

0037961
10/18

135

Attachment 10

616 Nonradioactive Dangerous Waste Facility Description of Procedures

9443293.1088

9443293.1089

Number	Procedure	Pages	Sections
11B-1	Preparing Health and Safety Plan	1-4	1.0, 2.0, 3.0, 4.2, 5.0, 5.1, 5.2, 6.0, 6.1, 6.2
11B-2	Decontaminating Sampling Equipment	23-24	1.0, 2.0, 3.0, 5.2, 5.3, 6.1, 6.2, 6.3
11B-3	Evaluating Data	25-26, 28-29	1.0, 2.0, 3.0, 4.7, 5.0
11B-4	Packaging Samples	32-35	1.0, 4.0, 4.1, 5.0, 5.1, 5.2
11B-5	Soil and Sediment Sample Containers	6-11	1.0, 3.0, 4.2, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8
11B-6	Ensuring Quality Control of Records and Documentation	70-77	1.0, 3.0, 4.0, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.0, 6.2, 6.3, 6.4, 6.5, 6.6
11B-7	Maintaining a Field Logbook	44-48	1.0, 3.0, 5.0, 5.1, 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 6.0, 6.1, 6.2, 7.0
11B-8	Chain-of-Custody	39-43	1.0, 3.0, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 5.0, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.7
11B-9	Controlling Unknown Suspected Waste	49-59	1.0, 3.0, 4.1, 4.2, 4.3, 4.4, 4.5, 5.0, 5.1, 5.2, 6.0, 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11
11B-10	Deviating from Procedures Used During Closure	60-64	1.0, 2.0, 4.0, 4.2, 5.0, 5.1, 5.2, 5.2.1, 5.2.2, 5.3

1.0 PURPOSE

This procedure description (description) summarizes the general requirements for the content, responsibilities and approvals necessary for preparing and implementing site-specific dangerous waste operations permits and guidance for content of health and safety plans.

2.0 SCOPE

The procedures discussed in this description apply to the preparation of dangerous waste operations permits. This description applies for sites covered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) as required by 29 CFR 1910.120.

3.0 DEFINITIONS

Dangerous Waste Site Management Contractor. The dangerous waste site management contractor is the organization who has been assigned onsite responsibility for the investigatory work on a specific waste site.

Health and Safety Reference Document. The sitewide dangerous waste health and safety reference document applicable to all RCRA/CERCLA investigations. The reference document may be referenced in dangerous waste operations permits and health and safety plans.

Health and Safety Plan. The health and safety plan is included in the remedial investigation work plan level document and prepared once for each operable unit. It will consist of the site description and discussion of types/sources of contamination based on all available information. It is not intended to provide site specific detail; this information will be detailed in the dangerous waste operations permit.

Dangerous Waste Operations Permit. The dangerous waste operations permit is a health and safety plan prepared for specific dangerous waste site work activities. The permit describes the hazards (physical, chemical, radiological, etc.) that may be encountered during the operations, the planned methods of dealing with the hazards and emergency response information.

Radiation Work Permit. A radiation work permit is a site health and safety plan prepared for entry into or work in a radiologically controlled environment. The radiation work permit describes the work that is to be done, the protective gear to be worn, dosimetry and monitoring requirements and the length of time personnel can remain in the controlled area. Any deviation from a radiation work permit requires the prior consent of the health physics organization.

9413293.1090

4.0 RESPONSIBILITIES

General information regarding the responsibilities for generating, implementing, enforcing and approving the dangerous waste operations permit is provided below.

4.1 GENERATING THE DANGEROUS WASTE OPERATIONS PERMIT

The site management contractor assigns the lead responsibility for generating and obtaining approval of the health and safety plan and the dangerous waste operations permit for each site.

4.2 APPROVING THE DANGEROUS WASTE OPERATIONS PERMIT

The dangerous waste operations permit will be approved by personnel representing industrial hygiene and safety, operational health physics, and the health and safety officer/site safety officer who has responsibility for field site industrial hygiene and safety monitoring and general site health and safety activities.

4.3 IMPLEMENTING AND ENFORCING THE DANGEROUS WASTE OPERATIONS PERMIT

The responsibility for implementing and enforcing the dangerous waste operations permit at a dangerous waste site is shared by the following individuals and groups: project coordinator, field team leader, health and safety officer, site safety officer, industrial safety and fire protection, health physics, health physics technician, and employees.

General information regarding the responsibilities of each individual and group listed above is provided below.

4.3.1 Project Coordinator

The project coordinator is responsible for and has the authority to direct all RCRA/CERCLA operations on a designated RCRA facility or CERCLA site. As such, the project coordinator is responsible for managing project health and safety.

4.3.2 Field Team Leader

The field team leader will rely on the site safety officer and the health physics technician for monitoring site conditions and implementing designated descriptions in the field, but the responsibility for health and safety performance in the field rests with the field team leader.

4.3.3 Health and Safety Officer

The health and safety officer will meet the qualification requirements for health and safety officers as defined in established procedures. The health and

9413293.1091

safety officer will be responsible for implementing an effective dangerous waste operations health and safety program and will have the requisite authority to implement safety procedures including the authority to temporarily halt work on a project if necessary to protect employees' safety or health. The health and safety officer's primary duties are to serve as a resource to assist every employee in doing their part to comply with the intent of safety procedures and to advise management on health and safety issues.

4.3.4 Site Safety Officer

The site safety officer has the overall responsibility for assuring that provisions of each dangerous waste operations permit are implemented in the field by all employees, contractors and subcontractors. The site safety officer must be trained to implement the requirements in the site dangerous waste operations permit, including correct use of monitoring instruments, health and safety criteria for the site, documentation of monitoring results, and actions to take if site conditions change.

4.3.5 Industrial Safety and Fire Protection

Personnel associated with industrial safety and fire protection are responsible for reviewing and approving the site dangerous waste operations permit with particular emphasis on sections regarding emergency descriptions, fire and explosion, and confined space entry.

4.3.6 Health Physics

Personnel representing health physics have overall responsibility for assessing the probable nature and extent of radiological hazard(s) associated with a given task, and establishing appropriate health and safety descriptions to effectively mitigate such hazards.

4.3.7 Health Physics Technician

The health physics technician is responsible for assuring that all radiological monitoring and protection procedures are followed as specified in the radiation work permit and the dangerous waste operations permit, and has the authority to take whatever steps may be necessary to do so.

4.3.8 Employees

Occupational safety is a matter of each individual making a conscious effort to perform the job duties in a safe manner. Using all required personal protective equipment as instructed or in accordance with established procedures is the responsibility of each employee.

9443293.1092

5.0 GENERAL REQUIREMENTS

The general requirements for a site health and safety plan are described below. A site health and safety plan must be prepared and approved prior to dangerous waste site work activities.

A plan will be prepared for all dangerous waste site operations and will affect all activities and all personnel working at that designated site. The requirements of the plan will be imposed on all individuals who are involved.

5.1 CONTENT AND FORMAT REQUIREMENTS

The content and format of a dangerous waste operations permit comply with established procedures. Included in the permit are such items as:

1. potential hazards, such as confined space entry, cutting, or welding,
2. chemical or radiological hazards,
3. site, personal, and biological monitoring required,
4. protective gear, equipment, and procedures,
5. any required decontamination procedures
6. list of responsible personnel.

5.2 PROJECT IDENTIFICATION REQUIREMENTS

Project identification information will appear on the approval page of the dangerous waste operations permit in sufficient detail to adequately identify the dangerous waste site/task.

5.3 RECORDS

The approved dangerous waste operations permit will be submitted for maintenance, control and transmittal to permanent storage in accordance with established procedures.

6.0 DESCRIPTION OF PROCEDURE

The procedures to be followed in preparing health and safety plans and dangerous waste operations permits to meet the requirements listed in Section 5.0 are described below.

6.1 PREPARATION OF THE HEALTH AND SAFETY PLAN

The health and safety plan consists of site description and discussion of types/sources of contamination based on all available information. It is not intended to provide site-specific detail. The format of the health and safety plan may vary. The sitewide dangerous waste health and safety document is referenced as well as stating that site/task specific dangerous waste operations permits will detail site/task specific hazards. Approval of the plan will be as described in Section 4.2.

9413293.1093

1.0 PURPOSE

This procedure description (description) summarizes the general requirements applicable to soil and sediment sampling activities, and provides descriptive guidelines for performing various individual sampling techniques.

2.0 SCOPE

The procedures discussed in this description apply to soil and sediment sampling. The description is limited to technical sampling activities whereby samples are submitted for physical, chemical and/or radiological analysis. Site-specific sampling requirements will be provided by individual work plans and/or sampling and analysis plans.

3.0 DEFINITIONS

Dangerous Waste Operations Permit. The dangerous waste operations permit is a health and safety plan prepared for specific dangerous waste site work activities. The permit describes the hazards (physical, chemical, radiological, etc.) that may be encountered during the operations, and planned methods of dealing with the hazards and emergency response information.

Field Logbook. A controlled, bound book having sequentially numbered pages and a unique identifier which is assigned to one individual. The logbook is used for recording data related to environmental field activities that are not required to be recorded elsewhere.

Sediment. Solid material that has settled down from a state of suspension in a liquid.

Soils. All unconsolidated materials above bedrock.

4.0 RESPONSIBILITIES

Responsibilities of individuals carrying out the procedure being described may vary depending on the scope and magnitude of the sampling operation. The following descriptions of sampling team members' responsibilities represent general information on their responsibilities.

4.1 FIELD TEAM LEADER/COGNIZANT ENGINEER

The field team leader/cognizant engineer is responsible for directing field operations, coordinating onsite support activities, assigning sampler

9413293-1094

responsibilities, maintaining field logbook(s), and coordinating transportation and shipment of samples.

4.2 SAMPLER

The sampler(s) reports to the field team leader and is responsible for actually collecting, preserving, and documenting the samples. Among the sampler's duties are completing appropriate forms as directed for each sample, ensuring that proper sample containers are used, containerizing, labeling, and sealing (e.g., evidence tape) individual soil or sediment samples, maintaining field custody (in accordance with chain of custody descriptions) of all samples pending transportation to the analytical laboratory, and assisting in nonradiological chemical field decontamination of sampling equipment at the direction of a field team leader.

4.3 FIELD GEOLOGIST

When drilling-based sampling techniques are selected, the field geologist is responsible for making detailed geologic observations of the soil/sediment, chronological observations of the drilling process, and completing the borehole log as required by this description.

4.4 SITE SAFETY OFFICER

The site safety officer is responsible for health and safety monitoring and ensuring that monitoring equipment complies with established requirements in accordance with the site-specific dangerous waste operations permit.

5.0 GENERAL REQUIREMENTS

General requirements for soil and sediment sampling are described below. The requirements are met by following the procedures described in Section 6.0.

5.1 SAFETY REQUIREMENTS

All Hanford Facility sampling activities have to comply with the site-specific dangerous waste operations permit requirements for access control, monitoring of radiation and environmental hazards, personal protective equipment, and waste materials/wash fluid impoundment requirements.

5.2 RECORDS

The field team leader has to process field generated records in accordance with established procedures for records management.

9413293.1095

5.3 TRAINING

Personnel involved in soil and sediment sampling activities must be properly trained in accordance with the established training Plan.

6.0 DESCRIPTION OF PROCEDURE

Procedures for soil and sediment sampling are described below. Specific methods are summarized in Section 7.0.

6.1 REVIEW OF RADIATION AND ENVIRONMENTAL MONITORING REQUIREMENTS

Prior to initiating any field sampling activities on the Hanford Facility, the field team leader must review site-specific radiation and health and safety monitoring responsibilities with all field personnel.

6.2 DECONTAMINATION FACILITIES/WASH WATER IMPOUNDMENTS

The field team leader is required to check any decontamination equipment that may be required for the expected contaminants discussed in the site dangerous waste operations permit. The team leader also must check the methods discussed in established procedures for field decontamination of drilling, well development and sampling equipment and/or decontamination of equipment for RCRA/CERCLA sampling.

The field team leader is also responsible for assuring that proper arrangements are made for wash water containers or impoundments and that the arrangements are properly documented. The availability of protective materials to preserve the cleanliness of equipment must also be ensured.

6.3 SAMPLE STORAGE MATERIALS

The field team leader has to ensure that proper containers are prepared and available for all required sample media. The following supplies should include:

1. Sample containers
2. Sample seals or evidence tape
3. Labels
4. Bottles/caps
5. Water ice/frozen cold packs (blue ice), and dry ice (if needed)
6. Coolers
7. Shielded boxes (as required)
8. Absorbent packing material (e.g., "absorbent" vermiculite)
9. Other items (as required)
10. Packaging/labeling equipment (e.g., scissors, tape, plastic bags)

9413293.1096

The project coordinator or designee is responsible for specifying sampling containers commensurate with the analysis being performed as specified in the site-specific sampling and analysis plan. Containers with missing preparation codes, damaged seals or that are otherwise suspect will not be used. Factors considered when selecting sample containers are compatibility with the sample material, volume of sample needed, and integrity of the container.

Sample containers used for chemical analysis need to be decontaminated before use. Containers purchased commercially will be certified to be clean. When decontamination must be conducted, established decontamination practices will be followed.

6.4 SAMPLING SCOPE/QUALITY ASSURANCE REQUIREMENTS REVIEW

The general scope of sampling operations will be reviewed with site personnel prior to initiating sampling activities. All required sampling equipment will be available and decontaminated or in a clean condition prior to the start of sampling activities. Sample types, methods, and location will be defined by the site sampling and analysis plan. A site-specific quality assurance plan will define site requirements for the use of splits, field blanks, method blanks, spikes, duplicates or other quality control samples and detail the frequency that may be required.

6.5 SAMPLE PRESERVATION, IDENTIFICATION, AND HANDLING

Soil and sediment samples taken for chemical analysis are to be preserved on ice ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) to retard degradation/alteration of the sample. Chemical preservation is not recommended for soil and sediment samples. No preservation steps are necessary for samples taken for physical (except for moisture analysis) or radiological testing.

Samples for physical analysis (moisture content) should be bagged and sealed as soon as possible, after removal from the sampler. This will prevent skewing results of the soil moisture analysis because of evaporation from the sample.

When samples are taken for volatile organic analysis, two things should be kept in mind:

1. Minimize disturbance to soil/sediment sample as much as possible.
2. Soil/sediment sample container should be packed as full as possible to minimize head space in container. See Section 7.2 for other volatile organic sampling methods.

After a sample is obtained, the sampler will cap, label, seal (e.g., evidence tape), and bag the sample container, and then store the sample in the required cooler, shipping or shielded container. It is recommended that the sample(s) be preserved (if required) on water ice ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$), rather than frozen

9113293.1097

cold packs (blue ice) while in the field. Water ice is more efficient at lowering sample temperature to the appropriate level, while frozen cold packs are good for maintaining the desired temperature. Both water ice and frozen cold packs are efficient at maintaining a sample temperature of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

All pertinent sampling information will be entered into the field team leader's logbook.

When soil and sediment samples are to be transported/shipped, they are subject to various specific packaging, labeling and shipping requirements dependent on content and volume. Soil and sediment samples will be packaged and transported/shipped in accordance with established procedures for sample packaging and shipping.

6.6 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Sample information for each sample will be entered on a chain of custody form.

A sample analysis request form will be prepared and accompany the sample(s) to the analytical facility to ensure the correct analysis is performed. Possible sample hazards will be recorded on the sample analysis request form if the samples are suspected to contain high concentrations of any hazardous materials, or if they may pose other hazards.

6.7 DECONTAMINATION

Sampling equipment will be decontaminated to control radiological hazards and to preclude chemical cross-contamination of the samples. Field sampling equipment that comes into direct contact with the sample will be decontaminated prior to use or reuse. Decontamination will be performed in accordance with established field decontamination procedures unless a more appropriate method of decontamination, specific to the needs of the project, is identified in the sampling and analysis plan. Decontamination and the use of stainless steel sampling equipment may not be necessary under all circumstances (i.e., samples taken for physical measurements).

6.8 CONDUCT SAMPLING OPERATIONS

Once all pre-sampling checks have been completed and documented in the field logbook, the field team leader will authorize the start of sampling operations. Individual sampling methods or techniques are defined in Section 7.0; method selection, numbers, and types of samples will be as defined in the sampling and analysis plan. Sampling methods and techniques not defined in Section 7.0 will be utilized per the professional judgment of the project coordinator or designee. When auguring or drilling-based techniques are selected, detailed borehole logs will be prepared and updated at each sampling interval. The field logbook will be used to document site activities during sampling operations and will include the information required in the sample and

9413293.1098

analysis plan for surface-based sampling techniques. Anomalous soil and sediment identified by field survey methods (e.g., flame or photo ionization detector, radiation detection device, visual inspection, etc.) are sent for analysis. As a rule, chemical and radiological analysis take precedence over physical analysis.

7.0 SPECIFIC METHODS

7.1 DUAL-WALL CORE-BARREL SAMPLING METHOD

The dual-wall core-barrel sampling method is primarily used for obtaining samples of radioactive soil/sediments to prevent releasing contamination to the general environment.

7.1.1. SAMPLING EQUIPMENT REQUIREMENTS

The following equipment is needed.

1. Dual-wall core-barrel sampler with driving head.
2. Offsite sample removal facility.
3. Stainless steel spatulas.
4. Sample containers as required.

7.1.2. METHOD DESCRIPTION

The method uses a cable tool or rotary drill rig to drive the sampler and recover the soil/sediment core. The sampler consists of inner and outer tubes, with a special hardened steel drive shoe attached to the cutting edge of the outer tube. The sampler is inserted in a section of starter casing and advanced with the drill rig; the drive head is then unpinned and removed, and the inner tube with the soil/sediment core is withdrawn by the drill rig. A new inner tube is inserted into the recess in the drive shoe, a second inner tube section is coupled, a new outer tube section of equal length is coupled in place, the drive head is reattached, and the whole assembly is then advanced.

The drill rig and other site equipment will require offsite decontamination unless otherwise permitted by the health physics technician.

Any onsite decontamination will be in compliance with field decontamination procedures.

7.2 SPLIT-SPOON SAMPLING METHOD

Split spoon (also called split tube or split barrel) is often used to sample below the surface through the vadose zone. Samples are obtained using a split barrel that is lined with ring or tube liners. The technique is generally

9413293.1099

1.0 PURPOSE

This procedure description (description) summarizes the steps necessary to clean sampling equipment used for Resource Conservation Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sampling. The steps described are designed to avoid cross-contamination of samples caused by contaminated sampling equipment.

2.0 SCOPE

This description applies to personnel performing decontamination of sampling equipment used for RCRA/CERCLA sampling prior to taking the equipment into the field.

3.0 DEFINITIONS

Cross-Contamination. The transfer of contaminants via equipment or personnel from the contamination source to other samples or areas.

Decontamination. The process of washing, rinsing, or otherwise cleaning the exposed surfaces of equipment to rid them of contaminants and to minimize the potential for cross-contamination of samples or exposure of personnel to contaminants.

Sampling Equipment. Any equipment that is in direct physical contact with the sample, such as bottles, spoons, bowls, split barrel liners, or drive barrel liners.

4.0 RESPONSIBILITIES

The field team leader (cognizant engineer) is responsible for ensuring that decontaminated equipment is used for RCRA/CERCLA sampling, and assigning personnel to perform decontamination activities.

5.0 GENERAL REQUIREMENTS

General requirements for safety, equipment, documentation and transport are described below. These requirements are to be met as described in Section 6.0.

5.1 SAFETY

Equipment cleaning requires the use of hazardous chemical constituents. Personal protective equipment will be worn in accordance with established procedures.

9443293.1100

5.2 EQUIPMENT

The laboratory facility must have as a minimum: exhaust hoods to eliminate inhalation hazards, drying ovens of sufficient size to accept a 24 inch long drive barrel, a lockable storage area with controlled access to store cleaned equipment, and drains or containment facilities for hazardous chemical waste.

5.3 DOCUMENTATION

The use of laboratory decontaminated equipment will be recorded in the field logbook by the field team leader.

5.4 TRANSPORT

Prior to transport of equipment contaminated with radionuclides, sampling equipment should be double bagged (if practical). Radioactive equipment will also be transported in a regulated vehicle and accompanied by a radioactive shipment record. A survey and radiation release sticker are required prior to transportation of nonradioactive equipment.

6.0 DESCRIPTION OF PROCEDURE

The field team leader will assign personnel to transport contaminated equipment based on field conditions, equipment and material availability and available manpower.

6.1 LABORATORY DECONTAMINATION

Wash and rinse equipment using solutions and techniques in accordance with established procedures. Repeat washing and rinsing as needed, and dry the equipment as established in laboratory procedures.

NOTE: Decontamination wash and rinse fluids will be collected for proper disposal in accordance with requirements for dangerous waste disposal.

6.2 PACKAGING DECONTAMINATED EQUIPMENT

Wear appropriate gloves at all times when handling cleaned equipment to protect equipment from contamination from oils and perspiration on the skin. Enclose equipment in a clean, airtight container and seal in accordance with established procedures.

6.3 QUALITY CONTROL

The sampling and analysis plan may require that rinsate samples be collected to monitor the adequacy of decontamination.

9413293.1101

1.0 PURPOSE

This procedure description (description) summarizes the interfaces, controls and requirements associated with the management of field and laboratory data obtained during the course of environmental investigations. Also discussed is the role of the Hanford environmental information system as a computer-based resource for storage and retrieval of scientific and technical, or environmental data.

2.0 SCOPE

This description applies to all analytical data collected in connection with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation/Feasibility Study (RI/FS), and the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Corrective Measures Study (RFI/CMS) processes and related environmental monitoring programs. It also describes interfaces and responsibilities of other organizations that are contracted to collect or evaluate environmental data.

This description does not address management of technical data associated with facility operations or personnel, health and safety monitoring or training information.

Instructions regarding management of records associated with data collection are summarized in this description. General aspects of records management are also summarized here for completeness. Instructions for obtaining sample numbers are contained in other descriptions. Other descriptions should also be referred to for specific information regarding work initiation, data collection and reporting requirements.

3.0 DEFINITIONS

Data Entry Verification. The process of verifying that data has been accurately entered into or transferred from a database, as defined by approved procedures.

Data Qualifier. A standardized flag that is utilized to provide an objective indication of the quality of a data set or a measurement or observation. Data qualifiers indicate whether or not specific procedural and/or technical requirements were met during the collection of the data and provide an indication to the technical user of any limitations on usage of the data.

Data Validation. The process of systematically reviewing technical data to determine if procedural and technical requirements related to data collection and analysis were met. Data validation is accomplished through

9413293.1102

documentation and the use of data qualifiers which are appended to the numerical results.

Hanford Environmental Information System Data Package. A collection of validated laboratory and field data and documentation and data forms assembled for the purpose of supporting a specific technical project (e.g., borehole data package).

Information System. Collection of components related to the management of data and information. Information systems typically include computer hardware and software, operating systems, utilities, descriptions, data and information.

Laboratory Data Package. A complete laboratory analysis report, including analytical results and all associated documentation required to verify that applicable regulatory, technical and quality assurance requirements have been met.

Laboratory Summary Results. A hard-copy and/or computer-readable record containing, at a minimum, the analytical results obtained for a sample or set of samples (i.e., associated quality control information is not necessarily included).

Record Material. The material, originated or received by a specific office in carrying out its objectives, that needs to be kept for administrative, legal, fiscal, research, scientific or historical value.

Record Validation. A review to determine that records are complete, legible and meet records requirements.

4.0 RESPONSIBILITIES

The responsibility for complying with this description is shared by the cognizant manager, project coordinator, field personnel, field file custodian, engineering contractor, the environmental monitoring contractor, office of sample management, and the information resource organization. The responsibilities of each party are described below.

4.1 COGNIZANT MANAGER

The cognizant manager is responsible for assigning qualified personnel to implement this description, ensuring that all quality affecting aspects of data collection and management are addressed, and providing funding through work order or cost account plans.

9443293.1103

groundwater monitoring data. The environmental monitoring contractor and other organizations may enter site characterization data directly into the Hanford environmental information system.

4.7 OFFICE OF SAMPLE MANAGEMENT

The office of sample management will prepare a statement of work describing laboratory services required and will secure the laboratory services. The office of sample management acts as point-of-contact in coordinating technical activities and maintaining a sample status tracking database.

In addition, the office of sample management will provide data validation. Data validation will be performed in accordance with EPA guidance and will include review of shipping information, chain of custody forms, hold time, calibration, quality control and analyte identification and quantification.

4.8 INFORMATION RESOURCE ORGANIZATION

The information resource organization provides data management support services to the appropriate organizations. Activities include operations associated with the Hanford environmental information system.

5.0 GENERAL REQUIREMENTS

General requirements associated with these activities include procurement of laboratory services, sample tracking, data validation and in-process storage of data.

The office of sample management has lead responsibility in procuring analytical laboratory services, coordinating activities, and managing analytical laboratory data and associated information. Upon receipt of a completed analytical laboratory data package, the office of sample management is responsible for validating and sending laboratory summary results to the project coordinator.

The information resource organization may have the responsibility for entering unvalidated data from electronic media into the Hanford environmental information system. Upon receiving the validated summary results from the office of sample management, the staff will incorporate the data qualifiers into the Hanford environmental information system record.

The office of sample management is responsible for short-term storage of in-process and completed laboratory data packages and associated documentation. The completed data packages and documentation will be transmitted to the field file custodian or environmental data management organization, upon request, for permanent storage or disposition.

9413293.1104

The field personnel are responsible for conducting tests or procuring laboratory testing services and for associated sample tracking and data management activities. The data generated by these activities is transmitted to the project coordinator via technical memos. Data of this type will undergo review by the project coordinator. Specific validation and review requirements will be provided by an associated quality assurance plan. Following this validation and/or review, the project coordinator will incorporate the information into a Hanford environmental information system data package and submit it to the information resource management data management staff for entry into Hanford environmental information system. Any qualifications identified by the project coordinator may be entered into the Hanford environmental information system as comments.

6.0 DESCRIPTION OF PROCEDURE

The major activities associated with management of field and laboratory data collected during environmental investigations and the overall work flow include the activities described below.

The project coordinator conducts reviews of historical records and completes field scoping activities. Specific validation activities and management of this information are defined in a quality assurance plan.

Work plans for RI/FS and RFI/CMS projects are prepared and issued through the project coordinator in accordance with established descriptions.

Statements of work, work/task orders, procurement documents and other work controlling documents are issued by the project coordinator to initiate field sampling and site characterization activities. The office of sample management will issue statements of work and procurement documentation for analytical laboratory services.

Radiological surveys and associated site safety activities are performed in accordance with established descriptions.

The surveying and mapping activities are performed to support field sampling and characterization activities as specified in an approved statement of work. Surveying and mapping data is submitted to the project coordinator. The information resource organization data management staff verifies that electronic data is accurate before entry into Hanford environmental information system.

The field personnel perform field sampling and site characterization activities. Sample numbers are generated by Hanford environmental information system, and administered by the office of sample management and resulting data, logbooks, maps and reports are submitted to the project coordinator. The project coordinator or delegate extracts and compiles the information into data packages and submits the packages to information resource organization

9413293.1105

1.0 PURPOSE

This procedure description (description) summarizes packaging and shipping requirements and guidelines to ensure that samples shipped for analysis are transported in a manner to protect their integrity.

2.0 SCOPE

The procedures discussed in this description apply to samples collected during environmental investigations.

3.0 RESPONSIBILITIES

The field team leader and sampler(s) are responsible for compliance with this description and for ensuring that laboratory analysis of samples is coordinated through appropriate offices.

4.0 GENERAL REQUIREMENTS

General requirements of special equipment and controlled forms for packaging and shipping samples are described below.

4.1 SPECIAL EQUIPMENT AND CONTROLLED FORMS

The proper forms are to be available for implementation of this description. The forms include those forms used for shipment of nondangerous material; forms for shipment of dangerous material; forms for shipment of Type A and B radioactive material (both onsite and offsite); sample analysis request forms and the chain of custody form.

Special equipment required may include:

1. Shipping containers (plastic coolers, cardboard shipping boxes, shielded boxes, U.S. Department of Transportation [DOT]-approved metal cans, etc.)
2. Transportation labels and stickers
3. Plastic bags (various sizes) and tape (e.g., duct tape, strapping tape, evidence tape and "white" tape)
4. Absorbent packing material (e.g., "insulating" vermiculite)
5. "Fresh" water ice or frozen coldpacks (blue ice) if needed.

9413293.1106

5.0 DESCRIPTION OF PROCEDURE

The descriptions for the packaging and shipping of nondangerous background samples, dangerous nonradioactive samples, and radioactive or mixed waste samples are described below.

5.1 PACKAGING AND SHIPPING (NONDANGEROUS) BACKGROUND SAMPLES

This section presents guidelines related to proper packaging and shipment of (nondangerous) background samples. Always follow established procedures regarding packaging of sample shipments. The following steps should be performed in the most logical order.

1. Prior to sampling (at least 1 week), contact transportation and supply them with sample media and approximate number of samples to be shipped per day and size (volume/weight) of individual sample or sample containers to enable them to recommend the proper shipping container for the samples.
2. After sampling is performed, label and seal (evidence tape, dated and initialed) each sample container and place the sample container in a plastic bag and seal.
3. Place sample(s) in shipping container lined with plastic.
4. Place "Fresh" - water ice sealed in plastic bags or frozen coldpacks (blue ice) next to sample(s), if cooling is required.
5. Pack sample(s) with enough compatible and absorbent cushioning material (e.g., insulating vermiculite) to minimize the possibility of the sample container(s) breaking.
6. Seal plastic liner bag of the DOT-approved shipping container.
7. Complete the sample analysis request, chain of custody and off-Site property control forms. Ensure sample numbers on the forms match the samples in the shipping container.

NOTE: If samples are being delivered to an offsite or onsite laboratory via a U.S. Department of Energy (DOE) vehicle, omit remainder of Section 6.1, and deliver samples and documentation to the laboratory.

9413293.1107

8. Write "NEXT DAY SERVICE" on the off-site property control form to ensure overnight delivery, if required.
9. Have the health physics technician sign the off-site property control form with an unconditional release.
10. Take the shipping container with samples and documentation to the shipping organization.
11. Obtain serial number from property management organization, and write this number on the chain of custody form.
12. Obtain the Bill of Lading/Airbill number for sample shipment. Write this number on the off-site property control form. On the off-site property control form, indicate the type of compatible and absorbent cushioning material used, and enter the sample numbers in the description block.
13. Request that the sample numbers and shipping container number be included on the Bill of Lading/Airbill. Sample numbers can be added to an addendum page if an Airbill is used.
14. Sign and print name in the "Relinquished by:" block on the chain of custody form.
15. Make file copies of paperwork.
16. Place the sample analysis request, chain of custody forms, and any associated radiation screening reports, total activity report or health physics technician documentation in a sealed plastic bag and place inside a DOT-approved shipping container.
17. Secure and seal (e.g., strapping tape) the shipping container lid; then place evidence tape (dated and initialed) on container.
18. Place address sticker, "This Side Up" sticker and "Packed in Wet Ice" sticker (if samples are cooled) on top of shipping container.
19. Properly complete the off-site property control form. Give the off-site property control form and the shipping container to the shipping recipient, who will ultimately transfer the container to a carrier for offsite transportation.

5.2 PACKAGING AND SHIPPING DANGEROUS NONRADIOACTIVE SAMPLES

This section presents guidelines and requirements to properly package and ship dangerous (or potentially dangerous), nonradiological samples. Always follow established procedures regarding packaging of sample shipments. Perform the following steps in the most logical order.

9413293.1108

1. Prior to sampling (at least 2 weeks), contact the transportation department and supply them with sample media, suspected or potential sample constituents and hazards (if known), and approximate number of samples to be shipped per day and size (volume/weight) of individual sample or sample containers. This information will be used to determine the U.S. Department of Transportation packaging, labeling and shipping requirements for the samples.

NOTE: If samples are to be delivered to the laboratory via private carrier, go to step 2. Otherwise, omit step 2 and go to step 3.

2. Notify the transportation organization at least 1 week prior to sampling in order for them to schedule coverage and authorize shipment for any dangerous samples being shipped offsite.
3. After sampling is performed, label and seal (evidence tape, dated and initialed) the sample container and place the sample container in a plastic bag, and seal the bag.
4. Place sample(s) in primary shipping container that has been lined with a plastic bag.

NOTE: Sample container openings must be facing up inside shipping container.

NOTE: Each sampling project involving dangerous materials will have packaging parameters that will be determined by its associated hazards.

5.3 PACKAGING AND SHIPPING RADIOACTIVE OR MIXED SAMPLES

This section presents guidelines and requirements to properly package and ship radioactive or mixed samples. Always follow established procedures regarding packaging of sample shipments. Perform the following steps in the most logical order.

1. Prior to sampling (at least 3 weeks), contact the transportation organization and supply them with sample media, suspected or potential sample constituents and non-radiological hazards (if known), estimated or actual curie content of sample(s), and approximate number of samples to be shipped per day and size (volume/weight) of individual sample or sample containers. This information will be used to determine the U.S. Department of Transportation packaging, labeling, and shipping requirements for the samples.

9413293.1109

1.0 PURPOSE

This procedure description (description) summarizes the general requirements for documenting and maintaining chain of custody for environmental samples from point of origin to receipt at the analytical laboratory.

2.0 SCOPE

This description applies to environmental samples collected in accordance with contracting documents. This description is applicable from time of sample acquisition until custody of the sample is transferred to a laboratory or other analytical facility.

3.0 DEFINITIONS

Chain of Custody. Chain of custody documentation is required as evidence of sample integrity for transfer of samples from time of sample acquisition to receipt by the laboratory,

Custody. The physical responsibility for sample integrity, handling, and/or transportation custody responsibilities are effectively met if samples are in the individual's physical possession or direct observation after possession is taken, secured by the individual so that no tampering can occur, or secured or locked by the individual in an area in which access is restricted to authorized personnel only.

Custody Seals, Evidence Tape. Security tape or other similar material affixed such that any tampering with samples during transfer will be apparent.

Witness. A sampling team member who participates in the actual sampling, or who is an observer to the sampling, and is responsible for initial custody of samples.

4.0 RESPONSIBILITIES

The field team leader/cognizant engineer, witness, transporter, laboratory sample custodian, and office of sample management will all be involved in the chain of custody process. Descriptions of these positions and their responsibilities are listed below.

4.1 FIELD TEAM LEADER/COGNIZANT ENGINEER

9413293.1110

The field team leader/cognizant engineer is responsible for chain of custody documentation to ensure sample transfer documentation is complete.

4.2 WITNESS

The witness is responsible for maintaining custody of samples from sample collection until proper transfer of custody.

4.3 TRANSPORTER

The transporter is responsible for transporting samples and corresponding chain of custody documentation to the next custodian. If the transporter is a private carrier (e.g., UPS, PIE, etc.), bonding is required.

4.4 LABORATORY SAMPLE CUSTODIAN

The laboratory sample custodian is responsible for accepting custody of samples, and inspecting transferred samples to ensure that seals are intact and labels are affixed, and sample condition is acceptable.

4.5 OFFICE OF SAMPLE MANAGEMENT

The office of sample management is responsible for ensuring that a copy of the completed chain of custody documentation is received with the laboratory sample data package and transmitting the laboratory sample data package, including original chain of custody documentation, to the environmental data management organization.

5.0 GENERAL REQUIREMENTS

Chain of custody must be documented on the established chain of custody form or on chain of custody forms that are laboratory specific.

6.0 DESCRIPTION OF PROCEDURE

Samples are to be prepared, packaged and transported to the laboratory in accordance with developed sample packaging and shipping descriptions.

6.1 CUSTODY INITIATION

The witness will take custody of samples in accordance with the definition of "custody" (Section 3.0 of this description) as soon as samples are collected. This custody is maintained until the appropriate time of transfer of custody.

6.2 CHAIN OF CUSTODY FORM INITIATION

9443293.111

The field team leader or the witness as determined by the field team leader initiates the chain of custody form.

NOTE: If the field team leader is going to initiate the chain of custody form and is not a witness, go to step 1. Otherwise omit step 1 and go to step 2.

1. Transfer of custody in the field is performed as follows:

- a. Witness maintains custody of sample(s) from collection until appropriate transfer of custody.
- b. Witness brings collected samples to the field team leader.
- c. Field team leader records the following in the field logbook:
 - 1. Sample identification numbers.
 - 2. Witness name.
- d. Witness indicates transfer of custody by signing next to this entry in field logbook.

2. The witness/field team leader initiates the chain of custody form. At a minimum, the witness/field team leader enters the following information on the form:

- a. Enter name--as chain of custody form initiator.
- b. Contact name.
- c. Method of shipment and destination as identified by the field team leader.
- d. Project designation or sampling
- e. Collection date.
- f. Sample identification numbers or other unique sample description.
- g. Indicate if samples may pose hazards to lab personnel. Enter any other pertinent remarks.

locations.

9443293.1112

- h. Enter "Field Transfer of Custody" if step 1 of Section 6.2 was performed.
- i. The sample shipper identifies carrier and record bill of lading/airbill number (if available), when a private contractor is used.

NOTE: If chain of custody forms are used that are laboratory specific, fill out information in accordance with form instructions.

6.3 TRANSFER OF CUSTODY

To document transfer of samples, the person relinquishing custody and the next person accepting custody signs, dates and records time of transfer on the chain of custody form. The custody form initiator and the first person to sign the "Relinquished by" block on the custody form must be the same person. The original chain of custody form will accompany samples, and a copy is given to the field team leader for information. A copy of the chain of custody form is forwarded to the office of sample management for sample tracking purposes.

6.4 RECEIPT AT DESTINATION

The laboratory sample custodian inspects transferred samples to ensure that seals are intact, labels are affixed and legible, a sample analysis request accompanies each sample or discrete set of samples, the physical condition of samples is acceptable, and samples being transferred are those identified on the chain of custody form. Any problems encountered as a result of the inspection of samples must be handled in accordance with the Statement of Work with the laboratory. Laboratory sample custodian must sign, date and record time of transfer of custody of samples on the chain of custody form. Laboratory sample custodian retains the original chain of custody form until project documentation is dispositioned. Laboratory custody descriptions are implemented upon completion of transfer of custody.

6.5 SAMPLE DISPOSAL

Sample disposal is handled by the office of sample management, and the "Final Disposition" block on the chain of custody form will be completed upon sample disposal.

6.6 SAMPLE REMOVAL

Certain radioactive samples may be transferred to a separate facility for extraction from sampling equipment and repackaging for analysis. In this case, a new chain of custody form is initiated at the extraction facility for shipment of repackaged samples to the laboratory or analytical facility.

9413293.113

Facility personnel forward the completed, original chain of custody form documenting receipt to the field file custodian. A copy of the facility-initiated chain of custody form is forwarded to the project coordinator for information.

6.7 RECORDS

The office of sample management ensures that a copy of the completed chain of custody form accompanies the sample data package received from the laboratory. The office of sample management receives the completed, original chain of custody form(s) (as part of the sample data package) from the laboratory after project completion, and forwards it to environmental data management for processing into the environmental information management system and subsequent transmittal to operating contractor information resource management for permanent retention.

Chain of custody form(s) documenting receipt and completed by facility personnel are transmitted to information resource management for permanent retention by the field file custodian in accordance with descriptions established by the operating contractor.

945293

1.0 PURPOSE

This procedure description (description) summarizes the general requirements applicable for acquisition and control of field logbooks.

2.0 SCOPE

The procedures discussed in this description apply to field logbooks used during environmental field investigations. The data related to environmental field activities will be recorded in the field logbook.

3.0 DEFINITION

Field logbook. A bound book having sequentially numbered pages and a unique identifier that is assigned to one individual.

4.0 RESPONSIBILITIES

It is the shared responsibility of the field logbook users and the field file custodians to utilize field logbook maintenance and control descriptions as specified by established procedures. The responsibilities of each party are described below.

4.1 FIELD LOGBOOK USER

The field logbook(s) user is responsible for requesting field logbook(s) as required, maintaining and controlling assigned field logbook(s), ensuring that entries are correct and signed and dated, and making field logbook(s) available to the field file custodian for copying, or providing copies of used pages to the field file custodian at least weekly.

4.2 FIELD FILE CUSTODIANS

The field file custodians are responsible for assigning field logbooks to personnel upon request, tracking field logbooks assigned, including copy status of the logbooks and the person assigned responsibility for the logbook, making copies (or receiving copies) of field logbooks assigned to personnel on a systematic basis (at least weekly), maintaining copies in a controlled area, and incorporating the copies in the appropriate record package, and retiring

9443293.115

field logbooks to the applicable records keeping and data management personnel upon request from the assigned user.

5.0 GENERAL REQUIREMENTS

General requirements for distributing field logbooks to the appropriate personnel are verified according to established procedures. The requirements are met by following the procedures described in Section 6.0.

5.1 MAINTENANCE AND CONTROL OF FIELD LOGBOOKS

Maintenance and control of the field logbook is the responsibility of the user to whom it is assigned. The responsible user will comply with the following requirements:

5.1.1. Entries in the Logbook

Entries will be written using permanent, reproducible black ink, pertain to the specific activity that the logbook was intended, and be legible, complete and accurate. The individual making an entry will sign and date the entry. Consideration must be given to margin allowances for copying purposes. Anyone may make entries in the logbook at the discretion of the assigned logbook user. Logbooks may have attachments (e.g., photos), but consideration must be given to the life of the attachments (i.e., minimum of 25 years) and method of attachment. Unused pages or portions of pages are to be lined through (when large quantities of pages exist at the end of a project, only the page following the last page used need be lined through). Identify by number (e.g., on the last page or back spine cover) subsequent logbooks used for a continuing project.

5.1.2. Errors Made in the Logbook

If an error is made in a field logbook, the user or individual (or alternate authorized personnel) responsible for the original entry will make the correction by crossing out the error with a single line and entering the correct information. All corrections must be initialed and dated. The erroneous information is not to be obliterated. The controlled field logbook (or any portion thereof) is not to be destroyed or thrown away, even if it is illegible or contains inaccuracies that require annotation.

5.1.3 Custody of the Logbook

Custody responsibilities are effectively met if the field logbook is in the individual's physical possession, in the individual's direct observation, secured by the individual so that no tampering can occur, or secured by the individual in an area in which access is restricted to authorized personnel only.

9413293.1116

5.1.4 Reassignment of the Logbook

If the individual assigned responsibility for the logbook leaves the project, the logbook may be reassigned to another individual. Notification of the field file custodian must be presented in writing when the field logbook is reassigned.

5.1.5 Copies of the Logbook

The user will ensure that the logbook is provided to the field file custodian for copying; at least weekly, pages used in the logbook since last copies were made, will be copied by the field file custodian; or, the user will make copies, at least weekly, of all used pages (since last copies were made) and submit the copy(ies) to the field file custodian.

6.0 DESCRIPTION OF PROCEDURE

Procedures for field logbooks are described below.

A bound field logbook with sequentially numbered pages must be maintained by the user to provide a record of events, observations and measurements made during field activities that are not required to be recorded elsewhere. All members of the field team may be required to use the field logbook at the discretion of the assigned user. The individual making an entry will sign and date the entry.

6.1 FIELD LOGBOOK DATA ENTRY

Information pertinent to an environmental field activity, not required to be recorded on forms addressed in applicable procedure or other approved work controlling documents, will be recorded in a field logbook. Section 7.0 identifies some entry considerations to ensure that sufficient information for the field activity is provided in the field logbook to enable participants to reconstruct events and refresh the memory of field personnel if called upon to give testimony during legal proceedings.

6.2 RECORDS

Field logbooks will be placed in permanent storage in accordance with established procedures.

7.0 FIELD LOGBOOK ENTRY CONSIDERATIONS

This list is intended to provide the field logbook user with a means of identifying information that may be needed in the logbook. It is the responsibility of the user to provide sufficient information in the field

9443293.1117

logbook to reconstruct events without relying strictly on the field logbook user's memory.

Many of the general topics listed here are discussed further in descriptions that specify the required information to be recorded in the field logbook. These descriptions in many cases identify forms to be used for recording specific items. The intent of the field logbook is to refresh the memory of field personnel when needed to reconstruct events. Therefore the information needed in the field logbook should be factual, detailed and objective to allow this reconstruction of events.

1. Names of individuals involved in the field activity.
2. Titles and responsibilities of individuals involved in the field activity.
3. Signature of personnel making an entry (the person's printed name is to occur at least once per logbook by their signature).
4. Type and purpose of field activity.
5. Title and identification number (including revision number) of the controlling document(s) or descriptions to which the work is being performed.
6. Reference to description change authorizations initiated, if any.
7. Date of the field activity.
8. Site map, sketch or other definitive site description.
9. Field observations such as weather conditions.
10. Instrument calibration information.
11. Equipment identification numbers.
12. Condition of equipment (if notably poor).
13. Visitors to the site and/or tours of the site.
14. Field meetings.
15. Field decontamination of equipment and personnel.
16. Decontamination of equipment prior to arrival onsite.
17. Field problems, solutions, corrective actions.

943293-1118

18. Attachments such as photographs.
19. Audits or surveillances.
20. Documentation of safety meetings.
21. Excavation Permit.
22. Collection Permit.
23. Radio channels (frequencies) used by support groups.
24. Radio numbers for emergency contacts.
25. Documentation of safety surveys (i.e., radiological, metal detector, underground utilities, etc.).

9413293.1119

1.0 PURPOSE

This procedure description (description) describes a system to control the containment, labeling, and tracking of drums of unknown, field-designated suspected dangerous and mixed waste generated during environmental investigation, site characterization and well maintenance activities.

2.0 SCOPE

The procedures discussed in this description apply to all personnel and subcontractors who generate unknown, field-designated suspected dangerous and/or mixed waste during environmental investigation, site characterization, well maintenance activities, and groundwater monitoring well installations. This description governs the designation, handling, and storage of unknown wastes unless otherwise specified in working/planning documents approved by the U.S. Department of Energy (DOE) and regulatory agencies.

3.0 DEFINITIONS

Accumulation Start Date. The day a waste is first generated, or the day a quantity of suspected dangerous or dangerous waste exceeds 55 gallons or acutely dangerous waste exceeds one quart while being accumulated in a satellite storage area. The facility generator assigns the accumulation start date when notification by the solid waste engineering organization indicates the waste is dangerous.

Acutely Hazardous Waste. Dangerous waste sources (listed in WAC 173-303-9904) and discarded chemical products (listed in WAC 173-303-9903) that are identified with a dangerous waste number beginning with a "P" or that show an "X" or an "A" in the reason for designation column.

Collection Area. A location at or near the point of generation where drums of unknown waste are kept while awaiting laboratory analysis results and designation by the solid waste engineering organization. Collection areas will be roped off and marked for restricted access. Drums will be stored on drum pallets.

Dangerous Waste Operations Permit. The dangerous waste operations permit is a site health and safety plan prepared for specific dangerous waste site work activities. The permit describes the hazards (physical, chemical, radiological, etc.) that may be encountered during the operations, and planned methods of dealing with the hazards and emergency response information.

Facility Generator. Individual who is responsible for the proper handling, storing, and shipping of dangerous waste. The facility generator is

9413293.1120

the individual responsible for ensuring all drums are moved from the temporary storage facility within 90 days from the accumulation date.

Generated Waste. Waste, other than purge water (as defined below) that exists as a result of active field characterization or well maintenance activities.

Hazardous Waste (Environmental Protection Agency (EPA) term)/Dangerous Waste (Washington Department of Ecology term). Nonradioactive solid waste as defined in 40 CFR 261, "Identification and Listing of Hazardous Waste," as requiring special handling, transportation, and/or disposal methods; and as defined in WAC 173-303-040, "Dangerous Waste," as those solid wastes designated as dangerous or extremely hazardous waste in accordance with WAC 173-303-070 through 173-303-103.

Mixed Waste. Radioactive waste that is also dangerous or toxic.

Process Knowledge. A scientific determination based on the examination of available types of published data that would lead a scientist or engineer to believe there is a strong probability that dangerous waste materials exist at a site or area.

Project Coordinator. Individual assigned to coordinate sampling and analysis activities for characterization sampling.

Purge Water. Water that is removed from a ground water monitoring well during well development, aquifer testing, sampling, maintenance or remediation activities.

Radioactive Waste. Solid, liquid, or gaseous material that contains radionuclides regulated under the Atomic Energy Act of 1954, as amended, and of negligible economic value considering costs of recovery.

Satellite Storage Area. A location at or near the point of generation where suspected dangerous and dangerous waste accumulates.

Suspected Dangerous Waste. Nonradioactive solid waste that meets the criteria for suspected dangerous waste as described in established procedures. Suspected dangerous waste must be managed in accordance with this description.

Suspected Mixed Waste. Radioactive solid waste that also meets the criteria for suspected dangerous waste. Suspected mixed waste must be managed in accordance with this description.

Temporary Storage Facility. A temporary accumulation area for any quantity of suspected dangerous and dangerous waste up to 90 days.

Unknown or Suspected Dangerous Waste Management. For the purpose of this document, management means the generation, characterization (analysis),

9413293.1121

designation, storage, surveillance, record keeping, reporting, and arranging for shipment or disposal of unknown or suspected dangerous waste.

Unknown Waste. Drill cuttings; decontamination fluids, materials, cloths, wipes; grab samples; and well maintenance soils/slurries from a dangerous waste site having no indications from initial field investigations that dangerous or radioactive material is present at the time of placement within the drum.

Unknown waste containers are those with physical contents from a known source (e.g., generated during drilling activities or decontamination activities) that are awaiting verification of any chemical constituents. These unknown containers are differentiated from unfamiliar containers with both unknown physical and chemical contents, such as ones found at abandoned waste sites.

Waste. Material that is discarded, abandoned, inherently waste-like, or not exempted by regulations.

Waste Site. Any facility or location where waste was disposed. These sites may include burial grounds, cribs, ditches, ponds, tanks, storage facilities, and other units used for the intentional or unintentional disposal or management of wastes.

4.0 RESPONSIBILITIES

Responsibilities of individuals carrying out the procedure being described may vary depending on the scope and magnitude of the operation. The following descriptions of sampling team members's responsibilities represent general information on their responsibilities.

4.1 ENVIRONMENTAL ENGINEERING AND GEOTECHNOLOGY MANAGER

The manger overseeing environmental engineering and geotechnology operations is responsible for assigning/identifying facility generators and project coordinators, ensuring that staff who generate waste receive appropriate training, ensuring that activity-specific waste minimization is implemented in field operations, and assigning an environmental engineering and geotechnology point-of-contact to issue all unique drum numbers to the facility generators within the organization.

4.2 PROJECT COORDINATOR

The project coordinator is responsible for ensuring that validated analytical results of characterization samples are submitted to the facility generator within 5 working days of receipt of data for use in waste designation.

9443293.1122

4.3 FIELD TEAM LEADER/COGNIZANT ENGINEER

The field team leader/cognizant engineer is responsible for:

- ensuring that drill cuttings and well maintenance soils/slurries are monitored in accordance with the Dangerous Waste Operations Permit or other governing safety descriptions
- minimizing waste by segregating drill cuttings and well maintenance soils/slurries based on field instrument readings
- collecting and drumming of unknown, suspected dangerous, dangerous, radioactive and mixed waste
- having an adequate quantity of supplies to accommodate anticipated needs
- obtaining unique drum tracking numbers from the facility generator, initiating waste tracking in accordance with established procedures
- moving drums from point of generation to a collection area (for unknown waste) and satellite storage area or temporary storage facility (for suspected dangerous and dangerous waste) during active field operations
- setting up collection areas and satellite storage areas in accordance with established procedures
- immediately notifying the facility generator upon generation of any radioactive, mixed, suspected dangerous and dangerous waste drums
- coordinating with the health physics technician on movement of radioactive waste drums to a properly marked location, coordinating sampling and analysis activities
- ensuring that validated analytical results of the samples are submitted to the facility generator within 5 working days of receipt of data for use in waste designation
- notifying the facility generator once active field operations have concluded.

4.4 FACILITY GENERATOR

The facility generator is responsible for:

- obtaining unique drum tracking numbers from the environmental engineering and geotechnology point-of-contact for use by the field team leader/cognizant engineer

9M3293.123

- confirming that the storage area and containers have been managed in compliance with established procedures
- notifying the field team leader/cognizant engineer of any necessary corrective actions
- assuming full responsibility for the waste in accordance with established procedures
- entering, updating, and retrieving information for all drummed unknown waste generated during environmental investigations and site characterization management
- maintaining a controlled logbook for use in the field to document drum activity not otherwise documented
- securing the U.S. Environmental Protection Agency (EPA) Hazardous Waste Sticker to drums of known dangerous or mixed waste within 1 working day of notification from the field team leader
- securing a modified EPA sticker to the drum of suspect dangerous or mixed waste
- performing weekly inspections of suspected dangerous and dangerous waste drums in satellite storage areas and temporary storage facilities and monthly inspections of unknown waste drums at collection areas
- documenting all inspections in accordance with established procedures
- submitting laboratory analysis data with a chemical waste disposal request to the solid waste engineering organization within 5 working days of receiving the data
- coordinating movement of all drums between satellite storage areas and temporary storage facilities through final destination (onsite or offsite)
- coordinating the disposal of nonregulated and regulated waste in accordance with instruction from the solid waste engineering organization
- coordinating the disposal of radioactive and mixed waste drums in accordance with established procedures
- maintaining records as specified by established procedures

9413293.1124

- submitting records to the field file custodian for permanent retention processing
- reporting any deviations from normal operations to the cognizant manager.

4.5 ENVIRONMENTAL ENGINEERING AND GEOTECHNOLOGY POINT-OF-CONTACT

The point-of-contact is responsible for issuing unique drum tracking numbers to facility generator(s) and reporting status of drums to the environmental engineering and geotechnology manager on a monthly basis.

5.0 GENERAL REQUIREMENTS

The general requirements for containers, liners, record entries and corrections are described below.

5.1 CONTAINERS/LINERS (DRUMS/PLASTIC LINERS)

The drums and liners used must meet U.S. Department of Transportation (DOT) specifications for the type of waste collected. Waste containers specifically marked for radioactive application must not be used for nonradioactive purposes. When beta emitters are stored in metal drums, no material can be put into drums with a surface dose of >200 mrem/hr at any point on the surface. This includes all energy-emitting isotopes (beta/gamma/neutrons).

5.2 ENTRIES AND CORRECTIONS

All entries on waste-tracking forms must be entered in permanent, reproducible black ink. Corrections must be made by striking one line through the incorrect information, entering corrected data (when appropriate), initialing and dating.

6.0 DESCRIPTION OF PROCEDURE

Procedures for interim control of unknown, suspected dangerous and mixed waste are described below. When known dangerous, radioactive or mixed waste is placed in a waste drum, the drum must be managed in accordance with established procedures. Unknown and suspected dangerous waste management will be in accordance with this description.

6.1 FIELD DESIGNATION OF WASTE

Material that is dry (absent of moisture, dusty, dry to the touch) or moist (damp, but no visible water) and originated above the water table is not

9443293.1125

drummed if field instrumentation detects no radioactive or dangerous waste and there is no process knowledge of dangerous or field-designated suspect dangerous waste. Such conditions must be identified and included in sample and analysis plans or other appropriate documentation.

All decontamination fluids will be field designated as either nondangerous or unknown waste. Materials (rags, personal protective equipment) will be designated with the waste they contact.

Purge water will be handled in accordance with established procedures.

Drill cuttings/soils/slurries must be monitored in accordance with the applicable dangerous waste operations permit and/or established procedures and field designated in accordance with established procedures.

6.2 CONTAINER PREPARATION

The entire drum must be checked for damage. If a liner is necessary, the appropriate liner should be inserted inside drum. The drum must be labeled in accordance with established procedures. The field team leader must immediately notify the facility generator upon generation of radioactive or mixed waste. The facility generator will inform the field team leader of interim packaging and marking requirements specified by established procedures. The facility generator will verify, by follow-up inspection within one week, that requirements for packaging and marking have been properly implemented.

6.3 UNKNOWN WASTE COLLECTION

Before drums of drill cuttings/soils are full, any foil, paper, gloves, etc., must be added that accumulated in the exclusion zone while filling the drum. This waste must be collected in a separate plastic bag and placed on top of drill cuttings/soils already in the drum.

Drums of unknown waste must accumulate at a collection area while awaiting laboratory analysis and final designation from the solid waste engineering organization.

NOTE: If notification from the solid waste engineering organization reports final designation of unknown waste as regulated, the 90-day clock begins, and material is managed in accordance with established procedures.

6.4 SUSPECTED DANGEROUS WASTE COLLECTION

During the collection process, if the material no longer meets the suspected dangerous waste criteria, it must be segregated, handled and drummed (if designated unknown waste) for the remainder of the borehole, unless the criteria for suspected dangerous waste is again met. Waste must be segregated to meet the intent of the waste minimization plan.

9413293.1126

A modified EPA Hazardous Waste Sticker must be applied by the facility generator. The word "SUSPECT" must appear above the word "HAZARDOUS" on the modified EPA Hazardous Waste Sticker. Each container must also be marked or labeled to identify the major risk(s) associated with the waste in the container.

Suspected dangerous waste must accumulate in a satellite storage area until the 55-gallon limit is reached. If a 55-gallon drum has not been completely filled when the borehole is completed, the drum is to be sealed. To prevent mixing contaminated waste, only material from the same borehole should be placed in a drum.

Before the drum is full, any foil, paper, gloves, etc., that accumulated while filling the drum in the exclusion zone and that may be contaminated from the drum contents must be collected in a separate plastic bag and placed on top of drill cuttings/soils already in the drum. The accumulation date must be added to the modified EPA Hazardous Waste Sticker when the drum is full.

Containers must be closed except when material is being added or removed.

NOTE: For RCRA sites, the 90-day clock begins at the time the drum is filled.

6.5 RADIOACTIVE WASTE/MIXED WASTE COLLECTION

The field team leader must immediately notify the facility generator upon generation of radioactive or mixed waste. The facility generator will inform the field team leader of interim packaging and marking requirements specified by established procedures. The facility generator will verify, by follow-up inspection within one week, that requirements for packaging and marking have been properly implemented.

Before the drum is full, any foil, paper, gloves, etc., that accumulated while filling the drum in the exclusion zone and that may be contaminated from the drum contents must be collected in a separate plastic bag and placed on top of drill cuttings/soils already in the drum.

Each container must be labeled with a DOT Radioactive Hazard Class label and managed in accordance with established procedures. For mixed waste drums, a modified EPA Hazardous Waste Sticker will also be applied. Each container must also be marked or labeled to identify the major risk(s) associated with the waste in the container. For mixed waste at RCRA sites, the 90-day clock begins at the time the drum is filled. The 90-day clock does not apply to radioactive waste.

6.6 SEALING CONTAINER

9413293.1127

When the drum is ready for sealing, the opening of each plastic bag must be twisted closed and secured with tape (when applicable). The lid must be checked to confirm a gasket is on the lid. Then the lid must be attached and secured with a locking ring and locking ring nut. The drum must be labeled in accordance with established procedures.

NOTE: For purposes of waste minimization, soils from different boreholes should not be placed in the same drum. Decontamination water from different boreholes may be collected in the same drum. A composite sample of decontamination water must be taken, analyzed, and used for designation.

6.7 MANAGEMENT OF UNKNOWN, SUSPECTED DANGEROUS AND MIXED WASTE DRUMS

Within 24 hours before moving the drum outside a radiologically controlled area, the health physics technician must survey the drum and attach a Radiation Release Sticker.

Unknown waste drums must be moved to a collection area and stored on drum pallets. All unknown waste drums must remain in the collection area. Any movement of drums from a collection area must be coordinated with the facility generator.

Suspected dangerous and mixed waste drums must be moved from the satellite storage area where generated to a temporary storage facility within 72 hours. For mixed waste, the satellite storage area and temporary storage facility will be located within a radiologically controlled area and managed in accordance with established procedures.

Once laboratory analysis data is received by the facility generator, a chemical waste disposal request must be submitted to the solid waste engineering organization for final designation.

Drums will be managed as instructed by the solid waste engineering organization.

NOTE: To prevent freezing and breach of containment during the winter months, drums containing liquid should be overpacked in a DOT specification container or be moved to a heated collection area (for unknown waste) or temporary storage facility (for suspected dangerous and mixed wastes).

6.8 MANAGEMENT OF RADIOACTIVE WASTE DRUMS

Radioactive waste drums will be moved to a properly marked field location within a radiologically controlled area in accordance with established procedures.

Radioactive waste drums will be managed in accordance with established procedures.

9443293.1128

NOTE: To prevent freezing and breach of containment during the winter months, drums containing liquid should be overpacked in a DOT-specified container or moved to a heated facility approved for storage of radioactive waste.

6.9 FINAL DISPOSAL

As instructed by the solid waste engineering organization, the facility generator must:

- manage drums designated as regulated waste in accordance with established procedures to comply with applicable regulations
- manage drums designated as radiological and mixed waste in accordance with established procedures for radiological and mixed waste drums
- remove the modified EPA Hazardous Waste Sticker from any nonregulated drums that were field designated as suspected dangerous or suspected mixed waste
- replace the modified EPA Hazardous Waste Sticker with an EPA Dangerous Waste Sticker for any regulated drums that were field designated as suspected dangerous or suspected mixed waste
- ensure that the same accumulation date is transferred to new stickers
- manage waste in accordance with designation
- dispose of dry soil that is not regulated and not contaminated with radiological constituents at the point of generation
- dispose of wet soils/slurries that are not regulated and not contaminated with radiological constituents on the soil surface outside of the zone of investigation
- dispose of decontamination fluid that is not regulated and not contaminated with radiological constituents on the soil surface outside the zone of investigation
- dispose of decontamination fluid that is contaminated with radiological constituents, but not regulated as dangerous, in accordance with established procedures
- collect any plastic bags of foil, paper gloves, etc., included in drums of nonregulated material and dispose of as trash.

9413293.1129

6.10 REPORTING

The facility generator will send monthly status reports to the environmental engineering and geotechnology point-of-contact, which will include drum numbers assigned; number of unknown, suspected dangerous and mixed waste drums awaiting classification; and status of the 90-day clock for suspected and designated dangerous and mixed waste drums.

6.11 RECORDS

The facility generator will maintain record packages in accordance with established procedures. The record packages will be submitted by the facility generator for processing and transmittal for permanent retention by the field file custodian when the facility generator receives the original Uniform Hazardous Waste Manifest back from the receiving facility's operator and/or other waste drums have been properly disposed of and documented on the instruction letter from the solid waste engineering organization.

Inspection logs for collection areas, satellite storage areas, and temporary storage facilities will be maintained by the facility generator and submitted for permanent retention every 6 months or once the inspection area is no longer in use. Inspection logs will be submitted in grouped packages, i.e., by location, project, well number, etc.

1.0 PURPOSE

This procedure description (description) summarizes the general requirements and methods for applicable documentation, approval and implementation of deviations from approved procedures due to changing field conditions or other unanticipated situations.

2.0 DEFINITIONS

Deviation From Procedure. A departure from specified requirements of an approved procedure.

One-Time Deviation. An approved procedure change applicable to the particular situation requiring the deviation and approved for the duration of the defined situation.

Permanent Deviation. An approved procedure change required when the procedure is deficient or in error and implementation will result in data of questionable quality, operational ineffectiveness or unsafe working conditions.

3.0 RESPONSIBILITIES

The cognizant managers, personnel initiating deviations, field team leader/cognizant engineer and technical support team share the responsibility for documenting, approving, and implementing deviations from procedures. The responsibilities of each party are described below.

3.1 COGNIZANT MANAGERS

The cognizant managers (deviation author and procedure author) are responsible for reviewing and approving deviations to procedures to ensure that the deviation is required to conduct the applicable work in a more efficient, safe, technically superior, or cost-effective manner than exists in the approved procedure. In addition, the cognizant managers are responsible for ensuring decisions regarding quality assurance and/or safety are appropriate and justified based on evaluation of the implications of the proposed deviation and that the deviation is documented in accordance with established procedures.

3.2 PERSONNEL INITIATING DEVIATIONS

Personnel initiating deviations are responsible for assessing the activity and implication of the proposed deviation to determine required approvals prior to implementation of the deviation, receiving appropriate management approvals prior to any deviation from an approved procedure (unless

9443293.1131

excepted by provisions stated in Section 5.2.2 of this description), and properly documenting deviations in accordance with Section 5.0 of this procedure. Recording pertinent information regarding the deviation and providing a copy of the approved procedure change authorization to the field team leader, are also required of these personnel.

3.3 FIELD TEAM LEADER/COGNIZANT ENGINEER

The field team leader/cognizant engineer is responsible for ensuring that field personnel are aware of and utilizing approved procedure change authorizations applicable to procedures within the scope of work.

3.4 TECHNICAL SUPPORT TEAM

The technical support team is responsible for assigning unique tracking numbers to the procedure change authorization forms, maintaining the one-time and permanent procedure change authorization forms with the appropriate procedure history package, and ensuring that a procedure revision is processed in accordance with site procedures when a permanent deviation is approved. Additionally, the technical support team obtains signatures for verbal concurrence of procedure change authorizations (except procedure change authorizations discussed in Section 5.2.2), develops and maintains procedure change authorization distribution lists to ensure receipt by affected personnel, and distributes procedure change authorizations in accordance with Section 4.2.

4.0 GENERAL PROCEDURE CHANGE AUTHORIZATION REQUIREMENTS

The general requirements for approval, distribution and recording of procedure change authorizations are listed below. These requirements are to be met using the procedures outlined in Section 5.0.

4.1 APPROVAL

Each procedure change authorization will be approved in accordance with the current established procedure.

4.2 DISTRIBUTION

The technical support team will distribute procedure change authorizations to predetermined distribution lists as follows: permanent procedure change authorizations will be distributed for implementation, temporary (one-time) procedure change authorizations will be distributed for use during performance of the specific situation/activity for which the procedure change authorization was approved, and receipt acknowledgement will be requested and verified by the technical support team.

9/13/2013 11:32

Additionally, upon incorporation of a permanent procedure change authorization to the applicable procedure by page change or revision (Section 5.3), the technical support team will distribute notification to destroy/remove the procedure change authorization(s).

4.3 RECORDS

Approved procedure change authorizations will be maintained with the appropriate procedure history package and the project records submitted for permanent retention.

5.0 DESCRIPTIONS OF CHANGE AUTHORIZATION PROCEDURES

The procedures for preparing, reviewing, approving, implementing and distributing procedure change authorizations are described in this section. The procedures are to be carried out to meet the requirements listed in Section 4.0.

5.1 PREPARING A PROCEDURE CHANGE AUTHORIZATION

A procedure change authorization is used when an immediate deviation is needed to correct errors/ambiguities that could result in unsafe situations at the job site or compromise data collection activities in a field situation.

A permanent procedure change authorization is used to provide essential process changes not previously anticipated, but which must be incorporated into the procedure, and the approved procedure change authorization authorizes the immediate implementation of the described deviation.

All procedure change authorizations will be prepared as follows:

- a. The procedure number and current revision are entered on the procedure change authorization form.
- b. A description of the deviation is provided. The specific step (or section) that will be deviated from must be referenced in the description.
- c. The deviation will be evaluated to determine if it should be categorized as a "one-time" or permanent deviation to the procedure. A "one-time" deviation would facilitate an improvement to the activity for the particular situation and is approved for the duration of that activity or as specified by the approved procedure change authorization. A permanent deviation would be required if the procedure is deficient or in error and consistently will result in data of questionable quality, operational ineffectiveness or unsafe working conditions.

9413293.133

- d. The justification (rationale) for the deviation will be described in sufficient detail to substantiate the deviation.

5.2 REVIEW AND APPROVAL

5.2.1 Routine Situations

Signature approval of the procedure change authorization is based on the impact of the proposed changes to the procedure. This evaluation is made based on the requirements of the established procedures.

Approval signature of the procedure author's manager and the procedure change authorization author's manager are required on all procedure change authorizations. A procedure change authorization with moderate or major impact on the procedure requires the approval of the quality assurance organization.

A procedure change authorization with moderate or major impact on the procedure and minor impact procedure change authorizations involving occupational safety or hazards require the approval of the industrial safety and fire protection organization.

Verbal concurrence from the required approval authorities is acceptable and is noted including date in the appropriate approval blocks on the procedure change authorization form. The technical support team will obtain signatures for verbal concurrence(s).

5.2.2 Unanticipated Situations

When necessary, during unanticipated situations, immediate implementation of the deviation may be made by the field team leader with concurrence from the appropriate management safety and quality assurance organizations. The deviation and concurrences will be documented in the field logbook. The deviation will be documented and the required approvals obtained within 2 working days of the deviation on a procedure change authorization form.

5.3 Implementation, Processing and Distribution

The completed signature blocks of the procedure change authorization signify authorization for implementation. After all signature approvals have been obtained, the procedure change authorization initiator forwards the approved procedure change authorization to the technical support team. The technical support team assigns the unique tracking number and distributes the procedure change authorization in accordance with Section 4.2.

If the procedure change authorization is permanent, the technical support team distributes the procedure change authorization in accordance with Section 4.2 and initiates issuance of a page change or procedure revision

9413293.1134

(based on the change required). The procedure change authorization and supporting documentation are filed with the procedure history package and submitted for permanent retention.

If the procedure change authorization is a "one-time" deviation, the procedure change authorization will be distributed in accordance with Section 4.2 and filed with the procedure history package maintained and submitted for permanent retention.

94473.135

1.0 PURPOSE

This procedure description (description) summarizes the general requirements applicable for generation of documents, storage and maintenance of in-process documents, storage during record processing, and transmittal for permanent retention of records by the designated records custodian of records generated during environmental characterization and remediation activities.

2.0 SCOPE

The procedures discussed in this description apply to in-process documents and records. The flow of the process is outlined in established procedures. Records classified "nonquality assurance" are processed and maintained in accordance with applicable requirements of the established procedures.

3.0 DEFINITIONS

Authentication. The process of attesting to the fact that a quality affecting document is accurate, complete and satisfies the definition of a quality assurance record by the person who completes and signs the document.

Document. Any written or pictorial information describing, defining, specifying, reporting, or certifying activities, requirements, descriptions, or results.

Environmental Data Management Organization. The organization that provides a file management system for processing environmental information.

In-process Document. Incomplete records that require extended time for completion.

Quality Assurance Record. A completed document that furnishes evidence of the quality of items and/or activities affecting quality.

Records Inventory and Disposition Schedule. A listing of the filing units and general files of an organization setting forth their mandatory disposition in terms of retirement, disposal, or transfer to storage after specified retention periods. The schedule includes all file material, i.e., record (including quality assurance) and nonrecord material, and classified or unclassified information. It also includes records designated for permanent retention and those scheduled for disposal.

9413293.1136

Validation. The final act by authorized personnel that ensures a document is complete and accurate in terms of its appropriate content and provides traceability to the responsible individual or organization.

4.0 RESPONSIBILITIES

The cognizant managers, the field file custodian, and technical and support personnel share the responsibility for ensuring that the requirements listed in section 5.0 for in-process documents and records are met. The responsibilities of each party are described below.

4.1 COGNIZANT MANAGEMENT

Cognizant management is responsible for implementation of the requirements of this description and generating and maintaining records inventory and disposition schedules. Additionally, the cognizant management is responsible for assigning or arranging for a field file custodian to process and transmit records to the designated records custodian in accordance with approved records inventory and disposition schedules, store and maintain the microfilm received from the designated records custodian and transmit copies of records and microfilm to the environmental data management organization when required, ensuring that the appropriate requirements of descriptions are included in procurement documents, and identifying, approving and updating as necessary personnel access authorization lists for record cabinets and/or storage areas.

4.2 FIELD FILE CUSTODIAN

The field file custodian(s) assigned by cognizant management are responsible for receipt, validation, storage, maintenance (of records and microfilm), control and transmittal of records routed to the designated records custodian in accordance with approved records inventory and disposition schedules, and transmittal of copies to the environmental data management organization when required. The responsibilities may be shared by various personnel within an organization as assigned by cognizant management.

4.3 TECHNICAL AND SUPPORT PERSONNEL

Technical and support personnel performing environmental characterization and remediation activities are responsible for generation of documentation in accordance with governing requirements documents (e.g., work plans, groundwater monitoring plans, specifications, descriptions, instructions, etc.), protection of documents from damage and loss from initiation through authentication, and prompt transmittal to the field file custodian upon completion.

5.0 GENERAL REQUIREMENTS

9443293.1137

General requirements associated with the generation, storage and maintenance, and transmittal of in-process documents and records generated during the environmental characterization and remediation activities, are discussed in this section.

5.1 DESIGNATING REQUIRED RECORDS

Cognizant management will ensure that all records generated, including quality assurance records, are identified on an organization's records inventory and disposition schedules and dispositioned accordingly.

5.2 RECORDS CRITERIA

Records must meet criteria such as being legible and microfilmable, or be identified as the "best available copy" (they need not be originals), being uniquely numbered or identified, and paginated in such a manner that allows easy reassembly of the record in the correct order. Records must be generated by using a permanent, reproducible black ink whenever possible, and be distributed, handled and controlled in accordance with established records management procedures.

Additionally, records will provide sufficient information to permit correlation between the record and the item(s) or activity(ies) to which it applies, be considered valid records only after authentication and validation as required by this description, include, in the signature portion of the record, the typed or printed name of the individual(s) responsible for preparing, approving, and/or authenticating and validating a record, when appropriate. The use of initials or stamps may be employed, provided a control log is maintained that clearly and indisputably relates the initials or stamp to the person and organization.

Quality assurance records will be classified as lifetime (records retained only through completion of assigned project), nonpermanent (records which are retained for a specified period of time), or postclosure (records which are retained indefinitely following termination of assigned project) and dispositioned in accordance with the records inventory and disposition schedules.

5.3 CORRECTIONS

Corrections to in-process documents and records must be accomplished without the use of whiteout, correction tape, scribbling or any other method. Correction of in-process documents must be accomplished by striking a single line through the incorrect information and inserting the correction, when required, as close as possible to the original data. The correction must be initialed and dated by the person making the correction.

Correction of complete records will be accomplished by supplementing the record with the correct information. The correction of technical or

9443293.138

quality-related errors will have an appropriate review and approval by an authorized person of the organization that authenticated the original record, unless other organizations are specifically designated.

5.4 AUTHENTICATION

The original recording of data is authenticated by the person recording the data. The authenticator determines the records have been completed in accordance with governing requirements. The individual recording data must authenticate the document by signature and date.

Authentication must be based on personal observation or performance, a review of valid records or a direct report from an observer. Where a direct report from an observer is used, the name of the observer must be recorded. Direct reports from observers will be used only when absolutely necessary; the observer must be qualified, when required. The authenticator's name will be printed under the signature. Blocks of preprinted forms that are not applicable to the activity will be completed by entering N/A (not applicable) or N/R (not required). Where adverse environmental conditions make direct recording of information on final documentation impractical, the information required may be transcribed from working copies, a review of valid records or obtained by a direct report from an observer. Mechanically produced data (i.e., printouts) must be authenticated by signature and date on the data or on documentation traceable to it, such as a cover sheet.

Authentication may also be provided by a documented statement from the responsible individual or organization. Handwritten signatures are not required if the document is clearly identified with a statement by the responsible individual or organization, automated or calibrated equipment under controlled conditions, or signatures on transmittal letters.

5.5 VALIDATION

Authenticated records will be transmitted to and reviewed by the field file custodian to determine that the records are legible and identifiable to the activity.

Validation by the field file custodian is not required for records received as the result of an approved procurement document but may be provided if requested.

5.6 STORAGE

One-hour, fire-rated file cabinets located in access controlled area(s) will be maintained by the field file custodian(s) for temporary storage of records during processing prior to transmittal to the permanent storage facility of the designated records custodian in accordance with approved records inventory and disposition schedules. These cabinets must be locked when unattended.

9443293-1139

The field file custodian(s) may maintain filing systems based on designations such as operable unit, groundwater monitoring well construction, well maintenance activity, etc.

5.7 TRANSMITTAL OF QUALITY ASSURANCE RECORDS

Quality assurance records must be transmitted to the permanent storage facility of the designated records custodian without unnecessary delay. Unnecessary delay is defined as records being held in excess of 90 days from record completion. Records will be handled in accordance with established procedures.

5.8 DOCUMENT CLEARANCE

Records resulting from environmental investigations and site characterization activities could potentially be included in documents to be viewed by the public. Appropriate official reviews and management approvals are required for the release of scientific, technical, engineering or related information prior to transmittal to the environmental data management organization.

6.0 DESCRIPTION OF PROCEDURE

The RCRA/CERCLA work plans, descriptions, procurement documents and additional work controlling documents specify the records to be generated, maintained and transmitted. The required records will be identified on the records inventory and disposition schedules by cognizant management.

6.1 IN-PROCESS DOCUMENT STORAGE

Measures will be taken to control in-process documents from the time they are generated until they become records and are submitted to the field file custodian.

Documents that require an extended time period for completion (including record packages) are protected by the preparer by storage in a lockable receptacle located in an access controlled area and locked when unattended.

In-process documents that may become records will be maintained and processed in a prudent manner to avoid unnecessary delay and/or expense resulting from loss of quality affecting information.

The in-process storage area must preclude entry of unauthorized personnel, minimize the risk of damage or destruction, and minimize the infestation of insects, mold or rodents and accidental damage, such as spilled beverages or food.

9413293.1140

6.2 AUTHENTICATION

Authentication is accomplished upon completion of documentation in accordance with Section 5.4.

6.3 VALIDATION

Authenticated records are transmitted to the field file custodian for validation. Records received in accordance with approved procurement documents do not require validation by the field file custodian. Records will be reviewed for the criteria described in Section 5.2 as applicable. Completion of this review constitutes validation. Validation is documented by the field file custodian by stamping, signing, and dating the records.

Record packages, i.e., a grouping of documents pertaining to a subject or work activity, may be validated by the field file custodian on the front sheet or cover page. The total page count (e.g., 1-52) of a record package validated in this manner will be entered in the stamp by the field file custodian. Field logbooks are validated on the last page used in the logbook. Unacceptable records are held in a suspense file and the authenticator notified for correction of the discrepancies.

6.4 RECORDS STORAGE

The storage requirements for records are in addition to those required for in-process documents.

Records received are recorded in a record receipt log (or file index) by the field file custodian and stored in one-hour, fire-rated cabinets in a controlled area during processing for transmittal to the designated records custodian in accordance with the approved records inventory and disposition schedules. Copies of these records are transmitted to the environmental data management organization when required.

The storage area must preclude deterioration by preventing damage from moisture, temperature and pressure, providing binders, folders or envelopes for storage in cabinets or on shelves in appropriate containers (loose storage on shelves is not acceptable), and protecting special processed records (e.g., radiographs, photographs, negatives, diskettes, microfilm and other magnetic media) from excessive light, stacking, electromagnetic fields, temperature or humidity. Special processed records must be transmitted to the designated records custodian for permanent storage without unnecessary delay. The designated records custodian has the facilities necessary for storage of these special records.

Storage areas must be provided with a visual notice (e.g., a sign) that cabinets containing records must be secured by locking when unattended. Cabinets and/or storage areas will have lists, approved by cognizant management, of personnel authorized to access the area/cabinets posted.

9413293-1141

6.5 TRANSMITTAL

The environmental data management organization provides custodian management of environmental information for the environmental organization. The designated records custodian is the final recipient of all records generated or processed by the environmental organization.

Copies of validated records are transmitted to the environmental data management organization to ensure compliance with established procedures. The original or "best available copy" is transmitted by the field file custodian to the designated records custodian in accordance with the approved records inventory and disposition schedule.

The field file custodian duplicates validated records and transmits a legible copy to the environmental data management organization in accordance with the environmental data management organization's descriptions for transmittal. The original is held in a suspense file awaiting transmittal acknowledgment and acceptance by the environmental data management organization. The transmittal is returned by the environmental data management organization with unique file numbers assigned.

The record receipt log may be updated with information from the environmental data management organization. Working file copies may be made by the field file custodian by duplicating the original records. The field file custodian transmits original records or "best available copy" to the appropriate permanent storage facility of the designated records custodian. Superseded or revised documents are processed and transmitted in accordance with the requirements described above and in Section 6.3 with cross-reference made by the unique file number to the record being superseded or revised.

6.6 RECORD RETRIEVAL

When retrieval of records is needed, control and accountability for the records are maintained prior to transmittal to the permanent storage facility of the designated records custodian, a copy is made of the requested record (when practical), and the original copy of the record is refiled. Where copying is not practical, the record may be reviewed in an area controlled by the field file custodian. A card will be filed in place of the record identifying the record and the individual reviewing.

Where copying is not practical and the requester has a justifiable need to remove the record, a request form for withdrawal of records is completed by the requester, approved by the requester's manager, and submitted to the field file custodian for approval. A return date is assigned. A card is filed in place of the record identifying the record and the individual withdrawing. Storage during periods of withdrawal are the responsibility of the requester and must meet the requirements described in Section 6.4.

9443293.142

The field file custodian tracks withdrawn records against the assigned return date and contacts the requester by telephone on the due date if the records have not been returned. An extension may be granted. Two (2) days past the return date, the requester's manager is notified in writing of the delinquency if an extension has not been arranged. The returned records are reviewed for damage and unauthorized changes and refiled by the field file custodian. Retrieval methods for records that have been transmitted to the designated records custodian for permanent storage are specified in established procedures.

9413293.1143