ATTACHMENT B6

WASTE ISOLATION PILOT PLANT PERMITTEES' AUDIT AND SURVEILLANCE PROGRAM

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ATTACHMENT B6

WASTE ISOLATION PILOT PLANT PERMITTEES' AUDIT AND SURVEILLANCE PROGRAM

B6-1 Introduction

The Waste Isolation Pilot Plant (**WIPP**) Permittees' Audit and Surveillance Program shall ensure that: 1) the operators of each generator/storage site (**site**) and Permittee approved laboratory that plan to transport transuranic (**TRU**) mixed waste to the WIPP facility conduct sampling and analysis of wastes in accordance with the current WIPP Waste Analysis Plan (**WAP**) (Permit Attachment B), and 2) the information supplied by each site to satisfy the waste screening and acceptability requirements of Section B-4 of the WAP is being managed properly. The Permittees will conduct these audits and surveillances at each site and Permittee approved laboratory performing these activities in accordance with a standard operating procedure (**SOP**). NMED personnel may observe these audits and surveillances to validate the implementation of WAP requirements (Permit Attachment B) at each site and Permittee approved laboratory. Only personnel with appropriate U.S. Department of Energy clearances will have access to classified information during audits. Classified information will not be included in audit reports and records. The audit SOP will contain steps for selecting audit personnel, reviewing applicable background information, preparing an audit plan, preparing audit checklists, conducting the audit, developing an audit report, and following up audit deficiencies. A deficiency is any failure to comply with an applicable provision of the WAP. The checklists for each site and Permittee approved laboratory shall include, at a minimum, the appropriate checklists found in Tables B6-1 through B6-6 for the summary category groups undergoing audit.

B6-2 Audit Procedures

Audit procedures shall establish the responsibilities and methodology for planning, scheduling, performing, reporting, verifying, and closing announced and unannounced audits of sites and Permittee approved laboratories. Records of all audit activities shall be part of the WIPP Operating Record and maintained at the WIPP facility until closure. NMED shall be provided unlimited access to these records.

Approved procedures shall be used to describe audit activities and requirements. Procedures define the responsibilities of specific positions necessary to manage this audit program. The Permittees' manager who oversees the audit program shall ensure that the following tasks are performed:

- Schedule audits
- Designate lead auditor(s)
- Appoint auditor and lead auditor trainees
- Maintain auditor training and qualification records

- Assure that all auditors have been given appropriate training, including training on the WAP
- Assign auditors and lead auditors to perform annual certification audits
- Review and approve final audit reports
- Oversee tracking and closure of all deficiencies and any observations requiring action
- Assure records are entered into the WIPP Operating Record and are properly maintained until facility closure

B6-3 Audit Position Functions

The Permittees will approve lead auditors, auditors, and technical specialists based upon the expertise required for the functions being examined according to the audit scope. The Permittees will supply auditors/technical specialists with expertise in the Resource Conservation and Recovery Act (**RCRA**) requirements and knowledge of the analysis and documentation methods required to verify the hazardous waste characterization performed by the sites. The Permittees shall identify all audit team members to NMED prior to the audit, and shall provide upon request the qualifications of all audit team members.

The lead auditor assigned to be the audit team leader must perform the following tasks:

- Concur that assigned auditors and technical specialists have the collective experience and training commensurate with the scope, complexity, or special nature of the activities to be audited
- Develop an audit plan and coordinate the preparation of an overall checklist to cover the scope of the audit, with consideration given to all nonconformances reported as specified in Permit Attachment B3 and to previous audit results from that site or Permittee approved laboratory
- Assign specific audit areas to individual auditors and technical specialists within their particular specialty and provide guidance on checklist development
- Review individual auditor checklists to assure complete coverage of assigned scope, and approve the checklists
- Conduct the audit at the site or Permittee approved laboratory
- Encourage observers to participate according to the protocol established by the Permittees
- Communicate audit results at the conclusion of the audit, including any deficiencies and observations

- Prepare and sign the audit report
- Maintain complete records of each audit and transfer them to the manager when the audit report is issued

Auditors and technical specialists assigned to the specific audit will report to the audit team leader for supervision and may perform the following tasks:

- Attend any required specific training and team orientation and planning meetings as directed by the audit team leader
- Prepare specific audit checklists to verify that the WAP Quality Assurance Objectives (**QAO**) are met for the areas being audited
- Obtain audit team leader approval of checklist
- Review acceptable knowledge documentation packages, test report data, and documentation of data verification activities
- Obtain and evaluate objective evidence by means of observation, document reviews, or the conduct of interviews with operators, analysts, technicians, and others necessary to determine the adequacy and effective implementation of the WAP
- Conduct inspection tours of waste generating stations, sampling areas and equipment, analytical laboratories, calibration facilities, administrative, and document control/record facility
- Complete checklist during the audit indicating the objective evidence observed verifies that the site or Permittee approved laboratory has met the QAOs for the program elements, methods, and the activities being audited. Add other items to the checklist as they are observed or as needed during the audit
- Prepare narrative statements for all deficiencies, and observations that clearly and concisely identify the conditions involved
- Prepare any portion of the final audit report assigned by the lead auditor.

Audits will be conducted at least annually for each site involved in the waste characterization program. Both announced and unannounced audits will address the following:

- Results of previous audits
- Changes in programs or operations
- New programs or activities being implemented
- Changes in key personnel

For waste characterization processes performed for multiple sites by a single entity (e.g., mobile waste characterization vendors, Permittee approved laboratories), the procedures and processes used by these single entities will be audited at least annually for at least one site. Upon approval, these procedures and processes may be used at any site without requiring an additional audit. At a minimum, the waste characterization processes performed for multiple sites by a single entity will be audited for each site once every three years. In any case, the acceptable knowledge process will be audited at least annually for each site involved in the waste characterization program.

B6-4 Audit Conduct

The conduct of the audit shall commence with an entrance meeting, conducted by the audit team leader, with site or ~~facility~~ Permittee approved laboratory management. At this meeting, the audit objectives and scope, the specific areas to be audited, the processes or functions to be observed, and the site or Permittee approved laboratory-participation required, including site interfaces, will be identified. The purpose of this meeting is to confirm the audit scope, discuss the audit sequence, establish channels of communication, and confirm the daily and exit meeting. Audits shall be performed using approved audit checklists that include the checklists in Tables B6-1 to B6-6 for the summary category groups undergoing audit. Consistency of evaluation shall be ensured before the audit through site or Permittee approved laboratory QAPjP approval (see Permit Attachment B5). QAPjPs for each site or Permittee approved laboratory shall incorporate the same requirements from the WAP. Objective evidence shall be examined (to the depth necessary) to determine if the identified activities, procedures, or QAOs are adequate and are being effectively implemented.

~~Site audits~~ Audits may not include all waste summary category groups, and thus some audit checklists or portions of checklists (Tables B6-1 through B6-6) may not be applicable to some sites or Permittee approved laboratory (e.g., ~~radiography is not used because the site chooses to visually examine all wastes~~ headspace gas sampling and analysis is not used because debris waste is not being analyzed by the site). In these instances, the Permittees shall indicate nonapplicability in the appropriate checklist row, and justify the exclusion under the "Comment" column. In addition, in cases where discrepancies exist between the audit checklists in Tables B6-1 through B6-6 and the Permit, Permit requirements take precedence. The Permittees may add to the checklists as necessary to clarify Permit requirements, but any additions will be clearly designated on the checklists (i.e., redline the additions).

Audits shall include site personnel interviews, document and record reviews, observations of operations, and any other activities deemed necessary by the auditors to meet the objectives of the audit. Observations or deficiencies identified during the audit will be investigated or evaluated, as necessary, to determine if they are isolated conditions or represent a general breakdown of the waste characterization quality assurance program. During audit interviews or audit meetings, site or Permittee approved laboratory personnel may be advised of deficiencies identified within their areas of responsibility to establish a clear understanding of the identified condition.

The site or Permittee approved laboratory personnel will be given the opportunity to correct any deficiency that can be corrected during the audit period. Deficiencies and observations will be documented and included as part of the final audit report. Those items that have been resolved

during the audit (isolated deficiencies that do not require a root cause determination or actions to preclude recurrence), will be verified prior to the end of the audit, and the resolution will be described in the audit report. Those items that affect the quality of the program, and/or the data generated by that program, which are required by the WAP will be documented on a Corrective Action Report (**CAR**) and included as a part of the final audit report. The CAR will be entered into the Permittees' CAR tracking system and tracked until closure. RCRA-related items will be uniquely identified within the CAR tracking system so that they can be tracked separately. RCRA-related CARs identified by the site or Permittee approved laboratory during self-audits will be evaluated during the Permittees' audit and surveillance program and tracked in the Permittees' tracking systems.

When a deficiency is identified by the audit team, the audit team member who identified the deficiency prepares the CAR. The Permittees review the CAR, determine validity (assures that a requirement has in fact been violated), classify the significance of the deficiency, assign a response due date, and issue the CAR to the site or Permittee approved laboratory. The site or Permittee approved laboratory reviews the CAR, evaluates the extent and cause of the deficiency, and provides a response to the Permittees indicating the remedial actions and actions taken to preclude recurrence. The Permittees review the response from the site or Permittee approved laboratory and, if acceptable, communicate the acceptance to the site or Permittee approved laboratory. The site or Permittee approved laboratory completes remedial actions and actions to preclude recurrence. After all corrective actions have been completed, the Permittees may schedule and perform a verification visit to assure that corrective actions have been completed and are effective. NMED personnel may participate as observers in these verification visits. When all actions have been completed and verified as being effective, the CAR is closed by the Permittees' manager responsible for quality assurance. As part of the planning process for subsequent audits and surveillances, past deficiencies will be reviewed and the previous deficient activity or process is subject to reassessment.

The sites or Permittee approved laboratories shall submit corrective action plans to eliminate the deficiency stated on the CAR, including a resolution of the acceptability of any data generated prior to the resolution of the corrective action.

The corrective action response will include a discussion of the investigation performed to determine the extent and impact of the deficiency, a description of the remedial actions taken, determination of root cause, and actions to preclude recurrence.

An exit meeting will be conducted by the lead auditor prior to departure of the audit team from the site or Permittee approved laboratory. This meeting will include site or Permittee approved laboratory management personnel, and may include DOE field office personnel. All draft audit results will be presented to the site or Permittee approved laboratory management.

The audit report will be prepared, approved, and issued to the site or Permittee approved laboratory within thirty (30) days of the completion of the audit by the Permittees. NMED shall receive a copy of the audit report upon issuance for information purposes. A formal final audit report will be provided to NMED which will include WAP-related CAR resolution results and audit results that will include, as a minimum, sections describing the scope, purpose, summary of deficiencies, and observations in narrative format, completed audit checklists, audited procedures, and other applicable documents which provide evidence of WAP implementation.

The report will also include an identification of the organization audited, the dates of the audit, and the requested response date. NMED will make the final audit report available for public review and comment. The audited site or Permittee approved laboratory will respond to any deficiencies and observations within thirty (30) days after receipt of any CARs and indicate the corrective action taken or to be taken. If the corrective action has not been completed, the response must indicate the expected date the action will be completed. CARs applicable to WAP requirements shall be resolved prior to waste shipment. Subsequent audits or specific verifications, announced or unannounced, will determine if the corrective action has been satisfactorily implemented. Deficiencies (items corrected during the audit [CDAs] and CARs) and observations will be tracked to completion according to established procedure(s). In addition, deficiencies will be trended to determine if similar situations exist system wide. Trend reports will be issued as necessary to provide a "lessons learned" announcement to other sites or Permittee approved laboratories who might benefit from program improvements implemented as a result of resolutions to the specific situations discovered at the performance of these audits.

The final audit report provided to NMED and audit records will be maintained at WIPP as a part of the Operating Record. These records will be included on the Record Inventory and Disposition Schedule and maintained on-site until closure of the WIPP facility. NMED shall be provided unlimited access to these records.

TABLES

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Table B6-1 Waste Analysis Plan (WAP) Checklist

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Waste Analysis Plan (WAP)
General Checklist for use at
DOE'S Generator/Storage Sites

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	WASTE STREAM IDENTIFICATION					
1	Does the generator/storage site define "waste stream" as waste material generated from a single process or activity that is similar in material, physical form, and hazardous constituents? (Waste may be generated as either process or process batch waste streams.) (Attachment B Introduction)					
2	Are procedures in place to ensure that the generator/storage site assigns one of the Summary Category Groups (S3000-homogeneous solids, S4000-Soils/Gravel, S5000-debris waste) to each waste stream? (Section B-1b)					
3	Are procedures in place to ensure that the generator/storage site assigns Waste Matrix Code Groups (or Final Waste Forms) (e.g., solidified inorganics, solidified organics, salt waste, soils, combustible, filter, graphite, heterogeneous debris, inorganic nonmetal, lead/cadmium metal waste, uncategorized metal) to each waste stream? (Attachment B Introduction, Section B-1b)					
4	Are procedures in place to ensure that the generator/storage site assigns a Waste Stream WIPP Identifier (ID) to each waste stream? (Section B3-12b(1))					
5	Are procedures in place to ensure that the generator/storage site divides waste streams into waste stream lots if all of the waste within a waste stream is not available for sampling and analysis at one time? If so, is the division of waste streams into waste stream lots based on staging, transportation and handling issues? (Section B-1a)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
6	Are procedures in place to ensure that the generator/storage site assigns EPA hazardous waste codes associated with the waste? If so, do these assigned EPA hazardous waste codes correspond to the permitted EPA hazardous waste codes on the Part A? Are there any assigned EPA hazardous waste codes that are not permitted EPA hazardous waste codes on the Part A? If so, did the generator/storage site reject the waste for shipment to and disposal at WIPP? Did the generator assign a state hazardous waste code? If so, is it assigned to waste that is permitted at WIPP? (Section B-1b)					
7	Are procedures in place to ensure that Summary Category Groups are defined as follows: S3000- Homogeneous solids or solid process residues, excluding soils, that do not meet NMED criteria for classification as debris and are at least 50 percent by volume solid process residues, or comprise the majority of the waste stream S4000- Waste streams that are at least 50 percent by volume soil/gravel, or comprise the majority of the waste stream S5000- Waste streams that are at least 50 percent volume materials that meet the NMED criteria for debris, or comprise the majority matrix of materials. The criteria for debris are solid materials intended for disposal that exceed 2.36 inch particle size and is a manufactured object, plant or animal matter, or natural geologic material. Particles smaller than 2.36 inches in size may be considered debris if the debris is a manufactured object and if it is not a particle of S3000 or S4000 material. (Attachment B-Introduction)					
8	Does the generator/storage facility have procedures in place to ensure that the following waste analysis parameters will be characterized: C Confirmation of physical form and exclusion of prohibited items C Toxicity characteristic contaminants listed in 20 NMAC 4.1.200 C F-listed, P-listed, and U-listed solvents or wastes in Table B-10 found in 20 NMAC 4.1.200 C Hazardous constituents as included in 20 NMAC 4.1.200 (Section B-2)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
9	Are procedures in place to ensure that waste streams identified to contain incompatible materials or materials incompatible with waste containers cannot be shipped unless treated to remove the incompatibility? (Section B-1c)					
10	Are procedures in place to ensure that the generator/storage site uses acceptable knowledge, headspace-gas sampling and analysis, radiography (and/or visual examination), and homogeneous waste sampling and analysis as specified in Table B-6? (Section B-3)					
11	Are procedures in place to ensure that waste is characterized in groups or batches, if necessary? (sampling batches of up to 20 samples collected within 14 days of the first sample, analytical batches of up to 20 samples received within 14 days of first sample receipt, and on-line batches collected within 12 hours and analyzed in accordance with the method requirement) (Section B-3)					
	UNACCEPTABLE WASTE					
12	Are procedures in place to ensure that the generator/storage site ensures, through administrative and operational procedures and characterization techniques, that waste containers do not include the following unacceptable waste: C liquid waste (waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container may not exceed 1 percent volume of that container. Payload containers with U134 waste shall have no detectable liquid) C non-radionuclide pyrophoric materials C hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes) C wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes C wastes containing explosives or compressed gases (continued below)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
12a	C wastes with polychlorinated biphenyls (PCBs) not authorized under an EPA PCB waste disposal authorization C wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003) C RH TRU mixed waste (waste with a surface dose rate of 200 millirem per hour or greater) C TRU mixed waste that has ever been managed as high-level waste and waste from tanks specified in Table B-9, unless specifically approved through a Class 3 permit modification and listed in Table II.C.3.i of Module II C any waste container that does not have VOC concentration values reported for the headspace C any waste container which has not undergone either radiographic or visual examination C any waste container from a waste stream which has not been preceded by an appropriate, certified Waste Stream Profile Form (see Section B-1d) (Section B-1c)					
13	Are procedures in place to ensure that the generator/storage site uses radiography, visual examination, headspace gas analysis and, as applicable, solids sampling, to confirm the absence of the unacceptable waste listed above? (Section B-3)					
	WASTE ACCEPTANCE CONTROL					
14	Are procedures in place to ensure that the generator/storage site uses a Waste Stream Profile Form (WSPF) which includes, at a minimum, the information indicated on the attached WSPF found in Figure B-1? A Waste Stream Profile Form need not be submitted for subsequent waste stream lots unless warranted by the characterization information. (Sections B-1a, B-1d)					
15	Are procedures in place to ensure that WSPFs are provided to WIPP and NMED for each waste stream prior to acceptance for disposal at the WIPP? (Section B-1d)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
16	Are procedures in place to ensure that additional WSPFs are provided to WIPP and NMED for waste streams or portions of waste streams that are reclassified based upon waste characterization information? (Section B-1d)					
	LABORATORY QUALIFICATION					
17	Are procedures in place to ensure that the generator/storage site conduct analyses using laboratories that are qualified through participation in the Performance Demonstration Program (PDP) for headspace gas sampling and analysis, and PDP homogeneous waste sampling and analysis? (Section B-3a(3))					
18	Are procedures in place to ensure that the generator/storage sites conduct analyses using laboratories that implement the analytical methods through laboratory-documented standard operating procedures (SOPs) that ensure that analytical QAOs are met? (Section B-3a(3))					
19	Are procedures in place to ensure that documented laboratory QA/QC programs include the following: C Facility organization C List of equipment/instrumentation C Operating procedures C QA/QC procedures C Quality assurance review C Laboratory records management (Section B-4a(4))					
	GENERAL SAMPLING AND ANALYTICAL REQUIREMENTS					
20	Are procedures in place to ensure that headspace gas sampling and analysis shall be used to: C Determine the types and concentrations of VOCs in the void volume of waste containers C Ensure that there are no adverse worker or public health impacts C VOC constituents shall be compared to those assigned by Acceptable Knowledge and assign hazardous waste codes as warranted (Section B-3a(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
21	Are procedures in place to ensure that each TRU waste container will be sampled and analyzed according to sampling protocols, equipment, and QA/QC methods as specified in Attachment B1 ? (Section B-3a(1))					
22	Are procedures in place to ensure that compounds not on the list of target analytes are reported as tentatively identified compounds (TIC) according to SW-846 TIC identification guidance and that the TIC will be added to the target headspace gas analyte list if it appears in the 20 NMAC 4.1.200 (incorporating 40 CFR Part 261) Appendix VIII list and if they are reported in 25% of the waste containers sampled from a given waste stream? (Section B-3a(1))					
23	Are procedures in place to ensure that a randomly selected set of samples will be collected through core sampling or other EPA approved representative methods from the population of waste containers for homogeneous and soil/gravel waste streams? Are procedures in place that a sufficient number of samples are collected to evaluate the toxicity characteristic of a waste stream at a 90 percent Upper Confidence limit as specified in Attachment B2? (Section B-3a(2))					
24	Are procedures in place to ensure that total analyses or TCLP of VOCs, SVOCs, and Metals are performed on all core samples to determine if the waste exhibits a toxicity characteristic? (Section B-3a(2))					
25	Are procedures in place to ensure that Acceptable Knowledge is used in waste characterization activities to delineate TRU waste streams, to assess whether TRU debris waste exhibits a toxicity characteristic, and to assess whether TRU wastes are listed? (Section B-3b)					
26	Are procedures in place to ensure that radiography and/or visual examination are used to: C Examine every waste container to determine the physical form C Identify liquids and containerized gases C Verify the physical form matches the waste stream description (Section B-3c)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
27	Are procedures in place to ensure that the following characterization activities shall occur for newly generated wastes: C Acceptable Knowledge for all wastes, with confirmatory: - Either visual examination during packaging or radiography (or VE in lieu of radiography) after packaging for all waste containers, ensuring this occurs prior to any treatment designed to supercompact waste - Headspace gas analysis for all waste containers or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1), except for qualifying waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii) - Total VOC, SVOC, and Metals analyses for a selected number of homogeneous solids and soil/gravel waste containers for control charting purposes (annually thereafter), as specified in Attachment B2 - Evaluation of any TICs found in headspace gas and totals analyses (Section B-3d(1))					
27a	Are procedures in place to ensure that the visual examination during packaging for all waste containers includes the documentation of packaging configuration and rigid liner vent hole presence and diameter necessary to determine the appropriate DAC in accordance with Permit Attachment B1, Section B1-1? (Section B-3d(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
28	Are procedures in place to ensure that the following characterization activities shall occur for retrievably stored wastes: C Acceptable Knowledge for all wastes, with confirmatory: - Visual examination or radiography for all waste containers - Confirmatory visual examination of a statistically determined number of waste containers as specified in Attachment B2 (when radiography is performed) - Headspace gas analysis for all waste containers or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1), except for qualifying waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii) - Total VOC, SVOC, and Metals analyses for a statistically selected number of homogeneous solids and soil/gravel waste containers as specified in Attachment B2 (containers opened for sampling may be used to fulfill the visual examination requirements) - Evaluation of any TICs found in headspace gas and totals analyses (Section B-3d(2))					
29	Are procedures in place to ensure that the following characterization activities shall occur for repackaged waste: C Acceptable Knowledge, with confirmatory: - Either visual examination during repackaging or radiography (or VE in lieu of radiography) after repackaging for all waste containers, ensuring this occurs prior to any treatment designed to supercompact waste - Headspace gas analysis for all waste containers or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1), except for qualifying waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii) - Total VOC, SVOC, and Metals analyses following either the retrievably stored or newly generated waste characterization process, whichever results in greater sampling requirements, unless it is demonstrated that control charting cannot be applied effectively. - Evaluation of any TICs found in headspace gas and totals analyses (Section B-3d, B-3d(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	DATA GENERATION, VERIFICATION, VALIDATION, DOCUMENTATION, AND QUALITY ASSURANCE					
29a	Are procedures in place to ensure that the visual examination during repackaging for all waste containers includes the documentation of packaging configuration and rigid liner vent hole presence and diameter necessary to determine the appropriate DAC in accordance with Permit Attachment B1, Section B1-1? (Section B-3d(1))					
30	Are procedures in place to ensure that the following Data Quality Objectives are met: C Use Headspace gas sampling and analysis to identify and quantify VOCs to ensure compliance with the environmental compliance standards of 20 NMAC 4.1.500 and to confirm hazardous waste identification by Acceptable Knowledge C Perform totals analyses of homogeneous solids and Soils/Gravel wastes to establish if the waste is hazardous based on the toxicity characteristics levels in 20 NMAC 4.1.200 through a comparison of the upper confidence limits (UCL_{90}) of the mean concentrations to confirm hazardous waste characterization by Acceptable Knowledge C Perform totals analyses of homogeneous solids and Soils/Gravel wastes to report the average concentration of hazardous constituents in a waste stream as a function upper confidence limits (UCL_{90}) of the mean concentrations, with all averages greater than the MDL considered a detection and subsequent assignment, as applicable, of a hazardous waste code, and as specified in 20 NMAC 2.1.200 to confirm hazardous waste characterization by Acceptable Knowledge C Use radiography or visual examination to verify physical waste form, identify prohibited items, verify determination of sampling and analytical requirements, and to confirm waste stream delineation by Acceptable Knowledge C Use visual examination as a process check of radiography (Section B-4a(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
31	Are procedures in place to ensure that the following Quality Assurance Objectives are adequately defined and assessed for each characterization method: C Precision as a measure of the mutual agreement among multiple measurements C Accuracy as the degree of agreement between a measurement results and a true or known value C Completeness as a measure of the amount of valid data obtained from a method compared to the total amount of data obtained C Comparability as the degree to which one data set can be compared to another data set (Section B-4a(2))					
32	With respect to data generation, are procedures in place to ensure that the generator/storage site's waste characterization program meets the following general requirements: C Analytical data packages and batch data reports must be reported accurately in a pre-approved format, must be maintained in permanent files, and must be traceable? C All data must receive a technical review by another qualified analysts or the technical supervisor, and the laboratory QA officer? C All raw data must be reviewed and have the release signatures of a technical supervisor and a QA officer before release? (Section B-4(a)(4), B-3) Section B3-10)					
33	Are procedures in place to ensure that the generator/storage site performs data validation and verification of waste characterization data for each waste container? (Section B-4)					
34	Are procedures in place to ensure that the generator/storage site has a pre-approved format for reporting waste characterization data? (Section B-4a(4))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
35	Are procedures in place to ensure that the generator/storage site prepares analytical, testing, and sampling batch data reports to meet the requirements of their own site-specific QAPjP and/or SOPs? (Section B-4a(4))					
36	Are procedures in place to ensure that all raw data is collected and managed at the data generation level in accordance with the following criteria: C All raw data shall be signed and dated in reproducible ink by the individual collecting the data, or signed and dated using electronic signatures C All data shall be recorded clearly, legibly, and accurately in field and laboratory records and include all applicable sample identification numbers C All changes to original data shall be lined out, initialed, and dated by the individual making the change. Original data may not be obliterated or otherwise be made unreadable C All data shall be transferred and reduced from field and laboratory records completely and accurately C All field and laboratory records shall be maintained as specified in Table B-7 of Attachment B C Data shall be organized into standard reporting formats for each method of analysis C All electronic and video data are stored to ensure that waste container, sample and QC data are readily retrievable (Section B3-10a)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
37	Are procedures in place to ensure that 100 % of batch data reports are subject to non-programmatic technical review by an individual qualified to review the data. The reviewer shall release the data through signature with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. The review shall ensure the following, as applicable: C Data were generated according to the methods used and reported in the proper units and significant figures C Calculations have been verified by a valid calculation program, a spot check of verified calculation programs, and/or a 100 percent check of all hand calculations C The data have been reviewed for transcription errors C The testing, sampling, and analytical QA documentation is complete and includes raw data, calculation records, chain of custody forms, calibration records, and QC sample results C All QC sample results are within established control limits, and if not, the data has been appropriately qualified C Reporting flags were assigned correctly C Sample holding times and preservation requirements were met, or exceptions documented C Radiography tapes are reviewed on a waste container basis at a minimum of once per testing batch or once per day of operation, whichever is more frequent. The radiography tape will be reviewed against the data on the radiography form to ensure that data are complete and correct (Section B3-10a(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
38	Are procedures in place to ensure that 100 percent of all batch data reports receive a technical supervisory signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. This release shall ensure the following: C The data are technically reasonable based on the technique used C All data have received non-programmatic technical review C The testing, sampling, and analytical QA documentation is complete and includes raw data, calculation record, chain of custody forms, calibration records, and QC sample results C Sample holding time requirements were met, or exceptions documented C Field Sampling records are complete (Section B3-10a(2))					
39	Are procedures in place to ensure that 100 percent of all batch data reports receive a QA Officer signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. This release shall ensure the following: C Non-programmatic technical and technical supervisory review have been performed and documented through signature C QAO's have been met C Sampling and QC Checks have been properly performed and all QC outliers have been identified C The testing, sampling, and QA documentation is complete (Section B3-10a(3))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
40	Are procedures in place to ensure that 100 percent of all batch data reports receive a Site Project Manager signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. This release shall ensure the following: C The Site Project Manager or designee shall determine the validity of the drum age criteria (**DAC**) assignment made at the data generation level based upon an assessment of the data collection and evaluation necessary to make the assignment. C For LANL sealed sources waste streams, the VOC source term was properly developed and used in accordance with Permit Attachment B, Section B-3a(1)(iii). C Non-programmatic technical reviews, technical supervisory reviews, and QA Officer reviews have been performed and documented through signature C Data have been verified to be within established data assessment criteria and meet all applicable QAOs C Sampling, testing, and analytical batches are complete and data are reported to the correct units, qualifier flags, and significant figures. C The testing, sampling, and QA data review checklists are complete (Section B3-10b(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
41	At the project level, are procedures in place to ensure that 100 percent of all batch data reports shall have a Site Project QA Officer signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP. This release shall ensure the following: C Sampling batch field QC checks were properly performed and meet established QAOs and data usability criteria C Testing batch QC checks were properly performed C Analytical batch and on-line QC Checks were properly performed and meet established QAOs and data usability criteria C Radiography data are complete and acceptable C Data are properly reported (i.e., correct units, correct significant figures, and appropriate qualifier flags) C Proper procedures were used to ensure that representative headspace gas and core samples were collected C For LANL sealed sources waste streams, the quality control provisions for VOC source term development were properly implemented in accordance with Permit Attachment B, Section B-3a(1)(iii). (Section B3-10b(1))					
42	Are procedures in place to ensure that a repeat of the data review process at the data generation level will be performed on a minimum of one randomly chosen waste container every quarter to determine if the verification and validation is performed according to documented procedures? (Section B3-10b)					
43	Are procedures in place and checklists are available to prepare a Site Project QA Officer Summary and a Data Validation Summary (the summaries may be in the same document)? The QA Officer Summary should include a validation checklist for each batch that is of sufficient detail to document all aspects of the testing, sampling, and analytical batch that could affect data quality. The Data Validation Summary should confirm that all data were validated according to site QAPP requirements, indicate analytical batches, identify all problems, and identify all acceptable and unacceptable data. (Section B3-10b(3))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
44	Are procedures in place to ensure that non-administrative, WAP-related nonconformances first identified at the site project manager level are reported to the Permittees within five (5) calendar days of identification, that nonconformance reports are prepared within thirty (30) calendar days, and that corrective action is implemented prior to waste shipment? (Section B3-1, B3-13)					
45	Are procedures in place to ensure that nonconformances are appropriately identified, reconciled, corrected, and documented? Are nonconformance reports prepared for nonconformances identified? Are nonconformances identified and tracked, and does the site Project QA Officer oversee the nonconformance report process? (Section B3-13)					
	SAMPLE CONTROL					
46	Are procedures in place to ensure that the site's sample handling and control program includes the following: C Field documentation of samples including point of origin, date of sample, container identification, sample type, analysis requested, and chain-of-custody (COC) number? C Proper labeling and/or tagging including proper sample numbering, sample identification, sample date, sampling conditions, and analysis requested? C COC record including name of sample relinquisher, sample receiver, and date and time of sample transfer? and C Proper sample handling and preservation? (Section B-4a(3))					
47	Are procedures in place to ensure that the site's QAPjP or site-specific procedures includes COC forms to control the sample from the point of origin to the final analysis result reporting? (Section B-4a(3))					
	DATA TRANSMITTAL					
48	Are procedures in place to ensure that the generator/storage site transmits data by hard copy or electronic copy from the data generation level to the site project level after all data generation and project level validations are complete? If electronic, does the generator/site have a hard copy available on demand? (Section B-4a(6))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
50	Are procedures in place to ensure that the generator/storage site inputs the data into the WWIS manually or electronically? (Section B-4a(6))					
51	Are procedures in place to ensure that the generator/storage site enters the data into the WWIS in the exact format required by the database? (Section B-4a(6))					
51a	Are procedures in place to ensure that if a container was part of a composite headspace gas sample, the analytical results from the composite sample are assigned as the container headspace gas data results, including associated TICs, for every waste container associated with the composite sample in the WWIS? (Section B3-12b(4))					
52	Are procedures in place to ensure all of the data presented on Table B-8 of the Permit is transmitted to the WWIS? (Table B-8)					
53	Are procedures in place to ensure that the generator/storage site reports summarize waste characterization information on a waste stream basis, and transmits the summarized data by hard copy or electronically to WIPP Waste Operations when requested? (Section B-4a(6))					
	RECORDS AND RECORD MANAGEMENT					
55	Are procedures in place to ensure that the generator/storage site's hard copy and/or electronic data reports follow the Permittees format requirements? (Section B-4a(6))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
56	Are procedures in place to ensure that hard copy or electronic Waste Stream Profile Form will include the following C Generator/storage site name C Generator/storage site EPA ID C Date of audit report approval by NMED (if obtained) C Original generator of waste stream C Waste Stream WIPP Identification Number C Summary Category Group C Waste Matrix Code Group C Waste stream name C A description of the waste stream C Applicable EPA hazardous waste codes C Applicable TRUCON codes C A listing of acceptable knowledge documentation used to identify the waste stream C The waste characterization procedures used and the reference and date of the procedure C Certification signature of Site Project Manager, name, title, and date signed (Section B3-12b(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
56a	Are procedures in place to ensure that hard copy or electronic Characterization Information Summary will include the following: C Data reconciliation with DQOs C Headspace gas summary data listing the identification numbers of samples used in the statistical reduction, the maximum, mean, standard deviation, UCL_{90}, RTL, and associated EPA hazardous waste codes that must be applied to the waste stream. C For LANL sealed sources waste streams, the VOC source term determination data must comply with Attachment B, Section B-3a(1)(iii). C Total metal, VOC, and SVOC analytical results for homogeneous solids and soil/gravel (if applicable), and demonstration that control charting cannot be applied effectively, if this option is implemented. C TIC listing and evaluation, and verification that acceptable knowledge (**AK**) was confirmed. C Radiography and visual examination summary to document that all prohibited items are absent in the waste and to confirm AK, and documentation and justification for the use of radiography in lieu of or in combination with visual examination/visual examination technique for newly generated waste. C A complete listing of all container identification numbers used to generate the Waste Stream Profile Form, cross-referenced to each Batch Data Report C Complete AK summary, including stream name and number, point of generation, waste stream volume (current and projected), generation dates, TRUCON codes, Summary Category Group, Waste Matrix Code(s) and Waste Matrix Code Group, other TWBIR information, waste stream description, areas of operation, generating processes, RCRA determinations, radionuclide information, all references used to generate the AK summary, and any other information required by Permit Attachment B4, Section B4-2b. C Certification through acceptable knowledge or testing and/or analysis that any waste assigned the hazardous waste number of U134 (hydrofluoric acid) no longer exhibits the characteristic of corrosivity. This is confirmed by assuring that no liquid is present in U134 waste. (Section B3-12b(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
56b	Are procedures in place to assure that ongoing container characterization results are cross referenced to Batch Data Reports? Section B3-12b(2))					
58	Are procedures in place to ensure that project level reports are compiled into Characterization Information Summaries (Section B3-12b)					
59	Are procedures in place to ensure that the generator/storage site uses forms for data reporting that are pre-approved forms in site-specific documentation? (Section B3-12)					
60	Are procedures in place to ensure that the generator/storage site's site project manager submits to the WIPP facility a summary of the waste stream information and reconciliation with data quality objectives (DQOs) once a waste stream is fully characterized? (Section B-4a(6))					
61	Are procedures in place to ensure that the generator/storage site project office completes a WSPF based on the Batch Data Reports? (B3-12b)					
62	Are procedures in place to ensure that the generator/storage Site Project Manager submits the WSPF to the Permittees for approval along with the accompanying Characterization Information Summary for that waste stream? (Section B-4a(6))					
63	Are procedures in place to ensure that the generator/storage site maintains records related to waste characterization sampling and analysis activities in the testing, sampling or analytical facilities files, or site project files for those facilities located on-site? (Section B-4a(7))					
64	Are procedures in place to ensure that the appropriate documented training and indoctrination is performed for all individuals and that procedures are documented in site specific QAPjPs and procedures? (Section B3-14)					
65	Are procedures in place to ensure that the generator/storage site requires contract waste analytical facilities to forward testing, sampling and analytical records along with testing, sampling and analytical batch data reports to the site project office for inclusion in the site central files? (Section B-4a(7))					
66	Are procedures in place to ensure that the generator/storage site has an appropriate records inventory and disposition schedule (RIDS) or equivalent that was prepared and approved by appropriate site personnel? (Section B-4a(7))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
67	Are procedures in place to ensure that the generator/storage site maintains all records relevant to an enforcement action, regardless of disposition, until they are no longer needed for enforcement action, and then dispositioned per the approved RIDS? (Section B-4a(7))					
68	Are procedures in place to ensure that the generator/storage site maintains records that are designated as Lifetime Records for the life of the waste characterization program plus six years, and then offer those records to the Permittees or transferred to the appropriate Federal Records Center (FRC)? Lifetime Records include: C Field sampling data forms, C Field and laboratory COC forms, C Test facility and laboratory Batch Data Reports, C Waste Stream Characterization Package, C Sampling plans, C Data reduction, validation, and reporting documentation, C Acceptable knowledge documentation, C Data reconciliation report, and C WSPF and Characterization Information Summary (Section B-4a(7), Table B-7)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
69	Are procedures in place to ensure that the generator/storage site maintains records that are designated as Non-Permanent Records for ten years from the date of record generation, and then dispositioned according per the approved RIDS? Non-Permanent Records include: C Nonconformance documentation, C Variance documentation, C Assessment documentation, C Gas canister tags, C Methods performance documentation, C PDP documentation, C Sampling equipment certifications, C Calculations and related software documentation, C Training/qualification documentation, C QAPjP documentation (all revisions), C Calibration documentation, C Analytical raw data, C Procurement documentation, C QA procedures (all revisions), C Technical implementing procedures (all revisions), and C Audio/video recording (radiography, visual, etc.). (Section B-4a(7), Table B-7)					
70	Are procedures in place to ensure that the generator/storage site has raw data that is identifiable and legible, and provides documentary evidence of quality? (Section B-4a(7))					
71	Are procedures in place to ensure that if the generator/storage site ceases to operate, that all records be transferred before closeout? (Section B-4a(7))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	SHIPMENT					
72	Are procedures in place to ensure that the generator/storage site accurately completes an EPA Hazardous Waste Manifest prior to shipping the waste to WIPP that contains the following information: C Generator site name and EPA ID C Generator site contact name and phone number C Quantity of waste C List of hazardous waste codes in shipment C Listing of all container IDS C Signature of authorized generator representative (Section B-4b(2))					
73	Are procedures in place to ensure that the generator/storage site accurately completes the following container specific information: C Waste stream identification number C List of hazardous waste codes per container C Certification data C Shipping data (Section B-4b(2))					
74	Are procedures in place to ensure that all applicable waste characterization techniques specified in Attachment B are used by the generator/storage site to delineate the waste on a waste stream basis? (Attachment B Introduction)					

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to ask whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

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Table B6-2 Solids and Soils/Gravel Sampling Checklist

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Solids and Soils/Gravel Sampling Checklist

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	GENERAL SOLIDS SAMPLING REQUIREMENTS					
75	Are procedures documented that adequately ensure: C Newly generated waste streams of homogeneous solid and soil/gravel are randomly sampled for VOC, SVOC, and metals analyses a minimum of once per year after an initial 10 sample set is collected (Section B-3d(1)a) *(Note: only newly generated waste streams associated with waste streams identified as within established administrative controls, or repackaged waste, as appropriate, may be sampled the minimum of once per year)*					
76	Are procedures in place to ensure that the number of newly generated Soils/Gravel waste containers to be randomly sampled will be determined using the procedure specified in Section B-3a(2), i.e., performed using the same procedures used to select samples for retrievably stored homogeneous solid and soil/gravel wastes? (Section B-3d(1)(b))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
77	Are procedures in place to ensure that the following sample collection requirements for retrievably stored waste streams are met: C The number of random samples collected for characterization of retrievably homogeneous solid and soil/gravel stored waste is performed by developing preliminary mean and variance estimates for each analyte to define the number of required random samples; and that the sample selection process is adequately documented. C A minimum of 5 waste containers in a retrievably stored waste streams are sampled to establish the preliminary estimate for the number of samples. C Based on the number of samples required by the preliminary estimate, the subsequent sample means and deviations for each analyte are evaluated against the regulatory threshold for each constituent to determine if additional samples shall be collected. C Samples (the number of which is statistically determined) are collected to verify that a TRU mixed waste is below the regulatory threshold, where the regulatory threshold is the toxicity limit for toxicity characteristics and the PRQL for listed waste constituents. C Samples from preliminary estimates counted as required samples were randomly selected and were collected, analyzed, and validated using representative methods (Section B2-2)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
78	Are procedures in place that adequately ensure that the following requirements are met for process controls associated with newly generated homogeneous solid waste streams: C Continuous processes associated with newly generated homogeneous solid waste streams are within established and documented administrative controls C Process found not to be within established and documented administrative controls are classified as process batches that will undergo sampling and analysis C Process changes not impacting sampling frequency are justified through memorandum to CBFO waste characterization manager and approved by the Permittees before additional waste from the process is shipped. NMED is notified of this decision C Process parameter bounds are established that define the process operating conditions that would change the hazardous constituents identified in the waste stream or add relevant prohibited materials C Waste generating process procedures shall contain the sections identified in attachment B-3d(1)a C Process records are examined weekly for indications of changes or limit exceedances. NMED will be notified of changes and affected waste will not be accepted at WIPP until follow-up analysis is conducted and appropriate action as specified in Section B-3d(1)(a) is taken C Waste streams that exceed established limits shall be recharacterized and those waste containers will be segregated and a new WSPF and waste generation procedures/bounds will be established (Section B-3d(1)(a))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
79	Are procedures in place that adequately ensure that the following requirements are met for process controls associated with newly generated homogeneous solid waste streams: C Continuous process verification results are evaluated using SPC control chart techniques to determine fluctuations or significant process changes. (Section B2-4) *(Note: a minimum of 10 data points representative of the process are needed to establish control chart limits)* C Action levels or control limits triggering re-characterization of continuous processes are defined (Section B-3(d)(1)a)) C The sampling requirements necessary to develop an appropriate control chart mean and standard deviation are defined(Section B2-4) C Procedures for re-evaluating and updating control charts are defined (Section B2-4) C Procedures for evaluating the effectiveness of the sample population and frequency are defined (Section B2-4)					
80	Are procedures in place that allow toxicity characteristic contaminants associated with F-Codes for a waste stream to be omitted from sampling requirements so long as that waste is considered listed due to that compound? (Section B2-2a)					
	SOLIDS SAMPLING PROCEDURES					
81	Do procedures ensure that samples for retrievably stored waste are collected using appropriate coring tools or other EPA approved methods, and that newly generated waste may be collected using alternate representative methods in the event coring is inappropriate? (Section B1-2a)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
82	Do site specific procedures, QAPjPs, and/or SOPs indicate that rotational coring tools are available for the collection of cores and non-rotational coring tools available for collection of cores in relatively soft media. The method used shall be appropriate to retrieve the maximum core amount. The coring tools will include the following features: C Removable tube liners constructed of rigid materials unlikely to affect the composition or concentration of target analytes in the sample (Teflon®) and sufficiently transparent to allow visual examination of the core. The liner outer diameters are between 1-2 inches and the liner wall thickness is less than or equal to 1/16 inch. The liner shall fit flush with the coring tool inner wall and be of sufficient length to allow for a core recovery of greater than 50 percent. C Sleeves composed of polycarbonate, Teflon, or glass for most samples and brass or stainless steel for non-metal samples C Liner endcaps shall fit tightly around the ends of the liner and shall be composed of materials unlikely to affect the composition or concentration of analytes in the sample (Teflon®) C Spring retainers are used when the physical properties of the sampling media may cause the sample to fall out of the liner. The retainer shall be composed of inert materials and the inner diameter shall not be less than the inner diameter of the liner C Coring tools shall have an air lock mechanism . The air lock shall also close when the core is removed from the waste container C Core extruders shall be used to extrude the liner if the liner does not slide freely C Coring tools shall be of sufficient length to hold the liner and shall be constructed to allow placement of the liner leading edge as close as possible to the coring tools leading edge					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
82a	C Rotational coring devices shall have a mechanism to prevent inner liner rotation and shall be designed to minimize frictional heat transfer to the sample core C The leading edge of the coring tool is sharpened and tapered to a diameter equivalent or slightly smaller than the inner diameter of the liner. C Non-Rotational devices shall be designed to minimize the kerf width (½ the difference between the outer diameter and the inlet inner diameter) (Section B1-2a(1))					
83	Does the site adequately document that the liner material and retainers are not likely to contain any analytes of concern? (Section B1-2a(1))					
84	Are procedures in place to ensure that equipment blanks are collected and evaluated to verify that liner material, retainers, or other sampling equipment in contact with the sample do not contain analytes of concern? (Section B1-2b(2))					
	SAMPLE COLLECTION					
85	Are procedures in place to ensure that sampling is completed in a timely manner, within 60 minutes of core collection, or that the core shall remain in the capped liner, or the coring tool shall remain in the waste container with the air lock mechanism attached? (Section B1-2a(2))					
86	Are procedures in place to ensure that VOC samples are sampled prior to extruding the core from the liner and that the sample locations are documented? These sample may be collected by choosing a single sample from the representative subsection of the core, or three equal length VOC sample locations on the core are selected randomly along the long axis of the core to form a single 15-gram composite sample. Smaller sample sizes may be used if method PRQL requirements are met for all analytes. (Section B1-2a(2))					
87	Are procedures documented to ensure that a VOC sample is collected using a metal coring cylinder or equivalent equipment as described in SW-846 and that the sample is immediately extruded into a 40 mL VOA vial (or other containers specified in appropriate SW-846 methods)? (Section B1-2a(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
88	Are procedures in place to ensure that SVOC and Metals sample location(s) on the core are selected randomly along the long axis of the core and that the sample locations are documented, or that samples are collected at the same locations as VOC samples? Samples may be collected by splitting or compositing the representative subsection of the core. The representative subsections are chosen by randomly selecting a location along the portion of the core from which the sample was taken. (Section B1-2a(2))					
89	Are procedures in place to ensure that the SVOC and Metals sample s are collected using equipment constructed of materials unlikely to affect the composition or concentrations of the samples? (Section B1-2a(2))					
90	Are procedures in place to ensure that samples collected by means other than coring are collected as soon as possible and that spatial and temporal homogeneity is evaluated to determine if composite or grab samples are appropriate? (Section B1-2a(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
91	Are procedures in place to ensure sample volumes, preservatives, containers, and holding times meet the following specifications: **Minimum sample quantity** VOC 15 grams SVOC 50 grams Metals 10 grams (smaller sample sizes may be used if method PRQL requirements are met) **Preservative** VOC Cool to 4C SVOC Cool to 4C Metals Cool to 4C **Sample Container** VOC 40 mL VOA glass vial (or other appropriate containers) with septum cap SVOC 250 mL amber glass jar with Teflon© lined cap Metals 250 mL polyethylene or polypropylene bottle **Holding Time from Date of Collection** VOC 14 days prep/40 days analyze SVOC 14 days prep/40 days analyze Metals 180 days/ 28 days Hg (Table B1-4)					
	QUALITY CONTROL SAMPLE COLLECTION					
92	Are procedures in place to ensure that sampling precision will be determined through the collection of co-located core field duplicate samples for core samples and through the collection of co-located samples for samples collected using alternate methods at the frequency of once per 20 sample batch collected over 14 days? Are procedures in place to ensure that acceptance criteria for sample precision is established through an F-Test until 20 - 30 co-located pairs have analyzed to establish a control chart? (Section B1-2b(1))					
93	Are procedures in place to ensure that co-located cores are collected side by side as close as feasible to each other, that the cores are collected and handled in the same manner? (Section B1-2b(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
94	Are procedures in place to ensure that an additional sampling location is found or new co-located cores are collected if the visual examination of the original co-located cores detects inconsistency in the sample color, texture, or waste type? (Section B1-2b(1))					
95	Are procedures in place to ensure that all surfaces of sampling tools that have the potential to come into contact with the sample, including tube liners, endcaps, spring retainers, extruders, coring tool surfaces, or any other sampling equipment, are either thoroughly decontaminated or disposed of after each sampling event? (Sections B1-2b(2), B1-2b(3))					
96	Are procedures in place to ensure that equipment blanks are collected from randomly selected fully assembled coring tools or randomly selected liners (if they are cleaned separately) and from randomly selected sampling equipment (e.g. VOC subsampler, spoons, bowls) at a frequency of once per equipment cleaning batch and that the sample is collected prior to first use? (Section B1-2b(2))					
97	Are procedures in place to ensure that equipment blanks will be collected in the area where sampling equipment coring tools are cleaned, prior to covering the coring tools with protective wrapping and storage? (Section B1-2b(2))					
98	Are procedures in place to ensure that coring tool equipment blanks will be appropriately collected? (Section B1-2b(2))					
99	Are procedures in place to ensure that miscellaneous sampling tool equipment blanks will be collected by passing deionized or HPLC water over the surface of the equipment and into a clean sample container appropriate for the requested analysis? (Section B1-2b(2))					
100	Are procedures in place to ensure that equipment blanks are analyzed for VOC, SVOC, and Metals and that the entire equipment batch will be re-cleaned and re-sampled if any analytes are detected at levels greater than 3 times the MDL or PRDL (Section B1-2b(2))					
101	Are procedures and processes in place to ensure that equipment blanks are traceable to a specific equipment cleaning batch and that the equipment cleaning batch is traceable to specific identified sampling equipment? Are sampling equipment or coring tools labeled with unique identification numbers that are referenced in field records? (Section B1-2b(3))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
102	Are procedures in place to ensure that disposable sampling equipment is certified as clean prior to use? (Section B1-2b(2))					
	SAMPLE EQUIPMENT TESTING, INSPECTION AND MAINTENANCE					
103	Are procedures in place to ensure that all coring tools are tested prior to use in accordance with manufacturers specification to ensure that the air-lock mechanism and rotation mechanism are in working order? (Section B1-2c)					
104	Are procedures in place to ensure that malfunctioning sampling equipment or coring tools are tagged; and repaired or replaced prior to use? (Section B1-2c)					
105	Are procedures in place to ensure that all equipment is cleaned, sealed inside a protective wrapping and stored in a clean area? (Section B1-2c)					
106	Are procedures in place to ensure that an adequate spare part inventory is available? (Section B1-2c)					
107	Are procedures in place to ensure that all equipment maintenance and repair is documented in field records and that field record logbooks are available to document equipment maintenance and repair activities? (Section B1-2c)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
108	Are procedures in place to ensure that inspection of equipment and work area cleanliness will encompass the following: C Sample collection equipment in the immediate area of sample collection shall be inspected daily for cleanliness and that any visible contamination that has a potential to contaminate a waste sample shall be thoroughly cleaned upon discovery C The waste coring and sampling work areas shall be maintained in clean condition C Expendable supplies and equipment shall be visually inspected for cleanliness prior to use and properly discarded after use C Protective wrapping on coring tools and other sampling equipment are visually inspected prior to unwrapping. Coring tools or other equipment with torn protective wrappers or with visible contamination are returned to be cleaned prior to use. C All sampling equipment shall be visually inspected prior to use to determine if protective wrapping is torn or if equipment is contaminated after unwrapping. Equipment with torn wrapping or signs of contamination will be returned for cleaning. C Clean equipment is segregated from equipment that has not been decontaminated. (Section B1-2c)					
109	Are procedures documented to ensure that scales used for weighing sub-samples are calibrated on an annual basis, that the calibration is documented, that calibration is verified using NIST traceable weights upon each day of use, and that all calibration verification is documented in field records? (Section B1-2d)					
	SAMPLE HANDLING AND CUSTODY					
110	Are procedures in place that adequately ensure that field log, sample labels, and Chain of Custody Records are completed in a manner that meets accepted standards for legal defensibility and admissibility (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
111	Do formats for field logs and custody records specify documentation of the following information: C Name of sampling facility C Waste container identification number C Sample identification number of each sample referenced to waste container C Sample matrix C Time and date of sample collection C Type/number and size of sample container(s) C Method of sample preservation C Requested analyses C Analytical laboratory C Shipping information (date, time, shipper, mode, air bill or lading number) C Sampler(s) name through signature					
111a	C Signatures of custodians relinquishing and receiving custody of samples including date and time of transfer until time of final disposition C Comments pertinent to sampling activities (Section B1-4)					
112	Are procedures in place to ensure that waste containers are sequentially and uniquely numbered by site and within the site? (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
113	Do sample tags or labels contain the following information: C Sample ID number C Sampler initials and organization C Ambient temperature and pressure (for gas samples only) C Sample description C Requested analysis C Date and time of collection C QC designation (if applicable) (Section B1-4)					
114	Are procedures in place to ensure waste containers and samples are sealed with intact custody seals and that one or more of the following custody conditions are met: C It is in the possession of an authorized individual C It is in the view of an authorized individual, after being in the possession of that individual C It was in the possession of an authorized individual and access to the sample was controlled by locking or placement of signed custody seals that prevent undetected access C It is in a designated secure area, such as a controlled access location with complete documentation of personnel access or a radiological containment area (hot cell or glove box) (Section B1-4)					
115	Are procedures in place to ensure that discrepant sample information, indications of damage, or indications of tampering are documented in a non-conformance report? (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
116	Are procedures in place to ensure that custody information will be maintained in accordance with EPA NEIC guidance? (Section B1-4)					
117	Are procedures in place to ensure that sample custody is maintained until the following conditions are met: C Sample analyses are completed and data has been validated at the project level, and C The sample is expended or removed from the Program (Section B1-4)					
118	Are procedures in place to ensure that samples are wrapped in plastic to prevent breakage and placed in appropriate containers, such as coolers, for shipment? (Section B1-5)					
119	Are procedures in place to ensure that adequate cold packs are included in the sample shipping container to ensure that all temperature requirements are met? (Section B1-5)					
120	Are procedures in place to ensure that sample COC forms are secured for shipment to the inside of the sealed and locked shipping container lid and that samples and shipping containers are affixed with tamper proof seals? (Section B1-5)					
121	Are procedures in place to ensure that a blank consisting of organic free water is included with each shipment container containing VOC samples? (Section B1-5)					
122	Are procedures in place to ensure that a custody seal or device is securely affixed across the lid and body of each sample and shipment container, and is traceable to the individual who affixed the seal or device? (Section B1-5)					
	LABORATORY OPERATIONS					
123	Are procedures in place to ensure that only laboratories that are qualified through participation in the Performance Demonstration Program are eligible to analyze waste samples? (Section B-3a(3))					
124	Are procedures available from all participating laboratories that adequately document that custody is maintained until the sample is released by the site project manager or until the sample is expended? (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
	VOLATILE AND SEMI-VOLATILE ANALYSIS OF CORE SAMPLES					
125	Are procedures documented to ensure that all VOC and SVOC analyses are evaluated using the following criteria: C Validity of analysis is assessed through evaluation of GC/MS tune and calibration requirements using criteria in Table B3-5 (VOCs) or Table B3-7 (SVOCs) and SW-846 methods C Precision is assessed through evaluation of laboratory duplicates or matrix spike duplicates, LCS replicates, and PDP blind audit samples in comparison to Table B3-5 or Table B3-7 C Accuracy is assessed through evaluation of LCS samples, Matrix spikes, blind PDP audit samples, and surrogate analysis in comparison to criteria in Table B3-5 or Table B3-7 C Laboratory completeness shall be expressed as the number of samples analyzed with valid results as a percent of the total number of samples collected. C Comparability is assessed through use of standardized SW-846 methods for preparation and analysis that meet the QAOs and the consistent application of data useability criteria C Representativeness is assured through the use of unbiased sample collection and preparation methods C Results and method detection limits are expressed in Mg/Kg C All method detection limits and program required quantitation limits shall be less than or equal to the limits listed in Table B3-4 or Table B3-6 and the detection limit study procedures shall be documented in laboratory SOPs (Section B3-6)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
126	Are procedures documented to ensure that Tentatively Identified Compounds shall be added to the target compound list if they are reported in 25% of the waste containers sampled in accordance with SW-846 criteria for a given waste stream, if they are not a listed waste constituent attributable to waste packaging or radiolysis (with the exception of non-toxic F003 constituents), and if they appear in the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII list? (Section B-3a(1))					
126a	Are procedures documented to ensure that the following criteria are met with regard to the recognition and reporting of TICS for GC/MS Methods for homogeneous solids and soils and gravels: C Relative intensities of major ions in the reference spectrum (ions greater than 10% of the most abundant ion) should be present in the sample spectrum. C The relative intensities of the major ions should agree within ± 20 percent. C Molecular ions present in the reference spectrum should be present in the sample spectrum. C Ions present in the sample spectrum but not in the reference spectrum should be reviewed for possible background contamination or presence of coeluting compounds. C Ions present in the reference spectrum but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting peaks. C The reference spectra used for identifying TICs shall include, at minimum, all of the available spectra for compounds that appear in the 20.4.1.200 NMAC (incorporating 40 CFR Part 261) Appendix VIII list. The reference spectra may be limited to VOCs when analyzing headspace gas samples. C TICs for headspace gas analyses that are performed through FTIR analyses shall be identified in accordance with the specifications of SW-846 Method 8410. (Section B3-1)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
126b	TICs shall be reported as part of the analytical batch data reports for GC/MS Methods in accordance with the following minimum criteria: C a TIC in an individual container headspace gas or solids sample shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 10% of the area of the nearest internal standard. (Section B3-1)					
	METALS ANALYSIS OF CORE SAMPLES					
127	Are procedures in place to ensure that all Metals analyses are evaluated using the following criteria: C Validity of analysis is assessed through evaluation of ICP/MS tune and/or calibration requirements using criteria in Table B3-9 and SW-846 methods C Precision is assessed through evaluation of laboratory duplicates or matrix spike duplicates, LCS replicates, and PDP blind audit samples in comparison to Table B3-9 C Accuracy is assessed through evaluation of LCS samples, Matrix spikes, and blind PDP audit samples in comparison to criteria in Table B3-9 C Instrument detection limits are expressed in ug/L and results are listed in Mg/Kg. C All instrument detection limits and program required detection limits shall be less than the limits listed in Table B3-8 and the detection limit study procedures shall be documented in laboratory SOPs. The Instrument detection limits shall be less than the associated PRDL for each analyte *(This requirement is not mandatory if the sample concentrations are greater than 5 times the instrument detection limit (IDL) for a method)* C Instrument detection limits shall be determined semiannually using procedures documented in laboratory SOPs					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
127a	C Laboratory completeness shall be expressed as the number of samples analyzed with valid results as a percent of the total number of samples collected. C Comparability is assessed through use of standardized SW-846 methods for preparation and analysis that meet the QAOs and the consistent application of data useability criteria C Representativeness is assured through the use of unbiased sample collection and preparation methods C Results and method detection limits are expressed in Mg/Kg dry weight (Section B3-8)					
	QUALITY ASSURANCE OBJECTIVES					
128	Are procedures in place to ensure that the sample completeness rate is expressed as the number of valid samples collected as a percentage of the total samples collected? The rate must be greater than 90 percent for all compounds in a waste stream (Table B3-4, Table B3-6, and Table B3-8) and corrective action taken if the completeness rate does not meet 90 percent. (Section B3-3)					
129	Are procedures in place to ensure that sampling operations are comparable through the use of standardized procedures, sampling equipment, and measurement units? (Section B3-3)					
130	Are procedures in place to ensure that sampling precision shall be determined through the collection of field duplicates at a rate of 1 per sampling batch (up to 20 samples) or 1 per week, whichever is more frequent? (Section B3-3)					
131	Are procedures in place to ensure that the variance measured between co-located core samples is compared to the variance within the waste stream using the F-test and is reported by the site project QA officer on a routine basis? (Section B3-3)					
132	Are procedures in place to ensure that sampling accuracy as a result of equipment blank evaluation is determined through the collection of equipment blanks at a frequency of once per equipment cleaning batch (Section B3-3)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N(Why?)	Item Reviewed	Adequate? Y/N	
133	Are procedures in place to ensure that the representativeness of samples is demonstrated through the following requirements: C Use of coring tools and sampling equipment that are clean prior to use C The entire depth of the waste minus a documented safety factor shall be cored and the core collected shall have a core recovery of greater than 50 percent C The core recovery is calculated as the length of the core collected over the depth of the waste in the container C Coring operations and tools shall be designed to minimize alteration of the in-place waste characteristics and the minimum alteration shall be documented by visually examining the core and documenting the observation in field logbooks *(Note: if core recovery is less than 50 percent, a second core shall be randomly selected. The core with the best recovery shall be used as the sample location regardless of the second core recovery)* (Section B3-3)					

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

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Table B6-3 Acceptable Knowledge (AK) Checklist

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Acceptable Knowledge (AK) Checklist[1]

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	GENERAL REQUIREMENTS					
134	Are the primary document(s) required in Permit Attachment B4 containing acceptable knowledge information available? (Section B4-2)					
135	Has the generator developed a methodology whereby a logical sequence of acceptable knowledge information that progresses from general facility to more detailed waste-specific information can be acquired? (Section B4-2)					
136	Does the site have adequate procedures in place to ensure that the Acceptable Knowledge process is adequately implemented? Do these procedures facilitate the mandatory traceability analysis performed for each Summary Waste Category Group examined during the audit? (Section B4-2)					
137	Does the generator site's TRU mixed waste management program information clearly define (or provide a methodology for defining) waste categorization schemes and terminology, provide a breakdown of the types and quantities of TRU mixed waste generated/stored at the site, and describe how waste is tracked and managed at the generator site (including historical and current operations? Do procedures ensure that waste streams are adequately identified? (Section B4-2a)					
138	Does site documentation procedures indicate that the site will document, justify, and consistently define waste streams and assign EPA hazardous waste numbers? (Section B4-2b)					
139	Are procedures in place to ensure that the generator/storage site initially characterizes the waste on a waste stream basis using Acceptable Knowledge? If the Acceptable Knowledge information does not meet the requirements of Attachment B4, is the waste characterized in the same manner as a newly generated waste? (Section B-1a)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	REQUIRED AND SUPPLEMENTAL INFORMATION					
140	Does the generator site document that the following must be included in the acceptable knowledge record: C Map of the site with the areas and facilities involved in TRU waste generation, treatment, and storage identified C Facility mission description as related to TRU waste generation and management (e.g., nuclear weapons research may involve metallurgy, radiochemistry, and nuclear physics operations that result in specific waste streams) C Description of the operations that generate TRU waste at the site (e.g., plutonium recovery, weapons design, or weapons fabrication) C Waste identification or categorization schemes used at the facility (e.g., item description codes, content codes) C Types and quantities of TRU mixed waste generated, including historical generation through future projections C Correlation of waste streams generated from the same building and process, as appropriate (e.g., sludge, combustibles, metals, and glass) C Waste certification procedures for retrievably stored and newly generated wastes to be sent to the WIPP facility (Section B4-2a)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
141	Does the generator site document that the following shall be collected for each waste stream: C Area(s) and/or building(s) from which the waste stream was or is generated C Waste stream volume and time period of generation (e.g., 100 standard waste boxes of retrievable stored waste generated from June 1977 through December 1977) C Waste generating process described for each building (e.g., batch waste stream generated during decommissioning operations of glove boxes), including processes associated with U134 waste generation, if applicable. C Process flow diagrams (e.g., a diagram illustrating glove boxes from a specific building to a size reduction facility to a container storage area). In the case of research/development and analytical laboratory waste, a description of the waste generating processes, rather than a formal process flow diagram, may be included if this modification is justified and the justification is placed in the auditable record C Material inputs or other information that identifies the chemical and radionuclide content of the waste stream and the physical waste form (e.g., glove box materials and chemical handled during glove box operations; data obtained through visual examination of newly generated waste that later undergoes radiography; information demonstrating neutralization of U134 [hydrofluoric acid] and waste compatibility, etc.) (Section B4-2b)					
142	Do site documents/procedures confirm that the facility will provide a summary to the Permittees and NMED that summarizes all information collected, including basis and rationale for all waste stream designations? Is an example of this summary available for audit review? If discrepant hazardous waste data exist in required information, do sites assign all hazardous waste codes unless the sites choose to justify otherwise? (Section B4-2b)					
143	Do site procedures indicate that the required AK information is not available for a retrievably stored waste stream, supplemental information will be acquired and this waste stream shall be designated as newly generated and characterized accordingly? (Section B4-2)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
144	Have the following procedures been prepared?: C Procedures for identifying and assigning the physical waste form C Procedures for delineating waste streams and assigning Waste Matrix Code C Procedures for resolving inconsistencies in acceptable knowledge documentation C Procedures for confirming acceptable knowledge information through headspace gas sampling and analysis, visual examination and/or radiography, and homogeneous waste sampling and analysis C Procedures describing management controls used to ensure prohibited items (specified in the WAP, Permit Attachment B) are documented and managed C Procedures to ensure radiography and visual examination include a list of prohibited items that the operator shall verify are not present in each container of waste (corrosives, ignitables, reactives, and incompatible wastes) C Procedures to document how changes to Waste Matrix Codes, waste stream assignment, and associated EPA hazardous waste numbers based on material composition are documented for any waste C Procedures for newly generated waste shall describe how acceptable knowledge is confirmed using either the visual examination technique or radiography (or VE in lieu of radiography). Procedures shall also describe the criteria for selecting either radiography or VE to ensure there is documentation and adequate justification of the process selected (Section B4-2b)					
145	Does the generator provide procedures or written commitment to collect supplemental acceptable knowledge information, as available and as necessary to supplement mandatory information? (Section B4-2c)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
145a	For waste containers that belong to LANL sealed sources waste streams and meet the criteria of Section B-3a(1)(iii) are there procedures in place to assure the collection of the following supplemental AK?: C Documentation that the waste container contents meet the definition of sealed sources per 10 CFR §30.4 and 10 CFR §835.2 (effective January 1, 2004) C Documentation of the certification of the sealed sources as U.S. Department of Transportation Special Form Class 7 (Radioactive) Material per 49 CFR §173.403 (effective October 1, 2003) C Documentation of contamination survey results that validate the integrity of each sealed source per 10 CFR §34.27 (effective January 1, 2004). C AK documentation does not indicate the use of VOCs or VOC-bearing materials as constituents of the sealed sources. C The outer casing of each sealed source must be of a non-VOC bearing material, which must be verified using the VE technique at the time of packaging. C Documentation that includes but is not limited to, as available and as necessary to determine the hazardous constituents associated with sealed sources, the following: source manufacturer's sales catalogues, original purchase records, source manufacturer's fabrication documents, source manufacturer's drawings, source manufacturer's fuel capture assembly reports, source manufacturer's operational procedures for cleanliness requirements, source manufacturer's shipping documents, source manufacturer's welding records, transuranic batch material records, and information from national databases (e.g., NMMSS). All of this information may not and need not be available for each source, but sufficient information must be included in the auditable record to derive an adequate understanding of source construction and history to ensure that no VOCs are present in association with the sealed source itself that would render the source hazardous. If AK data indicate that assignment of a hazardous waste number related to organic materials is required in association with a source, this specific source will be subject to headspace gas sampling. (Section B4-2c)					
146	Does the generator site document that all specific, relevant supplemental information used in the acceptable knowledge process will be identified and its use explained? Is all necessary supplemental information assembled and has it been appropriately used? (Section B4-2c)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
147	Does the generator site discrepancy analysis documentation (for acceptable knowledge supplemental and required documentation) indicate that if discrepancies are detected, site must include all hazardous waste codes indicated in the required and supplemental information unless the site chooses to justify an alternative assignment and document justification in the auditable record? (Section B4-2c)					
	TRAINING					
148	Does the generator site have procedures to ensure that all personnel involved with acceptable knowledge waste characterization have the following training, and is this training documented? C WIPP WAP and TSDF Waste Acceptance Criteria Requirements C State and Federal RCRA regulations associated with solid and hazardous waste characterization C Discrepancy resolution and reporting C Site-specific procedures associated with waste characterization using acceptable knowledge (Section B4-3a)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	PROCEDURES					
149	Has the generator site developed the following procedures, and are these procedures technically sufficient? C Sites must prepare and implement a written procedure outlining the specific methodology used to assemble acceptable knowledge records, including the origin of the documentation, how it will be used, and any limitations associated with the information (e.g., identify the purpose and scope of a study that included limited sampling and analysis data). C Sites must develop and implement a written procedure to compile the required acceptable knowledge record. C Sites must develop and implement a written procedure that describes the waste certification program and ensures unacceptable wastes (e.g., reactive, ignitable, corrosive) are identified and segregated from certifiable TRU waste populations. C Sites must prepare and implement a written procedure to evaluate acceptable knowledge and resolve discrepancies. If different sources of information indicate different hazardous wastes are present, then sites must include all sources of information in its records and conservatively assign all potential hazardous waste codes, unless the site chooses to justify an alternative assignment and document the justification in the auditable record.					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
149a	C Sites must prepare and implement a written procedure in compliance with Section B4-3(d) to identify hazardous wastes and assign the appropriate hazardous waste codes to each waste stream. The following are minimum baseline requirements/standards that site-specific procedures must include to ensure comparable and consistent identification of hazardous waste: - Compile all of the required information in an auditable record. - Review the required information to determine if the waste is listed under 40 CFR Part 261, Subpart D. Assign all listed hazardous waste codes, unless the site chooses to justify an alternative assignment and document the justification in the auditable record. - Review the required information to determine if the waste may contain hazardous constituents included in the toxicity characteristics specified in 40 CFR Part 261, Subpart C. If a toxicity characteristic contaminant is identified and is not included as a listed waste, assign the toxicity characteristic code, unless data are available which demonstrates that the concentration of the constituent in the waste is less than the toxicity characteristic regulatory level. When data are not available, the toxicity characteristic hazardous waste code for the identified hazardous constituent must be applied to the mixed waste stream. - For newly generated waste, procedures shall be developed and implemented to characterize mixed waste using acceptable knowledge prior to packaging.					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
149b	C Sites must develop and implement a written procedure for the confirmation of acceptable knowledge in accordance with Section B4-3(d). C Sites must prepare and implement a written procedure that provides a cross reference to the applicable waste summary category group (i.e., S3000, S4000, and S5000) to verify all of the required confirmation data has been evaluated and the proper hazardous waste codes have been assigned. C Sites shall ensure that results of other audits of the TRU mixed waste characterization programs at the site are available in the records. A reference list must be provided that identifies documents, databases, Quality Assurance protocols, and other sources of information that support the acceptable knowledge information. (Section B4-3b)					
150	Does the site have implemented procedures which comply with the following criteria to establish acceptable knowledge records: C Acceptable knowledge information shall be compiled in an auditable record, including a road map for all applicable information. C The overview of the facility and TRU mixed waste management operations in the context of the facility's mission shall be correlated to specific waste stream information. C Correlations between waste streams, with regard to time of generation, waste generating processes, and site-specific facilities shall be clearly described. For newly generated wastes, the rate and quantity of waste to be generated shall be defined. C A reference list shall be provided that identifies documents, databases, Quality Assurance protocols, and other sources of information that support the acceptable knowledge information. (Section B4-3c)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
151	Has the generator site implemented administrative controls to ensure that prohibited items are documented and managed in accordance with site specific certification plans and that the following minimum site specific administrative controls: C Identify the organization(s) responsible for compliance with administrative controls. C Identify the oversight procedures and frequency of actions to verify compliance with administrative controls. C Develop on-the-job training specific to administrative control procedures. C Ensure that personnel may stop work if noncompliance with administrative controls is identified. C Develop a nonconformance process that complies with the requirements in Section B3-13 of the WAP to document and establish corrective actions. C Address controlled changes to WAP-related plans or procedures as part of the nonconformance and corrective action process C As part of the corrective action process, assess the potential time frame of the noncompliance, the potentially affected waste population(s), and the reassessment and recertification of those wastes. (Section B4-3b, Section B3-13)					
	CONFIRMATION OF ACCEPTABLE KNOWLEDGE					
152	Does the generator site have written procedures for the confirmation of all acceptable knowledge information using analytical data, including headspace gas data, sampling and analysis, and non destructive assay, non-destructive examination, and/or visual examination? Are these procedures developed for both retrievably stored and newly generated waste? (Section B4-3d)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
153	Does the generator site have written procedures for newly generated waste to document the confirmation of acceptable knowledge information with either the visual examination technique prior to or during waste packaging or radiography (or VE in lieu of radiography) after waste packaging? Do these procedures address the required elements in 3.4-3d? (Section B4-3d)					
154	Are Procedures in place to ensure that acceptable knowledge is confirmed using visual examination when retrievably stored waste is repackaged? (Section B4-3d)					
155	Does the generator site have procedures for reevaluating acceptable knowledge if radiography or visual examination identify it to be a different waste matrix codes? Does this procedure describe how the waste is reassigned, acceptable knowledge reevaluation, and appropriate hazardous waste codes are reassigned? (Section B4-3d)					
156	Do site procedures indicate that debris waste are assigned toxicity characteristic EPA numbers based on AK? Is radiography or visual examination used to confirm the waste matrix code and waste stream identified using AK? (Section B4-4)					
157	Do the procedures document how discrepancies in the waste matrix code are recorded and changes to hazardous waste codes are recorded? (Section B4-3d)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	CRITERIA FOR ASSEMBLING AN ACCEPTABLE KNOWLEDGE RECORD DELINEATING THE WASTE STREAM					
158	If wastes are reassigned to a different waste matrix code based on visual examination or radiography, does the generator site have written documentation to ensure that the following steps are followed: C Review existing information based on the container identification number and document all differences in hazardous waste code assignments C If differences exist in the hazardous waste codes that were assigned, reassess and document all required acceptable knowledge information (Section B3-b) associated with the new designation C Reassess and document all sampling and analytical data associated with the waste C Verify and document that the reassigned waste matrix code was generated within the specified time period, area and buildings, waste generating process, and that the process material inputs are consistent with the waste material parameters identified during radiography or visual examination C Record all changes to acceptable knowledge records C If discrepancies exist in the acceptable knowledge information for the reassigned waste matrix code, document the segregation of this container, and define the corrective actions necessary to fully characterize the waste (Section B4-3d)					
159	Does the generator site documents state that both sampling and analysis (S3000 and S4000 waste stream) and headspace gas (for all waste streams) data be used to confirm acceptable knowledge hazardous waste designations? (Section B4-3d)					
160	Do site documents state that radiography (or VE, if waste is newly generated) is used to confirm waste matrix code and waste streams assigned to retrievably stored waste via AK? (Section B4-3d)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
161	Do site procedures ensure that headspace gas and solid/soil analytical data are used to confirm or reevaluate AK assignments for hazardous waste? If a constituent is detected in headspace gas that the site believes isn't from the waste process, the site must provide documentation to support any determination that organic constituents are associated with packaging materials, radiolysis, or other uses not consistent with solvent use. If the source of the detected headspace gas solvents cannot be identified, the appropriate F listing will be assigned. If a constituent in a listed waste is present in solid/soil analytical results, the appropriate listed waste shall be added to the waste stream. F-listed waste assigned by acceptable knowledge shall not be removed based on confirmatory headspace gas or solids analysis. In the case of totals/TCLP analysis, do procedures reflect the allowance for concentration assessments, wherein sites may add or remove total/TCLP and non-toxic F003 constituents found in headspace and solid/soil analyses? (Section B4-3d)					
162	If the confirmatory process determines that a hazardous constituent as identified in headspace gas sampling or soil/homogeneous waste sampling is present in the waste, does the generator site indicate that they will: 1) assign the hazardous waste code to the entire waste stream as applicable, or 2) segregate drums containing detectable concentrations of solvent into a separate waste stream, and assign “new” hazardous waste codes? (Section B4-3d)					
163	Does the generator site document, justify, and consistently delineate waste streams and assign hazardous waste codes based on site specific permit requirements or state-enforced agreements? (Section B4-4)					
164	Does the generator site have written methodologies for determining the mean concentration of solvent VOCs detected by either headspace gas analysis or homogeneous waste sampling for each waste stream or waste stream lot, and are all data (“U” flags designated as one half the MDL and “J” flags, which are less than the PRQL but greater than the MDL)? (Section B4-3d)					
165	Do procedures ensure that spent solvent assignments are made by using the UCL_{90} (of mean concentration), and comparing this with the PRQLs? If the UCL_{90} exceeds the PRQL, is acceptable knowledge reevaluated and new waste stream designated, or is the current waste stream description modified to include the hazardous constituent? (Section B4-3d)					
166	Does the site indicate that it will document, justify, and consistently delineate waste streams and assign EPA hazardous waste numbers? (Section B4-3d)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
167	Does the site have written procedures for situations where concentrations of some VOCs are orders of magnitude higher than other target analytes? In these cases, elevated MDLs may be generated, and those constituents with an elevated MDL but "U" designation will not be used in median calculations. (Section B4-3d)					
	DATA QUALITY REQUIREMENTS					
168	Are acceptable knowledge processes consistently applied among all generator sites, and does each generator site comply with the following data quality requirements for acceptable knowledge documentation: C Precision - Precision is the agreement among a set of replicate measurements without assumption of the knowledge of a true value. The qualitative determinations, such as compiling and assessing acceptable knowledge documentation, do not lend themselves to statistical evaluations of precision. Therefore, precision requirements are not established for acceptable knowledge. C Accuracy - Accuracy is the degree of agreement between an observed sample result and the true value. The percentage of waste containers which require reassignment to a new waste matrix code and/or designation of different hazardous waste codes based an the reevaluation of acceptable knowledge and sampling and analysis data will be reported as a measure of acceptable knowledge accuracy. C Completeness - Completeness is an assessment of the number of waste streams or number of samples collected to the number of samples determined to be useable through the data validation process. The acceptable knowledge record must contain 100 percent of the information specified in Section B4-2. The useability of the acceptable knowledge information will be assessed for completeness during audits.					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	C Comparability - Data are considered comparable when one set of data can be compared to another set of data. Comparability is ensured through sites meeting the training requirements and complying with the minimum standards outlined for procedures that are used to implement the acceptable knowledge process. All sites must assign hazardous waste codes in accordance with Section B3-b and provide this information regarding its waste to other sites who store or generate a similar waste stream. C Representativeness - Representativeness expresses the degree to which sample data accurately and precisely represent characteristics of a population. Representativeness is a qualitative parameter that will be satisfied by ensuring that the process of obtaining, evaluating, and documenting acceptable knowledge information is performed in accordance with the minimum standards established in Section B3-b. Sites also must assess and document the limitations of the acceptable knowledge information used to assign hazardous waste codes (e.g., purpose and scope of information, date of publication, type and extent to which waste parameters are addressed and limitations of information in identifying hazardous wastes). (Section B4-3e)					
169	Does the generator site address quality control by tracking its performance with regard to the use of acceptable knowledge by: 1) assessing the frequency of inconsistencies among information, and 2) documenting the results of acceptable knowledge confirmation through radiography or visual examination, headspace-gas analyses, and homogeneous waste analyses. In addition, the acceptable knowledge process and waste stream documentation must be evaluated through internal assessments by quality assurance organizations and assessments by auditors or observers external to the organization (i.e., Permittees, NMED, EPA). (Section B4-3e)					
	AUDIT REQUIREMENTS					
170	What waste stream/waste summary category groups does this acceptable knowledge audit apply to? (Section B4-3f)					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
171	Evaluate acceptable knowledge documentation for at least one waste stream from each summary category group(s) being audited. The audit must include acceptable knowledge traceability for at least one container from each audited summary category group. (Section B4-3f)					
172	Review all procedures and associated processes developed by the site for documenting the process of compiling acceptable knowledge documentation; correlating information to specific waste inventories; assigning hazardous waste codes; and identifying, resolving, and documenting discrepancies in acceptable knowledge records. (Section B4-3f)					
173	Evaluate the adequacy of acceptable knowledge procedures and identify any deficiencies in procedures documented in the audit report. (Section B4-3f)					
174	Evaluate all required AK documentation for: C logic, C completeness, and C defensibility (Section B4-3f)					
175	Assess completeness, traceability of information, consistency of application of information, clarity of presentation, degree of compliance with Attachment B4 of the WAP, nonconformance procedures oversight procedures. (Section B4-3f)					
176	Evaluate the availability of required AK data. Review the records for correlations to specific waste streams and for basis of hazardous waste characterization. Are all required information included and hazardous waste designations appropriate? (Section B4-3f)					
177	Verify and document that site used management controls and follow written procedures to characterize hazardous waste for newly generated and retrievably stored wastes. Auditors will review procedures used by site to confirm acceptable knowledge. (Section B4-3f)					
	ADDITIONAL CONFIRMATION					

	WAP Requirement[2]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
178	Does the site include procedures/assurances that any waste container with unresolved discrepancies associated with hazardous waste characterization will not be managed, stored, or disposed at the WIPP until the discrepancies are resolved? (Section B4-4)					
179	Has a waste stream been revoked? Has NMED been notified? What are their required notification procedures for when a container is revoked to notify NMED? (Section B4-4)					
180	If data consistently indicate discrepancies with acceptable knowledge information, has the site reassessed the materials and processes that generate the waste, and resubmitted waste stream profile information and implemented their corrective action system? Until discrepancies are resolve, management, storage, or disposal of the waste stream at the WIPP is prohibited. (Section B4-4)					
181	Prior to shipment, does the site review waste stream profile forms, the WWIS, and associated Batch Data Reports to ensure that confirmatory analyses verify hazardous waste characterization from acceptable knowledge? (Section B4-4)					

1. NMED expects a traceability analysis to be performed, the results of which should be presented on this checklist under the "Examples of Implementation" column. Further, the traceability analysis process and results should be discussed in the Final Audit Report.

2. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

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Table B6-4 Headspace Gas Checklist

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Headspace Gas Checklist

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	HEADSPACE GAS SAMPLING FREQUENCY					
182	Are procedures in place to ensure that every retrievably stored and newly generated waste containers or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1), except for waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii), will undergo headspace gas sampling and analysis? (Section B-3a, -3b)					
182a	Are procedures in place or is a program described in the LANL QAPjP to assure that VOC concentrations are determined and assigned in accordance with Permit Attachment B, Section B-3a(1)(iii) for waste containers that belong to LANL sealed sources waste streams and meet the criteria specified in Section B-3a(1)(iii)? (Section B-3a(1)(iii))					
183	Are procedures in place to ensure that all waste containers or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1) (except for qualifying waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii)) will be allowed to equilibrate to sampling room temperature for 72 hours prior to sampling (18º C or higher) and that the drum ages specified in accordance with Section B1-1a(1) and B1-1a(2) are met? All information necessary to determine drum age criteria must be determined, including but not limited to: C Scenario Determination C Packaging Configuration C Filter Diffusivity C Liner/Lid Opening Diameter Are procedures in place to ensure that equilibrium time and drum ages are documented for each container from which a headspace gas sample is collected as specified in Section B1-1a(3)? (Section B1-1a)					
	HEADSPACE GAS SAMPLING GENERAL REQUIREMENTS					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
184	Are procedures in place to ensure all containers of waste are properly vented through individual composite filters or filters with equivalent VOC dispersion characteristics to ensure that gases are adequately vented and characteristic waste does not develop? (Section B-1c)					
185	Are procedures in place to ensure waste containers and contents are allowed to equilibrate to the temperature of the sampling area (18 ºC and higher or higher) by waiting a minimum of 72 hours prior to sampling? (Section B1-1a)					
185a						
186	Are procedures in place to ensure that the following gas sample container and holding time requirements are met: C The minimum sample volume for VOC. sample collection is 250 mL. (Note: a single 100 mL sample may be collected if the headspace is limited) C Holding temperatures shall be between 0º C and 40º C (Table B1-1)					
187	Are procedures in place to ensure that all sampling is performed in an appropriate radiation containment area? (Section B1-1a)					
188	Are procedures in place to ensure that headspace gas are analyzed for the analytes listed in Table B3-2 of the Attachment B3? (Section B1-1a)					
189	Are procedures in place to ensure that all headspace gas analyses utilize either SUMMA® or equivalent canisters or on-line integrated sampling/analysis systems? (Section B1-1a)					
	MANIFOLD SAMPLING					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
190	Are procedures, processes, and equipment in place to ensure that the following sampling procedures are implemented: C The sampling equipment is leak checked and cleaned upon first use and as needed C The manifold and sample canisters are evacuated to 0.1 mm Hg prior to sample collection C Cleaned and evacuated sample canisters are attached to the evacuated manifold before the manifold inlet valve is opened C The manifold inlet valve is attached to a changeable filter connected to either a side port needle sampling head capable of forming an airtight seal (for penetrating a filter or rigid poly liner when necessary), a drum punch sampling head capable of forming an airtight seal (capable of punching through the metal lid of a drum while maintaining and airtight seal for sampling through the drum lid), or a sampling head with an airtight seal for sampling through a pipe overpack container filter vent hole. Refer to Section B1-1a(6) for descriptions of these sampling heads. C Field blanks are collected using samples of room air collected in the sampling area in the immediate vicinity of the waste container. *(Note: field blanks for SUMMA® canisters are collected directly into the canister)* C Manifold equipped with purge assembly that allows QC samples to be collected through all sampling components that affect compliance with QAOs C The manifold internal volume is calculated and documented in a field logbook C The volume of headspace gas collected as calculated by the canister volume and internal manifold volume is less than 10 percent of the available headspace volume when a volume estimate is available (Section B1-1a(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
191	Are procedures, processes, and equipment in place to ensure that the following manifold sample side conditions are met: C The sampling head forms a leak-tight connection with the sampling manifold C A flexible hose allowing movement from the purge assembly to the waste container C Pressure sensors that are pneumatically connected to the manifold and can measure absolute pressure from 0.05 mm Hg to 1000 mm Hg with a resolution of 0.01 mm Hg at 0.05 mm Hg. The pressure sensors shall have an operating range of 15º C to 40º C. C Sufficient canister ports shall be available to allow simultaneous collection of headspace gas samples and duplicates for VOC. analysis (if using SUMMA® canisters). C Ports not occupied with sample canisters require a plug or VCR® valve to prevent ambient air from entering the system C Ports shall have VCR® fittings for connection to the sample canisters C Sample canisters are leak-free, welded stainless steel pressure vessels, with a Cr-Ni oxide SUMMA®-passivated interior surface or canisters with equivalently inert surfaces, bellows valve, and a pressure/vacuum gauge. All canisters shall have VCR ® fittings to sampling and analytical equipment C The pressure/vacuum gauge mounted on each canister shall be helium-leak checked to 1.5 X 10^{-7} cc/s, have stainless steel construction, and be capable of operating at temperatures to 125º C					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
191a	C A dry vacuum pump capable of reducing the manifold pressure to 0.05 mm Hg. (Note: If an oil vacuum pump is used precautions such as a molecular sieve or cryogenic trap shall be used to prevent diffusion of oil vapors back into the manifold) C A minimum distance between the needle and the valve that isolates the pump from the manifold C If real time blanks are not available, the manifold shall be equipped with an OVA capable of detecting all analytes listed in Table B3-2 and is capable of measuring total VOC concentrations below the lowest headspace gas VOC constituent PRQL (Section B1-1a(4))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
192	Are procedures, processes, and equipment in place to ensure that the following manifold standard side conditions are met: C A cylinder of compressed zero air, helium, or nitrogen that is hydrocarbon and CO_2 free air (only hydrocarbon and CO_2-free gases required for FTIRS) certified by the manufacturer to contain less than one ppm VOCs. The gas is used to clean the manifold between samples and to provide gas for the collection of equipment and on-line blanks *(Note: a zero air or nitrogen generator may be used, provided a sample of air is collected and found to contain less than 1 ppm total VOCs and the air is humidified)* C Cylinders of reference gas with known concentrations of analytes from Table B3-2 certified by the manufacturer to provide gases for evaluating the accuracy of the headspace gas sampling process C All cylinders of reference gases and zero air shall be connected to flow regulating devices that are corrosion proof and that do not allow for the introduction of manifold gas into the purge gas cylinders or generator C A humidifier filled with ASTM Type I or II water, connected, and opened to the standard side of the manifold between the compressed gas cylinders and the purge assembly, if the Fourier Transform Infrared System (FTIRS) is not used. No humidifier if the FTIRS is used *(Note: Compressed gas may include water vapor between 1000 and 10000 ppmv in lieu of a humidifier)* C The humidifier is off-line during system evacuation to prevent manifold flooding					
192a	C A purge assembly that allows the sampling head to be connected to the standard side of the manifold. C A flow indicating device or pressure regulator that is connected downstream of the purge assembly to monitor the flow rate or pressure of gases through the purge assembly to ensure that excess flow is available to prevent ambient air from contaminating the QC samples. (Section B1-1a(4))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
193	Do procedures ensure that NIST Certified (or equivalent) ambient pressure sensors maintained in the sampling area have a sufficient measurement range for the expected ambient barometric pressures and a resolution of 1 mm Hg or less? (Section B1-1a(4))					
194	Do procedures ensure that the NIST traceable (or equivalent) temperature sensor in the sampling location has a sufficient temperature range for the sampling location (-30 to 50°C) ? (Section B1-1a(4))					
	DIRECT CANISTER SAMPLING					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
195	Are procedures, processes, and equipment in place to ensure that the following operating conditions are in place for direct canister sampling: C Canisters are evacuated to 0.1 mm Hg prior to use and attached to a changeable filter connected to the sampling head C Sampling heads are capable of either punching through the metal lid of the drums while maintaining an airtight seal for sampling through the drum lid, penetrating a filter or the septum in the orifice of a self-tapping screw, or maintaining an airtight seal for sampling through a pipe overpack container filter vent hole. C Field duplicates are collected in the same manner and at the same time as the original sample. C Field blanks shall be samples of room air collected in the immediate vicinity of the waste drum sampling area prior to removal of the drum lid. C Equipment blanks and field reference standards shall be collected using a purge assembly equivalent to the standard side of the manifold C Less than 10 percent of the headspace is withdrawn when a headspace estimate is available *(Note: The volume withdrawn is the canister volume and the internal volume of the sampling head)* C Each sample canister is equipped with a pressure/vacuum gauge capable of indicating leaks and sample collection volumes. The gauge shall be helium leak tested to 1.5 X 10^{-7} cc/s, have all stainless steel construction and be capable of tolerating temperatures to 125º C C Summa® canisters or equivalent are used to collect samples (Section B1-1a(5))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	SAMPLING HEADS UNDER DRUM LIDS: SAMPLING THROUGH A CARBON FILTER					
196	Are procedures, process, and equipment adequate to ensure that samples collected through a filter meet the following requirements: C The lid of the drum's 90-mil poly liner shall contain a hole for venting to the drum C That non-vented drums are not sampled until an internal nonconformance report is prepared, submitted, and resolved in order to obtain a representative sample C The filter shall be sealed to prevent outside air from entering the drum C The sampling head for collecting drum headspace gas shall consist of a side-port needle, a filter to prevent particle contamination of the sample, and an adapter to connect the needle and filter C The sampling head is cleaned or replaced after each use C The housing of the filter shall allow insertion of the sampling needle through the filter element or a sampling port with septum that bypasses the filter element into the drum headspace C The side port needle shall be used to reduce the potential for plugging C The purge assembly shall be modified for compatibility with the side port needle. (Section B1-1a(6)(i))					
	SAMPLING HEADS UNDER DRUM LIDS: SAMPLING THROUGH THE DRUM LID					
197	Are procedures in place to establish the criteria for sampling through the drum lid as opposed to sampling through a filter? (Section B1-1a(3)(ii))					
197a	If sampling through a pipe overpack container filter vent hole with an airtight device is used, are procedures in place to ensure that a sampling head with an airtight seal for sampling through a pipe overpack container filter vent hole are available? (Section B1-1a(4); B1-1a(5); B1-1c(5))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
197b	If sampling through a pipe overpack container filter vent hole is used, are the following criteria met? C The seal between the pipe overpack container surface and sampling apparatus shall be designed to minimize intrusion of ambient air. C The filter shall be replaced as quickly as is practicable with the airtight sampling apparatus to ensure that a representative sample can be taken. C All components of the sampling system that come into contact with sample gases shall be cleaned according to requirements for direct canister sampling or manifold sampling, whichever is appropriate, prior to sample collection. C Equipment blanks and field reference standards shall be collected through all the components of the sampling system that contact the headspace-gas sample. C During sampling, openings in the pipe overpack container shall be sealed to prevent outside air from entering the container. C A flow-indicating device shall be connected to sampling system and operated according to the direct canister or manifold sampling requirements, as appropriate. (Section B1-1a(6)(iii))					
197c	If sampling through a pipe overpack container filter vent hole is used, are the following criteria met? C The site has documentation that demonstrates that they have determined through testing the appropriate length of time for exchanging the filter with the sampling device to assure representative samples are collected. C The time for completing the exchange is incorporated into appropriate headspace gas sampling procedures. (Section B1-1a(6)(iii))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
198	Are procedures, process, and equipment adequate to ensure that samples collected through the drum lid meet the following requirements: C The lid of the drum's 90-mil poly liner shall contain a hole for venting to the drum C Non-vented drums are not sampled until an internal nonconformance report is prepared, submitted, and resolved in order to obtain a representative sample C The drum lid shall be breached using a punch that forms an airtight seal between the drum lid and the manifold or canister C The seal between the drum lid and the sampling head shall be designed to minimize the intrusion of ambient air C All components of the drum punch sampling system that come in contact with sample gases shall be purged with humidified zero air, nitrogen, or helium prior to sample collection C Equipment blanks and field reference standards shall be collected through all components of the punch that contact the headspace gas sample C Pressure shall be applied to the punch until the drum lid has been breached C Provisions shall be made to relieve drum pressure increases during drum punch operations and during sealing of the drum punch to the drum lid C The filter is sealed to prevent ambient air from entering the drum (Section B1-1a(6)(i) and (ii))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
198a	C A flow indicating device to verify excess flow of QC gases for system purge shall be pneumatically connected to the drum punch and operated in the same manner as the flow indicating device used in the manifold system C Equipment are used to secure the drum punch sampling system to the drum lid C If the headspace gas sample is not taken at the time of drum punching, the presence and diameter of the rigid liner vent hole is documented during the punching operation for use in determining an appropriate Scenario 2 DAC. (Section B1-1a(6)(ii))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	QUALITY CONTROL SAMPLE COLLECTION					
199	Are procedures in place to ensure that the following QC sample requirements are met: C Field QC samples are collected on per sample batch basis for manifold and direct canister sampling. A sampling batch is defined as up to 20 samples collected within 14 days of the first sample C Field samples are collected on a per on-line batch basis for on-line sampling/analysis systems. An on-line batch is defined as the number of samples that are collected in a 12 hour period from the same on-line integrated sample/analysis system C For the manifold sampling method, field blanks, equipment blanks, field duplicates, and field reference samples are collected prior to sample collection on a per sampling batch basis or one per day, whichever is more frequent C For the direct canister sampling method field blanks and field duplicates are collected on a per sampling batch basis prior to sample collection; while equipment blanks and field reference samples are collected after equipment purchase, cleaning, and assembly					
199a	C For the On-line sampling method, field blanks, equipment blanks, field duplicates, and field reference samples are collected on a per on-line batch basis. *(Note: The on-line blank replaces the laboratory and equipment blanks, the on-line duplicate replaces the laboratory duplicate, and the on-line reference standard replaces the laboratory control sample.)* (Section B1-1b, B1-1b(1), B1-1b(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
200	Do procedures adequately assign the Site Project QA Officer with the responsibility of monitoring field QC results and initiate the nonconformance report process in the event the following acceptance criteria are not met or sample collection frequencies are not met: C Field and equipment blanks shall be less than 3 times the detection limits specified in Table B3-2 and equipment blank results determined by FTIR shall be less than the PRQL specified in Table B3-2 (Section B1-1b(1) and B1-1b(2)) C Field reference standards shall have a recovery of between 70 and 130% (Table B1-3) C Field Duplicates shall have an RPD of less than 25 (Table B1-3)					
201	Are procedures in place to ensure that field reference standards meet the following criteria: C Field reference standards shall contain a minimum of 6 analytes listed in Table B3-2 at a range of between 10 and 100 ppmv and at concentrations greater than the MDL C Field reference standards shall be traceable to a nationally recognized standard, if available C If commercial gases are used, they shall be accompanied by a Certificate of Analysis and all field reference standards are traceable to certificates. C Commercial gases are not used past the manufacturer specified shelf life. C Field reference samples are submitted blind to the laboratory at a frequency of one per sampling batch. (Note: Field reference standards may be discontinued for direct canister method if QAO accuracy objectives are met) (Section B1-1b(3))					
202	Are procedures in place to ensure that field duplicate samples are collected sequentially to the sample. (Section B1-1b(4))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	SAMPLE EQUIPMENT TESTING, INSPECTION AND MAINTENANCE					
203	Are procedures in place to ensure that sample containers are cleaned in accordance with the following specifications: C All sampling components that contact sample gases are constructed of inert materials such as Teflon® C The sampling manifold and canisters are properly cleaned and leak checked prior to each sampling event in accordance to or equivalent with TO-14 methodology C SUMMA® canisters or equivalent are cleaned on an equipment cleaning batch basis. An equipment batch is defined as the number of canisters that can be cleaned together at one time using the same cleaning method C The cleaning system consists of an optional oven and a vacuum manifold which uses a dry vacuum pump or a cryogenic trap backed by an oil sealed pump C Prior to cleaning a 24 hour leak check shall be performed (+/- 2 psig) on all canisters C Canisters that fail the leak check are segregated, checked for leaks, repaired, and reprocessed C One canister per equipment cleaning batch is filled with humid zero air and analyzed for VOCs C A batch is considered clean if VOC concentrations are less than 3 times the MDLs specified in Table B3-2 C Certified leak-free canisters are evacuated to 0.1 mm Hg prior to storage C Canister cleaning certification documentation is available at the cleaning facility and the cleaning facility initiates canister tags. (Section B1-1c(1))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
204	Are procedures in place to ensure that manifold pressure sensors, canister pressure gauges, and ambient air temperature sensors are certified prior to initial use and annually using NIST traceable standards. In addition OVA's if used shall be calibrated daily using known calibration gases and the balance of the OVA calibration is consistent with the manifold purge gas. (Section B1-1d)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
205	Are procedures in place to ensure that sampling equipment are cleaned and leak checked using the following specifications: C Surfaces of all sampling equipment that will come in contact with sample gases are thoroughly inspected and cleaned prior to assembly C Manifolds and sampling heads shall be purged with humidified zero air or equivalent and leak checked after assembly C The cleaning and leak check process shall be repeated if routine system cleaning is inadequate C Manifolds and sampling heads which are reused shall be cleaned and leak checked according to procedures in the methods manual after sample collection, field duplicate collection, field blank collection, and after the additional cleaning require for field reference samples. All manifold ports shall be capped or closed with valves (sample canisters may be attached as well) C Manifolds are cleaned by heating the sample side of the manifold to 150 °C and flushing with zero air or equivalent at a rate of 1 liter/min for 3 minutes C Manifolds not in use are demonstrated as clean before storage with a positive pressure of zero air gas in the sampling and standard sides C Sampling is suspended if VOC levels greater than 3 times the levels in Table B3-2 are found in the equipment blank analysis C Sampling systems are cleaned after reference standard collection by installing a gas tight connector in place of the sampling head, between the flexible hose and purge assembly. This allows the sample and standard side to be flushed with humidified zero air in conjunction with heated pneumatic lines C Needles, adapters, and filters are cleaned in accordance with the EPA Method TO-14 procedures. Sample heads shall be discarded or cleaned according to Method TO-14. In addition, the needle and filter are also purged with zero air and capped for storage (Section B1-1c(2) , Section B1-1c(3), Section B1-1c(4), and Section B1-c(5))					
	SAMPLE HANDLING AND CUSTODY					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
206	Are procedures in place to ensure that field log, sample labels, and Chain of Custody Records are completed in a manner that meets accepted standards for legal defensibility and admissibility (Section B1-4)					
207	Do formats for field logs and custody records specify documentation of the following information: C Name of sampling facility C Waste container identification number C Sample identification number of each sample referenced to waste container C Sample matrix C Time and date of sample collection C Type/number and size of sample container(s) C Method of sample preservation C Requested analyses C Sampler(s) name through signature					
	C Signatures of custodians relinquishing and receiving custody of samples including date and time of transfer until time of final disposition C Analytical laboratory C Off-site shipping information (date, time, shipper, mode, air bill or lading number) (Section B1-4)					
208	Are procedures are in place to ensure that waste containers are sequentially and uniquely numbered by site and within the site? (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
209	Do sample tags or labels contain the following information: C Sample Description to adequately describe sample location and appearance C Ambient temperature and pressure C Sample identification number C Analyses requested C Date/Time sampled C QC Designation C Sampler's initials and organization (Section B1-4)					
210	All sampling equipment, canisters, and samples are identified with unique identification numbers that are traceable to equipment cleaning batches. (Section B1-4)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
211	Are procedures in place to ensure waste containers and samples are sealed with intact custody seals and that one or more of the following custody conditions are met: C It is in the possession of an authorized individual C It is in the view of an authorized individual, after being in the possession of that individual C It was in the possession of an authorized individual and access to the sample was controlled by locking or placement of signed custody seals that prevent undetected access C It is in a designated secure area, such as a controlled access location with complete documentation of personnel access or a radiological containment area (hot cell or glove box) (Section B1-4)					
212	Are procedures in place to ensure that discrepant sample information, indications of damage, or indications of tampering are documented? (Section B1-4)					
213	Are procedures in place to ensure that custody information will be maintained in accordance with EPA NEIC guidance (Section B3-10)					
214	Are procedures in place to ensure that sample custody is maintained until the following conditions are met: C Sample analyses are completed and data has been validated at the project level, and C The sample is released by the site project manager or expended (Section B1-4)					
215	Are procedures in place to ensure that SUMMA canisters are packaged to prevent damage to the pressure gauge or associated connections by packaging in metal boxes with separate compartments or cardboard boxes with foam inserts? (Section B1-5)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
216	Are procedures in place to ensure that samples are packaged to prevent damage to the sample container and maintain preservation temperature?. (Section B1-5)					
217	Are procedures in place to ensure that adequate cold packs are included in the DOT approved sample shipping container to ensure that all temperature requirements are met? (Section B1-5)					
218	Are procedures in place to ensure that sample COC forms are secured for shipment to the inside of the sealed or locked shipping container lid and that samples and shipping containers are affixed with tamper proof seals or devices? (Section B1-5)					
219	Are procedures in place to ensure that a blank consisting of organic free water is included with each shipment container containing VOC samples? (Section B1-5)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	LABORATORY OPERATIONS					
220	Are procedures in place to ensure that all VOC analyses are evaluated using the following criteria: C Precision is assessed through evaluation of laboratory duplicates, Laboratory Control Sample (LCS) replicates, and PDP blind audit samples in comparison to Table B3-3 C Accuracy is assessed through evaluation of LCS samples and blind PDP audit samples in comparison to criteria in Table B3-3 C MDL's are expressed in nanogram/liter C Laboratory completeness shall be expressed as the number of samples analyzed with valid results as a percent of the total number of samples collected. A composited sample is treated as one sample for the purposes of completeness, because only one sample is run through the analytical instrument C Comparability shall be achieved through the use of standardized methods, through the consistent application of data useability criteria, and traceable standards and through successful participation in the PDP program C Representativeness will be achieved through the use of standardized sample collection methods with a demonstrated absence of blank contamination C All method detection limits and program required detection limits shall be less than the Program Required Detection Limits listed in Table B3-2 and the detection limit study procedures shall be documented in laboratory SOPs. In addition, the laboratory shall demonstrate that they are capable of meeting the Program Required Detection Limits by analyzing at least one calibration standard below the PRQL (Section B3-5)					
221	Are procedures in place to ensure that only laboratories that are qualified through participation in the Performance Demonstration Program are eligible to analyze waste samples? (Section B-3a(3))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
222	Are procedures in place to ensure that Tentatively Identified Compounds shall be added to the target compound list if they are reported in 25% of the waste containers sampled in accordance with SW-846 criteria for a given waste stream (with the exception of non-toxic F003 constituents) and if they appear in the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII list? (Section B-3a(1))					
222a	Are procedures documented to ensure that the following criteria are met with regard to the recognition and reporting of TICS for GC/MS Methods for headspace gas sampling: C Relative intensities of major ions in the reference spectrum (ions greater than 10% of the most abundant ion) should be present in the sample spectrum. C The relative intensities of the major ions should agree within ± 20 percent. C Molecular ions present in the reference spectrum should be present in the sample spectrum. C Ions present in the sample spectrum but not in the reference spectrum should be reviewed for possible background contamination or presence of coeluting compounds. C Ions present in the reference spectrum but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting peaks. C The reference spectra used for identifying TICs shall include, at minimum, all of the available spectra for compounds that appear in the 20.4.1.200 NMAC (incorporating 40 CFR Part 261) Appendix VIII list. The reference spectra may be limited to VOCs when analyzing headspace gas samples. C TICs for headspace gas analyses that are performed through FTIR analyses shall be identified in accordance with the specifications of SW-846 Method 8410. (Section B3-1)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
222b	Are procedures in place to assure that TICs are reported as part of the analytical batch data reports for GC/MS Methods in accordance with the following minimum criteria: C a TIC in an individual container headspace gas or solids sample shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 10% of the area of the nearest internal standard. C a TIC in a composited headspace gas sample that contains 2 to 5 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 2% of the area of the nearest internal standard. C a TIC in a composited headspace gas sample that contains 6 to 10 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 1% of the area of the nearest internal standard. C a TIC in a composited headspace gas sample that contains 11 to 20 individual container samples shall be reported in the analytical batch data report if the TIC meets the SW-846 identification criteria listed above and is present with a minimum of 0.5% of the area of the nearest internal standard. (Section B3-1)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
	QUALITY ASSURANCE OBJECTIVES					
223	Are procedures in place to ensure that headspace gas sampling will occur from the drum headspace for all drums or randomly selected containers from waste streams that meet the conditions for reduced headspace gas sampling listed in Section B-3a(1) (except for qualifying waste containers belonging to LANL sealed sources waste streams as specified in Section B-3a(1)(iii))? (Section B3-2)					
224	Are procedures in place to ensure that the precision of the headspace gas analysis is assessed by the sequential collection of field duplicates for manifold sampling operations or simultaneous collection of field duplicates for direct canister sampling operations for VOCs? (Section B3-2)					
225	Are procedures in place to ensure that corrective action will be taken if the duplicate RPD for field duplicates exceeds 25 for any analyte found greater than the PRQL in both of the duplicate samples? (Section B3-2)					
226	Are procedures in place to ensure that the accuracy of headspace gas analysis is assessed through the collection of field reference standards and field blanks at a frequency of one for every 20 drums sampled or per sampling batch and through the collection of equipment blanks at the frequency of one for every equipment cleaning batch ? (Section B3-2)					
227	Are procedures in place to ensure that corrective actions are taken if the field reference standard is less than 70% recovery or greater than 130% recovery; and that if the blank concentration for any blank exceeds 3 times the MDL (PRDLs for metals) listings in Table B3-2? (Section B3-2)					
228	Are procedures in place to ensure that sampling completeness shall be expressed as the number of valid samples collected as a percent of the total number of samples collected for each waste steam, where a valid sample is defined as a sample collected in accordance with approved sampling methods and the drum was properly prepared for sampling? (Section B3-2)					
229	Are procedures in place to ensure that the minimum sampling completeness percentage for any waste stream is 90 percent? (Section B3-2)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why?)	Item Reviewed	Adequate? Y/N	
230	Are procedures in place to ensure that sample comparability is assured through the use and application of uniform procedures and equipment and application of data useability criteria, and that corrective action is taken if the uniform procedures and equipment are not used without approved and justified deviations (Section B3-2)					
231	Are procedures in place to ensure that sample representativeness is maintained (Section B3-2)					
232	Are procedures in place to ensure that analytical completeness rate of 90 percent is achieved for all VOC compounds in a waste stream (Table B3-2)					

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

Table B6-5 Radiography Checklist

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Radiography Checklist

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	QUALITY ASSURANCE OBJECTIVES					
233	Are process procedures in place to meet the following Quality Assurance Objectives?: Precision C Did the site project QA Officer calculate and report the relative percent difference (RPD) between the estimated waste material parameter (WMP) weights as determined by radiography, and these same parameters as determined by visual examination (VE)? Is the precision of radiography enough to demonstrate compliance with QAOs through identifying an image test pattern? Accuracy C Was the accuracy with which the waste matrix code and WMP weights can be determined documented through VE of a randomly selected statistical portion of waste containers? C Was the percentage of waste containers which requires a new waste matrix code or were found to contain prohibited items after VE calculated and reported by the site project QA officer as a measure of radiography accuracy?					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
233a	Completeness C Was an audio/videotape (or equivalent media) of the radiography examination and a radiography data form validated according to the requirements in Section B3.10? C Was an audio/videotape (or equivalent media) of the radiography examination and a radiography data form obtained for 100% of the retrievably stored waste containers? Comparability C Is comparability ensured through the use of standardized radiography procedures and operator training and qualifications (Section B3-4)					
	CHARACTERIZATION AND SYSTEM REQUIREMENTS					
234	Does the site have procedures to ensure that radiography is used to determine the waste material parameter contents and estimate waste material parameter weights of retrievably stored waste? (Section B3-4) Does the site have procedures to identify prohibited materials, and to identify/confirm waste matrix code (physical form)? (Section B-3c)					
235	Do procedures or other supporting documentation ensure that every waste container will undergo radiography and/or VE? (Section B-3c)					
236	Do procedures ensure that containers with lead liners are examined by visual examination rather than by radiography? (Section B1-3a)					
237	Do procedures or other supporting documentation ensure that radiography results are compared with waste stream descriptions as per B-3c? If discrepancies are noted, will a new waste stream be identified? (Section B-3c)					
238	Are there procedures to ensure the data obtained from an audio/videotaped scan provided by trained radiography operators? (Section B1-3b)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
239	Were all activities required to achieve the radiography objective described in site Quality Assurance Project Plans (QAPjPs) and Standard Operating Procedures (SOPs)? (Section B3-4)					
240	Did the radiography system consist of the following equipment or equivalent: C an X-ray producing device? C an imaging system? C an enclosure for radiation protection? C a waste container handling system (including a turntable dolly assembly)? C an audio/video recording system or equivalent? C an operator control and data acquisition station? (Section B1-3a)					
241	Did the X-ray producing device have controls which allow the operator to vary voltage, thereby controlling image quality? Was it possible to vary the voltage, typically between 150-400 kV, to provide an optimum degree of penetration through the waste? Was high-density material examined with the X-ray device set on the maximum voltage? Was low-density material examined at lower voltage settings to improve contrast and image definition? (Section B1-3a)					
242	Do procedures or other documentation ensure that the audio/videotape or equivalent made of the waste container scan and maintained as a non-permanent record? (Section B1-3a)					
	DATA COMPILATION					
243	Are there procedures to ensure that a radiography data form is used to document the waste matrix code, and estimated WMP weights of the waste? (Section B1-3a)					
244	Do procedures/processes ensure that the estimated WMP weights are determined by compiling an inventory of waste items, residual materials and packaging materials? Were the items on the inventory sorted by WMP and combined with a standard weight look-up table to provide an estimate of WMP weights? (Section B1-3a)					
245	If radiography indicate that the waste does not match the waste stream description, do procedures ensure that the appropriate corrective action was taken? (Section B3-13)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
246	If a discrepancy is noted, do procedures ensure that the proper waste stream assignment is determined, the correct hazardous waste codes assigned, and the resolution documented? (Section B3-13)					
	TRAINING					
247	Do site procedures ensure that only trained personnel allowed to operate radiography equipment? (Section B1-3b)					
248	Do site procedures ensure that training requirements for radiography operators comply with the training requirements of the WAP? (Section B1-3b)					
249	Does the documented training program provide radiography operators with both formal and on-the-job training (OJT)? (Section B1-3b)					
250	Does the documented training program ensure that the radiography operators are instructed in the specific waste generating practices and typical packaging configurations expected to be found in each waste stream at the site? (Section B1-3b)					
251	Does the documented training program ensure that the OJT and apprenticeship are conducted by an experienced, qualified radiography operator prior to qualification of the candidate? (Section B1-3b)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
252	Does the documented training program contain the following: Formal Training C Project Requirements C State and Federal Regulations C Basic Principles of Radiography C Radiographic Image Quality C Radiographic Scanning Techniques C Application Techniques C Radiography of Waste Forms C Standards, Codes, and Procedures for Radiography C Site-Specific Instruction On-the-Job Training C System Operation C Identification of Packaging Configurations C Identification of WMPs C Weight and Volume Estimation C Identification of Prohibited Items (Section B1-3b)					
253	Does the documented training program ensure that the radiography test drum include items common to the specific waste streams for which a Waste Stream Profile Form is sought? (Section B1-3b)					
253a						
254	Does the documented training program ensure that the test drums are divided into layers with varying packing densities or were different drums used to represent different situations that may occur during radiography examination at the site? (Section B1-3b)					
255	Does the documented training program ensure that test drums available that are representative of the waste matrix codes at the site and are representative test drums successfully examined prior to waste stream shipment? (Section B1-3b)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
256	Does the documented training program ensure that the radiography test drums include the following required elements: C Aerosol can with puncture? C Horsetail bag? C Pair of coveralls? C Empty bottle? C Irregular shaped pieces of wood? C Empty one gallon paint can? C Full container? C Aerosol can with fluid? C One gallon bottle with three tablespoons of fluid? C One gallon bottle with one cup of fluid (upside down)? C Leaded glove or leaded apron? C Wrench? (Section B1-3b)					
257	Does the documented training program ensure that the required elements of the test drum successfully identified by the operator as part of the qualification process and results documented? (Section B1-3b)					
258	Does the documented training program ensure that the qualification of the radiography operators, at a minimum, encompass the following requirements: C Successfully pass a comprehensive exam based upon training enabling objectives? C Perform practical capability demonstration in the presence of appointed site radiography subject matter expert (SME)? A radiography SME is an experienced radiography operator who is qualified as an OJT trainer? (Section B1-3b)					
259	Does the documented training program ensure that requalification of operators performed every two years at a minimum? (Section B1-3b)					
260	Does the documented training program ensure that requalification of operators is based upon evidence of continued satisfactory performance (primary audio/videotape or equivalent media reviews)? (Section B1-3b)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
261	Does the documented training program ensure that if performance is determined to be unsatisfactory (the misidentification of a prohibited item or a score of <80% on the comprehensive exam) unsatisfactory performance result in disqualification? Did the operator go through retraining and was satisfactory performance demonstrated before an operator was again allowed to operate the radiography system? (Section B1-3b)					
262	Does the documented training program ensure that a training drum with various container sizes is scanned by each operator on a biannual basis? Is the videotape reviewed by a supervisor to ensure that operators' interpretations remain consistent and accurate? (Section B1-3b)					
263	Do site procedures ensure that the site prepares separate testing report sheets for each waste container in the testing? (Section B3-10)					
264	For waste containers undergoing visual examination, does the testing report sheet for each waste container also identify the waste matrix code waste material parameter weights as determined by visual examination and prohibited materials? (Section B3-10)					
	QUALITY ASSURANCE					
265	Does the documented training program ensure that the imaging system characteristics are verified on a routine basis? (Section B1-3b(2))					
266	Do procedures ensure that independent replicate scans and replicate observations of the video output of the radiography process are performed under uniform conditions and procedures? Are independent replicate scans performed on one waste container per day per testing batch of 20 samples , which ever is less frequent? Are independent observations of one scan (not the replicate scan) performed once per day per testing , which ever is less frequent, by a qualified radiography operator (other than the individual who performed the first examination)? (Section B1-3b(2))					
267	Do procedures ensure that oversight functions, including periodic audio/videotape (or equivalent media) reviews of accepted waste containers, are performed by qualified radiography personnel (other than the operator who dispositioned the waste container)? (Section B1-3b(2))					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
268	Is the site project QA officer responsible for monitoring the quality of the radiography data and calling for corrective action, when necessary? (Section B1-3b(2))					
269	Do procedures ensure that as an additional QC check, the radiography results are verified directly by visual examination of the waste container contents of a statistically determined portion of waste containers? (Section B1-3b(3))					
270	Do procedures ensure that the waste matrix code, waste material parameter weights verified through a comparison of radiography and visual examination results? (Section B1-3b(3))					
271	Do procedures ensure that the radiography operator have access to the visual examination results? (Section B1-3b(3))					
	EQUIPMENT TESTING AND MAINTENANCE					
272	Were all equipment tested and maintained in accordance with manufacturer instructions? (Section B3-4)					
273	Did the site QAPjP and SOPs document the specific manufacturer's requirements for testing and inspection? (Section B3-4)					
274	Is the radiography equipment calibrated and maintained in accordance with controls established and implemented in the site's QAPjP and SOPs, respectively? Do these procedures address performance criteria? (Section B3-4)					
275	When the radiography equipment is in use, are operational checks conducted at the beginning of each work shift? Do these checks include observation of a test pattern to ensure that the radiography system has adequate video quality? (Section B3-4)					
	DATA VALIDATION, REVIEW, VERIFICATION AND REPORTING					
276	Do procedures ensure that the generator data, all applicable requirements for data collection and management specified in B3-10, is achieved? With the exception of identifying items or conditions that could pose a hazard, the radiography results are not made available to visual examination personnel until after the visual examination is completed. (Section B3-10)					

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
277	Do procedures ensure that all applicable data generation review verification and validation activities specified in B3-10 are followed, including all signatory releases? (Section B3-10)					
278	Do procedures ensure that radiography tapes have been reviewed, at a minimum for every tenth waste container, against the data reported on the radiography form to ensure data are correct and completed? (Section B3-10)					
279	Do procedures ensure that all applicable project-level signatory releases and DQO's (Section B3-11) as specified in the WAP are performed (i.e. 100% radiographic or VE examinations, and project-level review of videotape, for one waste container/testing batch, at a minimum). (Section B3-11)					
280	Do procedures ensure that radiographic data for each container is transferred to the WIPP? (Section B-1c)					
281	Do procedures ensure that the site submit testing data reports for each waste container? Do these forms go to the site project office? Do they use approved standard forms? (Section B3-12)					
282	At the data generation level, do procedures ensure that all electronic and video data stored appropriately to ensure that waste container, sample, and associated QA data are readily retrievable? Are radiography tapes reviewed, at a minimum of every tenth waste container against the data reported on the radiography form? (Section B3-10)					
283	At the project level, do procedures require the site QA officer to certify that the radiography data are complete and acceptable based on the videotape review of at least one waste container per testing batch or daily, whichever is less frequent? (Section B3-10)					

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.

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Table B6-6 Visual Examination (VE) Checklist

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Visual Examination (VE) Checklist

	WAP Requirement[1]	Procedure Documented		Example of Implementation/ Objective Evidence, as applicable		Comment (e.g., any change in procedure since last audit, etc.)
		Location	Adequate? Y/N (Why)	Item Reviewed	Adequate? Y/N	
	CONFIRMATION OF RADIOGRAPHIC RESULTS					
284	As a QC check on radiography, do procedures or other documentation require that the site open and visually examine a statistical portion of the retrievably stored waste containers? (Section B1-3b(3))					
285	Do site procedures ensure that the site use the data from visual examination to check the Waste Matrix Code, absence of prohibited items, and waste material parameter weight estimates, as determined by radiography? (Section B1-3b(3))					
286	Do site procedures ensure that the site use the data obtained from the visual examination to determine the percentage of miscertified waste containers for each Summary Category Group as required in Section B2-1? (Section B1-3b(3))					
287	Do site procedures require that the site initially use a miscertification rate of 11% to calculate the number of waste containers that must be visually examined until a site-specific miscertification rate has been established? (Section B2-1)					
288	Do site procedures require the site specific miscertification rate be applied initially to each Summary Category Group? Is a Summary Category Group-specific miscertification rate determined after 6 months or 50% of the Summary Category Group has undergone radiographic characterization? Is the entire Summary Category Group subject to the re-evaluated Summary Category Group miscertification rate? (Section B2-1)					
289	Do site procedures require that the site-specific miscertification rate be reassessed annually by calculating a drum-weighted average of all historic Summary Category Group-specific miscertification rates? Do procedures ensure that sites use a miscertification rate of 1% for any site-specific or Summary Category Group-specific miscertification rate calculated to be less than 1%? (Section B2-1)					
290	Table B2-1 presents the number of waste containers requiring visual examination by miscertification rate and annual number of waste containers per Summary Category Group undergoing characterization. Do procedures ensure that the annual number of waste containers per Summary Category Group undergoing characterization are within the range used in the table (50 to 2000)? (Section B2-1)					

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291	Do procedures ensure that waste containers are randomly selected and examined based on established visual examination procedures? Were only waste containers certified for compliance with WIPP-WAC and TRAMPAC selected? (Section B2-1)					
292	Do procedures ensure that once containers have been visually examined, the UCL_{90} for the proportion miscertified is calculated? (Section B2-1)					
293	Do procedures ensure that the site takes precautions to ensure that corrective actions taken after the containers were visually examined to improve certification accuracy were not used to adjust the visual examination results and the UCL_{90}? (Section B3-13)					
294	Do procedures ensure that the facility use the hypergeometric distribution for the UCL_{90} calculation? The normal distribution is not allowed. If the binomial distribution was used, was *N* larger than 500 waste containers? (Section B2-1)					
295	Do procedures ensure that the results of the visual examination are forwarded to the radiography facility? (Section B1-3b(3))					
	TRAINING					
296	Is there documentation which shows that a standardized training program for visual examination personnel has been developed? Does it include both formal classroom and OJT? Is it specific to the site and include the various waste configurations generated/stored at the site? (Section B1-3b(3))					
297	Is there documentation which shows that the visual inspectors receive training on the specific waste generating processes, typical packaging configurations, and waste material parameters expected to be found in each waste matrix code at the site?(Section B1-3b(3))					
298	Is there documentation which shows that the OJT and apprenticeship conducted by a qualified, experienced operator? Are the visual inspectors requalified once every two years?(Section B1-3b(3))					

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299	Is the site specific training program based on the following elements: Formal Training - Project Requirements - State and Federal Regulations - Application Techniques - Site-Specific Instruction On-the-Job Training - Identification of Packaging Configurations - Identification of Waste Material Parameters - Weight and Volume Estimation - Identification of Prohibited Items (Section B1-3b(4),(5))					
	VISUAL EXAMINATION EXPERT REQUIREMENTS					
300	Does documentation ensure that the site has designated a visual examination expert? Has the visual examination expert completed all of the required training? Is the visual examination expert familiar with the waste generating processes that have taken place at the site? Is the visual examination expert familiar with all of the types of waste being characterized at that site? (Section B1-3b(5))					
301	Does documentation ensure that the visual examination expert responsible for the overall management and implementation of the visual examination aspects of the program? Does the site's QAPjP specify the selection, qualification, and training requirements of the visual examination expert? (Section B1-3b(5))					
302	Do site documents indicate that the visual examination expert decided the extent of waste segregation within a container are necessary to achieve program objectives? (Section B1-3b(5)) Is the decision correct?					
303	Does the site's QAPjP specify decision-making criteria for the visual examination expert to follow when determining the appropriate degrees of segregation? Does the site have SOPs to support the visual examination process? How does the visual examination expert document the basis for his/her decision? (Section B1-3b(5))					

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	VISUAL EXAMINATION PROCEDURES					
304	Do procedures indicate that visual examination is based on a semi-quantitative and/or qualitative evaluation of the waste container contents and that the examination recorded on audio/videotape or equivalent? (Section B1-3b(3))					
305	Do site procedures ensure that the visual inspector records the description of the waste container contents on a data form? Does the description clearly identify the appropriate waste matrix codes listed in the BIR? Is the information sufficient to estimate weights of waste material parameters? (Section B1-3b(3))					
306	Do site procedures ensure that when the bags are not opened, a brief written description of the contents of the bags is prepared to document the estimated amounts of each waste type in the bags, based upon the use of historically derived waste weight tables and an estimation of the waste volumes? (Section B1-3b(3))					
307	Do site procedures ensure that the written records of visual examination are supplemented with the audio/video recording or equivalent? (Section B1-3b(5))					
308	Does the site have a site-specific SOP for conducting visual examinations? (Section B1-3b(5))					
309	Do site documents include criteria for the visual examination expert to have in his/her decision-making criteria for assessing the need to open the bags/packages in order to identify all of their contents? (Section B1-3b(3),(5))					
310	Do site procedures ensure that if follows all the waste container handling and chain-of-custody procedures described in Section B1-4? (Section B1-4)					
311	In cases when visual examination is done as a QC check to the radiography results, are precautions taken to ensure that the visual examination team does not review the radiography results prior to the visual examination, with the exception of items or conditions that could pose a hazard to visual examination personnel? (Section B1-3b(3))					
312	Are there SOPs for ensuring that headspace gas sampling is conducted prior to the visual examination team's opening of the waste container? (Section B1-3b(3))					

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313	Do site procedures ensure that when liquids are found, a description of their location, container, and estimated volume are recorded, and segregated? Are procedures in place to identify and segregate other prohibited items? (Section B-3c)					

1. The WAP requirements should be presented in documents, such as procedures. Each of the questions posed under WAP requirements are meant to determine whether procedures are in place or whether documents are evident which demonstrate that the specific WAP requirement is or can be met.