IPC Rollup, and non-AB related cancellations/deactivations. CSE approval always required for changes affecting safety basis steps.				
Department: ADEP-PM	Print Name: Tim Goering	Signature: <i>Tim Goering</i>	Date: 1/22/10	
CSE USQ Number (As applicable): <i>* WR 219-10</i>		ADC: <input checked="" type="checkbox"/> Unclassified <input type="checkbox"/> OOU <input type="checkbox"/> UCNI <input type="checkbox"/> Classified	Print Name: <i>William R. Turney</i> Signature: <i>W.R. Turney 01/20/10</i>	
<b>Section #4 - Training Review</b>				
Validation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Document is Authorized to serve as Part I of the IWD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Periodic Review Requirements Satisfied? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Training Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Classroom/Briefing <input type="checkbox"/> On the Job	<input type="checkbox"/> Just-in Time <input checked="" type="checkbox"/> Required Reading	<input type="checkbox"/> Hold for Completion of Training <input type="checkbox"/> Release Procedure to field	
Approval Signature: <i>Paul Lowe</i>	Print Name: Paul Lowe	Z Number 232216	Date: 1/27/10	Phone: 6-2345

Course #  
52958

**LANL**  
ISD 315-1.2

*\* When used at WDP or NES nuclear facilities, procedure will be evaluated as part of work package of implementing documents under USQ process. WR 219-10*