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Los Alamos NATIONAL LABORATORY EST.1943

Environmental Programs Directorate (ADEP)

Standard Operating Procedure

for

CHARACTERIZATION AND MANAGEMENT OF ENVIRONMENTAL PROGRAM WASTE

APPROVAL SIGNATURES:

Subject Matter Expert: Mark Powell	**Organization** WES-WA	**Signature**	**Date** 9/10/09
Responsible Line Manager: Alison M. Dorries	**Organization** WES-DO	**Signature**	**Date** 9/10/09

1.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) delineates the process for characterizing and managing waste generated during Consent Order, or decontamination and/or demolition activities conducted by the Environmental Programs Directorate (ADEP or Project) at the Los Alamos National Laboratory (LANL or Laboratory). For other work performed by ADEP, waste will be managed according to this procedure unless specifically waived by the appropriate Project Director, with the consent of the ENV-RCRA Representative and the WES-WA Subject Matter Expert.

This procedure is limited to the planning, implementation, and management activities for all wastes generated by the Project, and the preparation, approval, and retention of all required Waste and Environmental Services (WES) and Laboratory documents associated with Project waste generation, management, and disposal.

Training to this procedure shall consist of reading the procedure and documenting the training in accordance with EP-DIR-SOP-2011, Personnel Training and Qualification.

This SOP shall be used in conjunction with the most recent revision of LANL documents, policies, or equivalent LANL approved contactor waste procedures, associated with waste management activities. These documents, policies, and procedures include:

- ENV-RCRA-QP-010, Land Application of Groundwater
- ENV-RCRA-QA-011, Land Application of Drill Cuttings
- MAN-5001, User Manual for Waste Profile Charge Code Form
- MAN-5002, User Manual for the Waste Item Inventory (WII) Form
- MAN-5003, User Manual for The Waste Disposal Request (WDR) Form
- P101-14, Chemical Management
- P101-17, Excavation/Fill/Soil Disturbance
- P121, Radiation Protection Requirements
- P151-1, Packaging and Transportation
- P300, Integrated Work Management
- P313, Roles, Responsibilities, Authorities, and Accountabilities
- P330-6, Non-Conformance Reporting
- P322, Issues and Corrective Action Management
- P409, Waste Management Requirements
- P930-1, LANL Waste Acceptance Criteria
- P930-2, Waste Certification Program
- EP-DIR-SOP-4004, IPC-1, Record Transmittal and Retrieval Process
- SOP-5181, Notebook Documentation for Waste and Environmental Services Technical Field Activities
- EP-DIR-QAP-0001-Quality Assurance Plan for the Environmental Programs Directorate
- EP-ERSS-SOP-5055, General Instructions for Field Investigations
- EP-ERSS-SOP-5056, Sample Containers and Preservation
- EP-ERSS-SOP-5057, Handling, Packaging, and Transporting Field Samples
- EP-ERSS-SOP-5058, Sample Control and Field Documentation
- EP-ERSS-SOP-5059, Field Quality Control Samples

- EP-ERSS-SOP-5061, Field Decontamination of Equipment
- EP-ERSS-SOP-5029, Drilling Plan Development
- EP-ERSS-SOP-5030, Contract Geophysical Logging
- SOP-12.01, Standard Operation Procedure for Field Logging, Handling, and Documentation of Borehole Materials
- SOP-06.09, Spade and Scoop Method for Collection of Soil Samples
- SOP-06.10, IPC1, Hand Auger and Thin-Wall Tube Sampler
- TL-007/TL008, Acceptable Knowledge Guidance
- TL-001, Waste Profile Form Guidance
- TL-003, Chemical Waste Disposal Request Guidance

2.0 BACKGROUND AND PRECAUTIONS

The Compliance Order on Consent (Consent Order) is an enforcement document signed by the New Mexico Environment Department (NMED), the New Mexico Attorney General, Department of Energy (DOE), and the University of California on March 1, 2005 that prescribes the requirements for corrective action at the Laboratory. The Consent Order contains specific requirements for management of investigation-derived waste (IDW) generated by the Laboratory in the course of corrective action, investigation and remediation, which are typically implemented through work plans that are prepared by the Laboratory and approved by the NMED. Other waste-generating activities conducted by ADEP include those decontamination & decommissioning activities and those driven by the Hazardous Waste Facility Permit, such as Resource Conservation and Recovery Act (RCRA) permitted unit closures. This procedure applies to wastes generated during these activities.

Wastes generated by ADEP programs include hazardous waste, mixed hazardous waste, New Mexico special waste (NMSW), polychlorinated biphenyls (PCB) waste, low level radioactive waste (LLW), transuranic waste, mixed waste, and industrial and municipal solid waste. Environmental media (e.g., soil, tuff, and groundwater) and other IDW may fall into any of these regulatory classifications.

Documentation and characterization requirements beyond those described in this procedure may exist for the Laboratory's treatment, storage, and disposal (TSD) facilities, or off-site TSD facilities.

Questions concerning the applicability of the requirements of this SOP should be directed to the Waste and Environmental Services (WES-WA) Subject Matter Expert. For regulatory assistance, contact the Environmental Protection Division (ENV).

3.0 EQUIPMENT AND TOOLS

Equipment and tools include, but are not limited to:

• Waste Management Area signage (e.g., "Satellite Accumulation Area" (SAA), "less than 90-day accumulation area," "New Mexico Special Waste Storage Area," "Universal Waste Storage Area," or "Radioactive Waste Area," as appropriate); • Labels; • Item identification numbers; • Eye wash, shower, or water supply source; • Spill control equipment; • Fire extinguisher; • Miscellaneous tools, as needed;	• Scale, or other equipment to weigh containers; • Barricade tape or rope; • Waste containers that meet Department of Transportation (DOT) shipping requirements for the waste; • Pallets; • Personal protective equipment, including gloves, eye protection, protective coveralls, respirator, etc.; and • Decontamination equipment. • Sampling equipment.

4.0 REQUIRED DOCUMENTS AND FORMS

Descriptions of commonly used forms required to document waste management activities are listed below. Forms and guidance can be found at **http://int.lanl.gov/environment/waste/lanl_only/support.shtml**

- **Form 1346, Waste Profile Form (WPF)**. A form used by the Laboratory's waste operations group to document the characterization of any solid, hazardous, radioactive, or mixed waste.
- **Form 1973, Waste Acceptance Criteria Exception Form (WEF)**. A WEF is a form that must be submitted if certain Waste Acceptance Criteria requirements are not met (e.g., a waste determination within 45 days, container not filled, expired WDR, etc.)
- **Form FMU64-F224, R1 Green is Clean Material Disposal Request Form**. Green-Is-Clean (GIC) disposal Request Form is used for waste generated in radiological control areas, which includes all non-regulated waste that has been actively segregated as "clean" (that is, non-radioactive) through the use of waste-generator acceptable knowledge.
- **Land Application Data Certification Sheet.** This form is required by ENV-RCRA-QP-10. It must be completed by the Generator or their designee and approved by ENV prior to land application of drilling, development, rehabilitation, and sampling purge waters to ensure the requirements of the NMED-approved NOI Decision Tree, *Land Application of Drilling, Development, Rehabilitation, and Sampling Purge Water,* can be met.
- **Land Application Field Certification Sheet.** This form is required by ENV-RCRA-QP-10. It must be completed by the Generator or their designee after land application certifying that all procedural requirements for land application of drilling, development, rehabilitation, and sampling purge waters were met.
- **Post Land Application Field Certification Sheet.** This form is required by ENV-RCRA-QP-11. It must be completed by the Generator or Project Manager after land application of drill cuttings to certify that all procedural requirements were met. Any deviations from the Request for Land Application of Drill Cuttings Form must be documented on the Field Certification Sheet and approved by ENV prior to land application.
- **Request for Land Application of Drill Cuttings Form.** This form is required by ENV-RCRA-QP-11. It must be completed by the Generator or their designee and approved by ENV prior to land application of drill cuttings. It is used to ensure requirements of the NMED-approved NOI Decision Tree, *Land Application of IDW Solids Form Construction of Wells or Boreholes,* can be met.
- **Uniform Hazardous Waste Manifest**. The manifest is used to track hazardous waste shipped from a generator's site to the site of its disposition.
- **Waste Characterization Strategy Form (WCSF)**. The WCSF is a planning and implementation document that is required to be prepared before any waste-generating activity is undertaken. The WCSF documents site history, planned field activities, and the characterization approach for each waste stream expected to be managed. For Consent Order driven work, the WCSF is used to implement the IDW requirements of the NMED-approved work plan. The Laboratory's waste operations group also uses the information provided on this form to support regulatory classifications of ADEP-generated wastes.
- **Waste Disposal Request (WDR) Form**. A form used by the Laboratory's waste operations group to describe packages of waste that require transport and disposition.
- **Waste Profile Charge Code Form (WPCC).** The WPCC form allows for tracking and costing waste disposal at Los Alamos National Laboratory (LANL) based on assignment of valid cost codes to approved WPFs. The WPCC form is separate from the WPF system and allows the owner (usually the generator) to preview their approved Waste Profiles and assign cost codes to the profiles under their ownership.

5.0 STEP-BY-STEP PROCESS DESCRIPTION

This section describes specific roles and responsibilities. Some of the roles and responsibilities can be performed only by LANL personnel. These include: the LANL Project Manager(PM), Subcontract Technical Representative (STR), Waste Generator (WG), ENV Representative (ENV Rep), Sample Management Office (SMO), Data Steward, Waste Services Waste Acceptance Representative (WA), Waste Certification Program Representatives (WCP), and the LANL-assigned WMC. Other roles and responsibilities may be filled by either LANL or Subcontractor personnel, including the Field Waste Management Technician (FWMT), Waste Sampling Personnel (SP), and Hazardous Materials Packaging and Transportation (HMPT) personnel. A subcontract Exhibit D or Exhibit F must specify whether the Subcontractor will provide FWMT, SP, or HMPT personnel.

5.1 Consent Order Plan Preparation (IDW Section)

PM	1.	Identify the project and its scope.
	2.	Identify historical information regarding the site or previous projects.
	3.	Consult with the ENV Rep on the format and content of the IDW submittals.
	4.	Submit information on anticipated IDW management in Consent Order-required plans to NMED (e.g., work plans, drilling plans, and corrective measures implementation plans) to NMED.

5.2 Area of Contamination Policy

PM	1.	Where appropriate, implement the "Area of Contamination Policy" in accordance with this procedure at least 30 days prior to waste generation in the affected area. The Area of Contamination designation must be approved by NMED prior to implementation. *NOTE: The Area of Contamination Policy allows certain discrete areas of generally dispersed contamination to be considered RCRA land disposal units, and thus, movement and in-situ treatment of hazardous waste is allowed without triggering land disposal restrictions or minimum technology requirements. However, NMED has not supported using the Area of Contamination Policy during investigation, remediation, or corrective measures implementation projects unless they have specifically approved its use.* Investigation and remediation activities will not create a new point of hazardous waste generation if carried out within the NMED-approved Area of Contamination. Therefore, the 90-day clock for hazardous waste generation will not be triggered as long as the waste remains inside the Area of Contamination boundary. The Area of Contamination Policy applies to any hazardous remediation waste (including non-media waste) that is in or on the land. It does not apply to non-hazardous wastes, such as LLW, PCB remediation waste, NMSW, etc. Each of these wastes must be managed in accordance with their specific accumulation requirements.
PM	2.	To request an Area of Contamination designation, provide the following information to the ENV Rep. • A schematic showing the boundaries of the Area of Contamination (include roads if it will assist in transporting wastes within the Area of Contamination). • The types and amounts of wastes that will be managed under the policy.

		• How the wastes will be managed within the Area of Contamination boundaries (e.g., in piles with best management controls, in containers, etc.). Whether some of the environmental media will be reused and how the decision will be made for its reuse (e.g., it meets residential soil screening levels).
ENV Rep	3.	Prepare the request for Area of Contamination designation.
ENV Rep	4.	Distribute ENV-submitted documents to the WG, PM, and WMC. *For Consent Order-driven work, NMED requires that the Area of Contamination designation request be submitted at least 15 days prior to initiation of field activities*.
5.3 Preparation of the Waste Characterization Strategy Form (WCSF)		
PM	1.	Identify a WG and FWMT. Request that WES-WA assign a WMC.
FWMT	2.	Before preparing the WCSF: • Identify all waste streams that are anticipated to be generated by the work. • Identify requirements specified in the work plan, closure plan, or other approved work documents. • Review available data and source information for the planned work sites to determine how to initially manage wastes (e.g., hazardous, non-hazardous, LLW, etc.). Reference appropriate documents and data that support the initial handling decisions in the WCSF. • Determine whether existing data meets the requirements for acceptable knowledge (AK), as specified in P409, *Waste Management Requirements*. If there is some useful information based on AK, develop a strategy for sampling and analysis that will complete the characterization for the waste stream. If there is no useful information, develop a strategy for sampling and analysis that will identify and quantify all chemicals of potential concern in the waste stream. • Review the most recent waste acceptance criteria (WAC) requirements for potential receiving facilities to ensure that analytical suites identified in the WCSF meet the receiving facilities' requirements.
PM		• Ensure that radioactive and mixed wastes are covered by an approved Radioactive Waste Management Basis (RWMB). If not, request that the RWMB report preparer update the RWMB.
FWMT		• If the waste is a category that can be land applied (drilling fluids, purge water, development water, or drill cuttings), review the land application procedures (see Section 5.9) to ensure that the analytical suites identified in the WCSF are appropriate for land application.

FWMT and/or ENV Rep

3. Prepare the WCSF. An example template for the WCSF is shown in Attachment 1 but it may be revised periodically; the ENV Rep will supply the latest template. If the project involves decontamination and/or decommissioning of structures, the PM may specify the WCSF format and instructions supplied in PLAN-DD-004, Waste and Materials Characterization for Demolition Projects:

(http://int.lanl.gov/orgs/firp/docs/procedures/d&d.pdf).

Provide the following information.

General Information

- List the SWMUs or AOCs that the project will impact,
- Identify the activity type (e.g., well drilling, remediation, investigation, corrective measures implementation)
- Name the Subcontractor Field Team Leader, if known. If a WCSF covers more than one project (e.g., multiple wells drilled by multiple contractors), identify a LANL Project Manager
- List the LANL WMC, the author of the WCSF, and other appropriate personnel.
- Provide the date the WCSF was written and submitted for review.
- **Description of activity:** Provide a brief description of the purpose of the Project and the types of wastes expected to be generated.
- **Relevant Site History and Description:** Provide a brief description of investigations, remediation, or corrective measures implementation activities that have occurred to date. If data from previous investigations is adequate to justify that waste be initially handled as non-hazardous, provide a brief justification for each affected PRS. If adequate data is not available, a written "due diligence" review of available documentation of the sources of contaminants at the site may be prepared and used as justification for initial handling of the waste.
- **Characterization Strategy:** The first few paragraphs of this section will be standard language provided by ENV. Following the standard language, provide:
- **Waste Type:** Provide a description of each anticipated waste stream. Waste streams will vary but most Projects will generate contact waste, decontamination water, municipal solid waste, and NMSW petroleum-contaminated soils from the rupture of hydraulic of fuel hoses or spills during maintenance or filling of equipment. In addition, investigation activities often generate drill cuttings from boreholes and returned samples. Drilling of deep wells generates drill cuttings, drilling water, purge water, and development water. D&D projects frequently generate PCB (e.g., compressors, wiring, transformers) and mercury-contaminated equipment (e.g., lamps, ballasts), asbestos, clean metal for recycle, lead studs, batteries, radioactive or clean building debris (e.g., concrete, wood, wiring).

FWMT and/or ENV Rep

- **Anticipated Regulatory Status:** Identify whether each waste stream is expected to be solid, industrial, hazardous, radioactive, mixed, PCB, NMSW, etc.),
- **Characterization Approach:** Describe how each waste will be characterized (e.g., direct sampling, use of investigation data, use of AK, or a combination of these methods),

FWMT and/or ENV Rep (cont.)		• **Storage and Disposal Method:** Describe how each waste will be stored (e.g., containerized, piles with controls), how the waste will initially be managed (e.g., hazardous, non-hazardous, NMSW, LLW, etc.), and the anticipated disposal method (e.g., land application, on-site treatment at Clean Water Act permitted facilities, disposal of LLW at TA-54 Area G, treatment or disposal off-site). • **Characterization Table:** Complete the characterization table at the end of the WCSF for each waste stream. • *NOTE: If data are insufficient to make a definitive regulatory classification at the time of WCSF completion, more than one box on the characterization table may be checked, along with an explanation in the text section. The final regulatory classification will be reflected on the WPF. Ensure that the table identifies the suite of analyses required based on site knowledge, information needed by the anticipated receiving facility, or for land application (see Section 5.9), if applicable.* • If a determination has been made that a waste stream no longer contains a hazardous waste, attach the documentation supporting that determination.
5.4 Review and Approve the Completed WCSF		
FWMT	1.	Initiate the review, approval, and tracking of the draft WCSF in accordance with procedure SOP-4066, Document Development and Deliverables Compliance Process. Allow a two-week minimum for the review and approval process.
ENV Rep	2.	Review and confirm that the draft WCSF is consistent with the NMED-approved work plan along with any “contained in” determinations, Area of Contamination designations, or other provisions approved by the NMED and brief the WA and WCP Representatives on any key regulatory issues.
PM or ENV Rep, WMC, WA, WCP	3.	Review and comment on the WCSF. Sign the WCSF when comments have been resolved.
FWMT	4.	Incorporate all comments, ensure all reviewers concur with the comment resolution, and obtain signatures.
FWMT	5.	Ensure that field operations personnel and sampling personnel are briefed on the original WCSF requirements and any amendments (see Section 5.5).
5.5 Amendment of the WCSF		
PM	1.	Ensure that WCSF prepared under previous versions of this procedure are amended as needed to meet current procedural requirements. WMCs and the ENV Rep are available to provide guidance and assistance for this activity.
FWMT	2.	Amend the approved WCSF under the following conditions: • when an unanticipated waste is generated, or • when an approved strategy for management of a waste stream significantly changes.
FWMT	3.	When a correction to the approved form is necessary, complete Attachment 2, WCSF Amendment Form. Ensure the information on Attachment 2 addresses the following:

FWMT (cont.)		• The original WCSF title and document number must be in the amendment heading for ease of reference; • The Reason for Amendment provides the reason for the amendment (e.g., new waste stream not included in the original WCSF or change in the method of management) and provides details on the change(s) necessitating the amendment; • The Waste Description provides a description of the waste that is the subject of the amendment and the activity generating the waste; and • Characterization, Management, and Disposal provides a description of how the waste will be characterized and managed, and the anticipated method(s) of storage, treatment, or disposal. If the Characterization Table in the WCSF does not address the waste covered in the Amendment, attach a Characterization Table with the new information to the Amendment.
	4.	Submit the WCSF to the signatories for review and signature.
PM, ENV Rep, WMC, WA, WCP	5.	Review and comment on the revision. Sign the revision when comments have been resolved. *NOTE: When generation of a new waste is the reason for the amendment, the approved amendment must be in place (i.e., all signatures) prior to submitting the WPFs to Waste Services.*

5.6 Waste Management and Documentation

FWMT	1.	Manage wastes generated by field activities in accordance with the WCSF, P409, *Waste Management Requirements* (**http://int.lanl.gov/environment/waste/lanl_only/support.shtml**), and P930-2, *Waste Certification Program* (**https://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=P930-2&FileName=P930-2.pdf**). *NOTE***:** *Obtain waste containers with adequate testing and documentation.* • Inspect used containers in accordance with DOT requirements **before** reuse. If the containers have been previously used, ensure they are adequately decontaminated before use. • Do not use rusted, dented, or otherwise damaged containers for waste packaging.
FWMT	2.	If WCSF identifies direct offsite disposal of Radioactive Waste to a Non-DOE TSDF, verify with LANL WCO that there is an approved Exemption Request in place. If an approved Exemption Request is not in place, supply the required data to WCO in accordance with WDF-HMWO-TOOL-217.1 (**http://hsr-web2-f5.lanl.gov/~esh19/databases/RCRA-WasteMan_IMP_Tools/Rad-ManTools/IMP409-Direct-Offsite-Tool.pdf**)
FWMT	3.	Set-up appropriate areas for accumulating/storing waste (e.g., <90 day accumulation area, Satellite Accumulation Area [SAA], Universal Waste Area, Used Oil Area, NMSW Area, radioactive waste staging or storage area) in accordance with P409, *Waste Management Requirements.*

WMC	4.	Register Waste Areas and Provide FWMT with Site ID Number: • RCRA waste registration (http://hsr-web2.lanl.gov/~esh19/databases/hwts_form.html) • Radioactive Waste Staging/Storage registration (http://hsr-web2.lanl.gov/~esh19/databases/rad_registrationform.shtml).
WMC	5.	Verify that the registered waste area is properly posted, and managed.
FWMT	6.	Perform all necessary inspections, recordkeeping, and reporting requirements for accumulation, staging, or storage areas or ensure other personnel are performing these duties.
WG or FWMT	7.	Report weekly on the status of each waste container via fillable forms available at http://int.lanl.gov/environment/waste/lanl_only/inventory_trk.shtml. Assistance in completing these forms is available from the WES Waste Tracking Specialist, who may be contacted at ep-wst-inventory@lanl.gov. If a Subcontractor FWMT is responsible for this activity, the FWMT will provide this information through the STR.
FWMT	8.	Store wastes in clean containers and provide decontamination fluid analysis to show that previously used containers (e.g., frac tanks, poly tanks) are clean.
FWMT	9.	Participate in periodic LANL or regulatory agency waste management compliance inspections.
SP	10.	Inform the FWMT and the WMC of the intent to sample.
SP	11.	Collect representative waste samples in accordance with EPA guidance (EPA, 1986. SW-846, Chapter 9 (Sampling Plan) http://www.epa.gov/epawaste/hazard/testmethods/sw846/pdfs/chap9.pdf. approved LANL and/or Subcontractor procedures sampling plans.
SP	12.	Manage samples in accordance with LANL procedures (EP-ERSS-SOP-5056, Sample Containers and Preservation, EP-ERSS-SOP-5058, Sample Control and Field Documentation).
FWMT	13.	Establish waste management requirements for returned samples, if applicable based on the approved work plan and WCSF.
WMC	14.	Verify that waste is being managed in accordance with the WCSF and LANL and regulatory requirements. Inform the WG of any waste management issues.
ENV Rep	15.	Perform independent audits of waste management. Inform the WG of any waste management issues.
WG	16.	Disposition waste in compliance with regulatory time limits. If regulated waste cannot be dispositioned within required time limits notify the PM, WMC, and the ENV Rep. If non-regulated or LLW waste will not be land applied or shipped within 180 days of generation, notify the WES SME.

WMC	17.	Submit WDRs as required for each waste type in accordance with P930-1, *Waste Acceptance Criteria:* • For hazardous waste stored in a <90 day accumulation area, the WDR must be submitted within 45 days of waste generation. • For hazardous waste stored at an SAA, the WDR must be submitted before exceeding 45 gallons of RCRA hazardous waste or 1 quart of acutely hazardous waste. • For universal waste stored in a universal waste storage area, the WDR for the waste must be submitted at least 6 months before exceeding the storage time limit of 1 year. • For NMSW stored in a NMSW Area, the WDR must be submitted at least 45 days before exceeding the storage time limit. • If PCB waste is coming from a temporary (<30 day) PCB storage area, the WDR must be submitted 20 days before exceeding the storage time limit. • If PCB waste is coming from a general (<90 day) PCB storage area, the WDR must be submitted 45 days before exceeding the storage time limit. • If PCB waste is coming from a long-term (<1 year) PCB storage area, the WDR must be submitted 3 months before exceeding the storage time limit. • For wastes with other time accumulation limits, the WDR must be submitted 45 days before exceeding the storage time limit. *NOTE: Waste generators may request exemptions from or exceptions to the LANL WAC by using Form 1973, Waste Acceptance Criteria Exception Form (WEF). Exemptions or exceptions are requested when a generator cannot comply with a specific WAC or certification requirement, or when a requirement is not applicable.*
WG and PM	18.	Ensure all wastes, materials, or equipment are dispositioned, and not left on-site at the end of project field-work without the prior approval of the appropriate ADEP Program Director.

5.7 Waste Determinations and Documentation

FWMT	1.	Provide the waste Event Numbers and Sample Numbers to the WMC, who will submit them to the LANL Data Steward.
LANL Data Steward	2.	Track the analytical data from sample ID or Event Number provided by the WMC.
LANL Data Steward	3.	Request updates from the SMO on the status of analytical data that are overdue. Provide status reports to the WMC, FWMT, and WG.
SMO	4.	Contact the analytical laboratory to track the status of analytical data packages and transmit the status to the LANL Data Steward.
LANL Data Steward	5.	Perform automated waste determinations, as appropriate, and provide analytical data to the WMC, FWMT and WG for waste determination purposes.
SMO	6.	Perform data validation.

FWMT	7.	Make waste determinations within 45 days of the date of waste generation unless otherwise specified in the WCSF (e.g., for wastes in drill pits). Sample analysis turnaround must be appropriate to meet regulatory accumulation time limits.
WMC and ENV Rep	8.	Provide FWMT assistance in making waste determinations.
FWMT	9.	If a "contained-in" determination is needed (see Section 5.8), the WG should request that ENV initiate the "contained-in" when waste determinations are complete but no later than day 70 of the accumulation time limit, or 15 working days before the end of the accumulation time limit, whichever is shorter.
FWMT	10.	For wastes in <90-day areas: • For wastes in a <90-day area, if a waste determination cannot be made within 45 days, notify the WG and WMC and submit a WEF to LANL Waste Services before day 45 of the waste accumulation time limit. • If a waste determination is not complete by day 70 or 15 working days before the end of the accumulation time limit (whichever is shorter), contact the WG and PM to request that ENV determine whether there is justification to request a <90 day accumulation time limit extension from the NMED. Note that extensions can only be granted if there are extenuating circumstances, which do not include failure to make a waste determination. However, providing NMED with time to review a "contained-in" request is a valid reason for requesting a <90 day accumulation time limit extension. Concurrently begin contingency planning in the event that the extension request is not granted. • At Day 80 of the <90 day clock, if the request for a <90 Day extension is not granted by NMED, prepare to ship as regulated waste prior to expiration of the <90 day clock.
FWMT	11.	Notify the WG and WMC if a source evaluation (due diligence review) is needed for listed-wastes (F-, P-, U-, or K-listed) and contact the ENV Rep to discuss preparation of the due diligence review.
FWMT	12.	Determine whether previous WPF's that are still active or can be re-activated can be used for newly-generated wastes. If not, prepare a new WPF. If a "contained-in" determination or due diligence review applies to the waste, attach the appropriate document to the WPF.
FWMT	13.	Ensure that required signatures have been obtained on the EP Document Signature Form.
FWMT	14.	Submit the WPF to the Waste Acceptance (all wastes) and Waste Certification Representatives (for radioactive wastes), who reviews, approves and activates the profile.

FWMT or LANL Waste Disposition Project	15.	Obtain and complete the offsite TSDF's WPF, and obtain TSDF approval for the off-site WPF.
FWMT	16.	Notify WG and WMC that an approved off-site WPF is in place for waste shipment.

5.8 Using the "Contained-in" Definition for Wastes

FWMT and ENV Rep	1.	• Where appropriate, implement the "Contained-in Policy" in accordance with this procedure. • Waste that contains a characteristic hazardous waste can only become non-characteristic if it is treated. Some types of treatment may occur on-site but restrictions apply. Coordinate with the ENV Rep before treating any wastes. Determination that a waste is no longer characteristic requires no formal approval by NMED. Land Disposal Restrictions (LDR) will still apply to the de-characterized waste (i.e., waste must meet LDR treatment standards before disposal). • Regulatory agency approval is required to declare that waste that contains hazardous constituents originating from listed hazardous waste sources (F-, K-, P-, or U-listed) is no longer listed. NMED makes this determination after reviewing data submitted by LANL that shows that the concentrations of hazardous constituents are below health-based levels.
FWMT	2.	• When environmental media and/or debris are contaminated with hazardous constituents from listed hazardous waste, submit all applicable data and site information to the ENV Rep for assistance in determining whether the hazardous constituents are below health-based levels.
ENV Rep	3.	• If contaminant concentrations are below health-based levels, prepare and submit a request for a "contained-in" approval to NMED on behalf of the Project, requesting that NMED determine that the media/debris no longer contains listed waste.
FWMT	4.	• Provide a copy of the letter requesting "contained-in" approval and the NMED letter approving the 'contained-in" to the WG, FWMT, and WMC.
ENV	5.	• Ensure that "contained in" determinations approved by NMED are incorporated into the WCSF and implemented as part of the project's waste management activities. Attach the "contained-in" request and approval letter to applicable WPFs.

5.9 Minimization and/or Recycling of Waste

FWMT	1.	Reduce the volume of waste generated by as much as is technically, legally, and economically feasible.
	2.	Evaluate environmental media (soil, rock, and well drilling development, rehabilitation, and purge water) for land application (See Section 5.9). Environmental media must be analyzed before it can be land applied and can be land applied only under the following conditions:

FWMT (cont.)

- The Environmental Media is drilling water, purge water or development water that meets the criteria for land application in the NMED-approved Notice of Intent (NOI) decision tree for drilling, development, rehabilitation, and purge waters, and the ENV Rep has provided written approval per the requirements of ENV-RCRA-QP-010, *Land Application of Groundwater*.
- Drill cuttings that meet the criteria for land application in the NMED-approved NOI decision tree for IDW Solids from Construction of Wells and Boreholes and ENV has provided written verification per the requirements of ENV-RCRA-QP-011, Land Application of Drill Cuttings.
- The Environmental Media meet criteria that were specified in Consent Order-required work plans and approved by NMED.

3. Do not return Environmental Media to its point of origin if any of the following conditions exist:

   - The source of the media is a borehole in hydraulic communication with groundwater or surface water;

   NOTE: NMED does not allow the return of drill cuttings to boreholes. They must be evaluated for land application. Drill cuttings that cannot be land applied must be managed as waste.

   - The Environmental Media could be construed to be refuse in a water course or could potentially cause and exceedences of the New Mexico Water Quality Standards.

4. Prepare land application packages in accordance with Quality Procedures (ENV-RCRA-QP-010, Land Application of Groundwater and ENV-RCRA-QP-011, Land Application of Drill Cuttings) for waste streams (drilling water, purge water, development water, and drill cuttings) that meet land application criteria.

5. Document the location of returned environmental media as required by the land application procedures, in the IDW documentation portion of Consent Order-required reports, and in reports required by the land application procedures.

6. Evaluate use of Green is Clean (GIC). GIC waste generated in radiological control areas includes all non-regulated waste that has been actively segregated as “clean” (that is, non-radioactive) through the use of waste-generator acceptable knowledge. Environmental program waste meeting the requirements should be considered for GIC: paper products and cardboard, pieces of low-density wood small enough to fit into the approved containers (e.g., GIC green-striped bags, 2-cubic foot cardboard boxes with or without plastic lining, or other plastic bags or cardboard boxes as approved by the GIC Operations systems engineer); plastic products including common Personal Protective Equipment (PPE); and/or cloth or rags, including nylon and other low-density synthetic fabrics. Small amounts of high-density material such as dirt, dust, or other debris incidentally associated with low-density GIC waste are acceptable. However, dirt and dust contain natural radioactivity that may prevent the waste from passing the verification check (Poly-liners). Packaging, barcoding, restrictions and weight requirements for Green Is Clean can be found in the LANL WAC, P930-1, Attachment 12.

7. Report waste minimization and/or recycling efforts to the WG at the end of field operations and in Consent Order-required IDW reports.

   Note: This information is included in an annual report, the Hazardous Waste Minimization Report, which is a requirement of Module VIII of the Laboratory’s Hazardous Waste Facility permit.

5.10 Generator Treatment of Wastes On-Site Before Disposal

Certain types of treatment can be conducted in <90 day accumulation areas or in-situ in an Area of Contamination. Treatment in these areas does not require a RCRA permit but must be documented by ENV. Contact ENV before any on-site treatment is conducted.

5.11 Establishing the Authorized Release Limits for the Low-Level and Mixed Waste

PM	1.	Review the January 7, 1997, DOE-Headquarters memorandum (ERID-074061) that addresses the issue of establishing authorized release limits for disposal of hazardous and solid waste containing low levels of radioactivity as residual materials at non-licensed RCRA permitted facilities.
	2.	Submit a draft request simultaneously to ENV, Waste Operations, and DOE's Los Alamos Site Office and DOE Albuquerque.
Appropriate WES Person	3.	Submit the transmittal of the finalized request to the appropriate state regulatory entity where the treatment or disposal site resides. *NOTE: Authorized Release Limit requests are handled on a case-by-case basis.*
	4.	Following resolution of all comments and required approvals, transmit the finalized request to the appropriate state regulatory entity where the treatment or disposal site resides.

5.12 Waste Packaging and Transport

WMC	1.	Complete the WDR.
	2.	Notify the WG and FWMT when the WDR and Uniform Hazardous Waste Manifest have been approved.
HMPT Workers	3.	Transport wastes in accordance with the off-site receiving facilities' WAC and DOT requirements. *NOTE: For wastes managed in a <90-day accumulation or NMSW areas, the FWMT must arrange for shipment at Day 80, identified as a compliance driven **RUSH** to Waste Services. At Day 90 of the <90 day clock, if regulated waste is not shipped from the <90 day area, notify the ENV representative and support any actions required by ENV*.
FWMT or HMPT Personnel	4.	Ensure all waste transportation containers for chemical and radiological hazards are labeled in accordance with DOT requirements and P121, *Radiation Protection*.
FWMT	5.	Ensure that the DOT rating for maximum container weight is observed.
	6.	For radioactive waste, obtain DOT radiological screening data immediately following loading of container for transport.
	7.	Ensure no more than 1% solid physical form material is present in a container containing liquid waste.

FWMT (cont.)	8.	Ensure no more than 1% free liquid is present in a container containing solid physical form waste.
	9.	If the waste is going to a commercial disposal facility that requires containers to be "sealed" by the generator prior to shipment, record the date the container was sealed in the project notebook.
	10.	Coordinate waste transportation directly with the disposal facility or through the Laboratory's waste operations group. *NOTE: Transportation shall be by an approved carrier in accordance with DOE's Motor Carrier Qualification Program.*
	11.	Notify the WG, WMC, and LANL Transportation Coordinator of scheduled ship/pickup date of waste.
	12.	Inspect waste containers prior to shipment, and document the evaluation in the project notebook.
	13.	Verify that all shipping containers are secured by the carrier prior to transportation.

5.13 Records

FWMT	1.	Submit the following records generated by this procedure to the Records Processing Facility: • WCSFs and Amendments to WCSFs; • Related waste management documentation and supporting information (e.g., training, inspection, site registration, waste inventory); • WPFs and supporting documentation. • Miscellaneous waste documentation (e.g., IWD, RWP); and • Waste disposition documentation (e.g., WDR, manifest, Bill of Lading). *NOTE: For both WCSFs and amendments to WCSFs, the submittals to the RPF must be in final form (i.e., with all signatures by the appropriate reviewers) and must include all attachments (e.g., AK documentation, data summaries, figures).*

6.0 DEFINITIONS

NOTE: A glossary of definitions associated with P409 Waste Management Requirements is available at: **https://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=P409&FileName=P409.pdf**. *Waste management-specific definitions not included in the glossary are provided in this section. Other definitions have been modified as needed to clarify the requirements of this procedure.*

Accumulation Start Date — The term "accumulation start date" is the date in which the waste becomes regulated and subject to an accumulation start date. The accumulation start date for various types of wastes is:

- PCB Waste: the date that generator or generator designee (FWMT) receives data that identifies it as a PCB-regulated waste.
- NMSW: the date that the waste container is sealed and ready for transport.

- Radioactive Waste (does not include mixed waste): the date the waste is packaged for storage or transport. If the material is to be land applied, the accumulation start date does not occur until the determination has been made that the material cannot be land applied and data are available to determine that it is radioactive waste.
- RCRA Waste (hazardous waste and mixed waste): the day the waste was first generated, unless it is managed within an Area of Contamination, a drill pit, or an SAA. For RCRA waste generated within an Area of Contamination, the accumulation start date begins is the day the waste is removed from the boundaries of the Area of Contamination. For RCRA waste in drill pits, the accumulation start is the day the waste is removed from the drill pit. For wastes in an SAA, the accumulation start date is the day the waste is removed from the SAA.
- Returned Samples: the day the waste generator or designee (FWMT) receives the returned sample.

NOTE: For making a waste determination, see "Generation Date".

Area of Contamination — A discrete area of generally dispersed contamination which is considered to be equivalent to a RCRA unit. Because an Area of Contamination is equated to a RCRA unit, consolidation or treatment within the Area of Contamination does not create a new point of hazardous waste generation for purposes of RCRA (EPA Office of Solid Waste and Emergency Response, Publication 530-F-98-026).

Contact Waste — Contact waste is material that may have come into contact with contaminated media or debris. Contact Waste includes spent personal protective equipment, contaminated sampling supplies, plastic, dry decontamination and other material that may have come in contact with contaminated media or debris.

Contained-In — Environmental Media and debris contains hazardous waste when:

- It exhibits a characteristic of a hazardous waste; or it is contaminated with concentrations of hazardous constituents that originated from listed hazardous waste.
- Environmental Media and debris is considered to no longer contain hazardous waste when it no longer exhibits a characteristic of hazardous waste or the regulatory agency determines that concentrations of hazardous constituents from listed hazardous waste are below health-based levels based on data submitted by the facility.

Debris — Debris is defined in 40 CFR 268.2 (g) as a "solid material exceeding a 60 mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material.

Drill Cuttings — Drill Cuttings—Borehole cuttings and core, soil, and rock sediments produced during the drilling, development, and rehabilitation of wells or boreholes.

Environmental Media — Borehole cuttings and core, soil, rock, sediments, surface water, and groundwater that are displaced during corrective action. Environmental Media is not considered to be a solid waste, in the sense of being abandoned, recycled, or inherently waste-like. Thus, the "mixture" and "derived-from" rules do not apply to environmental media.

Field Waste Management Technician (FWMT) — The individual delegated various aspects of project waste generation and management by the WG. The FWMT is typically accountable for on-site waste management and for the development and/or processing of required waste related documents, forms and records. A qualified FWMT will be able to conduct inspections of RCRA and Radioactive Storage Areas.

Generation Date — For making a waste determination, the term "generation date", is the date the material is generated. This does not include waste generated in drill pits, or Areas of Contamination. For drill pits, the generation date begins when the waste is removed from the drill pit. For Areas of Contamination, the generation date begins when the waste is removed from the boundaries of the Area of Contamination.

Hazardous Constituent (hazardous waste constituent) — (1) a constituent that causes the administrative authority to list the hazardous waste in 40 CFR Part 261, Subpart D, or a constituent listed in Table 1 of 40 CFR Part 261.24; (2) According to the March 1, 2005, Compliance Order of Consent (Consent Order), any

constituent identified in Appendix VIII of Part 261, Title 40 CFR (incorporated by 20.4.1.200 New Mexico Administrative Code [NMAC] or any constituent identified in 40 CFR 264, Appendix IX (incorporated by 20.4.1.500 NMAC).

Hazardous waste — **1)** solid waste (as defined in 40 CFR 261.2 and incorporated by 20.4.1.200 NMAC) that is not excluded from regulation as a hazardous waste and is a listed hazardous waste (as provided in 40 CFR Part 261, Subpart D, incorporated by 20.4.1.200 NMAC) or a waste that exhibits any of the characteristics of hazardous waste (i.e., ignitability, corrosivity, reactivity, or toxicity, as provided in 40 CFR Part 261, Subpart D, incorporated by 20.4.1.200 NMAC; **2)** the Consent Order defines hazardous waste as any solid waste or combination of solid wastes, which because of quantity, concentration, or physical, chemical, or infectious characteristics meets the description set forth in New Mexico Statutes Annotated 1978, 74-4-3(K) [NMHWA] and is listed as a hazardous waste or exhibits a hazardous waste characteristic under 40 CFR Part 261, Subpart C, incorporated by 20.4.1.200 NMAC. The statutory requirements for hazardous waste management are set forth in RCRA Subtitle C, incorporated by the NMHWA (also see P409).

Industrial Waste — Solid waste generated by manufacturing or industrial processes that is not hazardous waste regulated under Subtitle C of RCRA or radioactive waste (also see P409).

Investigation-derived waste (IDW) — Solid or hazardous waste that was generated as a result of investigation and/or characterization corrective action activities. IDW may include drilling fluids, cuttings and purge water from test pit and well installation; purge water, soil, and other materials from collection of samples; residues from testing of treatment technologies and pump and treat systems; contaminated PPE; and solutions (aqueous or otherwise) used to decontaminate non- disposable PPE (EPA Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992) (also see P409).

Land Application — The placement of drill cuttings, drilling water, purge water, or development water onto land in compliance with ENV-RCRA-QP-10, Land Application of Groundwater and ENV-RCRA-QP-11, Land Application of Drill Cuttings or the reuse of environmental media as described in NMED-approved documents.

New Mexico Special Waste (NMSW) — Solid waste identified in the NMSW Management Regulations (20.9.1.105. BZ) as requiring unique handling, transportation, or disposal in order to assure protection of both the environment and public health, welfare, and safety. NMSW includes treated formerly characteristic hazardous waste, asbestos waste, ash, infectious waste, sludge, industrial solid waste, spill of a commercial chemical product and petroleum-contaminated soil.

NOTE: P409 contains specific requirements for managing special waste.

Pending land application — ENV has approved the land application package and the materials are awaiting placement onto land.

Polychlorinated biphenyl (PCB) — Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. (40 CFR §761.3).

PCB Waste — PCB waste is defined at 40 CFR 761.3 as those PCBs and PCB items that are subject to the disposal requirements found at Subpart D, “Storage and Disposal,” of 40 CFR Part 761.

PCB Remediation Waste — PCB remediation waste encompasses soil, rags, and other debris generated as a result of any PCB spill not cleaned up under Subpart G but cleaned up under 40 CFR 761.61 (including materials from “old spills”) or from other unauthorized disposal. Such waste includes, but is not limited to; Bulk PCB Remediation Waste, Non-Porous Surfaces, Porous Surfaces, Liquid PCB Remediation Waste, Cleanup Waste (also see P409).

- **Bulk PCB Remediation Waste:** Bulk PCB remediation waste includes, but is not limited to, the following non-liquid materials which are contaminated with PCBs: soil, sediments, dredged materials, mud sewage sludge, and industrial sludge [40 CFR 761.61(a)(4)(i)].

- **Non-Porous Surfaces:** Non-porous surfaces means a smooth, unpainted surface that limits penetration of liquid containing PCBs beyond the immediate surface. Some examples are as follows: smooth, uncorroded metal; smooth glass; smooth, glazed ceramic; and high-density plastic that do not absorb organic solvents.
- **Porous Surfaces:** Unlike non-porous surfaces, porous surfaces do not prevent or minimize penetration of PCBs beyond the immediate surface. Examples are concrete, cement, corroded metal, asphalt, plaster, paint or coating on metal, paper, cardboard.
- **Liquid PCB Remediation Waste:** Liquid PCB remediation waste [40 CFR 761.61(a)(4)(iv) and (a)(5)(iv)] includes but is not limited to water removed from dewatering of bulk PCB remediation waste, aqueous decantate from sediment, leachate collected from on-site storage of bulk PCB remediation waste, and run-off from fire suppression involving PCBs.
- **Cleanup Wastes:** Cleanup wastes [40 CFR 761.61(a)(5(v)] include non-liquid cleaning materials and personal protective equipment waste at any concentration. Examples are rags, gloves, booties, and other disposable items. Cleaning solvents, abrasives, and equipment used in cleanup constitute a subcategory of cleanup wastes.

Radioactive Waste — Waste that is contaminated with radionuclides released from current or past operations at LANL, unless an exception has been approved under the DOE authorized limits policy for wastes, as described in *Establishment and Coordination of Authorized Limits for Release of Hazardous Waste Containing Residual Radioactive Material* (DOE Memorandum, EM-37, January 7, 1997, also see P409).

NOTE: LANL background values are available for soil, tuff, and groundwater. These media are considered to be contaminated by operations at LANL if the background values are exceeded.

Radiation Control Technician (RCT) — RCT's implement the Laboratory's Radiation Control Program by performing Operational Health Physics coverage. The RCT also verifies that waste packages meet DOT shipping requirements for external contamination, contact, and one-meter dose requirements, through screening and measurements.

Use or Reuse — A material that is either employed as an ingredient in an industrial process to make a product or employed in a particular function or application as an effective substitute for a commercial product.

Waste Generator (WG) — LANL individuals whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation. (40 CFR §260.10; Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1, Section 100 (20.4.1 .100 N MAC)) (also see P409).

Waste Management Coordinator (WMC) — The LANL supplied individual who meets institutional WMC qualification standard requirements. WMCs provide guidance and oversight for waste management and perform specific duties identified in this procedure (also see P409).

Waste Acceptance Criteria (WAC) — Criteria that must be met before a waste is accepted for treatment, storage, or disposal. Waste acceptance criteria may involve the physical form of a waste, a waste's container, its radioactivity, packaging, labeling, etc. (also see P409).

7.0 ATTACHMENTS

Attachment 1: Waste Characterization Strategy Form (WCSF Page 1-4)

8.0 REVISION HISTORY

Revision No. *Enter current revision number, beginning with Rev.0*	Effective Date *DCC inserts effective date for revision*	Description of Changes *List specific changes made since the previous revision*	Type of Change *Technical (T) or Editorial (E)*
0	9/10/2009	Supersedes EP-ERSS-SOP-5022	T/E

Using a CRYPTO Card, click here for "Required Read" credit.

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ATTACHMENT 1	
SOP-5238-1 Characterization and Management of Environmental Program Waste	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Waste Characterization Strategy Form (WCSF)	Records Use only

Solid Waste Management Unit(s) or Area(s) of Concern	
Activity Type:	
Project Manager/ Waste Generator:	
LANL Waste Management Coordinator	
Completed By:	
Date:	

Description of Activity:

Relevant Site History and Description:

Characterization Strategy:

- Waste #1: *Anticipated Regulatory Status*, *Characterization Approach, Storage and Disposal Method*
- Waste #2: *Anticipated Regulatory Status*, *Characterization Approach, Storage and Disposal Method*
- Etc.

CHARACTERIZATION TABLE *(cont.)*

Waste Description	**Waste # 1**	**Waste #2**	**Waste #3**	**Waste #4**
Volume				
Packaging				
Regulatory classification:				
Radioactive				
Solid				
Hazardous				
Mixed (hazardous and radioactive)				
Toxic Substances Control Act (TSCA)				
New Mexico Special Waste				
Industrial				
Characterization Method				
Acceptable knowledge (AK): Existing Data/Documentation				
AK: Site Characterization				
Direct Sampling of Containerized Waste				
Analytical Testing				
Volatile Organic Compounds (EPA 8260-B)				
Semi-volatile Organic Compounds (EPA 8270-C)				
Organic Pesticides (EPA 8081-A)				
Organic Herbicides (EPA 8151-A)				
PCBs (EPA 8082)				
Total Metals (EPA 6010-B/7471-A)				
Total Cyanide (EPA 9012-A)				
High-Explosives Constituents (EPA 8330/8321-A)				
Asbestos				
Total petroleum hydrocarbon (TPH)-GRO (EPA 8015-M)				
TPH-DRO (EPA 8015-M)				
Toxicity characteristic leaching procedure (TCLP) Metals (EPA 1311/6010-B)				
TCLP Organics (EPA 1311/8260-B & 1311/8270-C)				
TCLP Pest. & Herb. (EPA 1311/8081-A/1311/8151-A)				
Gross-alpha (alpha counting) (EPA 900)				
Gross-beta (beta counting) (EPA 900)				
Tritium (liquid scintillation) (EPA 906.0)				
Gamma spectroscopy (EPA 901.1)				
Isotopic plutonium (Chem. Separation/alpha spec.) (HASL-300)				
Isotopic uranium (Chem. Separation/alpha spec.) (HASL-300)				
Total uranium (6020 inductively coupled plasma mass spectroscopy [ICPMS])				
Strontium-90 (EPA 905)				
Americium-241 (Chem. Separation/alpha spec.) (HASL-300)				
Perchlorates				
Nitrates				
Microtox, TDS, TSS, COD				
Oil / Grease				

Characterization and Management of Environmental Program Waste *(cont.)*

RR – Denotes required analysis for Rio Rancho Special Waste Landfill

CH – Denotes required analysis for Clean Harbors

NTS – Denotes required analysis for Nevada Test Site

NOTE: Section 1.2 of the TCLP method 1311 states "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run." The methodology for using total waste analyses determination for the 40 TC constituents are as follows.

Liquids – Wastes containing less than 0.5% filterable solids do not require extraction and therefore by filtering the waste and measuring the total constituent levels of the filtrate and comparing those levels to regulatory levels are appropriate.

Solids – Constituent concentrations from the extraction fluid of wastes that are 100% physical solids are divided by 20 (reflecting the 20-to-1 ratio of TCLP extraction) and then compared to the regulatory levels. If the theoretical levels do not equal or exceed the regulatory levels, the TCLP need not be run. If the levels do equal or exceed the regulatory levels, the generator may either declare the waste hazardous or run TCLP analyses.

Signatures	Dates
ADEP Project Manager (Print name and then sign below)	
Preparer (Print name and then sign below)	
Waste Management Coordinator (Print name and then sign below)	
ENV-RCRA Representative (Print name and then sign below)	
WES-Waste Acceptance Representative (Print name and then sign below)	
Waste Certification Program Representative (Print name and then sign below)	

	Los Alamos National Laboratory
	WES

SOP-5238, Amendment to the WCSF *(cont.)* Title: **Management of Environmental Project Waste**	Records Use Only

Reason for Change
Waste Description:
Characterization, Management, and Disposal:

Signatures	**Dates**
ADEP Project Manager (Print name and then sign below.)	
Preparer (Print name and then sign below.)	
Waste Management Coordinator (Print name and then sign below.)	
ENV-RCRA Representative (Print name and then sign below.)	
WES-Waste Acceptance Representative (Print name and then sign below.)	
Waste Certification Program Representative (Print name and then sign below.)	

	Los Alamos National Laboratory **WES**